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THE RURAL NEW-YORKER

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APPLES ON THE DELAWARE PENINSULA.

WILL THEY PAY AS WELL AS PEACHES, PEARS OR BERRIES?

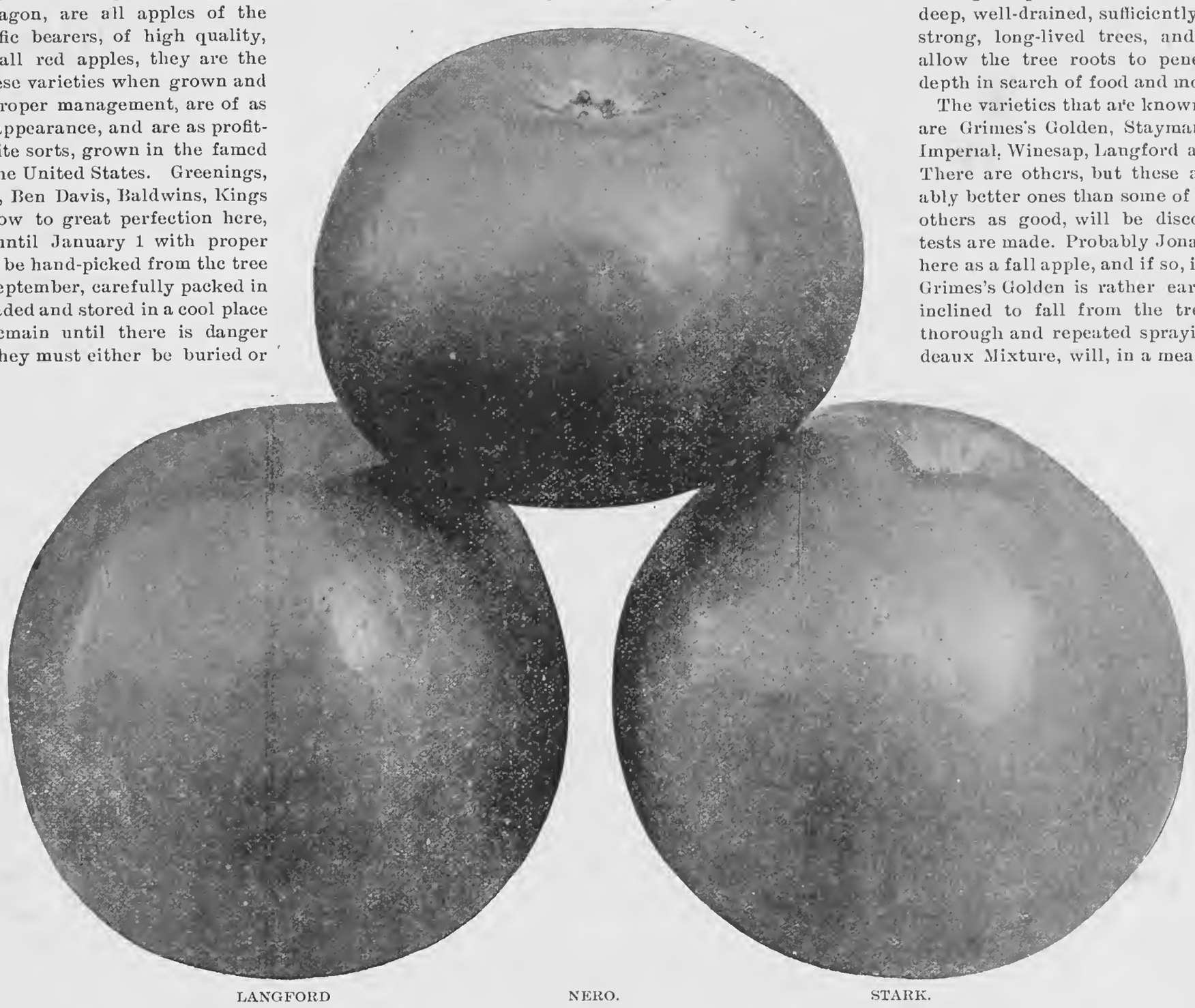
If Not—Why Not?

Winter apples can be grown with profit upon this Peninsula when certain necessary conditions are recognized, and such varieties selected as are particularly adapted to our moist, mild elimate. Apples ripening here during September or early October, are of little value; but varieties that mature their fruit during the early part of October, can be grown with profit. Note that I make a difference between ripeness and maturity, as everything depends upon this point, when varieties are to be selected for their commercial value. The Stark, Nero, Langford, Stayman, York Imperial, and Paragon, are all apples of the latter class—prolific bearers, of high quality, and as they are all red apples, they are the proper color. These varieties when grown and marketed under proper management, are of as high quality and appearance, and are as profitable as the favorite sorts, grown in the famed apple sections of the United States. Greenings, Newtown Pippins, Ben Davis, Baldwins, Kings and like sorts, grow to great perfection here, and can be held until January 1 with proper eare. They should be hand-picked from the tree the last week in September, carefully packed in barrels, double-headed and stored in a cool place under cover, to remain until there is danger from frost, when they must either be buried or put in a cellar.

Choice apples netted here this season, 50 to 70 cents per bushel of 50 pounds. Referring to sales of strictly winter sorts for the past five years, I find that the lowest price realized was 40 eents per bushel in 1891, and the highest $1 per bushel in 1894, an average of 70 cents, which, with an orchard 10 years old, yielding at that age 10 to 15 bushels per tree, will return over $200 per acre. This eertainly is more profitable than many of our products at the present time. Too little attention has been paid to methods of culture, and the management of orchards, in the past, to demonstrate the possibilities in this direction, and to give such prominence to this king of winter fruits as it deserves. The results attained by some of the pioneers in the business have awakened an interest in the subject of late years, and extensive plantings of choice winter varieties are being made.

All apple trees must have thorough culture. A favorite method with me, and one that is proving very satisfactory, is to have the orchard seeded to Crimson clover to plow under every spring about May 1 to obtain the necessary nitrogen and organic matter; a liberal application of South Carolina rock and muriate of potash is then made, and the orchard given intense eulture until August, when it is again seeded to Crimson elover. This season I have seeded to Crimson elover and winter oats, and believe that I shall like the combination, as I have now a heavy growth of both that is delightful to behold. This treatment, with judicious pruning, thinning the fruit when the quantity set is excessive, with persistent spraying, will result in bountiful crops of perfect apples of high quality.

I am satisfied that growing winter apples here is more profitable than growing peaches; at least, so long as the fearful ravages of the yellows remain uncheeked. Keiffer pears and strawberries, I think, have been the most profitable crops grown on the Peninsula for some years. The growing of winter apples for commercial purposes, would not interfere in any way with these crops, but would add another important industry to the varied products for which this genial soil and equitable elimate are so well adapted.



LANGFORD NERO. STARK.

A FINE TRIO OF APPLES FOR THE DELAWARE PENINSULA. FIG. 1.

I send specimens of apples grown here, among which are those mentioned as the most profitable winter varieties. The Maiden's Favorite and Lily of Kent should really have a place upon this list, but were left off because they are white apples. I think that Stark, Stayman, Nero and Langford, would prove valuable for export trade; as yet they have not been grown in sufficient quantities to attract exporters.

Kent County, Del. A. N. BROWN.

R. N.-Y.—The specimens reached us in good condition, and were all that need be asked in flavor, quality and eolor. If any fault eould be found with them, it was a little tendency toward a coarse grain in some of the varieties.

Some Reasons for Success.

I am most positively of the opinion that winter apples will pay a handsome profit, and that the proper varieties could be made more profitable than peaches, Keiffer pears or berries. We have now learned that the varieties of apples that succeed in the North and West, are of little value here. We have also learned that we have some varieties that do succeed admirably here. The trees grow, remain healthy, are productive, and bear fruit that will keep until the market is ready for it at a good price. The soil is, in many parts, deep, well-drained, sufficiently heavy to insure strong, long-lived trees, and open enough to allow the tree roots to penetrate to a great depth in search of food and moisture.

The varieties that are known to be profitable are Grimes's Golden, Stayman, Paragon, York Imperial, Winesap, Langford and Rome Beauty. There are others, but these are ample. Probably better ones than some of these, or, at least, others as good, will be discovered as further tests are made. Probably Jonathan will succeed here as a fall apple, and if so, it will pay largely. Grimes's Golden is rather early for us, and is inclined to fall from the tree too soon; but thorough and repeated sprayings with the Bordeaux Mixture, will, in a measure, prevent this trouble. Spraying is an absolute necessity here; it prevents the attacks of the scab fungus, saves the foliage until late autumn, and makes the fruit one-third larger. The Stayman has been well tested; it is a beautiful apple; the tree is strong, spreading; not drooping like its parent, the Winesap. The quality of the fruit will come very near to being ranked as best, and is in eating condition almost from December 1 until April. The York Imperial grows as fine and handsome in appearance in Delaware as in any place where I have seen it. No other samples at the Columbian Exposition in 1893, surpassed some I have seen in Delaware this year, or that have, in years past, been exhibited at the Cecil County (Md.) Fair.

With the varieties named; with soil rich in plant food to a great depth, and easily tilled; nearness to great home markets, and to the ports from whieh fruit is shipped abroad; we can compete with the world in the production of fine, long-keeping winter apples. There is soil in Delaware and the "Eastern Shore," that is not adapted to apple culture; but we have an abundance that is. Apple growing will pay because a well-grown, well-tilled, well-manured, well-sprayed apple orchard, will produce annually large

crops of fruit that can be marketed at paying priees from October 1 until May 1—a period of seven months. This is possible with no other fruit. A well-grown apple orchard will yield handsomely for two generations. If a man eares for his own orchard, he need not fear diseases from his neighbor's orchard; as he does in the case of peach yellows. WESLEY WEBB.

Delaware.

Some Difficulties and Advantages.

As to growing winter apples in a eommercial way on this Peninsula, I ean discover that only one essential is laeking to make it a sueeess, viz., the men to do it. There are several exeeedingly fine kinds of apples, in a commercial sense, that actual trials have proved to be well adapted to the early springs, late autumns, and hot sun peculiar to this geographically unique portion of the Union. There ean be no reasonable doubt, that there would be greater eertainty of a crop of apples, than of peaehes. The yield per aere would not, of eourse, equal that of Keiffer pears. There is room, however, for the hope that good apples would sell for better prices than common pears.

A hesitaney in entering upon this particular field of fruit growing, arises from the fact that the planter has so long to wait for returns, as it takes a good part of an ordinary or average lifetime to grow a good, big apple tree. To make it a side issue, is flatly in opposition to the trend of what is at the present day regarded as good, sound business policy. One of two ways only is open to sueeess now—wholesale or eoöperative methods. The man who doesn't grow fruit enough (apples, pears and peaches, especially) to load a ear, at a pieking, is at a disadvantage with the man who does. Facts are faets; we may dread them, but dodge them, never.

Thousands of acres of land on this Peninsula are well adapted to commercial apple growing, land which, under a gold standard, can be bought for one-fourth its value, and the opportunity of a lifetime is presented to young men who wish to engage in honorable, elean and pleasant business; that is, young men who have self-respect enough to work, to use their talents and physical energy as God intended that they should. Young men of this type could leave the world a fraction better than they found it, by intelligently seleeting a farm on this favored Peninsula, and growing winter apples. And summer apples, too, in my opinion, if they will exereise good, sound, business sense in their operations. I forbear any further allusion to berries, than merely to state, that they are grown here to as high a standard of excellenee every way, as anywhere else. The alphabet of berry growing is not thoroughly learned yet. J. W. KERR.

Maryland.

SOME "DUNG WORMS" EXAMINED.

HOW THEY DIFFER FROM WHITE GRUBS.

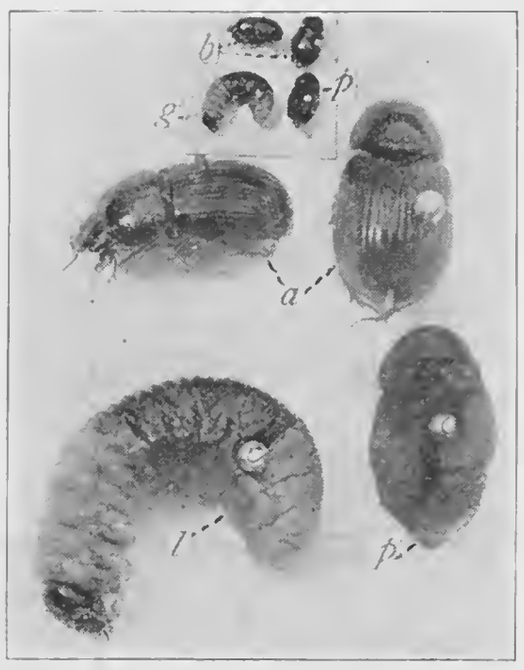
In my answers to H. H. L., in THE R. N.-Y. of March 30, and to W. C. L., on May 18, 1895, I expressed much doubt whether White Grubs were ever found in manure; and specimens of "dung worms" were solicited. On May 29 I received the following letter, accompanied by about 30 "dung worms":

In aecordanee with the request in THE R. N.-Y., I send you some grubs found in manure. I have notieed, for many years, grubs in the manure in the barnyard, especially where left piled up for some time; but these I send you I found in manure which I hauled direetly from the horse stable during winter and left in piles in the field to be scattered on the grounds after plowing. I found them in almost every pile I seattered. Last spring, I had the scrapings of the barnyard wheeled out and put in rows where I planted melons, and between the melon hills I set strawberry plants, the manure extending through the whole row; a large proportion, in faet, nearly all of the strawberry plants died, and in re-setting, I found a great many grubs. I thought that it was on aceount of the manure having been left piled up sinee the year before, but now I am eonvineed that it does not have to be left over one summer. How and where were the eggs deposited? They must have been laid either in the stable, or this spring after the snow went off. I ean't see the matter elearly, for the manure was made during the winter, hauled to the field during January or later, and it hardly seems possible that the eggs were laid, hatehed and the grubs attained the size they have, in so short a time. S. C. GORDON.

Brown County, O.

On June 10, several specimens of the same kind of "dung worm" were sent in by a correspondent in Westfield, N. Y. These "dung worms" did strikingly resemble young White Grubs; one of them is shown natural size at *g* in Fig. 2, and enlarged to about the size of a full-grown White Grub at *l*. Unfortunately, I could not find any young White Grubs for eomparison, so that I cannot point out the characteristics in which they differ from the "dung worms" reeeived. But these little grubs had the appearance of being nearly full-grown, and I was thus not surprised to see them show signs of undergoing a transformation only a day or two after they were placed in my eages. By June 4, some of them had changed to the form shown at *p*—that is, to the pupa stage in little smooth eells made in the manure by the grubs. Ten days later, their final transformation had occurred, and the adult insect—the little beetle shown natural size at *b*, had appeared. Its minute size at once shows that it is not a May beetle, the parent of the White Grub; and even when enlarged as at *a* to the size of a May beetle, striking differences are easily seen. For instance, its legs are not more than half as long as those of a May beetle.

In short, the "dung worms" proved to be the full-grown grubs of one of the Aphodian dung beetles, known to seience as Aphodius fimetarius. The beetle is about one-third of an inch in length, has red wing-eovers, and a blaek head and thorax. It is a member of the Scavenger group of the great family of Scarabæid beetles; the familiar Tumble bugs, including the famous Sacred beetle of the Egyptians, are among its near relatives. The May beetles belong to the Leaf-eating group of the same family. More than a hundred of these Aphodian dung beetles are known to occur in North America, but A. fimetarius is the most common of all. It is a European inseet, and was introdueed into this country many years ago. It is now very eommon all over the United States east of the Mississippi River. The beetles are often seen in large numbers in early spring and autumn, hovering over horse or cow manure, either freshly dropped or partly deeayed. If earefully watehed, they will be seen to disappear in the manure, and will be found burrowing about in it. They feed upon the manure, and doubtless lay their eggs in it, for the grubs which hateh therefrom also live in and eat the manure. One ean seareely find a eow dropping in our pastures that does not eontain several of the beetles or their grubs. The insect in any stage does not feed upon living vegetation, so that it is not an injurious species.



"DUNG WORMS" FOUND IN MANURE. FIG. 2.

Manure thiekly infested may be freely spread on any crop without fear of injury to the plants.

From the correspondent's letter, it will be seen that the beetles probably laid their eggs in the manure early in the spring, and the grubs grew so rapidly that they were full-grown when they reached me on May 29. The beetles from this brood of grubs emerging about June 15, would indieate at least one and, possibly, two more broods during the year. It is stated that the insect winters both in the grub and pupa states. Although the grub and pupa have been known since 1720, but little definite knowledge has been recorded of the life of this interesting dung-beetle.

I am still open to conviction regarding the oecurrenee of White Grubs in manure, and shall be glad to reeeive other invoiees of "dung worms." Another larger grub occurs in manure, which could be more easily mistaken for a White Grub, and I am partieularly desirous of getting some of these. Send me anything in the shape of grubs that you find in manure, with full notes about them and their habitat.

M. V. SLINGERLAND.

A FEW DESIRABLE HOUSE PLANTS.

The surroundings of a living room are so different from those of a greenhouse, that it requires some judgment to seleet flowering plants for it. Many fail to sueceed with window plants because they do not give them enough water. A plant which in a greenhouse would be amply supplied with water given onee a day, may safely be given double the quantity when in a living room. More care is required in this respeet, and it is useless for one who does not love flowers to attempt their growth in a window; for without this love, there will hardly be the patient waiting-on whieh must be aeeorded to gain success.

Some useful plants, and ones not hard to manage, may be found in the following list: Begonia Saundersii, Ruellia maerantha, Ardisia erenulata, Azalea Indica alba, Cypripedium insigne, Acaeia lineata, Rubus rosafolius, Abutilons, Streptosolen Jamesonii, and Libonia Penrhosiensis. Begonias of the Rex type, whieh are those with large, handsome leaves, do not do over well in dwelling rooms; but the older known sorts, of which maeulata and Saundersii are good representatives, do very well, indeed. The thick, dark-green leaves of the latter sort, with its pretty scarlet flowers, have made it a well-known and popular winter blooming plant. Ruellia macrantha is an admirable one for the purpose. It has large leaves, and bear slarge, trumpet-shaped, rosy-purple flowers, conspicuous and beautiful. Usually it flowers towards the elose of winter.

A valuable winter plant is the Ardisia. The flowers are light colored, and not esteemed as are the clusters of bright red berries it bears throughout the season, one erop keeping in good condition until the following one appears. It is, too, an easily managed plant.

Indian azaleas are by no means hard to manage, being nearly, or quite hardy enough to live out of doors. Small, bushy plants in small pots are easily obtained from florists, and are beautiful and useful about Easter time, which is when the flowers usually appear. Cypripedium insigne is an orchid, but the old-time idea that orchids required extreme skill to manage does not now obtain. This one is quite tractable in ordinary hands. Plaeed among other plants in the window, and not allowed to suffer for water, the flowers expand in early winter, and remain open for from six to eight weeks. It will become a popular window plant, as its good qualities become better known. The yellow flowers of acacias are generally in plaee in a window, there being, as a rule, but few flowers of this color at this season of the year.

Rubus rosæfolius is an old, but valuable winter-blooming plant. Its double white flowers, though not produeed numerously, are very much admired. Abutilons exist in so many kinds, and flower so freely through the winter, that one or more sorts are found in most eollections. After their use indoors, they eontinue blooming out of doors in summer if taken out of their pots, and set in the open ground. Streptosolen Jamesonii has lovely orange-colored flowers, whieh are produced quite freely towards the close of winter. Libonia Penrhosiensis is a valuable winter-flowering plant. Its rieh, crimson flowers are produeed freely, and in great abundance throughout the winter months. JOSEPH MEEHAN.

Pennsylvania.

SUGAR BEETS FOR DAIRY COWS.

A MONEY-SAVER AND A MILK-PRODUCER.

How best to keep up the flow of milk at all seasons, on a dairy farm, is often a vexatious question. The price of hay and the different grains must be eonsidered, as well as the results of feeding each or all. In our herd of Jerseys and Holsteins, we plan to have between 60 and 70 eows constantly giving milk. Twenty years' experienee with a large dairy, where much of the feeding was, of necessity, intrusted to men not particularly interested beyond the day's or season's work, proved that corn meal could not be safely fed. A little overfeeding too often resulted in ruined udders, and so necessitated the turning of valuable eows over to the buteher. So, for the most part, wheat bran was the ehosen feed. Even this was withheld when the pastures were green with juicy grass, and our small market beeame overcrowded. That seemed the better way of keeping down the debtor side of the aecount.

The amount of bran fed to our animals per month, generally averaged a bill of $100. As grass grew scant and dry, something to feed as a milk produeer became imperative. Many times had we paid more per 100 pounds for the *bran* our animals ate than the miller paid per 100 pounds for the wheat he purchased of the farmer. This faet and the continued shrinkage in the priee of milk, cream and butter, soon demonstrated that it was a losing business to buy bran for our herd. Something else must be tried. For three years, crops had been raised and a large silo filled. The eows liked the ensilage, ate it greedily, but some things not so satisfaetory were conneeted with its feeding. It had to be fed sparingly, or straightway a disagreeable odor and flavor crept into the milk. Sorghum was the erop with whieh the silo was filled. Corn might have been less objectionable; we never tried that. Salting the cows liberally overcame the trouble in a measure—or seemed to. Besides this, estimating the low cost of Alfalfa, and the high eost of labor, it did not pay to raise crops and fill silos, and hire men to do the work.

It was under these eireumstances that the project of raising sugar beets for the dairy cows was entertained. Vilmorin's Imperial was heartily recommended by a well-known seedsman, for that purpose. His catalogue told us that it was an improved French variety, exeeedingly rich in sugar. It further stated that under average conditions, it had yielded 14 tons of roots to the acre, containing about 16 per cent of sugar. We decided to try it, purehased 35 pounds of seed, and planted it between April 15 and 20. It was

an unusually damp spring for Colorado, and the seed came up fairly well; and how those beets grew! In the best of soil, well weeded and faithfully irrigated, they made a record. Single beets weighed 18 pounds and upwards. It was estimated that they averaged 20 tons to the acre. They were white and sweet—how sweet we had no means of knowing, much to our regret, for we did wish to know how much sugar the beet would yield raised in Colorado soil. The average beet was three and four inches through.

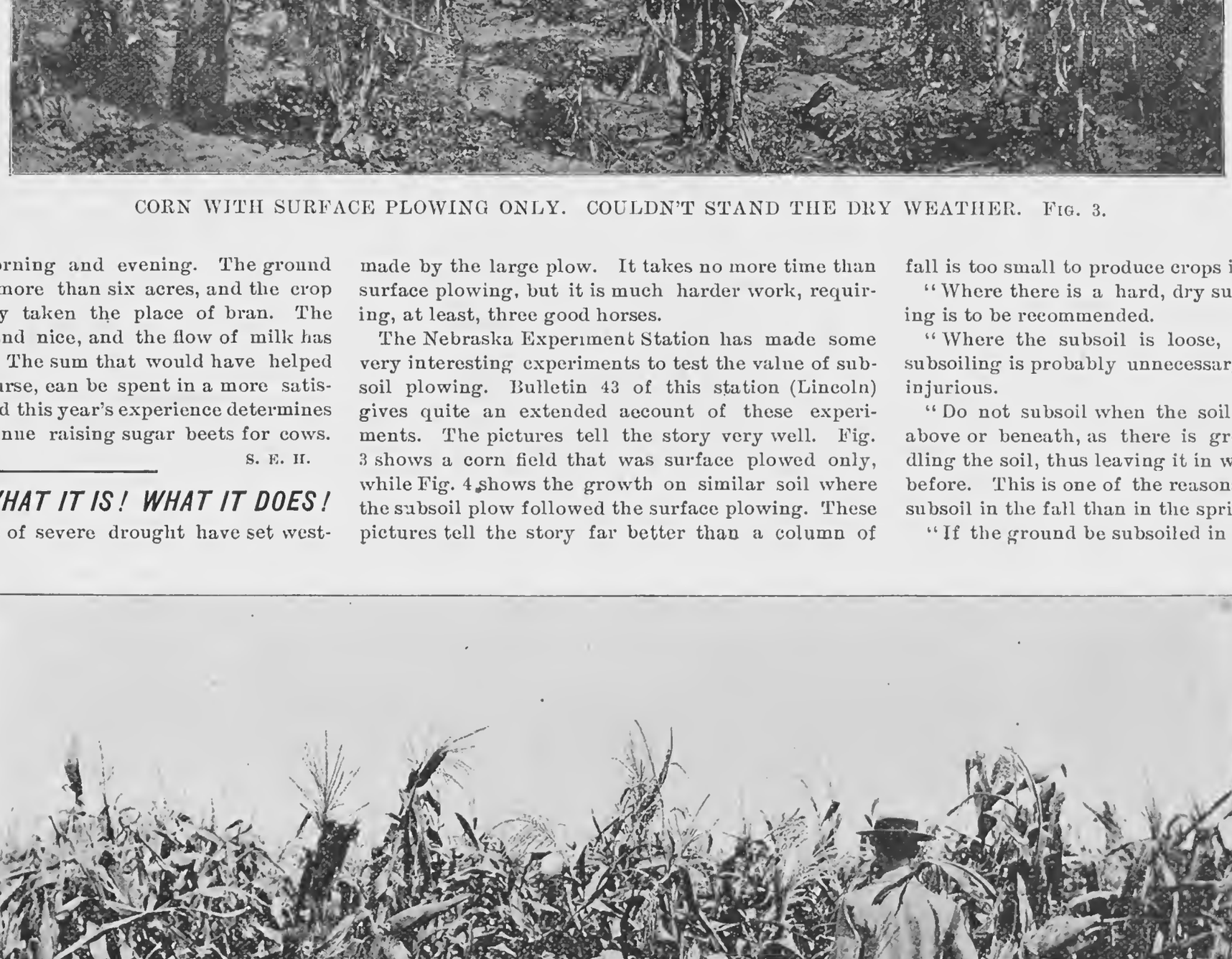
The cows had never been fed roots of any kind. Some of them ate the chopped beets eagerly at once; others would not taste them until they were coaxed to do so by a sprinkling of bran. Soon they all learned to relish them. We commenced feeding them September 2, and December 1 the last beet was gone. Each day a load was plowed out and picked up and fed. After feeding carefully awhile, the amount was increased and about 1½ ton was fed the milking cows per day, being given to them morning and evening. The ground planted was not more than six acres, and the crop produced has fully taken the place of bran. The cows look sleek and nice, and the flow of milk has been maintained. The sum that would have helped line the miller's purse, can be spent in a more satisfactory manner, and this year's experience determines that we shall continue raising sugar beets for cows.

Greeley, Colo. S. E. H.

SUBSOILING; WHAT IT IS! WHAT IT DOES!

The recent years of severe drought have set western farmers to studying the question of securing an increased supply of moisture for their crops. Irrigation was, in many cases, entirely out of the question; therefore, the next best thing was to try to increase the capacity of the soil itself to hold water in reserve. Many soils rest on a tough hardpan or subsoil of clay, which is almost as waterproof as brick. The result is that, not only are the plants unable to get through it, but water cannot soak into it and be retained to give the plants a needed drink. The proposition was to reach down into this hardpan with some suitable tool, and break it up without throwing it on the surface. You might take two flower pots, one half full of solid concrete, and the other containing small pebbles or broken crockery instead. It doesn't take long to see that, with a limited amount of water, the second pot would give the better results, because these broken bits would hold water while the concrete would keep it all in the upper soil where it would be sooner evaporated.

"Subsoiling," then, means running a plow, shaped somewhat like a pointed shoe, down *under* the usual furrow. It does not turn any of the yellow subsoil up into the soil in which the seed is planted, but simply breaks it up and leaves it where it was before. As a rule, the subsoil plow follows in the furrow made by the large plow. It takes no more time than surface plowing, but it is much harder work, requiring, at least, three good horses.



CORN WITH SURFACE PLOWING ONLY. COULDN'T STAND THE DRY WEATHER. FIG. 3.

The Nebraska Experiment Station has made some very interesting experiments to test the value of subsoil plowing. Bulletin 43 of this station (Lincoln) gives quite an extended account of these experiments. The pictures tell the story very well. Fig. 3 shows a corn field that was surface plowed only, while Fig. 4 shows the growth on similar soil where the subsoil plow followed the surface plowing. These pictures tell the story far better than a column of figures ever could. It is the same man in both pictures. Surface plowing gave shoulder-high corn, while subsoiling gave head-high stalks.

The soil on which these experiments were tried, contains little or no coarse sand, but a large amount of fine silt and dust. This is almost as fine as clay, and will pack firmly—almost like soft brick. This prevented the water from soaking readily into the ground. Summer rains were largely evaporated before the water entered the subsoil. In Nebraska, large quantities of water fall in a short time, with corresponding long seasons of drought, with very hot winds that produce an immense evaporation from the surface soil. This hard subsoil could not absorb and hold enough of this water to benefit the crops in a dry time. When it was loosened by the plow, air and moisture were both readily admitted. The former assisted decomposition and nitrification, thus making plant-food available, while the water was held in storage where it could not evaporate. That is why the corn in one part of the field is better than that in another. The plow added no fertility, but simply gave air and water a better chance to operate in the soil. The bulletin gives the following suggestions about subsoiling:

"Subsoil plowing, although a means of conserving moisture, does not produce it, and is, therefore, not a substitute for irrigation where the rainfall is too small to produce crops in ordinary years.

"Where there is a hard, dry subsoil, subsoil plowing is to be recommended.

"Where the subsoil is loose, gravelly, or sandy, subsoiling is probably unnecessary, or may even be injurious.

"Do not subsoil when the soil is very wet, either above or beneath, as there is great danger of puddling the soil, thus leaving it in worse condition than before. This is one of the reasons why it is better to subsoil in the fall than in the spring.

"If the ground be subsoiled in the fall, the winter and spring rains have ample opportunity to soak in, that being the season of greatest rainfall and least evaporation.

"Subsoiling in the spring may be a positive detriment if the subsoil be extremely dry, as in that case the rain water is partially removed from the young plant by the absorption of the bottom soil. If the spring rains were heavy this would not be a disadvantage."

CORN ON SUBSOILED LAND. WATER HELD IN RESERVE FOR THE DROUGHT. FIG. 4.

The reader must understand that subsoiling may be the worst thing he could do on soils with an open or gravelly subsoil. It is only to be recommended for stiff, heavy soils, where water cannot penetrate readily into the "hardpans." All such soils will most likely be helped by it, especially in dry sections, and if done in the fall. Before subsoiling, dig down into the soil and see exactly how it is made up. Of course it is not necessary to subsoil every year. In an ordinary rotation it might be done with every corn crop.

FRUIT NOTES FROM "DALE VIEW."

The past October, we gathered the first crop of apples from our young orchard. Trees of the Ben Davis, planted but seven years, averaged a trifle over two bushels per tree—some trees yielding three bushels of beautiful, highly-colored fruit. Trees of the Langford, although not yet in full bearing, advanced us, as a generous sample of their production, several bushels of fine fruit of handsome color and good quality. They are excellent for sauce, pies, etc., and from their appearance now (December 20), I would judge them to be first-rate keepers. One four-year-old Gano tree, the stem of which is but 1½ inch in diameter, perfected 21 specimens.

A row of Keiffer pear trees also fruited for the first time the past season. The pears were picked before fully ripe, and placed upon shelves in the dark where they ripened to perfection (in color). They were perfect beauties—large, of the most brilliant, golden yellow, and red cheeked. We shall refrain from saying much in regard to their quality, as it is a serious breach of etiquette to speak uncharitably of "those who"—— likewise "that which is absent." However, when properly canned or preserved, they are really very good, as that acidity so objectionable in their raw state, gives them a certain sprightliness which makes them really refreshing and delicious as a dessert fruit. Indeed, we regard the Keiffer as an extra good pear for culinary purposes.

In spite of the very severe drought throughout the entire growing season of '95, we were never permitted to help more beautiful or promising patches of strawberries into their comfortable, winter overcoats than during the past November. Constant cultivation won us the victory. Our finest growth of strawberry plants was obtained upon a quarter-acre plat that had been deeply plowed in the late autumn of '94. During the winter, this plat was heavily coated with a mixture of fresh, strawy manure from the horse and cow stables. By April, when the light, strawy litter was raked off, nearly every vestige of the manure had disappeared into the soil. The soil was then deeply stirred with the cultivator, harrowed, marked and set. I never saw ground in finer condition, and the way it resisted the drought was remarkable.

It was a noticeable fact, the past season, that soil in which a liberal quantity of fine, even well-rotted manure, had been incorporated, did not withstand the blighting drought nearly so well as that which had received its allowance of plant food in the form of a solution—or by leaching. We used stable manure in almost every stage of decomposition, in order to have a sufficient quantity to cover all the plats intended for strawberries, and —— What was that? Did I not hear some one shudder audibly and say, *grubs*? No, sir, not a plant was destroyed by grubs this season. We have used stable manure for strawberries for many years, and never lost any plants from the ravages of grubs but once—the season of '94—when we planted upon an old sod. The only trouble we have ever experienced in connection with the use of stable manure, is that the supply is not equal to the demand. And we certainly have not built and paid for a home by the cultivation of grubs either.

Ohio. F. H. B.

A SOUTHERN OHIO DAIRYMAN.

MAKING OVER AN OLD BARN.

Not long ago I called on Mr. Paddock, who supplies butter to private customers in one of the suburbs of Cincinnati, O. He has been dairying 10 years, formerly selling milk. "Why did you change from milk to butter?" I asked.

"The main reason for changing was because we could not procure the right kind of help; that is, it was hard to get intelligent, cleanly help, and keep them. They all were looking for something easier. I think that there is no other place where such help is so much needed as in the dairy."

"With what breed of cows did you start?"

"We started with unregistered Jerseys and grades, which we still have. My ideal butter cow is an ideal Jersey; that is, a working Jersey, one that has a large capacity for a rich ration, and turns it all to milk and butter. At present, we average about seven pounds of butter per week for each cow. We use a separator, and find it very profitable."

"What do you figure as the cost of feeding a cow?"

"It varies with the time of year, but with me, on an average, it is 15 to 17 cents per day the year through. Last winter I fed five pounds of gluten meal, seven pounds of bran, one pound of old process oil meal, with 20 pounds of clover hay—15 pounds cut in chop and five pounds fed long. I feed corn fodder as long as it lasts."

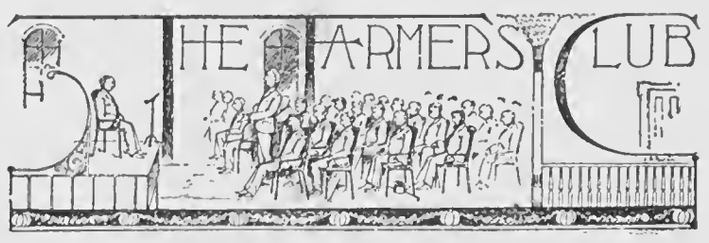
"Is your butter yield satisfactory?"

"No, I have some cows that will make 15 pounds per week when fresh, and keep up a profitable yield, while others fail after a few months. I have a Babcock tester, and expect to *know* my cows. Last year, I bought a fine Jersey bull, and shall raise heifer calves from the best cows."

The butter from this farm is sold to private customers at 30 cents a pound. A part of the skim-milk and buttermilk is sold to these customers. The rest is fed to pigs. Eight brood sows furnish pigs, which are sold to neighbors, or butchered and sold to the butter customers. October pigs make fine roasters for the Christmas trade. There are 30 acres on the farm—20 acres timber and Blue grass pasture. Most of the 10 cultivated acres are in sweet corn and berries. With the exception of two acres of corn fodder, all the cow feed is bought.

The farm originally had old buildings arranged as shown at Fig. 5. These old buildings have been repaired and made over as shown in the upper part of Fig. 5, giving a much more economical arrangement. At Fig. 5, is shown the arrangement of manger and floor for cows, while Fig. 6 shows how the barns are now arranged. Two cows stand in each stall, fastened with chains. You will notice by the new arrangement, that the horses have been moved to another part of the barn, and that the cows are now all together.

F. R. F.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Seedling Peach Trees.

R. C., Ambler, Pa.—I have a number of thrifty young peach trees grown from the stones which were planted last spring. Will it pay to set them out? In what way does a budded tree differ from one not so treated? I have seen good fruit from trees that were not budded, and I would like to know in what way such trees are inferior.

ANS.—No one can tell whether it will pay to set them out until they bear, and thus give actual evidence of their value. The difference between a budded tree and one grown from the pit and not budded is simply this: The former is budded with wood from a bearing tree, and will produce fruit of the same variety as the tree from which the bud is taken. The tree not budded may produce any kind of fruit. Sometimes such trees produce excellent fruit, and our best varieties originated by selections from trees so grown. But to insure a continuance of the same kind of fruit, budding is necessary. Of a lot of seedling trees, at least a small proportion are likely to bear fruit of fair value. Some peaches come quite true from seed.

Some Fruits for Indiana.

Subscriber, Frankton, Ind.—1. What kind of strawberries do best on heavy, black soil with a heavy, stiff clay subsoil? 2. Has any northern fruit grower tried the Lady Thompson, or the Mary strawberry, two of the most popular beries in the South? 3. Will plum trees budded on peach, take root if set above the bud? 4. What varieties do best in Indiana for general market plums? 5. What are the best late pears? 6. Where can the new Imperial tomato seed be obtained?

ANS.—1. If the land is thoroughly underdrained, the Bubach, Warfield, Parker Earle, Greenville, Haverland, Lovett and Jessie will all do well. 2. I do not know that they have been tried in this locality. 3. I am not quite clear as to the meaning of this question. Scions from almost any of our cultivated fruits will strike root if the point of union with the root is placed far enough below the surface to insure the proper degree of moisture. 4. Wild Goose, Robinson, Lombard, German Prune, Bradshaw, Green Gage, Moore's Arctic. 5. Anjou, Keiffer, Duchess, Seckel, Beurre Diel, Louise Bonne, Lawrence, Vicar of Winkfield, Winter Nelis. 6. Of Wm. Henry Maule, Philadelphia.

JAMES TROOP.

Indiana.

Value of the Lucretia Dewberry.

H. E. B., Covert, Mich.—How does the Lucretia dewberry rank as a commercial fruit? How will it compare with the blackberry, in yield, selling price, labor required in raising, general profitableness, etc., in a locality and soil where the blackberry does well?

ANS.—Here in local markets it has been a success. Its productiveness, fine appearance, large size and uniform color, and the fact that it ripens nearly two weeks earlier than the Minnewaski or Lawton blackberry, should insure its acceptance as a valuable fruit in any market. But the fruit grower should remember that the peach season commences so much earlier than formerly, that nearly all fruits that ripen later in the season than strawberries do, will have to come in competition with peaches. Its exact requirements of soil and economical culture are not well enough known to permit a positive answer. In the sandy loams of Michigan and New Jersey, the different varieties of blackberry yield large crops. Whether the Lucretia dewberry would be healthy and productive there can be learned only by trial. In the Hudson River Valley, the plants are set about 6x6 feet; the vines allowed to spread over the ground, and well mulched at the beginning of winter. In the spring, five or six strong vines from each hill are tied to a stake, the rest cut off and removed. This treatment insures clean fruit and prevents bruising the vines when gathering the fruit. Here it is thought the dewberry is grown as economically, and is as valuable for market, as any of the blackberries.

Orange County, N. Y. W. D. BARNS.

Time to Prune Peach Trees.

E. T. J., Boonville, Ind.—When is the best time to prune peach trees?

ANS.—As soon after the frost is out in the spring as possible. Better prune in the winter than not at all.

Peaches and Apples Together; The Banana Apple.

J. P. Z., Troy, Kan.—Is it death to apple trees to set peach trees between them when set out? How will pear trees do between apple trees? I have 1,200 one-year-old apple trees which I intend to set out in the spring—Missouri Pippin, Gano, Ben Davis and York Imperial. I thought that as the peach is short lived here, I would set them between the apple trees. Is the Banana apple any good for this part of Kansas?

ANS.—It is a bad practice to set peach trees among apple trees in the orchard, because they grow very rapidly, and rob the apple trees of nourishment. Neither are pear trees suitable for planting between apple trees, for standard pear trees live as long and need as much room as apple trees, and dwarf pear trees do best where they have a fair chance. It is much better to plant apples and all other fruit trees by themselves. My plan in Kansas, was, to set permanent apple trees two rods apart in hexagonal form, the rows running north and south. In these rows, set trees of Missouri Pippin, as "fillers," making them one rod apart north and south and 28½ feet east and west. The Missouri will bear early, and pay all the expenses of the orchard by the time the other kinds, such as Ben Davis, etc., need all the space. Then "the fillers" can be cut out. The Banana apple is as yet only on trial. Set a tree or two, and wait for successful results before planting more. H. E. V. D.

Winter Pears for Arkansas.

W. M. B., Newport, Ark.—1. Is the Keiffer a profitable winter pear, and if so, how late can it be kept without cold storage? 2. How does it compare with other winter varieties? 3. Are Keiffer blooms perfect, or does it require some other kind to fertilize it? 4. What are the best three varieties of winter pears with descriptions of each? 5. Pears seem to do as well as or better than apples. Which would you advise planting for profit? The soil is of a sandy nature—loam. I have a good local market. 6. What do you think of Garber, Idaho and Wilder Early as to profit? Is not Keiffer liable to be killed on account of early blooming?

ANS.—1. The Keiffer is not a late winter pear, especially in Arkansas. I would say that it cannot be kept later than the last of October in that section without cold storage. 2. It is not as good in flavor as many winter pears. 3. Keiffer blossoms are not perfect; they will do better to be planted near other varieties. 4. Lawrence is a medium-sized, rich pear, of yellow color when ripe. Jones is a russet of medium-size, of excellent quality. Winter Nelis is a russet, good size and of fine flavor—these are the best. 5. I would raise both apples and pears, as that section gives to both good quality. 6. Idaho is not desirable. The varieties named above represent the best for quality and market. GEO. T. POWELL.

How to Handle Peach Pits.

N. G. H., Rothsville, Pa.—How should Tennessee peach pits be treated so as to insure sprouting in the spring?

ANS.—Peach pits should never be allowed to become dry for more than a few weeks, if they are expected to sprout readily. No time should now be lost in burying them in the ground where they will be moist; or they may be mixed with equal parts of sand in a box, and kept thoroughly moistened until early spring, when they should be planted as soon as they begin to sprout. Freezing is not necessary to open them, as some suppose; but moisture is essential to the dissolving of the natural glue which holds the halves of the shell together. In some climates where it never freezes, peach seeds sprout freely.

H. E. VAN DEMAN.

The Celery Will Not Blanch.

A. C. R., Wichita, Kan.—I would like to know why my celery doesn't blanch. I have it in a good, waterproof, permanent pit, with space over it and ventilators in the roof. I took it up, with quite a bit of earth, trimmed off the outside leaves, and set it in close. The earth under it and on the roots was wet, so that it is growing or pushing up some center stalks; but that is all that is getting white; the rest is as green as when put in the pit a month ago. The varieties are White Plume and Pascal. How long does it take to blanch after being put away in the dark?

ANS.—The mistake here made is, doubtless, in not having the air sufficiently confined about the tops of the plants. Mere darkness is not sufficient to make the plants brittle and tender, though, in time, the green color will be lost. A closely-confined atmosphere about the leaf-stocks, one which will prevent rapid evaporation, is essential to the production of

the crisp character desired. It would have been as well to leave some of the outer leaves on to fill up the space between the plants. However, it would now be well to bank up with earth. It is also probable that you have given too much ventilation. The finest celery I have ever seen was blanched by covering the plants as they stood in the field, with about two feet of clover chaff. About a month or six weeks are required to blanch the plants well. W. M. M.

A Storeroom in a Sidehill.

O. M. T., Madison, Wis.—Given a steep slope to the east, clay subsoil, can a good storeroom for fruit in summer, and vegetables in winter, be tunneled into this sidehill? If so, how built to be dry and cool?

ANS.—Yes. First, dig the tunnel; make it not more than eight feet wide—six feet would be better—and with an arched top—the steeper the arch, the better—a gothic arch. At the front, build a good wall of stone or brick, and arch the tunnel as far back as frost will ever penetrate, with stone or brick. Back of this, cement the arch and sides and bottom of the tunnel with a coat of cement an inch thick, composed of the best Portland cement, one part, and clean sharp sand, three parts. Mix the cement and sand dry; then wet only a small quantity at once, for it will harden very quickly. Finish with a thin wash coat of clear cement and water. This will make the tunnel water-tight—the same as a cistern. Tight-fitting double doors should be used to keep heat in, in winter, and out in summer. J. M. D.

A List of Strawberries.

E. H., Prairie du Chien, Wis.—Next spring I intend to plant about 6,000 strawberry plants. Will THE R. N.-Y. give me information about what kinds to plant? How would the Sharpless do as a pistillate, and Crescent as a bisexual? Will THE R. N.-Y. give a list of varieties which blossom at the same time, both pistillate and bisexual?

ANS.—Assuming that our friend wishes early, intermediate and late varieties, and assuming, of course, that we know nothing of his soil or situation, we would select for early the following: Beder Wood (bisexual), Haverland (P.), Shusters' Gem (P.), Eleanor (B.) For intermediates we would select Sharpless, Bubach (P.) and Lovett. For late, Brandywine, Parker Earle, Gandy and Timbrell (P.) The Sharpless and Crescent begin to bloom within three days of each other, the Crescent being the earlier.

Crimson Clover for Spring Pasture.

G. E. H., Salem, Ind.—I have a field that I must use for hog pasture, if possible, next season. One corner, about six acres, I sowed to winter oats and Crimson clover September 2; the oats are a good, even stand, and the clover is fairly good, except on some poor points where it had a poor chance. The rest of the field produced a good crop of corn last season. Can I sow Crimson clover in early spring and pasture it during the summer?

ANS.—The sample of clover sent has roots about five inches long, and ought to live through the winter. We do not advise spring sowing of this clover. In any event, we do not believe that it would furnish summer pasture. We shall be glad to hear from others on this point.

What Ails the Boiled Cider?

A. S., Center Lisle, N. Y.—Is sweet cider that has been boiled in a galvanized sap pan, poisonous? I boiled nearly half a barrel in a sap pan, and it is so bitter that we cannot eat the apple sauce made from it, while that boiled in a granite iron kettle, is all right. The plating did not seem to be off the pan. If not poisonous, would the boiled cider do for vinegar?

ANS.—The only way to be sure is to have a sample of the boiled cider analyzed. Send about half a pint of it to the New York Experiment Station, Geneva, N. Y., and ask Dr. Van Slyke to analyze it. He can tell you what makes it bitter.

Why Cream Does Not Churn.

W. B., New York.—What is the matter with my cream? I am milking a Jersey cow that has been fresh about two months. I had no trouble until two or three weeks ago, but now it is almost impossible to churn the cream. I am feeding a ration of beets with corn meal, bran and fine middlings, equal parts, and salt is before her all the time.

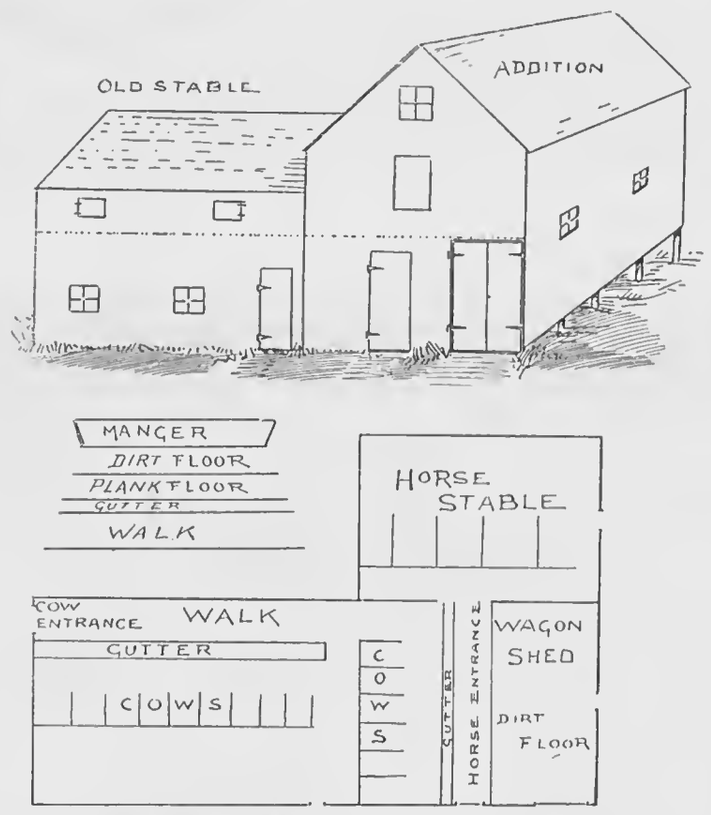
ANS.—In all probability, the trouble is not with the cow or her feed, but with the care of the milk, and the treatment of the cream. At this time of the year, there is always more or less complaint of difficult churning. If care be taken to ripen the cream quickly and uniformly, the difficulty is usually obviated. An important point is to secure as uniform a temperature as possible during the ripening. After the cream is removed from the milk, it should be kept in a moderately cool place, where it will not become chilled till enough is collected for a churning. It should then be warmed to 75 degrees, or, even in exceptional cases, to 80 and kept at that temperature as nearly as possible till it becomes sour. This should take place in, at least, 24 hours. In many cases, a starter of sour milk or of one of the artificial ferments may be used to advantage, though there is seldom any difficulty in getting a good development of acid if the above directions are faithfully carried out. When the cream is sour, it should be cooled to from 54 to 62 degrees, depending upon its richness in fat, and churned. H. H. WING.

Something About Celery Blight.

A. M. B., Corning, Iowa.—This year, we planted 10 acres of celery. We commenced setting plants in the field May 1. The first part of the season was very dry. About July 25, about one-half of our crop (all not harvested), was attacked with blight, and was entirely destroyed. We have fall plowed the ground. Will it be safe to plant celery on the same ground next year?

W. B. F., Kirkwood, Ohio.—What does THE R. N.-Y. know about the celery blight? Can it be prevented? We have muck ground, with plenty of irrigation, that perfects celery in seven to eight weeks; but the blight is a terror.

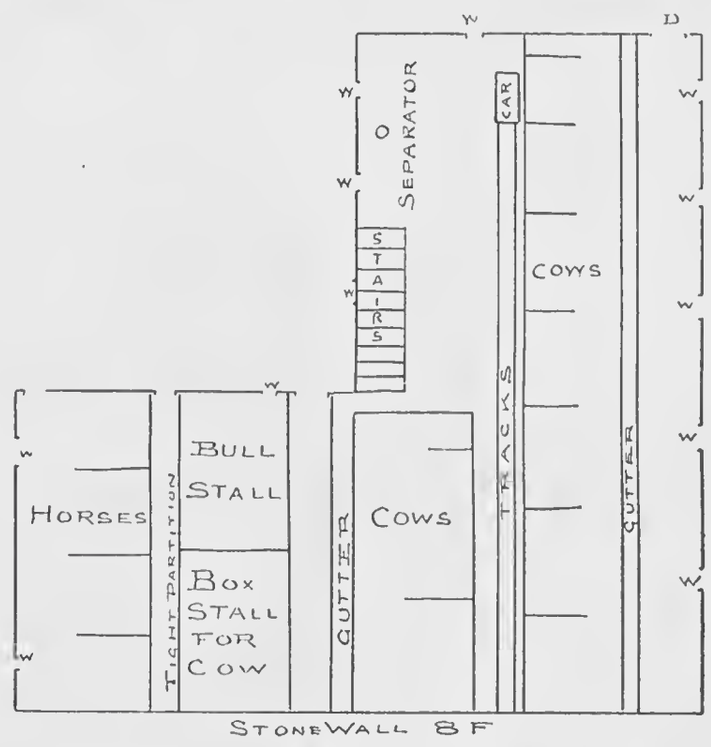
ANS.—In general, land which has not recently carried a diseased crop, is always to be preferred. The blight is due to a fungus—Cercospora apii—and many of the spores will, doubtless, remain in the soil during



OLD BUILDINGS ON AN OHIO DAIRY FARM. FIG. 5.

the winter. If all of the diseased plants were removed last fall before plowing, the danger is somewhat reduced. In some cases, it has been found that spraying the crop with Bordeaux Mixture, or the ammoniacal solution of copper carbonate, is a very effective preventive of the disease, and that even after the disease has made its appearance, it may be checked in this way. The formulas for these mixtures have been given repeatedly in THE R. N.-Y.

Bordeaux Mixture: Dissolve six pounds of copper sulphate in four gallons of water in a wooden vessel. In another vessel, slake four pounds of quicklime in two or three gallons of water. When the lime has cooled, add it to the copper solution, and stir thoroughly. Before applying, dilute with water to 50 or 60 gallons. The milk of lime should be strained through a cheese cloth when adding it to the copper



NEW ARRANGEMENT OF OLD BUILDINGS. FIG. 6.

solution, to avoid particles which will clog the nozzle.

Ammoniacal carbonate of copper: Dissolve three ounces carbonate of copper in one quart strong ammonia. For use, dilute to 40 gallons. W. M. MUNSON.

Value of Fish for Fertilizer.

L. S., Fishhawk, Ore.—How much could I afford to pay for a ton of raw fish (dog salmon), delivered at the place?

ANS.—It will depend on the cost of other manures or fertilizers. The fertilizer values of fish or other substances are comparative—that is, they are based on the *cost* of nitrogen, potash or phosphoric acid in some standard article. The values in the Eastern States are based on the trade values of the *chemicals* as they are sold in the New York market. Of course, this would mean little to you on the Pacific coast as these New York prices are not to be obtained in your country. A ton of such fish would contain about 95 pounds of nitrogen, and 105 pounds of phosphoric acid. With that analysis, it would be worth, in New Jersey, about $20—that is, it will cost $20 to buy the same amount of fertility in the form of chemicals. To get a fair price for your part of the country, you must compare this analysis with that of some article that has a trade value. What does stable manure cost with you? Fish of good quality with not over 50 per cent of water, is worth about seven times as much as an equal weight of average stable manure. You must remember, what we have often said, that fish contains no potash, and that substance must be added to give the best results.

Dried Brewers' Grains for Hens and Horses.

W. A. R., Whitefish Bay, Wis.—How do dried brewers' grains for chickens and horses compare with other feed stuff? I pay 60 cents per 100 pounds, freight included. Our agricultural chemist has analyzed the grains with the following results: moisture, 8.25; ash (salts), 3.62; fat, 8.38; muscle-makers, 25.11: fiber, 19.60; fat-formers, 34.94. The prices I pay here at present for muscle makers in different feed stuffs are as follows:

	Muscle-makers. per cent.		Cost of one pound of muscle-makers
Buckwheat	9	$0.65 for 50 pounds	14½c.
Barley (broken)	10	.75 for 100 pounds	7½c.
Wheat	13	.60 for 60 pounds	6½c.
Corn	10	1.00 for 100 pounds	10 c.
Oil meal	34	.90 for 100 pounds	2⅔c.
Bran	14	1.25 for 200 pounds	4½c.
Peas	22	.70 for 60 pounds	5⅓c.
Dried grains	25	.60 for 100 pounds	2 2-5c.
Oats	12	.75 for 100 pounds	6¼c.

Are dried grains a good feed stuff for chickens and horses? I know that they are good for cattle. If these grains, fed to chickens, would have the same effect as wheat, I would save over four cents on each pound of protein. About the same amount would be gained if I could feed them to my horses.

ANS.—Brewers' grains (in fact, any kind of concentrated foods) are not only highly relished by poultry, but are very serviceable. Poultrymen are making brewers' grains a leading ingredient of the ration. The practice is to give as much as the fowls will eat, three times a week, usually at night, alternating with cut bone, or other foods, by way of variety. It may be stated that anything that is suitable for a cow will answer for a hen, provided the food allowed is reduced to a fineness which permits of its being utilized by the hens. Even ensilage is relished by poultry in winter, bulky food being a necessity as an adjunct to the concentrated foods. P. H. JACOBS.

R. N.-Y.—The New Jersey Experiment Station (New Brunswick) has issued an excellent bulletin on feeding these grains to horses. We expect soon to have facts from those who have used this food for poultry and other stock.

Feeding Malt Sprouts.

D. C. E., Elizabethtown, (No State).—Are those malt sprouts fed the cows by Mr. Franciseo, fresh or dried? If dried, who furnishes them by the ton or car-load and what is the price? If dried, how are they fed—moistened or dry?

ANS.—These sprouts are bought right from the brewery. Of course, you understand that these "sprouts" are different from brewers' grains. In making beer, barley is soaked in water, and then put in thin layers at a temperature high enough to make the grain sprout. After growing 48 hours, the temperature is suddenly increased. This dries the sprouts, and they are shaken off and sold for cow feed. Mr. Franciseo can drive right to a brewery and load a wagon. He feeds all his grain wet, as described on page 805, 1895. Probably Wilkinson, Gaddis & Co., Newark, N. J., sell these sprouts.

How to Feed Canadian Steers.

J. A., Arkona, Ont.—I have taken 12 steers to fatten, and get so much per pound for what I can make them gain. They are three years old, and weigh, on an average, 1,150 pounds each. They are now in a good, thriving condition. What would be about the right amount of feed for each animal per day? I have for feed, corn fodder, some clover hay, and some mixed hay, clover, Blue grass and Timothy. I have about 300 bushels of mangels, and a silo full of ensilage, about 22 feet deep, by 14x12 feet. For grain, I have oats and corn chopped, about equal parts. I would like to feed so as to make a gain of 1½ or two pounds per day. How can I make up a ration, out of the above feeds? I can buy bran for $12 per ton, and middlings for $15. I have to keep the cattle until May 10. I have not opened my silo yet, as I was thinking of feeding the roots and some of the rough feed first, and keeping the ensilage until later.

ANS.—It is extremely doubtful whether three-year-old steers that weigh 1,150 pounds, can be made to gain 1½ pound per day from now until next May. I would consider three-quarters of a pound per day for the whole time a very satisfactory gain. If the ensilage is well compacted, there should be enough to feed the steers all they will readily consume from January 1 to May 10 and have considerable left. They will probably consume in the neighborhood of 60 pounds each per day. With this, they will take from 15 to 20 pounds of grain. If the ensilage has very little corn upon it, I would mix the grain, four parts corn, one part oats and one part bran by weight. The mangels may well be used in small quantities as an appetizer from time to time, and the steers should have access to some dry fodder, preferably the clover hay, though the corn fodder, clover and Timothy may be alternated with good effect. Care should be taken to bring the steers up to their full feed gradually, so that their appetites will always be keen. They should have each day all they will eat up clean and no more. H. H. WING.

Down on the Robin.

T. J. McL., SALEM, PA.—The robin is surely a pretty bird, and his song is charming. The question is as to whether the few inseets he eats, pay for what he destroys? I live on a hill farm, which slopes to the south, and is well located for fruit growing, and is almost covered with fruit. In fruit time, the robin comes to destroy the strawberries, but I never yet saw one eatch a cricket, or any other kind of insect. When the strawberries are done, he attacks the cherries, raspberries, blackberries, and even red apples and peaches.

In the berry season, one can go a mile below my farm or in any direction, and see robins coming to my farm to destroy the fruit. They never come near before to catch bugs or worms. I think that they are like the worthless cur dog on the farm, which so many keep to drive the stock; but they do the dogging themselves, and the dog gets the meat. I have had 50 cherry trees loaded with cherries, time and again, and had hardly enough for my own use; they had to be picked when half-ripe to keep them from the robins.

Insurance at Cost.

G. C. H., ROSENDALE, WIS.—Wisconsin has a law which enables the farmers in from one to four townships to organize for mutual insuranee against fire and lightning. The following is the statement of business done by the Rosendale Insurance Company for 1894. The company does business in four townships, and has been in existenee 21 years, during which time it has saved the farmers many thousands of dollars. The company is carrying 727 polieies, amounting to $1,358,000.

LOSSES SUSTAINED IN 1894.

From fire	$1,070.00
From lightning	229.00
Other losses	39.49
Expenses	573.21
Total paid out	$1,911.70
Cost of insurance on $1,000, $1.407.	

In addition, the polieies cost $1.50 each, and one mill on each $1 for five years. This furnishes a fund suffieient to pay the running expenses, and, in some years, pays the losses also. The secretary reeeives a salary of $200 per annum, and the directors and adjusters reeeive $2 per day for actual service.

Ragweed and Corn.

B. B., FARMINGDALE, ILL.—In discussing the question as to why the ragweed throve with a vigorous growth, where corn failed, I think that you have hit on an exceedingly interesting and important, as well as diffieult problem. I wish that those who are capable—I am not—would take up the trail and hunt the game home, for it is certainly worth the ammunition. I doubt whether it will be found, as you intimate, that the weed has better "staying qualities'" than the corn; but, rather, that it, too, if raised as a crop, will temporarily exhaust the soil of the parts necessary to the best development of the weed. Then another weed may take its place, and so on indefinitely, so long as the land is cultivated. After a while, however, corn may be planted again—or the ragweed—and succeed as at first. If tillage be stopped then, a new order of plants eome in, one species sueceeding another, as the ground hardens and crowding and rivalry obtain, until the wild prairie or some later-introduced or more persistent grass rules. This, however, only shows a battle of plants and the survival of the one fittest to the natural eonditions of soil and climate. It shows, too, that the corn and the ragweed eannot fight their own battles, but must be assisted. But what of the question, "Now, why is this?" Does not the ragweed take from the soil something different from that appropriated by the corn, even though the analysis of both be much the same? Coal and diamonds are not put to the same use, even though they both be carbon; neither does the ragweed eontain the nutriment of corn, even though it has a "greater proportion of minerals."

A Florida Man Beats Chapman.

A. E. M., NEW SMYRNA, FLA.—C. E. Chapman may raise potatoes at 11 cents per bushel, but he can't raise them and plant them on Oetober 22, and in nine weeks dig them as large as, and larger than, hens' eggs, as I am doing, and have been for some time. I plowed the ground with one horse in two hours—one-fourth aere—furrowed it, manured in the row with four one-horse loads of well-rotted stable manure, dropped the seed, two bushels eut, and covered it in one-half day. I cultivated it when well up, in one hour, hoed once in two hours (of eourse, I did not hill mueh). The total time spent was 10 hours, with a man and horse, at $2.50 per day. I could sell my potatoes for 30 cents per peck if I wished.

Feeding Twice a Day.

H. A.W., BERWYN, ILL.—The question was asked, who has had experience in feeding eattle twice a day? In the spring of 1880, I bought of one of the best farmers of our vicinity, four eows, paying $195 for the four. I inquired as to his manner of feeding. He replied, "I feed at 6 A. M., at noon, and at 3, 6 and 9 P. M. just a little hay, and grain at 7 A. M., noon, and 7 P. M., thus making nine feeds in 24 hours." His reeommendation as to the quality of the cows was first-class; he said that I could not pick four more equal in every respect out of the herd of 36 left. I took them home and somewhat ehanged the manner of feeding, gradually getting down to two feeds in 24 hours. The looing and moaning for food was something frightful for several days. In two weeks, they were contented with my other eows, with two feeds a day, and the flow of milk was pereeptibly increased.

For more than 30 years, I had fed nothing—horses, cattle or hogs—more than twice a day. A neighbor, a teamster, had a pair of mares weighing 3,200 pounds, which were on the road six days out of seven the year 'round. He fed them all the grain they would eat three times a day. Onee on his trip, he met an old schoolmate who had a fine pair of fat horses, and they discussed the relative merits and looks of their teams. The fat horses, for several years, had had but two feeds a day, receiving the heavier feed at night. The difference in the looks of the teams caused this man to eonclude to experiment; so he gradually cut off the noon feed of one of his horses, giving him only a small handful of hay, while the other had his eight quarts of oats, as usual.

(*Continued on next page.*)

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Is declared by Hood's Sarsaparilla upon impure blood and all its disagreeable symptoms. By purifying the blood it cures rheumatism, neuralgia, scrofula and eatarrh, and gives vitality.

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Largest yielding *corn, oats & potatoes. Fruits, plants and trees.* Accurate descriptions. Money-saving prices. Write today it's **Free.** If you plant a tree or sow a seed you need it. If you are a market gardener, let us know it. Mention this paper. **Frank Ford & Son, Ravenna, O.**

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We have a large block growing on rented land. The lease expires this spring. The stock must be sold without regard to cost of raising. Have fixed the lowest prices ever quoted. THE TREES ARE FINE. This is, no doubt, the best opportunity offered planters during the past 25 years. WHITING NURSERY CO., Roxbury, Mass. Nurseries at Geneva, N. Y.

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$10.00 FOR LARGEST POTATO, Rural New-Yorker No. 2,

sent me and raised from seed purchased of me this season, will be awarded October 15, 1896. Potato must reach me by mail, postpaid, on or before that date. Seed, five pounds, 30 cents; one barrel free, to person sending in first order. Address all orders to

A. C. GEARHART, West Decatur, Pa.

SEED POTATOES—Carman No. 1, $3; Great Divide. $2.50. Rural New Yorker No. 2, Burpee's Superior, and American Wonder. $1.50 per barrel. These potatoes are guaranteed first-class. References if desired.

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T. B. PARKER, Goldsboro, N. C.

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Price list and catalogue free. 42nd year. 1000 acres. 29 Greenhouses.

THE STORRS & HARRISON CO., Box 23 Painesville, Ohio.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

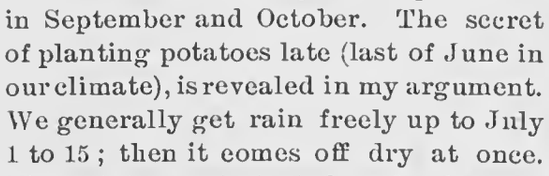
For a while, there seemed to be a discontent with the unfed horse; but in 30 days' time, there was a decided improvement in condition, and in 60 days, the horse was much in advance as to flesh and appearance. He then began the practice of feeding twice in 24 hours, and in six months, his team was "rolling fat," and on three-fourths the grain they had been eating. The theory is clear: The stomach must have rest; when overcrowded, it cannot digest the food sufficiently, and thereby causes the voiding of much grain or undigested food.

All stock must be contented to thrive and produce the best results. Were I feeding cattle or hogs for market, I would settle on but two feeds per day, with rest between. Were I a dairyman, I would follow this practice rigidly, for I know that I never failed to increase the flow of milk with cows contented and restful. While at rest, the assimilation becomes more perfect, and conduces to the productive faculty of the cow. A careful test will convince the most skeptical, especially if reduced to a test by the scales, of feed and product, leaving out the extra care and time of feeding.

When to Irrigate Potatoes.

W. A. H., JONESVILLE, MICH.—On page 778, J. E. W., tells when a Mormon farmer put the water on potatoes in Utah. That man knew his business. When the season is dry during the fore part of the potato growth, up to blooming and setting, the potatoes root deep and set deep. If they root and set deep, they find plant food while in search of water. When they are well rooted and set deep, it is just the time to water. They need water then to fill out the setting, and a large crop is sure to follow. If we get a wet season until about July 10, and then it comes off dry and hot, potatoes, corn, etc., are sure to suffer, and will feel the drought in a very few days, while the earth has really lots of water in the subsoil. The reason of this is that the plant roots high if the ground is wet; when the drought comes, it catches the roots near the surface, and cooks them before they have time to root deeper.

For best results, give me a dry season up to about July 10 to 15; then some rain, and the result is a big crop of corn, potatoes, and other crops that fill and mature the last of July and August, even in September and October. The secret of planting potatoes late (last of June in our climate), is revealed in my argument. We generally get rain freely up to July 1 to 15; then it comes off dry at once. The potatoes get started, and when the drought comes, they root deeper and deeper, but set little if any, put out little tops, and just about manage to live. Finally, in September or October, we get rain, and the potato is ready to drink it in, and the crop is a happy surprise to the farmer, who himself seldom knows just why it is so. In our country, we can't irrigate, so we have to wait for Nature, and catch her as nearly as we can, If we could irrigate, the time to do it is when potatoes are in bloom and setting when corn is setting and filling, etc.



THE old Maiden's Blush apple is valued for the delicate coloring of its skin. In quality it is not of the richest, but the flesh is exceedingly tender, and there is about it a mild, delicious flavor that fully makes up for what is called a higher quality in other apples. It is highly valued in the following States: New York, Michigan, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, Ohio, Indiana, Kentucky, Tennessee, Illinois, Iowa, Missouri, Nebraska, Kansas, South Carolina and Ontario. E. M. Buechly, of Greenville, O., sends us a specimen of a seedling of the Maiden's Blush which the originator, Jason Downing of Darke County, O., is pleased to call Downing's Winter Maiden Blush, the seed of which was planted in the spring of 1874. The first fruit was borne seven years afterwards. At the age of 14 years, the tree yielded 15 bushels of choice fruit. In size, it is medium, in shape nearly round, but sometimes slightly conical. The color of the skin is a soft, wax-like yellow, with a feeble crimson blush. The white flesh is even finer grained than its parent, mild, sub-acid and slightly aromatic. Probably it will thrive in those localities where its parent is well-known and popular. The season of Maiden's Blush is mid-autumn. The season of Downing's Winter Blush is said to be from December to April. It seems to us that the name is not well chosen, and that "Greenville," suggested by Mr. Van Deman, would be preferable.

EVIDENTLY we don't know much of the possibilities of the improvement of the hickory nut. Up to this time, the Hales hickory discovered in a woods near Ridgewood, N. J., by Henry Hales of that place, is the best variety known; best, because of its large size and thin shell. We are now in receipt of a box of hickory nuts from Frank Waring, of Philipsburg, Pa., the average size of which is 5½ inches one way, and five the other in circumference. These nuts which, perhaps, average larger than the Hales, have thicker shells. Still they are full of meat and give additional proof of what we may hope for from studied selection and seedling cultivation.....

IT is but a few years ago that THE R. N.-Y. was not carefully followed in its advocacy of the best of the Japan chestnuts, and of the probability of improving them through seedling cultivation. This indifference has passed away. We have now Japan chestnuts thrice larger than our natives and fully as good in quality, viz.: the Paragon, Ridgely and Burbank, mentioned in the order of their quality. THE R. N.-Y., as is well-known, was the first paper to bring to public attention the merits of the Paragon. We have now the Ridgely, and are promised next spring a tree or two of the Burbank, which is not yet introduced.....

OUR friend, Mr. J. L. Normand, of Marksville, La., who is experimenting with figs, writes us that the variety called Hirter du Japan is the best variety to grow in pots or tubs in the North, on account of its dwarf habit of growth, hardiness and fruitfulness, and fine quality of the figs. Cuttings have borne with him the first year. The variety is close jointed, and often the figs are borne in pairs in the axils of the leaf stalks, thus yielding nearly twice the amount of fruit on a given surface yielded by other varieties. This variety was sent to Mr. Normand by our friend, Charles Howard Shinn, the inspector of the agricultural stations of California. He says that it is of slow, compact growth, that it bears an astonishing quantity of fruit, and is nearer a perpetual bearer than any other fig known in California. The figs are round, of medium size, and of a purple color. The flesh is white and the quality unsurpassed.

Such varieties of figs may well be grown by any of our readers who have frost-proof cellars.....

ALLUDING again, as we promised to do, to the Cassabanana, or Benincasa cerifera, Mr. Normand tells us that it is not edible when raw. He peels the fruit with a sharp knife, then cuts it up into small pieces about an inch square, and scalds them in hot water. The water is drained off, and as many pounds of sugar are added as there are pounds of fruit. Add a little water and cook until tender. As to cultivating, the seeds would better be started early in pots, and transplanted to open ground when all danger of frost is over. The richer the soil, the better. Plenty of trellis should be given for the vine to run on, though our own vines at the Rural Grounds were making a rank growth without support, and bearing young fruit when the tornado destroyed them. Mr. Normand raised a vine close to a dead tree in an old field. The vine reached the top of the tree—the height of the tree is not stated—and produced 200 fruits weighing from four to six pounds each. The value of Cassabanana evidently depends upon what it may be worth for preserving purposes. As a curious novelty in the vine way, it may also be worthy of cultivation.....

MR. A. S. WORTHINGTON, of Benzie County, Mich., says that clover is rarely injured in his part of the State by the cold of winter. Thousands of bushels of potatoes, he says, have been left in the ground, and are uninjured, being protected by the snow. They will be dug in the spring (if the price will pay for the labor) in as good condition as if they had been stored in the cellar. He says that his Rural Winter oats—he has half an acre—before the first snowfall were looking better than winter wheat.

OFTEN as we pass grocery stores in uptown New York, we see baskets of R. N.-Y. potatoes. Sometimes we ask the name. Rural New-Yorker No. 2 has never thus far been given. The latest replies to our inquiry were Scotch Magnum by one grocer, Burbank by another.

STARK BROTHERS, of Louisiana, Mo., regard Red June as the coming Japan plum. It is much the shape and size of Abundance, red color and good quality. Prof. Bailey, of Cornell University, Ithaca, says that it begins ripening with him June 29, and that it is much superior to Willard—the best, indeed, of the early Japan plums. Pres. Berckmans says that it is fully 10 to 15 days earlier than Abundance.....

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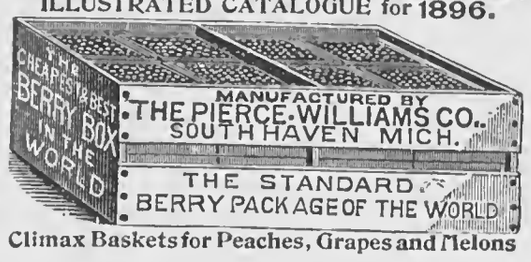

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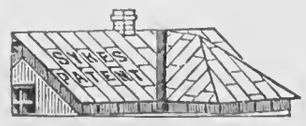

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SATURDAY, JANUARY 4, 1896.

A CHRISTMAS PRESENT

reached THE R. N.-Y. on the morning after Christmas. It was a big mail containing more actual subscriptions than we have ever received on any corresponding day—with one exception, when Christmas came on Sunday, and the always heavy Monday's mail was combined with that of Tuesday. This Christmas present is highly appreciated. We desire to thank our friends, one and all, for this evidence of their friendship. During 1896 we hope to make 52 substantial returns for it! Thank you!

⊙

UNLESS you have such stiff, hard soil that you are *sure* subsoiling is needed, we would advise you to take your time and *make* sure before you do much of it. Try part of a field alone and see how it works. Be sure to study the advice from the Nebraska Station (page 3), and see how easily you can spoil the whole thing by doing it wrong.

⊙

ONE result of a possible war with England would be reasonably sure: This country would lose a good slice of its foreign trade in cotton, breadstuffs and provisions. South America, Australia, India, Russia and Egypt are able and willing to feed and clothe Europe. While we were fighting, these nations would be at work securing that market. It was while Americans were fighting among themselves that England won our shipping trade. We might win that back, but what would it profit the American farmer if American ships carried foreign food to Europe?

⊙

ON page 827, we stated that Dr. Jabez Fisher of Massachusetts, grew 1,100 bushels of Carman No. 1 potatoes on three acres of ground. Next week, Dr. Fisher will tell us how he did it. This will present still another side to the potato discussion. Here we shall have an account of how high-priced seed was handled in order to give the largest yield to the pound. The amount of *hand* work needed in this operation, will frighten some of those Wisconsin growers, but readers may judge whether it paid or not when they read about it.

⊙

MOST persons who have made a study of poultry, understand that cross-bred birds are often excellent for practical purposes. It is also pretty well understood what crosses are best for early chicks, or good layers. With many farmers the practical use of crosses ceases to be profitable, because it is carried beyond a point where the system will sustain first results. Crosses are most excellent for earliness and other qualities in the first cross; but when we breed from the crosses, we make an experiment in every case, as once the fixed type is crossed, reversion follows, and we have mongrels. We are told that many of our best breeds are the result of judicious crosses. Quite true, but they have been carefully selected until the type is fixed, and while the ultimate result is most satisfactory, the *process* was not a practically paying one, except in the result. The breeds we have are good enough, and if we will use them, they will pay; and that is what the practical poultry keeper is after. No one in business but wants to make success as assured as possible, and eliminate all things of an experimental character; therefore we wish fowls that will breed true, and perpetuate the qualities we require. Pure breeds will do this, mongrels and crosses will not. If we wish profitable crosses, then we must keep pure fowls for that purpose; but after the first cross, no birds or eggs should come near our breeding yards. Regarding the qualities of breeds, there is much in management and feed. Leghorns can be made fat and to sit, and broody breeds, like the Cochin, can be made not to sit, and to exceed the breed record in eggs. There is a characteristic tendency in all breeds, and handled along that line, they will exceed other breeds handled the same, but taken "all around," there is not so much difference in the practical paying qualities as we are often led to suppose. Pure breeds—outside of their breed value—pay the best. With eggs and chicks sold at market rates, they will exceed mongrels, and above all, of chicks hatched, more will produce stock up to a paying standard.

⊙

THE Short-horn breeders have done a sensible thing in preparing to make a separate breeding class for such cows of their breed as show marked ability as dairy animals. Many Short-horn cows are good milkers; in fact, you will find traces of Short-horn blood in many of the best grade dairies. The breed, as a whole, has been developed on *beef* lines. The scale of points, prizes and other incentives to improved breeding, have all been in the direction of meat production. Naturally, dairy qualities have been made secondary. Now it is proposed to breed the best dairy animals to a new standard. The result will naturally be a big cow with an increased capacity for giving milk. This is a wise move, but in what way will a dairy Short-horn be a better all-'round cow than a Holstein or a large Guernsey or Ayrshire?

⊙

CONGRESS has been legislating at a lively rate the past week. The report of the Secretary of the Treasury plainly shows that some provision must be made for raising extra funds for Government purposes, or it will be necessary to borrow and thus increase the National debt. The President sent a special message to Congress urging the passage of some bill that would bring financial relief. As a result, the House postponed its usual Christmas vacation, and offered two bills. One provides for an increase in the tariff large enough to provide $40,000,000 extra in revenues, and the other authorizes the sale of small bonds at three per cent, and the issuing of certificates of indebtedness payable in three years. The object of these small bonds is to provide a supply of money whenever it is needed, and to reduce the rate of interest which the Government has paid on former loans. The tariff bill puts duties on wool and woolen goods and lumber and increases the duties on other articles except sugar 15 per cent. The tariff bill may pass both Senate and House, but the bond bill is likely to fail, since the silver men in the Senate are in a position to kill it. They object to anything short of the free coinage of silver, and this bond bill is not enough of a compromise to suit them.

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THE business of this country would be on a better basis if the mail service in country districts were improved, and fractional currency were again in circulation. Free delivery of the mails in rural districts on the plan of city or town delivery, may be a long way off, but that is no reason why the Government should stand still and not attempt to give the farmer any better mail service than he now has. Go into neighborhoods where farmers have put in private telephone lines and made their own arrangements to have mail brought to their doors, and you will readily see the advantage of being brought into closer contact with the world. The farmer has not received his fair share of benefit from the mail service, and he should keep talking about it until he has his rights. As to the matter of fractional currency, we believe that paper money in sums of less than $1 would be of great advantage to many farmers. The Government would lose some of its present revenues from sales of money orders or for registering letters, but we believe that farmers would do an increased money trade by mail, especially if, instead of the higher express charges, we could have quick mail service at fair rates. Fractional currency is but a small fraction of the current needs of farmers.

⊙

WE had no idea when this controversy as to the cost of producing a bushel of potatoes was started, that so many interesting and thoughtful ideas would be developed from it. Mr. Chapman this week, evolves a singular theory about the real value of the plant-food taken from the soil in crops. It is a singular theory—exactly the opposite of that held by the farmers on Long Island and in New Jersey, who use a ton of high-priced fertilizer to the acre. They tell of the wild herdsmen in Patagonia who live where there is no wood for fuel. They will kill a steer, cut the meat from the bones, make a fire of the latter, and use them to roast their dinner! That is cheaper than it would be to carry other fuel from distant points, and the principle is not unlike that employed by the farmer who uses no imported fertility, but devotes himself to getting out what there is in the soil. While Mr. Chapman's plan may be the best for his farm and circumstances, he cannot lay it down as a suitable rule for all to follow. The value of such a discussion is not in making fixed rules for all to follow, but in leading people to compare their methods with others, and thus think out a possible improvement. Another side of this matter is the effect of this cheap production on the price of farm labor for employer or hired man. We shall take that up next.

⊙

ACCORDING to theory, the cross of a Jersey bull on grade Holstein cows, ought to produce a fine dairy animal. The theorist would naturally take the smaller animal for the sire. Practical experiments, however, appear to show that heifers from such a cross are usually inferior animals, poorly marked, and not first-class for either milk or butter. On the other hand, the Holstein bull crossed on Jersey grade cows is said to produce a fine animal—larger and better colored than the opposite cross, and usually giving a large mess of rich milk. This is hardly what we have been taught by theoretical breeders, but practice seems to have proved that, in crossing these breeds, the bull should be of the larger size. We would like to have breeders explain this puzzling matter.

⊙

BREVITIES.

I'm sorter house-bound, setting here beside the stove to-day,
With this 'ere cold! My wimmin folks says, "Pa, you're in the way!"
An' yet, they're usin' me first-rate. My wife has baked a pan
Of that 'ere Injun pudd'n—you may beat it if you can.
We never was no hands fer pie or pastry of no kind;
But we can clear more pudd'n up than any crowd you'll find.
Two tablespoons of Injun meal—of scalded milk a cup;
It makes a sort of chicken dough—just mix 'em gently up.
Then comes another quart of milk—three pints would be a waste—
An' then molasses, half a cup, or more to suit the taste;
An' then a lump of butter that will fill a tablespoon;
Then let it bake three solid hours—don't take it out too soon.
No eggs, no sugar—nothin' more in that 'ere recipe—
'Way back from Plymouth Rock that dish has come right down to me.
An' when I smell it cookin' in the oven, I tell you
That life puts on its reddest paint and covers up the blue.
Let others stuff on pie and cake—I won't have naught to say—
Give *me* an Injun pudd'n like my wife has cooked to-day.

A HEAVY drinker!—the house plant.

BETTER enlist under General Principle.

WHAT gives live stock respect for a fence?

WHAT is a "breed" but selected mongrels!

IMPOSSIBLE! Wholesome thought without labor!

A FOUR-HANDED man is one that keeps his brains handy.

Do you know any all 'round man that gets good *square* wages?

IF thy bones are lazy, work out the laziness and cast it from thee.

DON'T trust a careless hired man to feed corn meal to dairy cows.

SUGAR beets and Alfalfa—a Colorado "balanced ration," page 2.

MIGHTY few by-products from feeding a scrub. They are mostly good-bye products!

BETTER buy an old bull with proved daughters than a young one with a proved mother.

A MOULTING hen afflicted with mites! There's a "scratching shed" for you that is of no value to agriculture.

THE sheep has an overcoat, but who ever saw him stay out in a cold rain to enjoy it when he had access to a dry and warm shed?

WHY not let some of our experiment stations try to *cure* a tuberculous cow by giving her perfect sanitary treatment and care?

A POTATO slice will act like spice to the sheep's dry hay and grain; it is succulence, tastes good, and hence you will find it so much gain.

DOES any one know how to make a hen sit when she doesn't want to? In other words, can we coax a hen to incubation against her will? Yes!

THE best looking Crimson clover we have, was sown with turnips about the middle of July. It is larger than that sown alone, or that sown in the corn.

YOU may make governments just as "paternal" as you please; still the classes that show the most energy and skill in conducting their business, will come out ahead.

GOOD for the man who says that his son shall have a better education than he enjoyed; but better for the son who has the insight to realize *why* his father says that!

WHAT is a germicide? When a germ goes into boiling water, carbolic acid, or certain other substances, that germ commits suicide. When the substance is put on to the germ against its will, it becomes a germicide.

SOME years ago, prophets told us that ground bone would soon be out of reach as a fertilizer—for lack of enough to supply the demand for it. It is now cheaper than ever, while twice as much is used. How is that? More of it is *saved!*—less wasted.

PLANTING apples and peaches in the same orchard is like letting a big dog and a cat eat out of the same dish. If there is not food enough for two—the dog will get it. It answers fairly well when there is no need for either to go hungry; but that orchard *must be fed.*

IMMENSE quantities of powdered sulphur are used in California for insects that infest orchards. In some orchards of large trees, they drive through with a broadcast seed sower, raising a dust of sulphur that covers three to five rows of 30-foot-high trees at once.

HORSESHOE FARM NOTES.

CHAPMAN "TALKS BACK" ABOUT POTATOES.

Comments, Criticisms and Catechisms.

On page 742 (November 9), of last year's R. N.-Y., I gave the following figures as the cost of growing an acre of potatoes on my farm :

Plowing in the fall	$1.50
Harrowing three times, spring	.66
Cultivating twice	.40
Seed	4.00
Cutting seed	.25
Marking	.25
Dropping	.25
Dropping phosphate	.25
Covering	.25
200 pounds phosphate	3.00
Digging	7.00
Cost per acre	$17.81

Average yield of 10 acres, 200 bushels.
Cost per bushel, nine cents.

My object was not, as some assumed, to see how cheap I could "make it out," but to show that a change must be made by those who grow this crop by the ordinary methods, if they wish to get pay for their labor. Had I wished to make a "big story," I would have given the example of four acres of Orphans which yielded 1,647 bushels at a cost of six cents per bushel; or of one acre of Rose of Erin which gave 408 bushels at a cost of $20; but I was trying to be fair, and gave the average for my own 10 acres. My critics seem to misunderstand the terms, cost and profit. I gave the cost, not the profit. A manufacturer gets the cost of the material for a wagon, adds to this the cost of labor, and finds that the finished wagon costs, say, $20. He adds the interest on his investment, the cost of selling the wagon, what he considers a fair return for his time, skill and vital energy; divides this sum by the number of wagons made, and finds it to be $5 each. All he can get for the wagon over $25 is clear profit. If he cannot sell it for $25 because some other fellow is smart enough to make the cost $15, he has to take less for his skill—[Or form a combination with the other fellow.—R. N.-Y.] The farmer cannot fix the selling price of his products, so I purposely left out skill, and vital energy. Who can fix a price on them? They are worth, to me, what they bring me—what I get from them—and that is my profit. "But," says one, "you did not figure interest on investment; such land is worth a good deal." Another says, "You made no allowance for fertility carried away."

WHAT DO WE BUY A FARM FOR?—What makes it valuable? The plant food the soil contains. If there is none in it, no one would give a dime for it. In some 35 experiments made to determine the average composition of soils, it is claimed that the plant food found in the first eight inches, consisting of nitrogen, potash and phosphoric acid, is worth, at the prices usually paid for those articles, $1,687 per acre. I paid $30 per acre for my land. What is the cost of the 200 pounds or less taken by my crop? But it is further added that the great bulk of the plant food is insoluble and worthless as plant food until changed by some process. In other words, our investment in plant food is as worthless as a silver mine, unless worked. Do we get any interest on shares in an unworked silver mine? No! Neither has any one a right to charge interest on money invested in a farm. Why charge for cultivation? That has nothing to do with the plant. Most, if not all plants, would be better off if never cultivated at all, especially where the big, root-cutting implements and time-honored, ridge-piling system are still in vogue. One field of four acres did not have an atom of cultivation, after the plants came up, and were the rankest I ever saw. I did cultivate once in a row one way about August 1, to kill some summer grass; but the potatoes had made their growth before that. I cultivate to keep out other plants that would rob the potatoes, but the principal reason is to make that worthless plant food available, and provide water to put it into circulation. You get pay for making this worthless plant food valuable, why charge for it a second time? If it is worth any more than it costs, you get it in the dividends. The miner gets pay for his labor, the owner what is left. Either leave out the value of fertility taken away, or the cost of cultivation, or else get two profits.

Another says, "Board should be considered." As my help is mostly boys, and month hands costing from 25 to 50 cents per day, I considered that the wages given were sufficient to cover the cost of board. We are not running a boarding house, and counting in the profits on the boarding to help make the estimate show better.

ARE CHEAP POTATOES POSSIBLE?—Another asks, "What good are these controversies?" None, to those who have written me politely or otherwise, that I lied, because they will not study for themselves. None, to those who have thought about the items given and go on just the same. They are great good to those who are wise enough to profit by them, who are able to see the difference between their methods and mine, and combine the two; and to him who is induced to stop if unprofitable. I am afraid that the discussion will tend to produce the impression that there is great profit to ordinary growers of potatoes, and that the crop can be slighted. To those unaccustomed to quick, effective work, the items charged would seem to call for very little work; but good crops cannot be secured, except in unusually favorable conditions, without thorough culture. Remember, with an average crop (100 bushels), the cost would be doubled—or 18 cents—without anything for skill, vital energy, interest on tools, taxes, losses in unfavorable years, rot, blight, grubs and fertility removed. In short, do not go into any business expecting always to attain the exceptions.

I could not haul 250 bushels three miles in one day, (page 841), and would not for $3. If the roads were good enough so that a team could draw 62 bushels per load (two tons with crates), they would have to make four trips. One man could not load and unload that many in the time left. No man can afford to dig potatoes for $1.25 per acre. We charge $2.50; at that price, I would better be at home. It may be well to print such figures, but I shall be sorry if any one get the idea that he can pay for a farm with nine-cent potatoes, and tries it. I do not believe that even Mr. Currier, with his favorable location, has seen an average of 300 bushels per acre more than once or twice in a lifetime, and never for the whole town. Nearly all statements have been somewhere near $20 per acre, and I think that I have learned that potatoes must bring 20 cents per bushel to meet all demands, taking one year with another. C. E. CHAPMAN.

R. N.-Y.—Now let some of our western friends describe their rigs for hauling great loads of grain or potatoes with six or eight horses. The truth about this may sound as large as the stories about harrowing 40 acres a day!

CAUGHT IN THE CHRISTMAS MARKET!

Holiday times make lively work in the city markets. The great stores are crowded with shoppers for many days before Christmas, in the quest for gifts. The grocers lay in an extra stock of choice goods, and make more tempting than ever their attractive window displays. The choicest cuts of meat are now in demand, and the best of the poultry is sent forward. Fruits and nuts—all of the choicest and most showy—are brought out. The greenery and the Christmas trees are on sale on every side, and few so poor as not to make some extra purchases and, in some way, to celebrate the day which commemorates the birth of Him who came to bring peace on earth, good will to men. Only a sentiment, say you? But if it be, 'tis a sentiment that is founded deep in the hearts of our people, and which is growing deeper and deeper, and being exemplified more and more each year.

The practical part of it is that this season creates an extra demand for the products of the farm, the orchard, the poultry yard and the forest, especially those products which are often looked upon at other times as luxuries and extras. The season just past, brought out its full share. The weather was extremely unfavorable for the handling of meats and poultry, but favorable for fruits and vegetables. Just a few days before Christmas, the weather turned warm, and was extremely soft and sticky just at the time the bulk of poultry shipments was received. Much of the latter was in extremely bad shape, and was necessarily sold for low prices, if indeed, it was not so far gone as to be unsalable. A great deal of poor poultry was received—that insufficiently fattened. It never pays to ship that. There is also little demand for live fowls. Choice turkeys are always in demand. Geese and ducks meet a larger demand at the Christmas holidays than at other times. There is also a good demand for game, but almost everything in this line, except western partridges and rabbits, was scarce.

There was much loss, as usual, from improper dressing and packing. Much of this might have been avoided. Of course, the weather can't be controlled, but much of its unfavorable effects can be overcome. Some of the receipts were evidently insufficiently cooled, and much too carelessly packed. A number of instances of loss from other causes also came under our notice. A box marked poultry was opened in one commission house which was nearly swamped under tons of all kinds and conditions of birds. This was the second day before Christmas, and there was little demand for chickens and fowls unless of the best. When opened, all that was visible was a lot of half rotten chickens. No one wanted them at any price. The box stood there until the next morning, when in clearing up what was left, this box was overhauled. When the top layer of chickens was removed, the bottom of the box was found to contain choice ducks which would have sold the day before for 15 or 16 cents per pound; but the demand was gone, and they had to go for 12 cents. A precisely similar case happened with a barrel partly filled with nice turkeys, but topped out with scrawny chickens, which nobody wanted. As the commission merchant remarked, "We know poultry when we see it, but we can't see clear down through a barrel to see what is in the bottom. Every package should be marked with just what it contains." In another case, a barrel which apparently contained chickens, was sold for such, but proved to contain turkeys in the bottom. As prices of the two were about the same, and as the buyer could use the turkeys, no great harm was done. But suppose that, as sometimes happens, the price of turkeys had been a great deal higher than chickens! Who would have lost, and who would have been to blame? Carelessness doesn't pay, and these are only examples that could be duplicated by the dozen in the experience of every receiver of poultry in the city. The aggregate losses are something enormous. And who are the losers?

There is always a demand at Christmas for a few nice hothouse lambs, at good prices, though the price is less than formerly. Among the first to come in this year, was one from western New York, from a man who has been quite successful in producing these lambs, and who has shipped a good many to this market. For some reason, the lamb was not properly dressed, had not been properly cooled, and came in in such condition that it was entirely unsalable. At last accounts, the lamb was still unsold, the highest offer received, being the express charges paid in bringing it here. From the same county, a few hours later, two more lambs came to the same commission merchant, no better lambs than the other, but nicely dressed, and arriving in fine shape, and were sold almost at once for $10 each. Carelessness didn't pay here, and although the receiver felt very badly to have an old shipper lose in that way, he couldn't help it. Few of these lambs sold this year at $10 each, the bulk going at $6 to $8. In former years these lambs sold for $12 to $15 frequently, and, in some cases, even more. But times are close, and prices generally lower.

Fruits, especially choice ones for the table, are usually in great demand, but this year, the supply of most of them was so large that prices were low. Apples were very plentiful, and prices were lower. Cranberries, which have been selling for extreme prices, dropped materially, and the demand declined considerably. Grapes were extremely dull; we are getting plenty of fine Californias in the market, as well as Catawbas from New York and Almerias from abroad. Oranges from Florida are scarce and high. Many are coming from California, and are well liked here.

The streets have been filled with hucksters. Sales of all kinds of Christmas decorations are made to all classes of peoples. Never before have the markets been so filled with evergreen trees and all kinds of greenery used in decorating. These come by the carload and ship-load from far-off Maine and other distant points. Many of our streets have been turned into perfect bazars where all kinds of toys and fancy articles are sold. Wagons on which were great mounds of candy—hundreds of pounds—were here and there—"10 cents a pound, three pounds for 25 cents." Any one could get up a glorious headache, or a royal fit of indigestion for very little money, as well as stock up with the substantials of life for a good-sized family without going bankrupt. Christmas was almost a spring day, and although it comes but once a year, it certainly brought good cheer to many homes, and left memories that will linger for many days.

BUSINESS BITS.

DR. S. A. TUTTLE, 27 Beverly Street, Boston, Mass., still sends a sample bottle of his elixir for three two-cent stamps to cover postage. It is one of the most popular liniments made, and is a good thing to have in the house and stable.

You don't need to pay a great big price to get a good harness. Send to King & Co., 10 Church Street, Owego, N. Y., for catalogue of harnesses. They prepare the leather and make the harness, and sell it direct to the farmer—no middleman profit in that deal.

THE Great American Tea Company, 33 Vesey Street, New York, are sending quarter-pound samples of their best teas for 15 cents. Don't be afraid to send the 15 cents. We believe that there is no other place in this country where good teas can be bought so cheap. We never think of getting tea anywhere else.

FOR what vocation in life am I best suited? That question must come up to every boy and girl when approaching manhood and womanhood. Fowler & Wells Company, 27 East 21st Street, New York City, can give some valuable advice on this matter from an examination of your bumps. They will tell you all about it if you write them.

MANY farms have water facilities that their owners do not appreciate, much less use. It is probably because they do not know the possibilities of the hydraulic ram. These automatic engines have now been so perfected that it would surprise many to know just where they can be used. If you have a running stream at any place on the farm, send to the Rife Engine Company, 126 Liberty Street, New York, and ask for a catalogue. This company have recently moved from Virginia.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

"'SPECIALLY ME."

Beth our pet, her prayer was saying
Close beside her mother's knee,
And this was the way she ended:
"God bless us all—'specially me."

And her words set me to thinking,
Was she selfish more than I?
Had not my own heart, half thoughtless,
Made the same un-Christlike cry?

And my prayer that night was humbler,
For I plainer seem to see
God's great mercy, and the weakness
Of us all—'specially me.

—Mary M. Currier in "Among the Granite Hills."

WHY do we consider the New Year the most appropriate time to make good resolutions and good beginnings? A year is such a long time to wait to undo a failure or bad habit. If we desire to make a good start in the right way, to-day is the right time, whether it be January 1 or July 4. And, if to-morrow we fail, we shall not wait until the New Year to regret and begin amends, but improve the present. "Now is the accepted time."

*

LET us crowd as many good things into life as we can! Yes, *crowd* them! Do not let good cheer visit the home but once a year, simply because Christmas comes no oftener. If you regret, now that you did not make more of Christmas for the children's sake, it is not enough to resolve that next Christmas you will atone for it. Begin by celebrating the first birthday that comes in the family, and keep it up. Birthdays can't be coaxed to come oftener than once a year, but that need not keep the family from reminding each other oftener that life is better because they are privileged to spend it together. We need more of the holiday spirit, the spirit of rejoicing, in life. When we accomplish this duty, there will be less sorrow at funerals.

*

ANOTHER great injustice to woman has been discovered, a superstition reverenced for ages, and planted in the hearts of the young by woman herself. Indeed, she cannot say that man is as responsible as herself in this. Honor was bestowed on his sex, and he took it, uncomplainingly bearing it all. But, henceforth, Mr. Santa Claus must divide the homage which future generations have to offer, with Mrs. Santa Claus. She has been discovered, at this late date, when so many are beginning to doubt the old gentleman's existence, and she is rapidly asserting her rights. She contends, quite justly, that Christmas has been perpetuated by feminine as well as masculine efforts and she thinks it quite unfair that Mr. Santa Claus should receive all the praise. The Chief Cook desires the coöperation of all THE R. N.-Y. mothers in securing to Mrs. Santa Claus her rights.

A POSSIBLE KITCHEN.

REASONABLE AND BUSINESS-LIKE ARRANGEMENTS.

I WOULD like to have my kitchen with a southeast exposure, for good cheer in the mornings. Two doors opening opposite each other, give quick ventilation, and prevent the odor of burn or smoke escaping through the house; one should open on a cosy south veranda, shaded by a fragrant climbing rose, and the other disclose a cool north or west porch with a sweet honeysuckle vine over it. As my kitchen will not be used for diningroom or woodshed, it need not be very large—12x14 feet will do—and it must have fine, large windows, one right in front of the table where food is prepared; here must also be fixed a good lamp bracket with reflector and shade, for one must have good light at all hours. One end of the room will have a low, spring cot, well cushioned for a lounge, a cosy rocker, a light table to catch the children's things when they come in from school. A good window here should look to the road to get sight of the stranger who may enter the gate before he shall reach the door. Here, too, must be another bracket lamp, also a bracket at the side of the window to hold one blooming plant. This part shall have a carpet or large rug, the whole floor to be of some hard wood—double if possible, for warmth—and well painted.

The wall will be of good, hard cement (which will absorb nothing), close down to the floor, putting the base board over it; this will give a perfectly smooth surface, where not taken up by doors, windows or cupboards, which will all be painted some tint to harmonize with the wall.

The side next the diningroom will all be occupied by cupboards about 18 inches deep, opening both from the kitchen and diningroom; but the doors must not open exactly opposite, and must extend only to within three feet of the floor, this space to be filled with drawers to hold napery on the diningroom side, and on the kitchen side, towels, work aprons, holders, etc. Over the table, also behind the stove, will be cupboards and drawers to hold all sorts of cooking utensils, all to close up tight and smooth when not in use.

Heat shall be provided by a wrought-iron, asbestos-lined range to burn wood or coal, with a reservoir to hold hot water. This brings up the subject of a water supply. Over this room by the chimney, which will be on the north side, shall be a large "rustless iron" tank or cistern, to hold all the rainwater that falls from the main roof of the house; from this tank extend pipes with faucets, one over the sink, which will be of wood, zinc-lined. This is easily kept clean, will not break dishes, is uninjured by heavy iron kettles, and any amount of black is easily washed off. Another pipe has a faucet over the stove reservoir, also, one to a washbowl in the corner of the room to rest in a light iron bracket fastened to the wall, a painted slop jar under it, and over it a looking-glass, with places for soap and towels. My kitchen shall contain no drain; all slops go into a barrel on truck wheels standing out in the woodshed, and may be rolled out and emptied by a man once a day, where it is most needed, around fruit trees and shrubbery. Back of the washbowl on the other side of the wall in the woodshed, another pipe over a long sink, will supply water for men to wash, and for laundry work in summer. A cut-off in this pipe would save freezing in winter.

A small portable sink made strong and as light as possible, fitted with stout castors will save lifting and carrying dishes. With the dish-pan in it, it may be rolled alongside the table while the cups and silver are washed; or in taking up the dinner in summer, when one wishes to get away from the stove, set the kettles right into it and roll up to the table, where stand the platters and dishes waiting to receive the food which may be taken up without standing over the hot stove.

In the pantry shall be a wire-covered set of shelves to hold food, and admit air, and a dumb-waiter running down cellar into another wire-covered cupboard. On this, food left from a meal may, by turning a crank, be lowered to the cellar, where it will be cool and safe.

WESTERN NEW YORK.

COOKING MEAT.

MAKING THE BEST OF IT.

THE average butcher has a great many hard things said of him, and I am bound to confess that, in a vast number of cases, there is "just cause and provocation," for tough steaks and juiceless and flavorless roasts are all too common, even when the cook does her part faithfully and well. But I am convinced that injustice is often done the butcher, and that very good meat is often spoiled in the cooking. I have studied this matter quite thoroughly, and have made many mistakes and failures; but out of the mistakes and failures, I have learned some things in regard to the proper cooking of meat.

A GOOD START BUT A VERY POOR FINISH. FIG. 7.

It is all important that the meat be of good quality to start with, and right here comes in the matter of wise selection. Good meat comes only from well-fed, thrifty animals, and these the best butchers insist on having; but some deal in a poor quality of meat, because they can buy inferior animals at a low price. There is a great chance for a wise selection in all kinds of beef; some parts of the round, for instance, afford much tenderer steak than others near by. The middle of the rump is vastly more tender and juicy than the first, or outside cut. One should be familiar with these facts before essaying to order meat, understand thoroughly where the best cuts are, and then insist upon having them. When a butcher learns that a customer understands such things, he will rarely try to work off inferior cuts upon him.

Steak should be placed where the temperature will be as even as possible, for changing temperatures tend to cause the juices of meat to run out. Freezing and thawing also greatly injure the flavor of meat.

The best way to cook steak is to broil it over red-hot coals, turning quickly and often, and carrying the process just far enough to change the dull red of the raw meat to a rich red all through. If the broiling be carried so far that the interior of the steak loses its rich red color and turns dark, the meat has been toughened and the flavor injured. This is one great fault in cooking steak—"cooking the life out of it." Another is, attempting to cook it without having a sufficiently hot fire, when the juices ooze out and the meat slowly dries and becomes insipid. Where red-hot coals are not at hand, the steak can be well cooked by heating an ungreased spider as hot as a bright blazing fire will make it, and then dropping the slices upon it, turning quickly and often. Do not salt and butter until taken from the fire.

Roast beef is, also, too often injured by overcooking, being kept a long time in the oven in the endeavor to get it "cooked through," a process that results in very nearly, if not quite, spoiling the entire outside of the roast. There are two ways of avoiding this trouble—one is to cover the roast closely in a pan; a self-basting roasting pan is best, but where this is not at hand, let a second pan be turned down over the meat. If two pans of equal size are used, the steam can be kept in and the outside of the roast kept from drying, the whole being cooked through very evenly. Another way is to put the roast into a hot oven for half an hour, and use only the outside slices for the first meal. The meat may be put in and roasted for another half hour when desired for another meal. This plan gives a chance to have two hot meals from one roast without drying the outside.

One word in regard to the selection of a piece of beef for roasting. I long ago gave up rib roasts as too fat, having too much waste, and as not affording good slices of "cold roast beef." I now order a big square cut from the round, and would on no account go back to the old roasts from the rib. A roast from the round is simply delicious, if properly cooked, and has no bone or waste, while affording great slices.

In regard to stews, I think that housekeepers do not, as a rule, cook the meat long enough. Meat, tough or tender,

pale folk

How many pale folk there are! People who have the will, but no power to bring out their vitality. People who swing like a pendulum between strength and weakness—so that one day's work causes six days' sickness! People who have no life for resisting disease—thin people, nerveless delicate!

The food for all such is Scott's Emulsion. The hypophosphites of lime and soda, with the oil, will tone up the system, give the blood new life, improve the appetite and keep up digestion!

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SCOTT & BOWNE

Chemists - - New York

may be made into a delicious stew by cooking until the fibers are ready to fall apart, let it take three hours or seven. Put the meat on in boiling water, and keep the water boiling until the meat is cooked. A. H. D.

EASILY UPSET.

THE little picture at Fig. 7 tells its own story. As a part of the Christmas entertainment, the boy and the baby have been dressed up to represent a pair of old-time lovers. All goes well up to the last moment, and the tableau is expected to "bring down the house" with applause—especially from the newly-married and the "engaged." Just as the curtain rises, however, some microbe of naughtiness gets into the young lady's brain, and manufactures "a face and a yell," so that what the audience see is the embarrassing situation shown at the right of the picture. We are sorry for the baby, but we admire the boy. He is doing his best to preserve his dignity under trying circumstances. A "mood" is the microbe that upsets many a day that ought to be happy. Children "have it out," but grown up folks often brood over it and make themselves sour for life.

THE COOK THE CORNERSTONE.

WHAT do you consider the cornerstone of home? You who are the mother, perhaps, you regard yourself, with your supervision and care, as the essential block upon which the superstructure rests; but homes exist after the mother is removed. Bachelors keep house nowadays, says Haryot Holt Cahoon.

The father—is he the cornerstone? Homes exist where men are not thought of. Think of the bachelor girls that exist in comfort and independence.

Is it love? Love dies, and homes still hold up their heads in the community. Is it virtue? Certainly not virtue, for the infamous dwell in comfort and luxury. Children? Maybe they make a home. Not at all, for the most finely appointed homes are often childless. A well-filled larder? Alas, no! How desolate is a well-filled larder under certain circumstances, and how it mocks and derides you! A well-filled purse? You may have the wealth of a gold mine stored in your treasure vault, and yet the checrlessness of home may strike a chill to your heart.

What, then—who, then—is this cornerstone upon which home as a structure rests? Who else, forsooth, could it be but the cook? Whether that office is performed by the mother, the father, the girl bachelor, or that well-known autocratic sovereign of the culinary department, the professional cook, the fact is patent—the cook is the cornerstone of home.

Neither love nor virtue, nor any of the fruits of the spirit can long adorn, or even dwell—let alone thrive—in an atmosphere that is not savory with the incense of cookery. The altar fires that are fanned by the cook glimmer and glow and infuse their warmth into the human heart. There is no sentiment about this fact. It is as hard as a flint.

SHALL ALL BE HOUSEKEEPERS?

SHALL our girls all be trained for housekeepers? In theory, I say, "Yes"; the fact remains that they are choosing their professions and fitting themselves for work like their brothers. Shall they be trained as housekeepers before they begin a business career, on the possibility that they may be wooed and won later on, or shall they wait to learn home-making when the "Prince" does surely appear? While it has been considered that the sole mission of woman is housekeeping, it is painfully evident that many were never born to that occupation; the ranks are crowded with women to whom it is always a drudgery, who with no "faculty" for making its daily toil easier, painstakingly drag through its duties.

Are we not coming to a time when the housekeeper will be relieved of much of the drudgery of the home? Though some of us look askance at any sort of coöperative housekeeping, the increasing demands upon our time, difficulty in securing help, and the wonderful promise of our new servant, electricity, may force us to coöperate in laundry work, baking, and the main part of our cooked meals. It is no more of a radical change than has already been made since the beginning of this century. Then the girl who could not prepare the wool, spin, weave, make the clothing and knit the stockings for her family, was not fit to be married. Yet we are living just as happily to-day, and we have forgotten how to spin, weave or knit, along with countless other things once deemed necessary. May it not be possible in the near future when Jane, who has espoused journalism, and John with his law briefs, find that life will be better and sweeter if they live it together, to continue their work, and Jane be able also to make the true home, even though the meals come in cooked, and the dishes go out to be washed? Is not the business girl of to-day making this a question to be considered? What is your thought? ELLA C. GOODELL.

ODDS AND ENDS.

A GIRL'S BEST CHAPERON.—"Good principles and pure, noble aspirations, thoroughly instilled into the minds of girls, are their best chaperons," so says Mrs. Margaret Bottome. "The girl who has been taught from childhood to love and revere the pure, the beautiful, the noble and the good, who has been thoroughly imbued with the idea that she is really a daughter of the King of Kings, that she is, therefore, a daughter of rank more noble and exalted than that of the child of any earthly monarch, and that she must in every thought, word and deed strive with all her heart to be worthy of her birthright, has a chaperon in her own heart that is ever present with her.

"Mothers should so rear their daughters that they can be fully trusted to chaperon themselves. If a girl grows up under the influence of a true, pure woman, nine times out of ten she will unconsciously grow up to be like her. It is not example alone that influences girls, but there are a thousand other ways in which they may be taught to love the pure, the beautiful, the good. If we consecrate our daughters to the great King and guard them with our prayers, we have done much to protect them from those evil influences which chaperons are designed to ward off."

ADAPTABLE DENIM.—Red denim with an embroidered pattern done with heavy black silk makes a very handsome sofa pillow, says Harper's Bazar. Embroidery in steel-blue silk is also effective upon red denim. But for summer cottages the reliable and original blue of the material, that has only lately presented new faces to us, has still a claim upon our consideration, as it never offends good taste and has the valuable quality of never seeming out of place, unless, of course, the surroundings are palatial.

As a cover for the dining-table when the white cloth is not in use, denim of any shade appropriate to the situation is an admirable choice. Sage green with an embroidered border of thistles in the natural color, with their leaves, is to be commended. A light Pompeiian red denim, with a conventionalized honeysuckle pattern wandering all over the surface in pink and dull green, is especially artistic. The border for such a cloth may be a three-inch band of the wrong side of the material turned up like a hem, mitred at the corners and stitched down on the right side, with a briar-stitch vine done with green silk the color of the honeysuckle leaves.

THE GIFT OF TACT.

IF there is any gift or virtue comparable with common-sense, it is tact. The man or woman who is welcome in every place, and whose company is always desirable, is the one who is gifted with tact. This virtue may be acquired to a certain extent like courtesy; yet those to the manner born have a great advantage. Women naturally possess this talent in larger proportion than men, not because, as some insinuate, they are more deceitful, but because, being of more sensitive natures, they are more cautious about wounding the feelings of other people. This virtue being very near akin to common sense, women instinctively realize that there is nothing to be gained by "treading on the toes" of every one they meet, when it is just as easy to step one side, and there is no purpose to serve; and the man or woman who recklessly does this, invariably gets his own toes trodden upon pretty often, and then whines because the world does not use him well.

It is not always necessary to tell people unpleasant truths, introduce unpleasant subjects, or remind them of their afflictions or infirmities; and the persons who do this are not always pleasant persons to visit with, as it is often difficult to distinguish whether they are really friends or enemies. Such people neither add to our happiness nor the good of the world, and gain nothing for themselves. I once heard a lady denounced as a policy woman, because she made an effort to be agreeable to every one; but at the time I wondered why that would not be a good plan to adopt universally, the world would doubtless be much pleasanter to live in. I do not mean that we should all turn flatterers; but we might have tact enough to avoid unpleasant subjects, avoid talking of disagreeable subjects at inopportune moments, and try at all times to lead conversation into pleasant channels. Such an endeavor would doubtless add to the happiness of the world, and make our lives, which might otherwise be useless, worth living. ALICE E. PINNEY.

SENSE AND SENTIMENT.

'Tis with our judgments as our watches, none
Go just alike, yet each believes his own.
—*Pope.*

....FLORINE THAYER MCCRAY: "Give us more taffy before death, and less epitaphy afterwards."

....NEW YORK WORLD: "Anger gets more people into trouble than meanness. We do and say things while in a temper that we spend the rest of our lives regretting."

....HARPER'S WEEKLY: "A man must be interested in himself if he is to amount to anything, but it is possible for the individual interest to dwindle while the human interest develops, and in the very greatest men that process is usually found to have taken place."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

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AYER'S
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A THOUGHT THAT KILLED A MAN!

He thought that he could trifle with disease. He was run down in health, felt tired and worn out, complained of dizziness, biliousness, backaches and headaches. His liver and kidneys were out of order. He thought to get well by dosing himself with cheap pills. And then came the ending. He fell a victim to Bright's disease! The money he ought to have invested in a safe, reliable remedy went for a tombstone. The thought that killed this man

HAS KILLED OTHERS.

Statistics show that 90 per cent of the deaths from pneumonia, Bright's disease and similar complaints are caused from derangements of the liver and kidneys. These great organs keep the blood pure and in healthful motion. When they get out of order the blood becomes poisoned, the circulation impeded and the whole system speedily breaks down. It is

A DANGEROUS IDEA

to imagine that pills can strike at the root of these diseases. It has been thoroughly proved that such remedies are worse than useless. There is only one remedy which can always be depended upon. This remedy alone can act on the liver and kidneys when they are out of order, clear out the system and build up the health. The name of this remedy is Warner's Safe Cure. It is the only standard remedy in the world for kidney and liver complaints. It is the only remedy which physicians universally prescribe. It is the only remedy that is backed by the testimony of thousands whom it has relieved and cured.

There is nothing else that can take its place.

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A young or middle-aged married man, as manager on Dairy Farm, at Rome, N. Y., keeping 100 head of cattle. Only men thoroughly capable of handling hired help, experienced with soiling and ensilage feeding, and capable of managing a farm profitably, need apply. Address BURT OLNEY, Rome, N. Y.

"PEACE."

ONE night just before Christmas, about one o'clock, I was awakened in a very forcible manner, and heard a familiar voice saying: "*Get up! There's somebody in the house!*" There had been a good deal of stealing done in our town of late, and my first thought was that there must be a burglar in the house. After barking my shin, and running into every piece of furniture in the room, I got hold of my big stick and struck a light all ready for an encounter with the thief.

From all the information at hand, he seemed to be in the next room, where the boy slept; so in there I marched, and poked my stick under the bed, into the closet and everywhere else that a man could hide. No one there. Then we held a council of war. It appeared that the original alarm came from the little boy. This small, four-year-old chap is a waif—deserted by his parents and left to the tender mercies of the poorhouse. A poor, little, homeless foundling that, through various agencies, has found a place in our home. It seems that he woke in great fear, and cried out that some one was in his room. After he got over his fright, he gave the following vivid description of his visitors: "*They was flyin' all around! Women with wings on—what you call 'em? Angels!*"

The idea of entertaining a company of angels in my house, was new to me. I had no wish to hunt them out with a club, I can assure you. That lame shin stole my sleep for an hour or so. I lay there wondering how that boy could have imagined such a thing. Gradually it came to me. This boy was to take part in a Christmas entertainment. He was to deliver a little speech of welcome. Think of that homeless waif *welcoming* people to a great church! You see that little chap had entered into the true spirit of Christmas. The beautiful old story of hope and faith had sunk deep into his little heart. The music, the beautiful thoughts, the tender and softening influences that cluster around this happy season, had appealed to him. Doubtless there came to him in dreams those inspiring words that the angels sung so many years ago:

"*Glory to God in the highest! On earth peace—good will to men!*"

Think of me hunting with my big stick for burglars with such visitors as that in the house! Why they had come in the dead of night to keep watch and ward over that homeless little one—and the rest of us, too, for that matter. Our family could stand an army of such burglars! I tell you, it was a great and wonderful thought, this idea of a strong and divine presence, with love and tenderness and power beyond all possibility of earthly conception, standing right close at hand in light or darkness—in sickness or strength, in trial or triumph—the same steadfast hope yesterday, to-day and to-morrow. Of course some grumpy fellow may say that the boy ate too much supper, and had a case of nightmare. I won't quarrel with him. I simply don't believe it!

*

WELL, what about it? THE R. N.-Y. is not a religious paper, but the beauty of this department is that we feel at liberty to discuss almost any topic, or say almost anything so long as we state bluntly and fairly what we honestly believe. We are all entering on a new year. There isn't one of us that is entirely satisfied with the past one. We might like to have the public think so; but away down in the corner of the heart, is a feeling that, after all, we haven't added so much to our credit by last year's performances as we should have done. THE R. N.-Y. would like to feel that some life has been made a little bit purer, a little more thoughtful, and a little nobler for its influence. When some divine help and inspiration comes knocking at your door, don't think that it is a thief, as I did, and go hunting it with a stick. It won't steal anything but a lot of trouble and hateful feelings that you can't get rid of in any other way. Last week, a friend in Kansas was kind enough to write:

My neighbor wants a religious paper, but I told him that I thought there was lots of good, every-day religion in THE R. N.-Y.

We believe in every-day religion. We don't believe in a man's bottling up the duty he owes to higher things—pushing in the cork, and only taking it out for a light sip on Sundays. You are going to make the coming year good or bad by your conduct on *week days*. The Lord will see to His day—you take care of your six days of labor!

"*Peace on earth; Good will to men!*"

That's our part of the programme, friends. The Golden Rule. Let that be the measure for 1896. If you have any hatred or ill feeling in your heart, this New Year's day—wipe it out. Get rid of it. Who knows when *you* will wake in the night, as that little chap did, with visitors from the "undiscovered country" right at your side? Better be ready for that visit! Do your part! Live so that this dream may come to pass, and the world may find:

Peace in the quiet dales,
Made rankly fertile by the blood of men;
Peace in the woodlands and the lonely glen;
Peace in the peopled vales.

Peace in the crowded town;
Peace in a thousand fields of waving grain;
Peace in the highway and the flow'ry lane,
Peace o'er the wind-swept down.

Peace on the whirring marts,
Peace where the scholar thinks, the hunter roams.
Peace, God of peace, peace, peace in all our homes,
And all our hearts!

*

WELL, now, after that, all we can say about THE R. N.-Y. is to wish you a happy New Year. The year just closing has been a prosperous one for us. We have had our troubles and our trials like all the rest of you. Death and suffering have reached in and scarred us with their points of fire; yet Time's healing fingers have taken out the sting. THE R. N.-Y. has prospered, and now at the close of the year, its friends are trooping back by thousands with words of cheer and praise and kindly criticism, so that business success for 1896 is well assured. We have no complaints to make—only thanks to those who have proved themselves such true and loyal friends. So this week, instead of talking of money and trade, we simply say,

Friend, A Happy New Year!

Peace be with you! May the years deal with you gently and, whether you make the journey of '96 with us, or for some reason or other separate from us, we wish you well! We hope that all your worthy ambition and undertakings may prosper—though we would hardly be human if we didn't feel that we'd like to have you stay with us so as to have a hand in prospering that prosperity of yours.

It may be that when you start out to stop THE R. N.-Y. and keep it out of your family for 1896, you will be no more useful to the world than I was in hunting for that burglar. And, of course, we must give the names of those dollar winners last week. Here they are:

Dec. 23—W. S. Moore, Chenango Co., N. Y.
24—E. P. Morgan, New Haven Co., Ct.
26—W. S. Moore, Chenango Co., N. Y.
27—Sam'l J. Eyerly, Fulton Co., Ill.
28—F. H. Frink, Steuben Co., N. Y.

These men didn't take a club and pound an opportunity out of the house. They went right up and embraced it, and thus earned a dollar by getting the largest daily clubs. There's another band of opportunities that will light on January 15 with $250 in hard cash for the largest eight clubs. These opportunities are like angels' visits—they are not very frequent. They are unlike angels in the fact that they have to be well clubbed to bring them down. *Stick* to your clubs of subscriptions and thus capture one of these opportunities. This is an opportune time for doing it.

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THE RURAL NEW-YORKER, NEW YORK.

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A postal card addressed as above will bring you BURPEE'S FARM ANNUAL for 1896, if *you intend to purchase Seeds*, otherwise the price is ten cents (less than cost). It is a bright BOOK of 184 pages, with hundreds of illustrations and colored plates painted from nature. It tells all about the BEST SEEDS that Grow!

OUR SUBSCRIPTION AGENTS

Must have forgotten our cash premiums of $75, $50 $40, $30, $25, $15, $10, $5, which go to the largest eight clubs January 15. Four of the six weeks are gone, and no one has made much effort yet. We don't understand it. Surely there must be some one who wants a $75 check these times. This is the best time of the whole year for subscription work; yet our club-raisers have done little. Many new subscriptions are coming direct from farmers who have seen our advertisement in other papers, and sent for sample copies. Many more are coming from subscribers who send just one new name with their own renewals. But the agents seem to have left work on this contest for the last week or two. There are just about two weeks left, time enough to come in for one of those checks. Remember that the commission, and dollar for largest daily club are extra. The time is short now for large clubs; still there is time enough to do something by starting at it at once. The checks will go, no matter how small the clubs. Do you want one?

CROP AND MARKET NOTES.

Bananas are coming in in large quantities.

Dried fruits are dull almost without exception.

Pork is somewhat lower under heavier arrivals.

A few cranberries have been imported from Europe.

Sales of cheese for export to Genoa, Italy, are reported.

Choice refrigerator eggs are preferred to limed, no matter how good the quality of the latter.

Live poultry should reach this market not later than Wednesday.

Bunch beets are coming in now from Charleston, and sell well.

Considerable quantities of Bermuda vegetables are now arriving.

Trade in hops is practically at a standstill, with no immediate prospect of improvement.

The cheese market is very quiet at present, but is expected to show more activity later on.

About the only kinds of beans in which there is any activity, are Yellow Eye and Turtle Soup.

Beeswax is firm at 31 to 32 cents per pound for pure. The supply and demand are both light.

The United Kingdom of Great Britain imported from the United States during the year ending September 30, 141,194 tons of hay.

The markets are generally dull for a few days after a holiday. Buyers are mostly recovering from the lavish purchases of previous days.

The roll butter received in this market is a mixed lot. It usually comes from the country stores, packed in barrels, each roll wrapped in cloth.

Turkey feathers, to be salable, must be nicely tied in bundles, wing and tail feathers separate. There is little sale for the body feathers at any price.

Prime maple sugar is scarce at 12 to 12½ cents per pound. There is but little syrup in market, and quotations are nominal at 75 to 90 cents per gallon.

Notwithstanding the large supply and low price of native cabbage, there is a demand for that from Europe which has already begun to arrive.

A small quantity of very fine cauliflower, the first from this source this season, came in from New Orleans early in the week, and sold for a high price.

It is reported that Italian oranges will be shipped to this country in large quantities this winter. Shipments are beginning earlier than common, too.

The first arrivals of Bermuda potatoes sold well considering the heavy supplies of native potatoes. The best sold for $5 to $7 per barrel, while No. 2's went for $2 to $3 per barrel.

Best grades of butter have dropped about three cents per pound. Trade is dull following the Christmas holidays. Arrivals have been liberal for the season, but there is no large accumulation of the best grades.

The Fish, Game and Forest Commission estimate that there are about 3,000 deer in the Adirondacks. Advices from four-fifths of their correspondents in that region report that 3,551 head of deer were killed there during the current season.

The manager of a restaurant in Philadelphia was recently fined $100 for violating the butteriue law. The statutes require that every restaurant hotel keeper shall stamp the words "oleomargarine" or "impure butter" on each vessel in which the oleomargarine is served to the guests.

The annual meeting of the American Oxford Down Sheep Record Association will be held at Columbus, Ohio, Tuesday evening, January 14. The election of officers, arrangement of special prize list for 1896, and other business of importance to members of the association, and to exhibitors and breeders of Oxford Downs, will come before the meeting. W. A. Shafor, Middletown, secretary.

The New York Produce Review says that, in 1880, the United States exported cheese to the value of $12,170,000. In 1894, the United States exported cheese to the value of $7,180,000, a decrease in exports in 14 years of 40 per cent. In 1880, Canada exported cheese to the value of $3.900,000. In 1894, Canada exported cheese to the value of $15,500,000, an increase in 14 years of nearly 400 per cent. In Canada, the manufacture of filled and skimmed cheese is prohibited by law, backed up by strong public sentiment.

The Illinois corn crop this year more than makes up for the deficiency in wheat. The State Department of Agriculture says that on the reported area of 6,925,000 acres, 267,425,000 bushels were produced, an average of 39 bushels per acre. Both the largest area and yield were in the northern division of the State, 126,870,000 bushels being raised on 3,042,000 acres, or 41 bushels per acre; in central Illinois, 2,850,000 acres produced 111,546,000 bushels, or 39 bushels per acre; while on an area of 1,032,000 acres, southern Illinois produced but 30,101,000 bushels, an average of but 29 bushels per acre. The large yield lowered the price of corn, which averaged but 21 cents per bushel on December 1, and was very uniform throughout the State. Had the entire crop been sold at this price, the producers would have received $57,740,000.

CONDENSED CORRESPONDENCE.

SOME KANSAS POTATO NOTES.—I have been 25 years experimenting and learning just how to manage my soil in raising potatoes. The average writer will invariably say that the best land for potatoes is a sandy loam. I never had any sandy loam on my farm. Again, they all tell us that fresh manure, freshly applied, is worse than useless—positively a hindrance. My soil is an alluvial mold 20 inches in depth, underlaid with a water-tight clay. This is far from the ideal potato soil, but by subsoiling with the new process plow, I discovered that I gave the soil the nature of sandy loam. The subsoiling made it loose, mellow and friable, but it lacked the sand to add the warmth. I tried extremely heavy manuring with fresh, strawy stable manure, and learned that the straw in its heating and fermenting, in its holding the soil open, and in other ways, gave my land the same nature that the sand does to sandy loam. Many have written me that they cannot raise potatoes on their sandy loam until the second year after applying fresh, strawy manure; and wonder how I can raise a crop on freshly manured land, without the potatoes running all to tops and no bottoms.

One must know his own soil, and not rush blindly to follow the plan laid down by any one man. It takes the subsoiling on my land, to make sure of enough moisture to counteract any evil effects from the strawy horse manure; and I would not advise any one to try heavy manuring in this climate, without subsoiling, providing the land is underlaid with hard clay. The Early Rose potato will run all to tops on my soil, under my system of forcing, but the Early Ohio, Early Kansas, Early Moru, Bliss's Triumph, and Carman No. 1 will stand all the forcing that can be given them—providing they are planted thick enough. The Early Ohio can be cut to one eye, planted one piece in a hill, with the hills only one foot apart, and the rows only one foot apart, thus putting four rows where usually only one is put; but it takes from 30 to 45 bushels of seed per acre, and all cultivation must cease with the weeder. The Early Kansas and Carman No. 1 must be cut to one eye, one eye in a hill, hills 14 inches apart in the rows, and the rows 28 inches apart, and it takes 16 bushels of seed per acre, and all cultivation must be not over one inch in depth, and very frequent, also. This seems like a waste of seed, but as one acre can be made to produce as much as three common ones, it is really a saving.

I use a weeder of my own make, quite similar to the Breed's, and do all cultivating with the Planet Jr. 12-tooth cultivator and pulverizer. Hereafter I shall always sow German millet at the time I lay the crop by, which is about July 1 here. The millet will prove a help, instead of a hindrance, as it shades the crop after the vines die, and keeps our wet, hot Septembers from spoiling and sprouting the potatoes, as we cannot dig here till October or November, on account of lack of proper storage rooms in so hot a climate. I have discovered that heavy manuring with stable manure does not cause or assist scab; on the contrary, the natural quick growth prevents it. One more point: Eastern writers always harp on throwing away the seed end of the potato. It is my opinion that the seed end is the most valuable of all to plant. Did you ever dig potatoes that had sprouted? If so, wasn't the seed end the one that had sprouted? Have you ever noticed potatoes with one large sprout in the bin? If so, wasn't it the seed-end sprout? Yes, it was, and this proves that this eye is the most vigorous of all, and will be the first to come up and the one that produces the large stalk that always has the large tubers and in the identical hills that Eastern writers advise us to stake for seed. Another thing: There is no danger of 12 hours' soaking of seed in corrosive sublimate solution hurting them; on the contrary, such seed will come up quicker than seed not soaked, or seed soaked the regulation 20 minutes. C. J. N.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 47@1 50
Medium, 1895, choice	1 30@1 35
Pea, 1895, choice	1 25@1 30
White Kidney, 1895, choice	1 65@ —
Red Kidney, 1895, choice	1 22@1 25
Black Turtle soup, 1895	1 70@1 75
Yellow Eye 1895, choice	1 45@1 50
Lima, Cal., 1894 (60 lbs)	1 90@1 95
Medium, foreign, 1894	1 10@1 15
Medium, foreign, 1895	—@ —
Marrow, foreign, 1894	—@ —
Pea, foreign, 1894	1 10@1 20
Green peas, bbl., per bushel	85@ —
Bags, per bushel	75@ 77
Scotch, bags	75@ 76

BUTTER—NEW.

Creamery, State and Penn., best	24 @—
Seconds to firsts	19 @23
Elgin and other Western, extras	25 @—
Western, firsts	23 @24
Western, seconds	21 @22
Western, thirds	18 @20
Western, June, extra	22 @—
Western, June, seconds to firsts	17 @21
State dairy, half tubs, fresh, extras	22 @—
Firsts	18 @20
Seconds	15 @17
Dairies, firkins and tubs, extras	19½@20
Dairies, firkins and tubs, firsts	18 @19
Firkins, extras	19 @—
Firkins, seconds to firsts	16 @18½
Welsh tubs, extras	21 @22
Welsh tubs, firsts	18 @20
Welsh tubs, seconds	15 @17
Tubs, thirds	13 @15
Western imitation creamery, firsts	19 @22
Seconds	14 @16
Western dairy, firsts	17 @19
Seconds	13 @14
Thirds	11 @12
Factory, firkins, June extras	12 @14
Seconds to firsts	12 @13
Tubs, June, extras	13½@14
June, seconds to firsts	12 @13
Fresh, small tubs, extras	17 @18
Fresh, small tubs, firsts	15 @16
Fresh, large tubs, firsts	13 @14
Fresh, large tubs, seconds	11½@12½
Fourths to thirds	9 @10½
Old Western factory or dairy	8 @11
Rolls, fresh, fine	17 @—
Rolls, fresh, common to good	11 @16

CHEESE—NEW.

State, full cream, large, colored, fancy	9¾@10
Large, white, fancy	9¾@10
Prime to choice	9 @ 9¼
Fair to good	8 @ 8½
Common	7¼@ 7½
Small, white fancy	10¼@10½
Small, colored, fancy	10¼@10½
Small, good to choice	9½@10
Small, common to fair	7¾@ 9
Part skims, Chen. Co., etc., best	6½@ 7
Fair to good	4¼@ 5
Common	3¼@ 4
Full skims	2 @ 3

EGGS.

New-laid, fancy (nearby)	25 @ —
N. Y. State, country marks, fresh gath'd	22 @ 23
Pennsylvania, country marks, new laid	23 @ 24
State and Penn., fair to good	20 @ 22
Western, fresh collections, fancy	21 @ —
Western, fresh collections, fair to good	20 @ —
Southern, fresh collections	20 @ —
Western, refriger., short holdings, choice	17 @ 18
Western, refriger., September, packed	16½@ 17
Western, refriger., early packed, prime	16 @ 16½
Western, refriger., defective, per case	3 50 @4 25
West'n dirties & inferior, per 30-doz case	3 50 @4 25
Western limed, prime to fancy, per doz	17 @ —

FEATHERS.

Turkey, tail, prime, per lb	14 @ —
Wing, prime, per lb	8 @ —
Tail and wing, mixed, per lb	11 @ —
Tail, wing and pointers, per lb	7 @ —
Tail and wing short, per lb	5 @ —
Pointers, per lb	4 @ —
Duck, body, per lb	30 @ 35
Geese, body, per lb	50 @ 55

FRUITS—GREEN

Apples, Northern, fancy, selected, per bbl	2 50@3 00
Hubbardston, per bbl	1 50@2 75
Fameuse, per bbl	2 50@3 75
Ben Davis, per bbl	1 75@2 25
Jonathan, per bbl	2 00@3 00
King of Tompkins, per bbl	2 00@3 50
Baldwin, per bbl	1 50@2 50
Greening, per bbl	1 50@2 50
Winesap, per bbl	2 00@3 00
York Imperial, Va., per bbl	2 50@3 00
Spitzenberg, per bbl	1 75@2 25
Northern Spy, per bbl	1 50@2 50
Common, per bbl	75@1 00
Grapes, State, Catawba, per 5-lb basket	7@ 10
State, Concord, per 5-lb basket	7@ 10
Cranberries, Cape Cod, extra sorts, per bbl	10 00@ —
Fancy, per bbl	9 00@ 9 50
Prime, per bbl	8 00@8 50
Soft, per bbl	5 00@7 00
Soft, per crate	2 00@3 00
Jersey, per crate	1 75@2 25
Jersey, per bbl	7 00@7 50
Oranges, Fla., per box	3 50@5 00
Grape Fruit, Fla., per box	5 50@6 50

FURS AND SKINS.

No. 1 Quality.	North'n, West'n and Eastern.	Southern and Southwestern
Black bear	18 00 @ 30 00	10 00 @25 00
Cubs and yearlings	5 00 @ 15 00	4 00 @10 00
Otter	6 00 @ 10 00	5 00 @ 7 00
Beaver, large	6 00 @ 7 00	5 00 @ 6 00
Medium	4 00 @ 5 00	3 00 @ 4 00
Small	2 00 @ 3 00	1 50 @ 2 50
Silver fox	25 00 @100 00	— @ —
Cross fox	3 00 @ 8 00	— @ —
Red fox	1 25 @ 1 50	1 10 @ 1 25
Gray fox	45 @ 65	40 @ 55
Wolf	1 50 @ 2 00	1 00 @ 1 50
Prairie	60 @ 80	45 @ 65
Wolverine	3 00 @ 4 00	— @ —
Lynx	1 50 @ 2 00	— @ —
Wild cat	45 @ 65	25 @ 45
House cat, black	20 @ 30	15 @ 25
Colored	5 @ 10	4 @ 8
Marten, dark	3 00 @ 8 00	— @ —
Pale	1 50 @ 2 25	— @ —
Skunk, black	1 00 @ 1 10	80 @ 90
Half-striped	60 @ 65	50 @ 55
Striped	30 @ 35	25 @ 30
White	10 @ 20	10 @ 15
Raccoon	50 @ 75	40 @ 50
Opossum	15 @ 20	10 @ 18
Mink	85 @ 1 40	60 @ 1 00
Muskrat, fall	6 @ 9	6 @ 8
Winter	9 @ 12	8 @ 11

GAME

Quail, frozen, per doz	1 75@2 25
Western, fresh	1 75@2 25
Southwestern, fresh, per doz	1 25@1 75
Partridges, near-by, fresh, per pair	75@1 00
Western, fresh, per pair	35@ 85
Grouse, fresh, per pair	1 30@1 50
Wild ducks, mallards, per pair	60@ 85
Canvas, per pair	2 50@3 00
Blue wing, teal, per pair	40@ 50
Green wing, teal and common, per pair	25@ 40
Red heads, per pair	1 50@2 00
Venison, saddles, fresh, per lb	20@ 22
Fair to good, per lb	15@ 18
Frozen, per lb	15@ 18
Whole deer, per lb	12@ 14
Rabbits, undrawn, per pair	15@ —
Drawn, per pair	12@ 14
Jack rabbits, per pair	35@ 45

GRAIN.

Wheat	58 @69
Rye	45 @48
Barley	39 @47
Buckwheat, silver	39 @40
Buckwheat, Japan	— @—
Corn	33 @35
Oats	22 @28

GRASS SEED.

Clover, per 100 lb	6 00@ 7 50
Timothy	5 75@ 5 00

MEATS—DRESSED.

Veals, country dressed, prime	10 @ —
Fair to good, per lb	9 @ 9½
Com. to med., per lb	6½@ 8½
Buttermilks, per lb	— @ —
Small, per lb	3½@ 5
Barnyards, per lb	3 @ 4½
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 12
Pork, country dressed, 40 to 60 lbs., per lb.	6 @ —
60 to 80 lbs, per lb	5½@ 6
80 to 120 lbs., per lb	5 @ 5½
120 to 180 lbs., per lb	4½@ 5
200 lbs and up, per lb	3½@ 4½
Tenderloins, per lb	14 @ 15

NUTS.

Peanuts, Va., h. p., fancy, per lb	4⅜@ 4½
H. p., extra, per lb	3½@ 3¾
Shelled, No. 1, per lb	4¾@ 5
No. 2, per lb	3 @ 3¼
Spanish, shelled, No. 1, per lb	5¼@ 5½
No. 2, per lb	3¾@ 4
Pecans ungraded, per lb	3 @ 4
Hickory nuts, per bushel (50 lbs)	50 @ 75
Black walnuts, per bushel	40 @ 50
Butter nuts, per bushel	25 @ 40

POTATOES.

Bermuda, No. 1, per bbl	5 00@6 50
No. 2, per bbl	2 00@3 00
Maine Hebron, per sack	1 12@ —
Long Island, in bulk, per bbl	1 00@ —
State Rose and Hebron, per 180 lbs	75@1 00
Burbank, etc., per 180 lbs	75@ 90
Jersey, in bulk, per 180 bbl	75@ 85
State and Jersey, per sack	75@ 80
Common, per sack	60@ 70
Sweets, Vineland, fancy, per bbl	4 00@4 50
South Jersey, per double-head bbl	3 25@3 50
South Jersey, per cloth-head bbl	3 25@3 75
Jersey common, per barrel	2 00@3 00

DRY-PACKED POULTRY.

Turkeys, Jersey and Up-River, fancy	12 @ 13
Md., choice to fancy	10 @ 12
Mich., Ohio and Ind., scalded	9 @ 10
Other Western, choice	9 @ 10
Western, fair to good	7 @ 8
Western, inferior	3 @ 6
Chickens, Phila., large, per lb	13 @ 14
Phila., mixed weights, per lb	10 @ 12
Jersey, per lb	9 @ 11
State and Penn, per lb	7½@ 9
Western, per lb	7 @ 8½
Fowls, State and Penn, per lb	7 @ 8
Western, per lb	5 @ 7½
Ducks, Maryland, per lb	8 @ 12
State and Penn, per lb	8 @ 12
Western, per lb	4 @ 12
Geese, Rhode Island, fancy, per lb	12 @ 14
Other Eastern, per lb	10 @ 12
Maryland, per lb	8 @ 10
Western, fair to good	8 @ 9
Squabs, tame, white, per doz	2 25 @2 50
Mixed lots, per doz	1 75 @2 00
Dark and poor, per doz	1 50 @1 75

POULTRY—LIVE.

Chickens, local, per lb	7 @ —
Western, per lb	5 @ 7
Southern, per lb	5 @ 7
Fowls, local, per lb	8 @ 8½
Western, per lb	8 @ 8½
Southern, per lb	8 @ —
Roosters, per lb	4 @ 5
Turkeys, mixed, per lb	8 @ 10
Ducks, local, per pair	75 @1 00
Western, per pair	65 @ 85
Southern, per pair	60 @ 65
Geese, fancy fattened, per pair	1 25 @1 50
Western, per pair	1 12 @1 50
Southern and S'western, per pair	1 00 @1 12
Pigeons, per pair	15 @ 25

VEGETABLES.

Beets, Charleston, per 100 bunches	4 00@5 00
Bermuda, per crate	1 25@1 50
Brussels sprouts, per quart	4@ 8
Cabbage, Long Island, per 100	2 50@3 75
State, per 100	2 00@3 00
Carrots, washed, per bbl	75@1 00
Unwashed, per bbl	50@ 75
Cauliflower, L. I and Jersey, per bbl	1 00@6 00
Celery, State & West'n, fancy, large, per doz.	60@ 85
State & West'n, average, prime, per doz.	25@ 50
State & West'n, small, per doz	10@ 20
Jersey, large, per doz roots	25@ 50
Jersey, small, per doz roots	10@ 20
Jersey and L. I., per dozen flat bunches	1 00@1 50
California, per doz	25@1 00
Cucumbers, Fla., per crate	1 00@3 00
Hothouse, per doz.	50@ 60
Egg plant, Florida, per bbl	2 00@5 00
Green peas, Florida, per crate	1 00@3 00
Charleston, per bushel basket	—@ —
Kale, per bbl	75@ 85
Lettuce, New Orleans, per bbl	3 00@6 00
Florida, per half bbl basket	1 00@4 00
Boston, hothouse, per doz	50@ 75
Bermuda, per crate	75@1 25
Onions, L. I. and Jersey, per bbl	75@1 25
Orange County, red, per bbl	50@ 80
Orange County, yellow, per bbl	85@1 10
Eastern, white, per bbl	1 25@2 00
Eastern, red, per bbl	90@1 00
Eastern, yellow, per bbl	1 10@1 25
State and Western, yellow, per d. h. bbl	1 00@ —
Okra, Florida, per carrier crate	2 00@4 00
New Orleans, per box	@ —
Peppers, green, Fla., per bbl	—@ —
Green, Fla., per crate	2 00@3 00
Pumpkins, per bbl	75@1 00
Radishes, hothouse, per 100	—@ —
Norfolk, per 100 bunches	25@ 75
Spinach, per bbl	2 00@2 50
Squash, Marrow, per bbl	50@ 60
Hubbard, per bbl	60@ 75
Florida, per crate	50@ 75
String beans, Charleston and Sav., per bask.	—@ —
Florida, per crate	1 00@6 00
Tomatoes, Fla., per carrier	1 00@2 50
Per crate	1 00@2 25
Turnips, Jersey, Russia, per bbl	60@ 80
Canada Russia, per bbl	75@ 90
Watercress, per 100 bunches	75@1 50

MILK AND CREAM.

The total daily supply has been 19,330 cans of milk, 183 cans of condensed milk and 350 cans of cream. The average price paid for the surplus on the plat forms has been $1.55 a can of 40 quarts.

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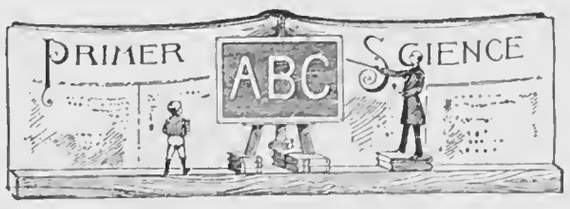

FEEDING A HEN.

PART I.

Last year we had a series of articles on "A Balanced Ration," in which we tried to show a few of the advantages of understanding the scientific principles that guide us in feeding animals. The most important point in those articles was the fact that, in building up the body with the bones, muscles and fat and the milk, meat, eggs or work which it produces, there must be in the food, certain proportions of different substances which we called ash, muscle-makers, fat-formers and pure fat. We need to understand that the bones of the body are made from the *ash* in the food. The lean meat and muscles are made from the muscle-makers, the fat from the pure fat, which in its turn is made from the fat-formers. It is like a house made of brick, wood, iron and mortar. The frame or body is of wood, —like the ash—the rods and nails that hold it together are of iron—(muscle-makers), the foundation and some of the trimmings are of brick (pure fat) and these are made useful by mortar (fat-formers), which by a simple process sets into an artificial stone.

All these different things are necessary in order to make a good house, and economy consists in using the proper proportion of each. For example, it would be folly to use and pay for twice as many bricks as were necessary, or to drive two nails wherever one would answer, because all this expense would be needless. So in feeding an animal, there are a good many reasons why the muscle-makers, pure fat and fat-formers should be combined in the proper proportions. Health and profit both demand such a fair proportion, just as strength and economy in the house demand a fair proportion of wood, iron and brick. Last year, this matter was discussed from the standpoint of feeding the cow entirely. In our present review, we shall take up the hen's ration. Here we have a very different matter, for the hen, by reason of her life habits and make-up, calls for special treatment and cannot be fed by the rules laid down for cows or horses. Therefore, these articles will be largely suggestive and little more.

First let us read this article by Geo. D. Coleman of New Jersey. His object is to show the great need of variety in poultry rations, and the fact that it is possible to make up at least partial substitutes for grain:

Fowls fed entirely on grain, and especially where the feed is bought in small lots, are neither as profitable nor as healthy as those fed on a mixed diet. Much is fed to hogs that could be to much greater profit fed to poultry, and much that could be raised, or even bought cheaper—for its food value—is not raised or used. Fowls fed on a continuous ration of grain, or on any feed that is not varied, do not thrive as well as those fed on a less expensive and less nutritious food, even, but with variety. It is now beginning to be quite generally known that fowls need bulk as well as substance, and that some of the best foods for fowls, would have been deemed, a few years back, as entirely out of the question. Except it be in the severest weather in midwinter, or for other good and sufficient reason, it is the best economy not to feed fowls grain but once a day, and especially if on good range, and always at night.

Fowls may be fed—when properly prepared—corn fodder, clover and Alfalfa hay, ruta-bagas, mangels, white and sweet potatoes, squashes, pumpkins, apples, bran, beans, peas, cotton-seed meal, fish guano, artichokes, skim-milk, spent malt and other articles that are much cheaper and better for the fowl than grain alone. Potatoes, boiled and mashed with bran, while hot, and covered up and allowed to cool off slowly, are an excellent morning feed, especially for young and growing stock. Fowls on a good grass run, need no noon feed. Sweet potatoes have a local reputation in New Jersey of being bad for laying stock; doubtless if fed too plentifully and continuously, and without bran, they will produce more fat than is good for layers, but in practice, and by careful inquiry, I am satisfied that sweet potatoes are not, per se, unfavorable to laying. The small "hog potatoes," sweet and white, are either fed to hogs or are sold at a price that would almost warrant their being used as fertilizer. By using them for the fowls, they will render more value than even using them for the hogs. In using potatoes, several days in succession, the flavor of the mess may be changed each day by using, at times, a dash of cotton-seed meal, a few small apples, middlings, and, in cold weather, some corn meal, squashes, mangels, ruta-bagas, windfall apples, cull pears, and many things that now go to the hog trough, can be boiled up and mashed, while hot, with middlings or other flavoring stock, and are eagerly eaten by the chicks. In all these messes, a little Cayenne pepper will help digestion, correct looseness of the bowels, keep the blood warm, and give good color to the yolks of the eggs of layers. A good dry sample of fish guano, one which has no sulphuric acid in it, is a good flavoring to a mess, and an encouragement to laying. This should be ground fine so as to leave no long, sharp bones to trouble the fowls. There are varieties of coarse beans that are heavy bearers, that it would pay to raise for chicken feed; also of peas. Both of these are good food for layers. The dry peas may be given for a night feed. Turkeys, geese and ducks are generally fond of them; turkeys seem to have an especial liking for them, and hens soon come to appreciate them. The beans must be parboiled, or boiled, but not enough to break them up. Until the fowls come to like them, a few ground cracklings, bones, or other flavoring, may be boiled with them. The bean water may be used in boiling the other messes, or may be poured into the hog barrel.

It may seem a strange assertion, but I speak from experience, that hens will not take to any food on which their ancestors have not been fed; but they can be taught to acquire a taste for almost anything in reason. In Chili, my native hens would not eat corn, but looked on it with disdain. The only grain they cared for was wheat. Wheat is the cheapest grain there, corn is the dearest, and their ancestors had never been fed on it. When I wanted to fatten them, or feed them to be broody, they went to school and learned the lesson. The spent malt of the breweries, when it can be obtained fresh and cheap, and fed before it sours, is a good change.

It will pay to raise sweet corn; broadcast on a rich piece of ground, make two or three cuttings, according to the climate, curing it well, and stack under cover. This, cut up fine and steamed over night, with middlings and corn meal scattered among it, makes an excellent winter morning feed, or an all-the-year feed for fowls without a good grass run. Good clover hay, especially White clover, is better than corn fodder, and Alfalfa hay better still. These hay or fodder feeds may be varied by using ground oats, ground peas, cotton-seed meal, a dash of ground oil cake, ground fish guano, cracklings, and any common-sense compound that may be suggested by the needs of the flock, or experience. These steamed with the hay, give it a different flavor, and give variety to the ration; but any new departure, will have to be "tapered on," as fowls are conservatives, and need to be led up to new ideas.

A great deal is written about what is the natural food of fowls; but our poultry are now as artificial animals as their owners. According to some people who claim to know all about it, it is unnatural for man to be clothed and cook his food, to shave, or, in fact, to be civilized; but, for my part, I purpose to be unnatural, and fowls pay best when artificial. Fowls need grain, and hard seeds; they are built that way, but even in the much talked about state of nature, these do not form the greater part of their food. One grain feed a day, at night, is all sufficient, and in summer, when the nights are short, even every second day will suffice, providing they get insects and other natural food. It is hard to eradicate the idea from peoples' minds that fowls *must* have a grain diet.

Geese never need be fed grain except when fattening, or when necessary in the breeding season. Even when fattening, these hay and fodder messes with the ground seeds mixed with them, will do to bring them well on, and then finish off with something more concentrated.

Ducks, even more than geese, will thrive on cooked messes, and young ducks can utilize much of the skim-milk, which is also useful, when curded and the whey drained off, for laying hens. In all cases, cooked messes should be mixed as thick as possible, and never sloppy, unless for ducks, and even for them are preferable "crumbly."

When onion tops can be had, they make a good seasoning, chopped fine, and added the last thing when off the fire, and mixed. Never try to boil thick mixtures; they will burn, and fowls do not like burned food any more than we do. You may say that it is good for them, but you cannot argue with them that way. Mix just as you take off, and cover. If you wish to add some ground charcoal, do so, but avoid burning food. Ground charcoal is a good thing to have where fowls have access to it, and for medicine, but the pit is the place to make it.

HOLSTEIN-JERSEY CROSS.—George R. Sneath, in Hoard's Dairyman, gives an interesting account of his efforts to improve his dairy herd. First he tried Jersey bulls. This was not fully satisfactory, so he changed to Holstein bulls on the Jersey cows. This is what he says of it:

The crosses between the pure Holstein and pure Jersey were mongrel in color and appearance, and took after neither parent, except that the eye and deerlike head of the Jersey could always be detected, however woolly or mixed in color they might be. These crosses are larger than the Jerseys and smaller than the Holstein, but increase in size for every cross. They are stoutly built, have good-sized udders and teats, are gentle and intelligent, break in easily, have good constitutions, are good feeders, and are without the extreme delicacy of the Jerseys or grossness of the Holstein.

The crosses between the Holsteins and the common cow are mostly black and white, and resemble the pure Holstein so much as to require the utmost care in keeping the Holsteins pure of record. They are a great improvement over the common cow in size, shape and in milking qualities, but not as much as in the Holstein cross with the Jersey, which shows at this time about 100 per cent over the returns of milk from the Jerseys and their crosses of 10 years ago. This gain in milk, together with the increased size and much greater vitality of the animal, gives us an assurance and promise for the future of better things to come. The milk of to-day from our herd, as an average, is about the same in quality as it was 10 years ago, by the test tube, and will show 16 per cent of cream, and as our milk is sold in this city, we cannot say what the average butter-fat test would be; but we know that it has been tested thoroughly in various ways, at numerous times, by the city milk inspector and found above suspicion, as to its standard.

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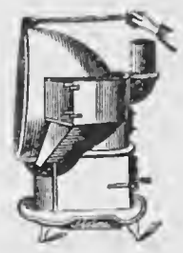

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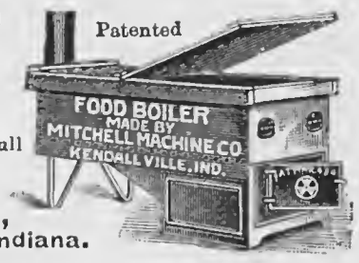

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NOTES ON WINTERING SHEEP.

Sheep, by nature, are supplied with warm clothing, which is a great protection from cold during dry weather; but if not protected from wet during cold weather, this clothing in a wet and frozen condition, is very injurious to them. They cannot take off their coats and hang them before the fire to dry, as their owner can his, when it is wet. If he will stay out in the cold until his wet and frozen coat dries by the warmth given off from his body, he will be able to appreciate the situation. He will also find that a greater amount of food is necessary to sustain his system and make up for the loss of the heat expended in drying his coat, besides the danger of being thrown into a fever and losing his health—perhaps his life.

Now just here is where the matter hinges on profit or loss. If a flock of sheep have comfortable quarters during stormy, wet weather, are fed and watered regularly, they will keep in good health and improve in condition, increasing in money value; but if the reverse conditions are inflicted on them there must necessarily be a loss to the owner. It is a hard matter to get some stock owners to appreciate the amount of loss they sustain by not paying more attention to the comfort of their stock; they seem to think that if their stock do not actually die, they represent so much wealth, without the further thought that this representative of wealth is not increasing in value, which it would do if properly cared for, or of its total loss for want of such care.

In wintering sheep, it is not necessary that they should have close, warm stables, such as are used for horses and cattle; such, indeed, would be injurious to them. But they require shedding of some sort, a good roof to keep them dry, and closed on three sides to protect them from storms. The south side may be left open. Lambs under a month old, with their mothers, should have warmer quarters than this, should be separated from the flock and receive extra care. Clover hay is the best food on which to winter sheep. A change of food is desirable, and they will improve on it faster.

In my experience, I have found beans an excellent substitute for corn. Sheep will not take readily to the beans at first, if they have not been accustomed to them; but a small mixture of corn with them for a day or two, will bring them to like them. Some farmers get the beans cracked at the mill for grinding, which I believe to be a good plan, though I never tried it. Turnips and carrots I have fed to advantage. Such a quantity of turnips can be grown on an acre of land, that they make a cheap and wholesome food for any kind of stock. Potatoes, sliced like turnips or carrots are good food for sheep as a change. Put a little salt on them at first, and they will be eaten readily. Animals require to be educated to some varieties of food, as well as men.

The old-fashioned sheep racks ought to be discarded; they cause seeds and chaff to fall into the fleece on the neck and shoulders, and depreciate the market value. All the winter food should be fed in troughs; this keeps it clean and prevents waste.

Some farmers throw tons of straw into the barnyard to be trodden into manure, when a profit might be made on it by feeding it to stock, which would convert it into a much better manure.

Within 10 or 12 years, I have generally bought from 50 to 70 ewes of the common stock, in the fall, and kept a good ram to put with them. I have tried most of the improved breeds of stock, and think the South Downs the best for my purpose. As a general rule, in buying sheep, I select pretty good wooled ones, about one-fourth Merino, as I think that they are the best sucklers, and make the fattest lambs. After the lambs are taken off, the ewes get ready for market earlier than coarse or open-wooled sheep. I sell all my sheep except the ram every year, and buy a new lot.

Twelve or 14 years ago, I bought some adjoining land, of which about 10 acres were new land, partly cleared. I fenced it; cut the timber and cleared it up, by cutting away the briars and rubbish. Part of it was thin land. I plastered it, and pastured it with sheep for about 10 years, and at the end of that time, I think it was as fine a "green grass" sod as I have ever seen. A. F.

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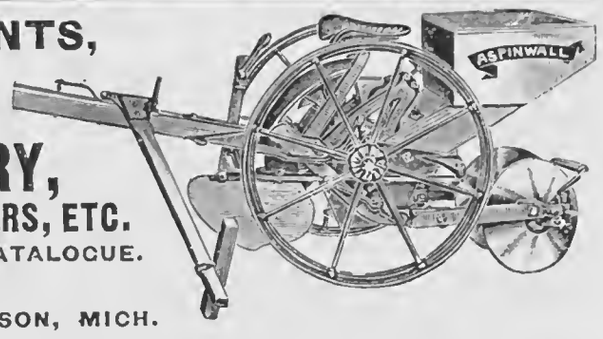

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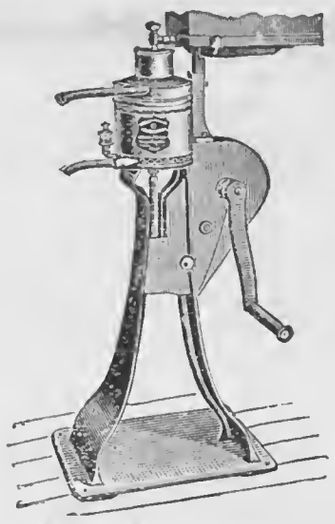

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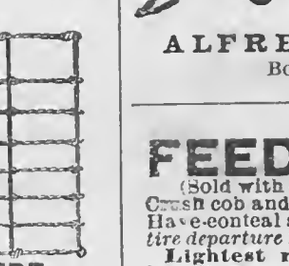

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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BUILDING A HOUSE WITHOUT CAPITAL.

ARE BUILDING AND LOAN ASSOCIATIONS USEFUL?

Can the System be Utilized by Farmers?

I am not anxious to air my private affairs in print, and would never do so unless I thought the airing would benefit some one. If, eight years ago, I could have had access to the facts and figures I now wish to present, I might have saved considerable money. There are probably others to-day who need just such information, and I have, therefore, given exact figures with no other motive than a desire to make the story clear.

We began housekeeping in 1888 on a farm. There were two mortgages on it for $4,500, which at five per cent interest, made an annual interest bill of $225. The taxes averaged $70 per year. The buildings were in bad condition, and we spent nearly $100 each year for repairs. We finally sold the farm and moved to a smaller place where we paid $20 a month rent, and after a time to a still smaller place where the rent was $15. In the fall of 1894, in figuring up my accounts, I was astonished to find that we had spent in mortgage interest, rent, taxes and repairs, the sum of $1,853, for which we had absolutely nothing left to show. We had lived plainly, and in quarters that were barely comfortable, yet had paid nearly $2,000 in cash to others for shelter. My wife insisted that we might have joined a building and loan association, built a house, and with this same amount of money, become our own landlords—in other words, that we might have spent the $2,000, and still possess it! This seemed to me an incredible statement, but events have proved that it was nearly true.

"LUAVA!" A HOUSE THAT WAS BUILT WITHOUT CAPITAL. A TENANT HIS OWN LANDLORD! FIG. 8.

About this time, I invested a few hundred dollars in a building lot. I bought land in a part of the town where property was likely to increase in value. Not being able to pay for it all, I gave a mortgage for $300. The local building and loan association about this time issued a new series of shares, and I subscribed for 16 of them, for which I was to pay $1 per month for each share. I bought these shares as an investment, as I expected to be able to save that amount of money without trouble, and so far as I could see, the association paid better interest than a savings bank. After studying the constitution of this association and observing its workings, I saw that by adding to my monthly payments of $16, the money I was then paying for rent, I could, in time, own a house—that is, I would be my own landlord.

It may be necessary to explain in a few words, the principles on which this association is conducted. It is a mutual, coöperative affair. A share of stock represents $200, which is to be paid in 200 months at the rate of $1 each month. At any time the holder of a share can give good security, he may borrow $200 on each share he holds, and must pay for it six per cent interest or $1 more each month. He must also pay a premium for the use of the money to start with. Let us say that 500 shares are taken. That means that $500 is paid in each month. As this money accumulates, it is loaned to members, and the interest and premiums increase the amount to be loaned; so that the surplus increases at compound interest, and is credited at regular intervals to the shareholders—each share drawing its proportion of these profits. In this way, a shareholder who borrows money, not only *pays* interest, but draws it, too, so that the actual interest paid out is very small.

To make it plainer, let me tell just what I did. I went to the regular meeting of the association, and found that there was quite a surplus to be lent. The president called for bids for the money—that is, the one who was willing to pay the highest premium could have first choice. Starting at three per cent; this was run up to 5¼ per cent, at which figure I agreed to borrow $3,200, or $200 for each of my 16 shares. The 5¼ per cent made $168, which was deducted from the principal, so that all I received was $3,032. By a rule of the association, a borrower must own a lot to start with, and build a house on it so that the loan will not exceed 80 per cent of the value of house and lot combined. My lot was already mortgaged, but the holder of this mortgage agreed to accept a second mortgage and let the building and loan people have a first. They accepted $800 as a low valuation for the lot, and I agreed to build a house worth, at least, $3,200, and give them a mortgage on the whole property for the face of the loan. We obtained plans and specifications from a builder, and these were accepted by the building committee, which consisted of an insurance agent and old builder, and other experienced men. After that, we had nothing more to do except to look over the work at intervals and accept it. The builder obtained his money from the building and loan treasurer on a certificate signed by the building committee and myself. Four different payments were made, and we obtained a very satisfactory house.

On May 1, we moved in. Up to that date, we had paid $1,973 for shelter, with not a stick left standing to show for it. From the date of borrowing the money, I have paid $32 each month—$16 of the investment on my 16 shares and $16 more interest. The profits on my 16 shares are almost large enough to pay me five per cent on their face value before they mature, so that almost the whole of my $32 is applied to paying for my house. I both pay and receive interest on $3,200. In less than 10 years, at my present rate of payments, I shall own the house, or I can pay any part or all of it at any time after 30 days' notice. For each $200 I pay, the monthly payments are reduced $2. For example, suppose I were to pay $400. That would take up two full shares, and my monthly payments thereafter would be $28, or, if I wish to do so after several years, I can find some one to buy the mortgage from the association, and place it, say, for five years at five per cent. In that case, I can sell out my shares for what I have paid on them and their profits, and reduce the mortgage to that extent. In view of these facts, I feel justified in saying

that, if I had started in 1888 as I started one year ago, and spent the $1,973 in paying for shares in this association, I would have my house two-thirds paid for instead of, as now, having nothing to show for it.

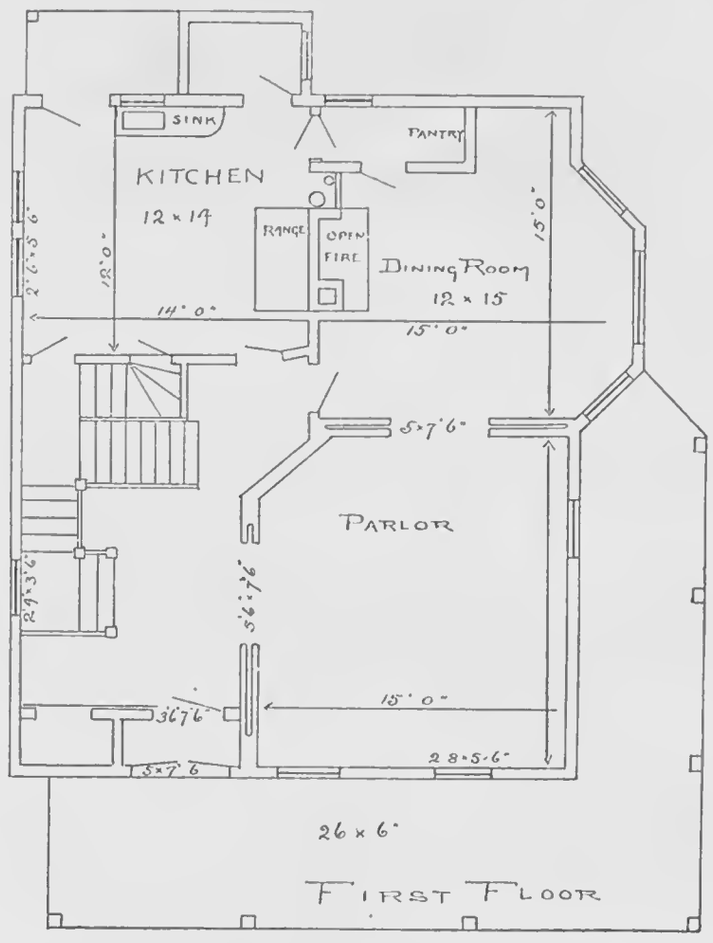
I have read many arguments against this system of building; but I am satisfied that, for me, this plan was the best I could adopt at the time. If one has capital enough to get his house well started, he may then borrow from individuals enough to complete it, giving a mortgage on the whole. I found most people shy about loaning money before ground was broken for the house. They would accept a mortgage on a completed or partly built house, but the building and loan people are able to protect themselves from the first breaking of the ground.

Our local association succeeds for several very good reasons. It is a mutual affair. There are no heavy salaries to eat up the profits. The treasurer is paid a small salary, but the other officers give their time. Why? They are all interested in building up the town. They think it far better that the savings of working people should be invested *at home* in improving town property, than to have them put into institutions that would send the funds far away for investment. Every time a new house is built in our town, there is provided work for mechanics and laborers and new business for all classes. New people are attracted to the town, and all sorts of desirable property becomes more valuable. Again, these men are glad to see young people secure homes of their own, and save the money so long paid as rent. A young man becomes a better citizen when he realizes that he is no longer a mere tenant, but that he is paying surely and steadily for his own house. During the past year, nearly 30 new houses were built by this association, worth all the way from $1,000 to $4,500. I do not say that all building and loan associations are as safe and prosperous as this one. Their strength lies in the character of the men who manage them. I would not care to invest in the large companies managed by strangers. These large companies must pay heavy salaries, there is more danger of dishonesty, and in loaning money to strangers, it is natural that the risks should be greater while the mutual profits will be smaller. In our association, we know every officer personally. It is easy to keep track of loans, and avoid serious losses through poor securities My impression is that the well-managed, small association is more helpful than the larger ones. The fact is that the basic principle of the building and loan association is one of *help* and practical benevolence, and it can succeed only when the men at the head of it recognize that fact. This article is too long to permit any argument to show how the lending principle could be made useful to farmers on the security of farm property. I hope to discuss that in a future issue. The conditions would be different away from a town, but I think that the principle of the coöperative borrowing could be applied and thus greatly help farmers.

And now a word about the house. A picture of the front and side is shown at Fig. 8, with the arrangements of the first and second floors at Figs. 9 and 10. One room has been finished off in the attic, while in the basement are laundry, storerooms, coal bins and furnace. After trying to figure out her ideal house without a model to go by, my wife found a house already built that suited her fairly well, and with this for a model, she changed the plans until she has, apparently, utilized every inch of space, and provided closets enough for an army. My first plan was to build a small cottage at a cost of, say, $2,200. The argument against this idea was that a larger house would sell or rent to better advantage than a small one—supposing it were necessary to dispose of it. That has been proved true. A real estate agent, after looking our house over, says that he can easily obtain $40 per month rent for it. Think what that means. We could, if necessary, move out, rent the house, take the tenant's rent and pay our $32 per month, and have $100 per year left for taxes and repairs. In other words, the tenant would pay for our house with his rent. In less than 10 years, we would own the house while the tenant would have no more to show for his money than we now have to show for the $1,973 which we spent before moving into our own house. Is not that a forcible illustration of the advantage of sound coöperative building?

Our house cost more than we expected when we started to build. That seems to be the usual story with young builders. As the building went up, one little change after another was suggested. For example, at first thought, we planned to have the front of the house above the piazza without a bay window. When we saw how much such a window would add to the appearance of the house and the comfort of the room, we had it put in and are very glad now that we did so. In the kitchen, too, we tried to put in conveniences for lightening labor. The best thing is a large dumb waiter on which a full meal can be sent up or down. The women folks have a small stove set up in the basement, and on hot days, meals are cooked down there and the fire in the range goes out.

In short, we have tried to keep well within our means, and build a comfortable home. In a good many cases, that is the best investment a man can make with his first savings. We have about half an acre of land immediately around the house, which is available for gardening. The plan is to stock this with small fruits—chiefly strawberries and currants. While we shall experiment more or less with new varieties and methods of culture, we also aim to sell enough fruit to pay taxes at least, and to grow plants



FIRST FLOOR OF THE NEW HOUSE. Fig. 9.

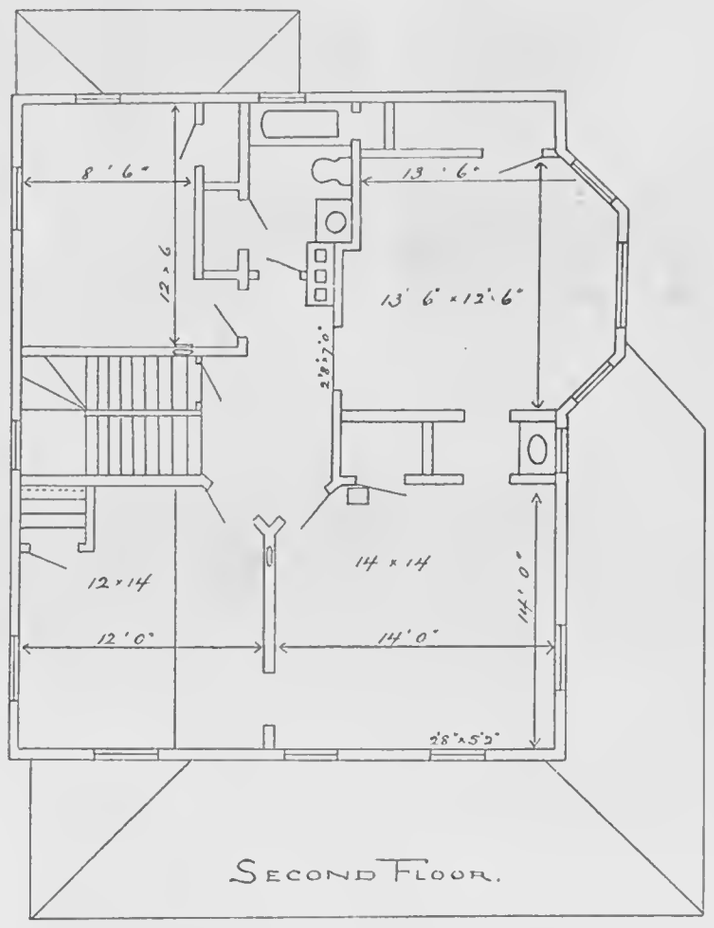
to stock another farm in which we have an interest. We shall have more to say about this later. The past season was spent in preparing the soil for fruits. Our little place has been named "Lnava"—a combination of the names of wife and baby. H. W. C.

SEED POTATOES STARTED RIGHT.

GOOD CULTURE FROM SPROUT TO FINISH.

The History of a Big Crop.

On page 827 of The R. N.-Y. of 1895, allusion was made to a crop of potatoes raised by me, with the request, "We would be glad to hear how he did it." I hardly feel like assuming that I did it. The part that I took was to furnish all the conditions so far as my



SECOND FLOOR OF THE NEW HOUSE. Fig. 10.

intelligence and experience warranted, and I left the result in the hands of a higher power. These conditions are comparatively simple, but at the same time, indispensable. Suitable soil, a potato having the capacity of growing a large crop, the presence of fertility or plant food in quantity considerably larger than the crop will be likely to utilize, in an available condition. In addition to these, all the various operations must be performed at just the right time and in the right way for the best results.

The greater part of the land had been used as a Concord vineyard for 25 years, well cared for and annually supplied with commercial fertilizers sufficient, it is believed, to renew all the constituents removed by crops. No vegetable matter had been supplied in all this time. Even the grape leaves were all carried off by the winds. A corner of the field had been in grass for many years, yielding about two tons of hay, with an annual top-dressing of fertilizer. I intended to plow it in the autumn of 1894, but did not get it quite ready. It is a strong, loamy soil on a hardpan bottom, hardly needing drainage for annual crops, and only partially drained. It was plowed April 25 to 29, with a sulky plow, about seven inches deep—hardly deep enough.

My ideal fertilizer not being obtainable in the market, I had prepared a mixture made up as follows for each acre:

	Pounds.
Sulphate of potash	460
Nitrate of soda	600
Sulphate of ammonia	330
Dissolved boneblack	350
Floats	150
Sulphate of magnesia	130

To this was added 300 pounds of plaster, partly for its mechanical influence in the mixture, and partly because our soils are but scantily supplied with lime in any form. According to analyses and experience, these are the elements in the right proportions for the production of 600 bushels of potatoes. I did not expect to get that amount of product, as I could not anticipate that all of these materials would be transmuted into tubers; but I did think that I should realize a larger product than if I applied less, while all the unused potash, phosphoric acid and magnesia, at least, would be available later on, as I hope hereafter to demonstrate. The larger half of this compound was spread broadcast, May 1, and well harrowed with a disc harrow, followed by an Acme.

Seed of the Carman No. 1 which I had grown the season previous, free from scab, although scabby when treated with mercuric chloride in 1894, was soaked in a solution of sulphate of copper 1 part to 500 (1 pound to 60 gallons), for 90 minutes, and spread on boards in a warm greenhouse April 18–20. The potatoes contained in bushel baskets were immersed five at a time in a tank holding the solution, and thus easily placed and removed. May 3–11, the sprouts being from one-quarter to one-half inch long and very strong, the tubers were cut to single eyes, and all the sprouts except one from each eye removed. It was not necessary to handle the pieces with extreme care. They were transported to the field in flat baskets in layers about two pieces deep. The land was furrowed with a Planet Jr, going twice in a place, which left a wide, deep furrow. A line was then stretched over the center upon which strings had been tied 17¼ inches apart. The planters took a garden trowel in one hand, made an excavation under the line if needed to plant the piece about five inches below the surface, inserted the set with the sprout upright, and with the trowel moved enough of the loose earth over the sprout to bury it completely. Two sets were placed for each string, thus leaving them at distances of 8⅝ inches. The rows were three feet apart, which would require 20,000 pieces per acre nearly. Twenty bushels of seed were used, the pieces averaging less than an ounce each,

May 13–14 the remaining fertilizer was spread mostly upon the rows. May 17 the Planet Jr. was run between the rows arranged so as to half-fill the furrows. May 24 the same operation was repeated leaving the surface level. May 31 a Hallock weeder was run once for each two rows, the horse and driver going between. June 7 the same was repeated. June 15, the plants being too large for the weeder, the Planet Jr. arranged as a cultivator was run between the rows. The field was so clean and mellow that it was not touched again until July 2, when it was again cultivated. July 9, 4.13 inches of rain fell within 3¼ hours, 3.77 of it within 1¾ hour. This beat down the vines and made the surface very compact. An attempt was made within 48 hours to cultivate again, but it could not be done as the ground was completely covered with vines.

Potato beetles were very plentiful The first larvæ were seen June 15. Paris-green, one part, and plaster, six parts, were applied by means of a Leggett gun, and repeated so as to make five times in all, but three of the applications were washed off by rain within 24 hours, including the last one on July 8. After this time, it was impossible to walk through the field without damaging the vines much more than the insects appeared able to do. No hand work was done on the field, which was a constant source of delight in its luxuriant dress of dark green foliage, without a suggestion of anything other than potatoes in its whole extent.

As I was anxious to sow Crimson clover, the crop was harvested earlier than I otherwise would have done, August 17 to 27. It was dug with hand forks, being apparently too valuable to use a Hallock digger, which was standing idle. I am inclined to think, however, that no more injury would have occurred by the use of the machine, than was done by the forks,

notwithstanding much care and caution were used. One-fourth acre's product was weighed and placed in barrels, and the rest of the crop estimated by the number of barrels filled. The result was 1,140 bushels upon three measured acres. The proportion of tubers smaller than three ounces is not exactly known now, but is believed to be less than 10 per cent. None was found weighing over 20 ounces, and but very few that weighed a pound. A considerable portion of the field yielded at the rate of 430 bushels per acre, but this was offset by the sward land which went as low as 298 bushels. The capacity of this potato to yield is only equaled by its beauty, the snowy whiteness of its flesh, and superior quality when cooked.

I am afraid that I have made a very long story, but I have written only in answer to your request as to the "how." DR. JABEZ FISHER.

Worcester County, Mass.

WHERE TO BUD PEACH STOCKS.

THE QUESTION.

Which is preferable, to bud peach stocks close to the ground, or high up, say, 2½ or 3 feet? Why is this so?

THE ANSWERS.

From the nurseryman's point of view, it is preferable to bud close to the ground, because the young stocks are larger there, and more easily worked. It is also cooler and moister near the ground, and the buds "take" better. From the orchardist's point of view, I can see no possible advantage in high budding, for occasionally, the entire top of the tree gets broken off, and new sprouts come out and form a new top. Even on trees five or more years old, if budded high, these sprouts would come from the seedling stock and be valueless. I know of no good argument to be advanced in favor of high budding of peaches.

Connecticut. J. H. HALE.

The proper place to set buds in peach stocks, is from two to four inches from the ground. I cannot see any reason for "high" budding unless it is desired to top-work an occasional tree that has grown two or more years. H. E. VAN DEMAN.

Virginia.

We invariably bud peach trees as close to the ground as possible, for the following reasons: 1. Many of the stocks are too small at one year old to bud high up. 2. High-budded stocks are liable to make an ugly union. 3. Low-headed trees are, for several reasons, more suitable to this part of the country. 4. If the tree should be injured or broken, it would, in high-budded trees, be likely to be injured below the bud. 5. A high-budded tree, would, when the ground is thoroughly watersoaked, as at present, be likely to blow over with a moderate wind, and damage the roots. 6. With low-budded trees, the bud is likely to receive some winter protection. Artificial protection might be used if necessary. WM. JACKSON.

Illinois.

In this climate, peach stocks (which must be grown from seed planted in the spring), will not make growth enough to admit of being budded at the proposed height during the following August or early September; and I know no good reason for budding at that height. Straighter trees will be secured by budding near the ground, so that the crooks formed by cutting away the stocks above the buds, will be so near the surface as to be scarcely noticeable.

Michigan. T. T. LYON.

We consider it preferable to bud peach trees as close to the ground as the stock can be conveniently worked. It makes straighter and more shapely trees. The buds during the winter are better protected. The nearer the ground the union, the less danger there is of their being blown off by the wind.

Ohio. THE STORRS & HARRISON COMPANY.

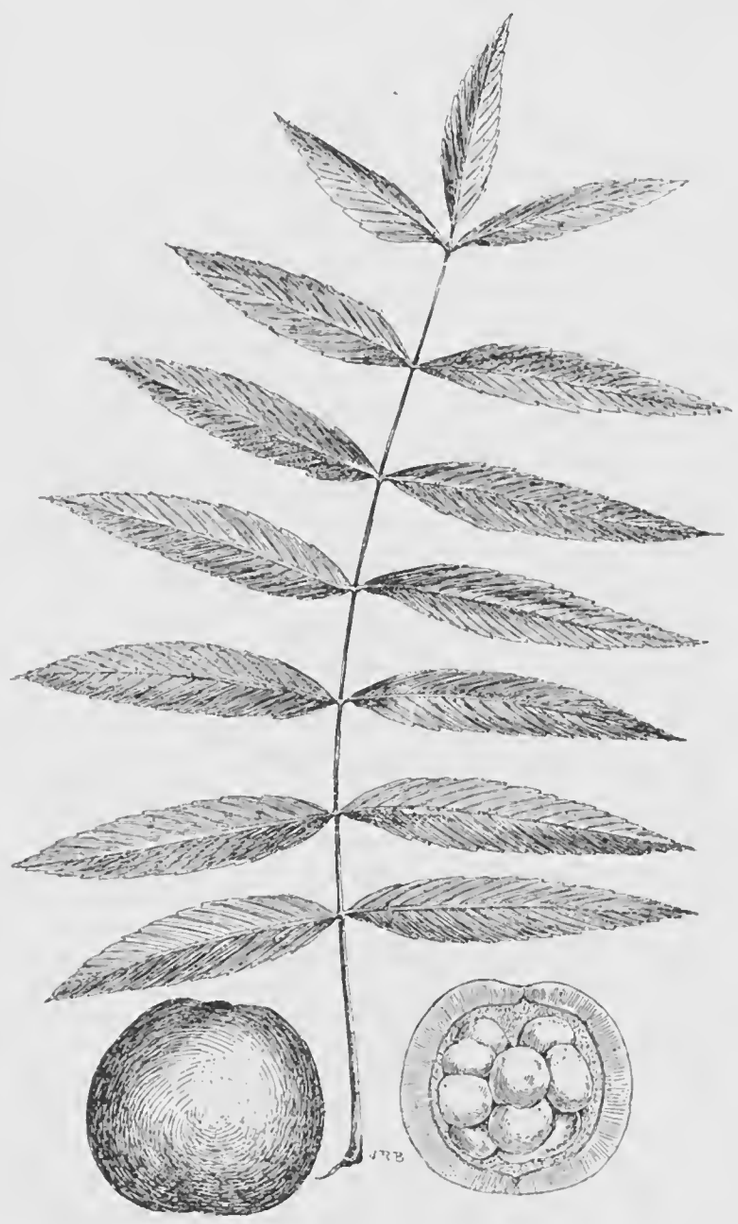
I believe that a peach stock should have the bud as near the ground as it is convenient to put it. There is less liability to sprout or sucker than if budded higher. Then, again, varieties differ so that we would have a very irregular growth if worked higher. When budded low, the top is one entire variety, and if broken off, it will make a new head of the same kind, which it could not do if budded high and broken below the bud. This is liable to occur after wind storms, especially if trees are headed high, and have a big top. By budding low, the bud, as a rule, grows straight up; but with varieties like Jacques Rareripe, Hinman, or some others, if budded high, it would very likely grow out at right angles with the stock, making an unsightly and unsalable tree. On the other hand, some varieties of the apple, plum and pear must be top-worked, if anything like a straight line is to be secured. This is done by using a straight, upright-growing variety for the stock, and placing the graft or bud at a regular height. If peach trees were worked in this way, it would in addition to the other objections named, give a dark-colored bark below the bud, making at least two feet of the tree very unsightly, if nothing else. CHARLES WRIGHT.

Delaware.

IS MILK A SUBSTITUTE FOR MEAT IN A HEN'S RATION?

The following question has been asked by one of our readers: Do hens that have milk constantly before them, and also have the morning mash mixed with milk, require any meat? The hens have free range.

Hens having free range under the conditions mentioned, would not, I believe, require meat during the summer months; but I do not know that it has ever been definitely ascertained whether the feeding of meat under similar conditions might not be of some advantage. I have known hens that had no meat or bones fed them, and had only a limited supply of skim-milk, to lay much better than the average; but their range included the borders of a brook and patches of underbrush. When hens, even on free range, show a decided preference for cut bones or meat at feeding time, it will, I think, pay to add something of the sort to the ration. Fowls having about 60 per cent of their ration skim-milk (about 15 to 18 per cent of the dry matter in the food coming



XANTHOCERAS SORBIFOLIA. (REDUCED HALF.) FIG. 11.
See Ruralisms, page 23.

from the skim-milk) have done well; but so large a skim-milk ration is too laxative in cold weather to be safe. For laying hens during freezing weather, meat in some form should be added to the ration.

Geneva Experiment Station. WM. P. WHEELER.

Milk furnishes nearly all the animal food required, though I would use a little ground beef scrap in connection with it, for variety's sake. J. RANKIN.

Massachusetts.

If the hens receive cut clover, and also milk, they will require meat less frequently than when milk and clover are not used. Milk is not a substitute for meat, however, as the hens cannot drink enough of it in a day to receive from it the same proportion of solids as can be derived from meat, milk consisting largely of water. A ration of meat at least three times a week, will give good results, no matter what the other foods may be, provided a variety is allowed.

New Jersey. P. H. JACOBS.

Under the conditions named, I would expect hens in small flocks to do well without meat. If the flock is large—100 or more—I would prefer some form of meat with a fair proportion of fat, provided the milk was closely skimmed. O. W. MAPES.

New York.

Under these conditions, I would hardly think meat necessary; though, as a matter of choice, I would prefer to alternate the milk with an occasional feed of meat or green cut bone, especially during the winter season when fowls cannot depend on insects and worms for their supply of animal food. I am inclined to think that milk fed constantly, both as drink and for mixing the morning mash, might cause bowel trouble; at least, that has been my experience.

Michigan. GEO. J. NISSLY.

If the milk is not skimmed, I do not think that they would need any meat; but if skim-milk is used, I think that meat will be needed, as there is nothing left but casein, sugar and water after the cream is taken off. JAMES H. SEELY.

New York.

I would say that hens having milk to drink constantly before them, and having the morning mash mixed with milk, would not require any meat. Milk is a complete food in itself, and fowls having enough of it to satisfy their bodily need, would require little else excepting green food. A. F. HUNTER.

Editor Farm Poultry.

I would not think that the quantity of milk that a hen could drink, or would eat in a mash, would be a substitute for meat, and particularly when the meat contains bone. Having a free range would make no difference except for a short season during the year, and even then, I would make no difference in the meat ration, as the hens are likely to be doing their best at that time. I would depend more on a free range to furnish green food than I would to furnish meat. In regard to the color of eggs, when I was feeding oats and wheat at night, I had a complaint from Boston that my eggs were light-colored; immediately I made the feed one-third corn, and I haven't had any trouble since. Green food may influence the color, but I think that it would be similar to drinking milk to get meat—they would have to eat a pile of it. V. E. HASERICK.

New Hampshire.

From experiments made in feeding milk to laying hens, and from the testimony of several successful poultrymen who make a specialty of fresh eggs, I believe that it is safe to say that meat is not required so long as abundance of milk is at hand. The morning food should be mixed with milk, and milk be given to the fowls to drink. It is understood, of course, that a proper grain ration is provided, so that it will not be necessary to balance up what otherwise would be a carbonaceous ration, and make it a fit ration for egg production. The milk may either be whole or skim-milk. The skim-milk will prove equally efficient, and a great deal more economical. It will be necessary to exercise good judgment in feeding this milk, particularly at the start, otherwise, cases of diarrhea are likely to occur. GEO. C. WATSON.

Pennsylvania Agricultural College.

WHAT SAY?

LEATHER-CHEWING HABIT.—My young saddle horse causes me much annoyance and trouble because he chews up the hitching strap and bridle reins whenever the opportunity offers. Can any one give me a "sure cure" for this leather chewing habit? J. R. E.

Green Grove, Miss.

PAINTING HAMS.—Will you give a recipe for painting the covers on smoked meat? Is it best to put cloth on meat before it is smoked? S. F. B.

Asotin, Wash.

R. N.-Y.—We have had so much help on the salt pork question, that we hope to have our readers put the above meaty question in their heads and smoke it.

HOW TO KILL RATS.—How can I rid my barn and corn barn of rats? I have trapped and poisoned them, and for every one I kill, there are two to take its place. F. W. H.

Savannah, N. Y.

R. N.-Y.—Let us hear from rat-ridden farmers. What shall it be—dogs, cats, traps, ferrets, or poison, and how shall they be used?

WHAT CROP FOR A MULCH?—I have planted a pear orchard of 1,000 trees in rows one way. I intend to grow a crop of some sort between the rows to mulch the trees. What crop will be best? Is corn good, drilled thickly in rows, or will it make a harbor for mice and rats to gnaw the trees? Has any of THE R. N.-Y. readers had any experience with mulching, and with what success? C. A. G.

Lyons, N. Y.

R. N.-Y.—Let us have some experience.

STRAWBERRIES ON MUCK SOIL.—How will strawberries succeed on a well-drained muck soil, from one to fourteen feet deep? L. W. F.

East Benton, Pa.

MILLET FOR NEW JERSEY.—How early will it be safe for me to sow Hungarian grass for hay in this latitude? I have been trying to secure a crop of oat and pea hay, followed by Hungarian; but this year I would like to sow Hungarian first, and follow it with Medium clover, sowed alone in August. Will the Hungarian come off in time for me to kill the weed seeds before sowing the clover? Can I count with any

eertainty on a good stand of clover? What is the most profitable quantity of elover seed to put on an aere when sowed alone? The soil is a sandy loam, with some gravelly knolls. J. B. M.

Paterson, N. J.

To Fatten a Beef.—I wish to turn an old eow into beef. She is giving five or six quarts of milk per day. She has been milked about a year and is farrow. I have ensilage for one feed, the other being hay, oat hay, ete. What kind or kinds of grain shall I feed, and how mueh? Would it be best to feed any eotton seed? Should she be dried off? If so, how shall I do it?

Conneeticut. E. S. H.

R. N.-Y.—What we wish to know is, how would you make that eow into beef at the least expense, and how would you save most of the beef?

Cow Stall and Coal Tar.—What are the eorreet dimensions for a eow stall for an average animal? In building the stalls, should one make a difference in the length to suit part of the herd? How would eoal tar answer in the place of red paint for painting a tin roof? H. B. T.

Beverley, W. Va.

R. N.-Y.—Here are two praetieal questions that require answers from different men and different seetions to bring out the truth. What do *you* say?

WHAT THEY SAY.

Canadian Dump Wagon.—The Farmers' Advoeate (Canada), has a design for a dump wagon whieh is shown at Fig. 12. Here is the deseription: "Make axles and front bunk; then, instead of ordinary sides for a box, place a 2x6-ineh oak or ash plank on edge, and bolt and braee to the back axle and front bunk, as in eut. Make five or six boxes open behind, and balaneed on rollers whieh turn in holes (A) bored inside planks (B). The boxes are held in plaee by pin (C). Crosspieees to prevent the side planks spreading, if left projeeting at the sides, may be utilized for steps. As reaehes and tongue braees are dispensed with, an ordinary sleigh tongue and rod may be more easily arranged (by putting two staples through the axle) than a wagon tongue."

Lifting a Beef or Hog.—Last year, The R. N.-Y. had a pieture of a tripod for lifting a beef when slaughtering. The lifting was done by twisting a stiek which wound up a rope. This is too dangerous, for if the stiek should slip, it would fly baek and strike a hard blow. I will give my deviee (see Fig. 13). It is a tripod, the same as the other, only I have the poles 16 feet long. Bore the holes to let the poles spread 10 feet apart at the base. To set up for use, dig three holes in the ground six inehes deep, so that the tripod will stand six or seven feet high when set in the holes as shown in the figure. When slaughtering, fasten the beef to the tripod; have a rope from the base of the single pole, to reaeh out between the other two poles, and hiteh on a team to draw the pole in toward the other two. So doing will raise the beef as high as desired. J. C.

Rosemount, Minn.

To Preserve Pine Timber.—The reply of The R. N.-Y. to the question asked by G. A. S., page 857, by no means meets his requirements. I will not dispute the existenee of such trees, but I have never seen either a ehestnut or eedar that would make a boom 35 to 45 feet long, that will meet the needs of a quarryman. It is a matter of mueh moment, and I only too well remember how, in former years, I sometimes spent an entire day in the woods without finding a single tree that would eome up to my standard. When I did find it, however, I never thought for a moment that natural decay would destroy it in the short spaee of four years. A short distanee from here, a boom is in almost daily use that was eut in sight of my window six years ago, and whieh is to-day, to all appearanees, as sound as ever. I always seleeted a "heart" pine, straight, free of knots, branehes and other imperfeetions for, at least, 50 feet up, and of eonsiderably greater diameter than was apparently needed. As soon as eut down, the tree should be hewed to the desired dimensions, bloeked up and allowed to season and eraek open, as it seems booms invariably will do. The boom is now roughly dressed with a plane, so as to prevent water from eolleeting, the eraeks are filled with putty, one or two liberal applieations of linseed oil made next, and in two or three days, a eoat of paint applied. As paint does not last long, unfortunately, at the most exposed portion, owing to the friction of the rope, a semi-annual application of linseed oil will be found most highly effeetive. Let G. A. S. try this plan, and I think that he will not again have to part with his eostly booms before he fairly makes their acquaintanee. J. C. SENGER.

Virginia.

A dollar book as premium for a new subscription! See page 28.

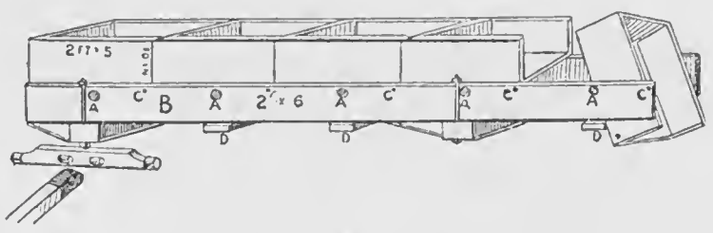
THE FARMER'S BUSINESS APPLE.

IN PARTNERSHIP WITH BENJAMIN DAVIS & CO.

An Ohio Farmer Grows Money on Trees.

Mr. J. R. Pherson, of southern Lieking County, Ohio, is one of those farmers who eombine fruit growing with general farm crops. Most farmers have an orehard on some prominent part of the farm; but, as a rule, the returns from it are insignifieant. In the average neighborhood where general farming is praetieed, you will find but few farmers who realize mueh profit from their fruit. Mr. Pherson is one of the few. He has an upland farm of 160 aeres. His erops are eorn, wheat, oats, hay, strawberries, raspberries, pears and apples. I wish to speak of the latter erop, as it appeared when I visited the orehard in the latter part of Oetober. The apple orchard oeeupies but 10 acres of hill land, which lies in a variety of positions—part of it sloping toward the south, while in other plaees it faees the east, southeast and southwest.

In answer to a question regarding the age of his trees, Mr. Pherson replied: "They range in age from 18 to 21 years; the younger trees are down along the eastern side of the orehard, although a few are seattered here and there throughout the older portion, where we had to replant on aeeount of loss by

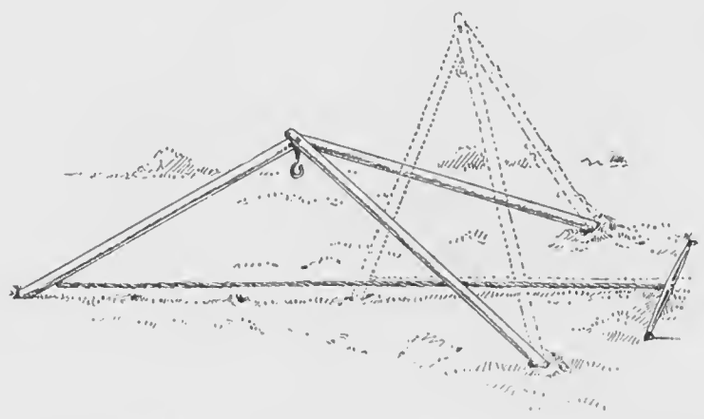


A CANADIAN DUMP WAGON. Fig. 12.

rabbits and miee, whieh were very abundant in those days. Right there is a tree," said Mr. Pherson, pointing to a beautiful, thrifty, smooth-barked tree, the body of whieh was not more than 10 inehes in diameter, "that is but 19 years old, from whieh my son pieked 22 bushels of as beautiful apples as I ever saw. It is a Ben Davis, grown from a piece-root graft made by myself. I am well aware of the tirade whieh some nurserymen are making against pieee-root trees; but after 21 years' experienee in this orchard, in whieh I planted both pieee and whole-root trees, I have thus far failed to note any differenee whatever, either in their health or fruitfulness. They all appear to be equally good for, at least, another 20 years."

Harvesting the Apples.—"How do you gather apples?

"We earefully piek them by hand; each man being provided with a light ladder, and a strong grain saek whieh he loops around his shoulders. We find that eareful handling pays, as a bruise or a eut upon the fruit very materially injures its keeping qualities. We distribute bushel baskets along the rows upon



DEVICE FOR LIFTING A CARCASS. Fig. 13.

whieh the men are at work; into these baskets, they earefully empty the apples as they are taken from the trees. One man with a team and sled is kept busy in taking up the filled baskets and distributing empty ones."

"I presume that you do not store them at onee."

"Oh no! It is then too early to store them; but we shall soon see where they all have been taken."

As we passed downward between the rows of vigorous, low-headed trees, we eame upon a drove of about a dozen fat, sleek hogs contentedly feeding upon the fallen fruit. I remarked to Mr. Pherson that the hogs were in extra condition. He informed me that they had fattened on apples alone; and he expressed a regret that he had not 50 head, as there were suffieient dropped apples with the addition of the culls that would be removed, to have fattened that number. One eurious faet was that the hogs would diligently seareh for the very last apple under eertain trees, while they would perfeetly ignore the faet that under another tree, only 30 feet away, the ground was literally eovered with brilliantly colored, but, of eourse, defeetive fruit.

"I see," said Mr. Pherson "that you are not aware that hogs are expert judges of quality in an apple! Those varieties whieh espeeially tiekle their palates are kept studiously eleaned up throughout the entire orehard, while other varieties—the Ben Davis, for instanee—'go begging' in the porcine market."

We had, by this time, reaehed the lower end of the orehard, where we were eonfronted by

A Novel Farm Scene.—Within a small, strongly-feneed enclosure, perhaps one-sixteenth of an aere, and in the shade of numerous large eherry and other trees, had been construeted a gigantie floored bin, perhaps 20 feet wide, 18 ineches deep and something near 75 feet long. In this bin, were 1,700 bushels of apples, the greater part of which were of an intensely brilliant red eolor, while here and there was a small square of golden yellow. Well might there eome a look of pride into the faee of the venerable farmer, for his fruit erop was a beautiful sight to behold.

Three or four men were busy sorting, and upon inquiry I found that upon the very day of my visit, Mr. Pherson had begun to store his apples.

"Yes," said he, "it is now high time that we should begin filling our fruit-house; for it will take fully two weeks to handle our crop with the small foree of men that it is possible to seeure at this season of corn husking; and there is no eonjeeturing, you know, what two weeks, at this season of the year, will bring around in the way of a eold snap, or even a decided freeze-up."

"So you have some trouble in seeuring help! Why is it, these dull times, when there are so many idle men lounging at your neighboring little village?"

"Oh, it's not the lack of quantity—it's the quality! Plenty apply for work, but so many are so careless, while others are so bungling and awkward, that the important work of sorting cannot be safely intrusted to them. Why, would you believe that there are some men who are even eolor blind to the extent that they hardly know the differenee between a red and a yellow apple?" As an illustration of this, Mr. Pherson seemed greatly to enjoy telling a little ineident that aetually oeeurred, but a few years ago, at his plaee.

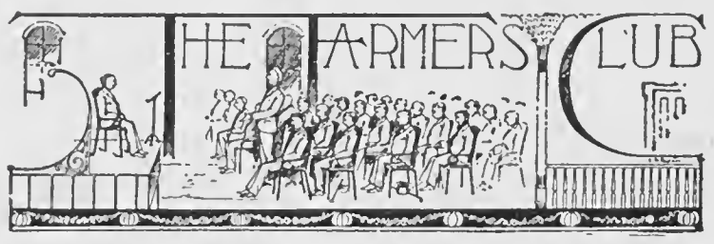
"A eertain old German neighbor," said he, "eame to me and asked for a job of sorting. I could not well refuse the old man; so he took the plaee assigned him, to sort a mixed lot of apples—red and yellow—having been told to plaee the red ones in a large basket, and the yellow ones in erates. He stiffly got down upon his knees, pieked up his first apple, turned it around and over, then glaneed from the basket to the crate in an extremely puzzled manner. Finally, he slowly got upon his feet and, holding the apple up for my inspeetion, asked, in his slow, quiet way of speaking, "Zhon, vhas dis a ret ur a yeller abble?"

"What qualities eonstitute a good sorter?"

"A quiek eye, nimble fingers, industry and eonscientiousness. A man who knowingly allows a partially deeayed apple to go into his basket, and does not take the trouble to seek it out and diseard it, is not serving his employer to the best of his ability. You will observe that the apples are kept in this outdoor bin so long as we think it safe to leave them. The apples, as you see them, are just as they came from the tree—the large, the small, the smooth and the defeetive. At this sorting we remove all the speeked and the very small ones, storing only the good, sound fruit of from medium to large size."

Ohio. F. H. B.

(To be continued.)



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Value of Phosphoric Acid in Bone.

C. V. G., Westboro, Mass.—In the articles under Primer Science, published last spring on Balanced Plant Food, I find (page 232) that phosphoric acid with one part of lime, is soluble in water, with two parts of lime it is reverted, and with three parts of lime it is insoluble, and of little use to plants. I have been reading some experiment station bulletins on fertilizers, and find, in the analyses given of ground bone, that a large proportion of the phosphoric acid is designated as "insoluble." For instance, the analysis of one brand is as follows: Nitrogen in 100 pounds of bone, 3.95; phosphoric acid in 100 pounds—reverted 7.94, insoluble, 17.52; total, 25.46. Now, does this mean that, while 100 pounds of this bone contains 25.46 pounds of phosphoric acid, only 7.94 pounds are of any use to plants, and the remaining 17.52 pounds are worthless? If this is the case, then allowing for the nitrogen, and assuming that this bone would sell at $30 per ton, the available phosphoric acid would cost 11 cents per pound, if my figuring is correct. Is this not altogether too high a price for available phosphoric acid?

Ans.—"Bone phosphate" is a trade name, used chiefly by fertilizer dealers and chemists to represent a combination of three parts of lime and one of phosphoric acid. It is the form in whieh phosphorie acid is found in bones, and also in the raw mineral phosphates. While chemically the same, however, there is a great differenee in the "availability" of ground bone and ground phosphate rock. As was fully explained

last spring, a bone is a porous, organic body, giving access to the roots of plants, while the ground rock is a solid grain—the roots feeding, if at all, only on its outer surface. Thus, while chemically the same as the rock, the bone, if as finely ground, may be the more "available" since the roots can make a better use of it. When experiment stations rank ground bone that will not dissolve in water or weak acid, as no more valuable than ground rock that will not thus dissolve, they make a mistake, because that is not a fair test of its availability. The plants themselves know better, and will show a vast difference when fed a given amount of phosphoric acid in fine, raw bone, and the same amount of "bone phosphate" in the form of fine rock. We went all through this matter last spring. It is enough to say that practically all the phosphoric acid in finely-ground bone is available. In a sample of raw bones, the test of the chemist might show that much of the phosphoric acid was insoluble. This might be because of the fat or animal matter which surrounds it. After being put in the ground, this animal matter will decay, and then the bone itself would show a much greater solubility. As a matter of fact, the "availability" of the bone depends largely on its fineness. A coarse, lumpy sample is far less suitable for immediate use than one that is ground to a fine powder. In the case given, we have in one ton, 79 pounds of nitrogen and 509 pounds of phosphoric acid, which is a good sample of bone. The chemist at the station would not only test this bone with water and weak vinegar, to see how much will dissolve, but he will also give it a mechanical test, and see what proportion of it will sift through a sieve with 50 meshes to the inch, or 25, or 12. Then, if it is pure bone, his valuation will be made up largely by the *fineness* of the samples. Possibly in the sample you mention, the bone would be fine enough to give a valuation of 14 cents a pound, or $11.06 for the nitrogen. This will leave $19.94 as the value of 509 pounds of phosphoric acid.

Some Facts About Using Lime.

H. S., Marlboro, O.—I wish to put lime on a certain field before sowing to clover again. When shall I apply it? The field was an old Timothy sod, plowed last August and sowed to Timothy which failed; hence I purpose planting to potatoes next spring, to be followed by wheat and clover. I would like to put the lime on this winter, as I shall have more time to haul and distribute, if it will do as well. My method of planting potatoes is to cut the surface fine with a disc harrow, then plow the potatoes in, to a depth of about four or five inches, which will bring the lime in direct contact with them.

V. E. H., Lakeport, N. H.—In the discussion in regard to using lime for curing the acidity of a sour soil, no formula is given as to the way the lime is to be prepared, except to use airslaked lime. It is generally supposed that airslaked lime is worthless except, perhaps, to put on land. To get the full benefit of the caustic properties of the lime, it should not be allowed to airslake. I know of no better way of preparing the lime than the following: For one cask of lime, have a box four feet wide and six feet long, from 12 to 15 inches deep, with a tight cover. Spread the lime evenly in the box, and sprinkle water over it till it commences to slake; cover, and let it stand 15 minutes or more. Then, with a hoe, stir the lime thoroughly. If there are a few lumps that have not slaked, a little more water may be put on, or they may be sifted out, only be careful not to use too much water. As compared with air-slaked lime, where one ton of the latter is used, one-half ton prepared as above, will give good or better results.

ANS.—We think that you will make a mistake in using the lime on the surface this winter, almost immediately before the crop of potatoes. As explained on page 834, we advise the use of lime *after* the potato crop, and would *harrow*—not plow—it in. The chances are that such a practice will help the wheat and the clover that follow the potatoes.

As to the method of preparing lime suggested by V. E. H., there is no doubt that such lime will "go further." That is, half a ton of lime prepared in that way will produce as great an effect as a larger amount of airslaked lime, for it is in a better condition to overcome readily any sourness in the soil. While this is true, it would be a mistake to use too much lime in this form, for that might cause a case of "too much of a good thing." If the soil become too alkaline, the process of nitrification is liable to be delayed. At the Rhode Island Station, in one case where four tons of airslaked lime were used on an acre, this nitrification in the soil was stopped for about 17 days. The plants showed every evidence of suffering from a lack of available nitrogen until this alkaline condition was changed. Most farmers, however, will not be likely to use too much of this lime; but a point to remember is that, while too much sourness in the soil is bad, so, also, is the opposite condition, or too much alkaline. Another thing is that lime prepared in this way, will not "last" as long as the airslaked lime; while less of it will "sweeten" the soil in a given time, the soil will need another application sooner than if the airslaked lime were used.

Raw Cotton Seed for Fertilizer.

J. P. P., Texas.—When is the best time, and what the best method, to apply raw cotton seed on onion ground? How much per acre? I wish to sow the onion seed in the spring. Will raw cotton seed do just as well as any other fertilizer for asparagus?

ANS.—With an oil mill located at almost every railroad center in the South, advanced agriculture has progressed beyond the use of raw cotton seed as a fertilizer. The seed should be exchanged, wherever possible, for an equivalent in cotton-seed meal. This holds its nitrogen in a much more assimilable form than the raw seeds, which must decay before they become available for plant food, and are, hence, unsuited to crops that require rapid pushing. Apply the meal broadcast at the time of preparation, at the rate of from 600 to 800 pounds per acre for onions. Yet cotton-seed meal is itself a slow fertilizer, though its nitrogen is steadily and continuously available through the season. Hence, it would be well to supplement by intercultural application of a more soluble form of nitrogen—say, 150 pounds nitrate of soda, two or three times during the spring. Raw cotton seed would be better for asparagus than for onions, since this crop should be fertilized one year in advance, as the size of the stalks of next year's crop depends, in large measure, upon the growth attained by this year's tops, and the consequent expansion of the root system, which is thus enabled to push up more lusty sprouts from every crown the next season. Stable manure, however, is to be preferred to cotton seed. H. N. STARNES.

Georgia Experiment Station.

Corn Fertilizer From Hen Manure.

F. W. H., Savannah, N. Y.—Can I make a good fertilizer for corn and potatoes, by mixing potash and hen manure? What kind of potash shall I use, and how much to the bushel of manure?

ANS.—You can make a fairly good corn fertilizer in this way, though it would be better to use some form of phosphoric acid with it. If the manure has been saved with plaster, in a sheltered place, as it should have been, it is now in dry, hard lumps. Crush them as fine as possible with a spade or heavy shovel. Sift with a fine sieve, and recrush the larger lumps. A mixture of 700 pounds of this fine and dry manure, and 150 pounds each of ground bone and muriate of potash, will be very sure to give good results on corn. If used on a sod, we would use 400 pounds or more of this mixture to the acre—broadcasted and harrowed in.

The Use of Lime on Wheat.

J. C., Chicago, Ill.—On a clay farm in Ohio, I have been unable to get a "catch" of clover for several years. Can I sow lime on a piece now in wheat, and on which I wish to sow clover in the spring, without injury to the wheat? How much lime should I use, and in what condition? What is the best time to sow it?

ANS.—The failure to obtain a catch of clover, may not be due to the lack of lime entirely. We would not advise the use of lime this winter on the wheat, except in a small way as an experiment. We do not know enough about the matter yet to state any exact rules, but we would always aim to use lime with a crop like corn, that would enable us to *harrow* it well in after plowing.

The Farmer as a Chemist.

G. B., Milan, Ohio.—I have recently come into possession of about 50 tons of wood ashes, part of which are under cover, and the rest have been exposed to the weather, during the past summer and fall. They are of hickory and oak, about three feet deep on level ground, with few showers during the summer. Under the above conditions, is it likely that much potash is lost? Are there not some works on chemistry that could teach fairly intelligent farmers how to analyze their own fertilizer materials?

ANS.—No. We do not think that the ashes have leached much in that condition. We suggest that you send fair samples of the ashes to the director of the Ohio Experiment Station, Wooster, Ohio, with a request for an analysis. We could tell you how ashes and fertilizers are analyzed, but even then you could not do satisfactory work without fitting up a small laboratory at more or less expense. You might read books on wood turning or blacksmithing, but the knowledge would not be of much use until you bought a lathe or forge, and all needed tools. The *theory* of analyzing a fertilizer is simple enough, but skill, experience and costly apparatus are needed in order to do accurate work. At some time during the summer, we hope to give a few articles in Primer Science telling *how* the chemist picks a food or a fertilizer apart.

"Stiff Gray" Southern Soil for Potatoes.

J. J. K., Kernersville, N. C.—I have a piece of stiff gray soil that I wish to plant to potatoes next year. What manure, fertilizer, and treatment shall I use to get the greatest yield?

ANS.—"A piece of stiff gray soil" is too indefinite a description for any one to advise intelligently. Nothing is said as to its condition as to fertility, not a word as to what crop has been on it the past year. I would say, then, at the start, that a piece of stiff gray soil that had no clover on it last season, or any cow peas, and is simply a piece of land worn as much of our land is, is a bad place for a potato crop. There is no vegetable crop grown that so imperatively requires plenty of humus or decaying vegetable matter in the soil as the potato, and no amount of fertilization will atone for the lack of it. It is one of the hardest things to convince our farmers, not in the South alone, but all over the country, that good crops depend as much and more on the previous treatment of the land, as on the amount of fertilizer that a man is willing to put on it. No amount of fertilization will make a first-class crop of potatoes, especially on a piece of land destitute of vegetable matter, and this vegetable matter is best obtained by the systematic culture of leguminous crops. On a soil well filled with decayed clover or pea-vine roots, the cheaper forms of plant food in potash salts and acid phosphate, give their best results, and no fertilizer will have its best effect on land destitute of this vegetable matter. If J. J. K. has a piece of land in clover, that is the place to put the potatoes. If the land in question is bare of vegetation, I would advise him to go to work at once, and if practicable, to haul during the winter all the pine straw and rotted leaves he can from the woods, and spread them on the land. He cannot haul too much. Let them lie on the surface all winter, but get them there as soon as possible, so that they may have the effect of the frost. When planting time comes, plow this covering under, and put the land in as fine order as possible. Make a mixture of 1,200 pounds of acid phosphate, 300 pounds of cotton-seed meal, 100 pounds of nitrate of soda, and 400 pounds of muriate of potash. Use this mixture freely. Our growers for the northern market in the eastern part of the State, would use the whole ton on an acre of better land; but such fertilizing would hardly pay J. J. K., unless he could do as they do, get two or three crops in a season from the land. In his colder part of the State, I would advise growing a later variety than those usually grown in the eastern part. The Rural New-Yorker No. 2 will be better than the earliest sorts. Of course, this hauling of humus from the forest is a laborious method; but as humus has, probably, not been growing cheaply all over the land, it is the next best. As the land is stiff, the pine leaves will be of the greatest value in lightening it. Get the bulletin of the North Carolina Station on Truck Farming in the South. W. F. MASSEY.

North Carolina Experiment Station.

How to Start Celery Seed.

W. B. F., Kirkwood, Ohio.—We sow several pounds of celery seed annually. How would it do to stratify them, say, about six weeks before sowing? I shall try a portion this spring, using sand with the seed.

ANS.—Stratification is usually employed to soften the integuments of such seeds as are hard and woody—such as tree seeds and small fruit seeds—the action of frost often being thought beneficial in hastening the desired condition. Stratification, in the manner suggested, would, in effect, be merely sowing the seed six weeks earlier than usual, and "trusting to luck" that they be improved. The value of the treatment is doubted. There is little doubt that much of the unevenness in the germination of celery and other delicate seeds, is due to irregular or superfluous watering. Some careful experiments covering this point were conducted at Cornell University a few years ago, and with celery it was found that when the soil was kept only moderately moist, "sprouting was much more rapid and regular, and the per cent of sprouting was nearly three times greater." I would suggest that the seeds be soaked in water for about 12 hours before sowing, and then that the soil be watered more sparingly than is usually practiced.

Maine State College. W. M. MUNSON.

Children That Breathe Through the Mouth.

I. M. H., Sycamore, Ind.—In advising home treatment for catarrh, you urged the necessity of breathing through the nose. How is this to be accomplished with children? I have a little boy, five years old, who is troubled with the malady, and we have long endeavored to break his habit of mouth-breathing while sleeping, but to no avail. I realize the importance of this, but how is the desired result to be attained in the case of children unable to comprehend the evil effects of mouth-breathing?

ANS.—The chances are more than even that the child *cannot* breathe properly through the nose because of some obstruction in the nostrils. This trouble is often found in children, some having the difficulty from birth, while with others a growth has formed in the nose. Such children may acquire the habit of nose breathing while awake, if repeatedly reminded of its importance; but while asleep, the mouth will open, and they will breathe in what, to them, is the most natural way until relieved by a surgical operation.

Use of Carbon-bisulphide.

J. E. W., Churchland, Va.—Is it safe to handle Taylor's Fuma Carbon-bisulphide? Is it effectual to kill rats and moles?

ANS.—Yes, if directions are followed. You must, of course, avoid breathing the fumes, or bringing a light close to them. If the rats or moles are in holes or other air-tight places, the fumes will kill them. This material is excellent for killing insects in stored grain.

Magnolia Grandiflora as a Pot Plant.

J. M. M., Wellburn, Ont.—Can the Magnolia grandiflora or the rhododendron be grown as a pot plant, set out in the garden in the summer, and wintered in a cold pit in the winter? If so, what sized pots would be required?

ANS.—No, Magnolia grandiflora is too fast a grower. It could not be confined in this way. Rhododendrons could be grown in pots the same as are azaleas, changing to large pots as required.

A dollar book as premium for a new subscription! See page 28.

Lime and Clover.

W. M. E., PEACE DALE, R. I.—I am particularly interested in, and know the value of, the series of articles on Primer Science. Nothing is more important to the grower, be he agriculturist, horticulturist or fruit grower, than the composition of the soil, its needs and requirements, in order to secure best results. In this part of Rhode Island, much of the soil is very sour, full of humus, with little lime, hence something is needed to neutralize this acidity. Lime, as is well known, quickens decomposition of all vegetable matter, and corrects its acidity, which is absolutely necessary for the growth of clover. Where clover grows abundantly, it may be assumed that the land is in fair condition. Many are slow to acknowledge the real value of clover. Nothing better can be found for green manuring, furnishing, as it does, one of the elements of plant food.

What Causes the "Mix"?

A. H. B., VIENNA, VA.—There has been much discussion on the subject of potatoes mixing in the hill, and the general conclusion has been—and I believe justly, too—that they will not. I would like to drop just a thought in regard to the subject, that I do not remember to have ever seen in print. Is there not a possibility that these different colored, or shaped potatoes that we find mixed with the bulk of the crop, are the outcome of some past cross, or, as we say in the breeding of stock, the taking back to some of the varieties from which pollen was used upon the seed from which the variety was selected? It is my opinion that they are. I say *Amen* and AMEN to the article on page 828, in regard to making alcoholic liquors from potatoes. We have too much of these articles already.

This Soil is Sour.

F. W., PHILLIPSBURG, PA.—While reading of the sour soil in Rhode Island, I concluded that we have sour soil here, as clover will not grow except when the land is first cleared, or when it has had a large amount of manure or ashes. Wood ashes have a great effect, lasting many years. After reading the test for sour soil, I got some blue litmus paper, went out to a freshly plowed field where clover does not grow, and put some in two cups. I then added water, and let them stand 20 minutes, inserted my litmus paper, and it was quickly turned red. After drying, it remained red. I then went in a field where I had burned oyster shells some years ago, dug off the white clover sod, got some of the soil and treated it the same as the first. I then inserted my litmus paper, but after taking out and drying it, it was still blue. The best spots on the farm are where wood ashes were put more than 20 years ago.

An Opinion About Keiffer Pears.

J. S. P., STUYVESANT, N. Y.—W. H. S., of Kent County, Md., (page 839, 1895), asks information about the Keiffer pear. I have heard that it did not ripen well further north than New Jersey. With me, it has done finely. Five years ago last spring, I set out a pear orchard—200 Keiffers, 200 Bosc, 200 Clapp, 100 Seckel, 100 Lawrence and 350 Bartletts. I have sold from them up to date, two barrels of Bosc, two barrels of Seckel, six barrels of Bartlett, and 75 barrels of Keiffer. The latter grow large and fine here with a flush on the sunny side. I think that they will have to be thinned, or the trees will overbear and, in that case, the fruit will be undersized.

I am afraid that their production will be overdone if there be no outlet for them but preserving. The price, so far,

(*Continued on next page.*)

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

has been satisfactory; mine sold last fall for $3 per barrel. I think that the soil has a great deal to do with growing good Keiffers. My soil is sand, with a clay subsoil within 15 to 20 inches of the surface. I have cropped the orchard mostly with corn and buckwheat; I have four acres that were sown to Crimson clover in buckwheat the first of last July, that is a solid mat on the ground from four to six inches high. I expect great things from it if it does not winter-kill.

Another Potato Estimate.

W. D. W. C., BIGLERVILLE, PA.—Here is my experience as to the cost of potatoes. This year has been a bad one, on account of low prices and drought. I had 4½ acres this year, on which I base my estimate:

Use of land, 4½ acres, at $3	$13.50
Plowing, at $1.50	6.75
Harrowing, two times, at $1.50	3.00
Furrowing	1.50
Covering	1.00
Seed, 26 bushels at 50c	13.00
Cutting seed	1.25
Dropping seed	5.00
Fertilizer, three-fourths ton	21.00
Harrowing, after up	1.50
Working four times	9.00
Bugging three times	3.00
Breaking crust after showers, two times	1.50
Digging, four days team and hands	20.00
Assorting and storing	5.00
Delivering to market	20.00
Cost of 4½ acres	$126.00
CR.	
Cost of one acre	28.00
Yield of 4½ acres	800 bushels.
Yield per acre	178 bushels.
Cost per bushel	16 cents.

We must count the use of the land at about its cash value. Probably our land would bring $40 per acre, and $3 is enough, as that would pay interest and taxes. If our land is worth $100 per acre, it would cost $6.10 per acre to pay interest and taxes. The net profit per acre depends on prices received when we sell.

Yield per acre	178 bushels.
Small ones, per acre	18 bushels.
Marketable	160 bushels.
Selling price, 30 cents	$48.00
Selling price, small ones, 18 bush. at 15c	2.70
Total received for one acre	$50.70
Cost per acre	28.00
Net profit	$22.70

I have given figures of which I am positive, as the cost per acre and per bushel. I estimated the potatoes at 30 cents, yet I received 40 cents for some, and 25 cents for 200 bushels; for the rest, above 30 cents, so 30 cents is a fair average.

Light on the Pork Question.

R. S. R., MIDDLEBURGH, N. Y.—To keep pork, have a clean, sweet barrel. Just cover the bottom with salt, and sprinkle a little between each layer. Cover the pork with strong brine. We use a stone, cut round like a barrel head, about two inches thick, to weight the pork and keep it from floating. The latter part of March, pour the brine off and scald it, until it boils; skim it while heating. When cold, pour it back on the pork. On top of the stone, lay about a peck of salt in a coarse canvas bag. If the salt should dissolve through the summer, replenish. Use rock salt.

Keep Your Business Secrets.

B. G., SHICKSHINNY, PA.—I have read the different articles as to the cost of raising a bushel of potatoes and the statement that they could be raised for five to ten cents per bushel, and make a profit in selling them at 12 cents per bushel. I think that the farmer who publishes his business in this manner, may not be a fool by any means, but is lacking in business sagacity. Our occupation now is about the poorest paid of any; yet such statements have a tendency to make city people believe that there are untold riches in farming.

Does the merchant, mechanic, manufacturer, or coal dealer publish to the world the cost of his wares? Oh, no; these are their business secrets. Does your blacksmith state publicly that he can shoe a horse for 50 cents yet make a profit (a fact)? But his price is $1 or more, and this you must pay, for even they and nearly all others (except farmers), have business combinations. Again, when a farmer raises a poor or non-paying crop (which is quite often), he doesn't put them in the papers. It's only when he succeeds by working for almost nothing, and then being able to figure out an infinitesimal profit, that his vanity finds an outlet in the public prints.

Dry Salted Pork.

R. L. W., WARE'S WHARF, VA.—Mr. J. C. Senger says, on page 842, 1895; "The logical inference is that the brine must be the cause of the trouble." If so, why use brine? Instead of a barrel, I use a box that will leak (but prefer shelves). I cover the bottom of the box with a thick layer of salt, then pack in one layer of hams, then a good layer of salt, then a layer of hams, then salt, and so on until they are all in. I then put in the shoulders, and last the middlings. I use plenty of salt, the pork will only take up a certain quantity. Do not handle until they have been in bulk about six weeks, then put on wood ashes, and smoke or not as you please. If it stays dry, I do not smoke, but if it commences to drip, I smoke until dry—of course I use saltpetre, etc. I have never used brine except in hot weather, and have never lost any pork.

WE would be glad to hear from those of our readers who have raised them, how they regard Bokhara clover (Melilotus), and Awnless Brome grass (Bromus inermis). It is said of the latter that it is valuable for pasture or hay, and thrives in dry or sandy soils.

It is claimed that Bokhara clover is of value for soiling, and that in good soil, it may be cut three times each season. Bees are exceedingly fond of it as we know from our own experience. Sown August 10, 1894, in poor soil, the plants were May 24, 1895, six inches high. June 19, the most vigorous plants were 28 inches high. Most of the plants were spindling and but 16 inches high. They seemed to suffer from the drought. On July 1, the tallest plants were 3½ feet high and in bloom. The flowers, white in color and small, were borne in close racemes or spikes two to three inches in length. This would seem to be the time to make the first cutting. On July 11, the tallest plants were five feet, but there was too much woody main stem, the laterals having little foliage. The main stems were half an inch in diameter near the soil. The flowers are very sweet.

August 9 we noted that the plants bloom constantly, every branch terminating with a spike giving food to numberless bees. The plants then averaged from two to five feet.

Bromus inermis, sown August 10, 1894, was, May 24, (1895), 13 inches high, resembling oats at that time. It began to bloom June 10. On June 17, it was ready to cut. The leaves were 18 inches long, the flowering stems three feet high. They have but a single small leaf above the mass of leaves below which form a thick mat.

We do not find that this Hungarian Brome grass or Awnless Brome grass has been tried in this country to any considerable extent. But it seems to be worthy of extended trial. It is a perennial, and apparently very hardy. It grows much the same as does Couch grass, Triticum (Agropyrum) repens, soon taking entire possession of the soil with its creeping rootstocks. We have fed both Bokhara clover and the Brome grass to horses, and they seemed to relish it.....

THE Keepsake gooseberry, let us repeat, will rank among the best of gooseberries of foreign origin. The berries are large, nearly round, and of excellent quality. It comes into bearing early—the second year, and has thus far been free of mildew.....

IN the nature of things, we must go back to worthy plants—whose merits get a tardy recognition. Xanthoceras sorbifolia is reported as having been found in China in 1870. It was described and illustrated in the London Garden a few years later, and THE R. N.-Y., always on the lookout for promising novelties, reproduced the Garden's portrait of the flower and its description of the plant. A little later, we purchased a plant, and still later, raised seedlings. It is one of the easiest plants to raise from seeds. The seeds are large, and germinate readily enough. The young seedlings bloom the second year. Except that larger plants die back unaccountably, it is perfectly hardy at the Rural Grounds. How much further north it would prove hardy, we do not know. Xanthoceras sorbifolia, or Sorbus-leaved Xanthoceras (it has not received a "common" name) is a monotypic genus, that is, it is the only species thus far known. It belongs to the same natural order as does the horse-chestnut, viz., Sapindaceæ or Soapberry family. The generic name is derived from Xanthos, yellow, and Keros, a horn, alluding to the yellow, horn-like glands or nectaries between the petals. It appears to be difficult to propagate except from seeds. The little trees grow to the height of from five to fifteen feet, depending upon the richness of the soil and congeniality of the situation. The racemes of flowers much resemble those of the ordinary white horse-chestnut. The leaves consist of 15 slightly serrated leaflets, as shown, half size, in our illustration from nature, and the fruit and seeds are shown, equally reduced.....

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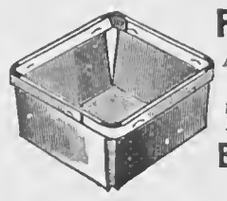

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THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

Established 1850. *Copyrighted 1895.*

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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Corner Chambers and Pearl Streets, New York.

SATURDAY, JANUARY 11, 1896.

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THE following books are all first-class—the best of anything in their line:

	Cloth.	Price.
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The New Potato Culture	"	.75
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⊙

IT will take some little time to decide that portable fence contest. A great many designs have been sent, and it is a problem to decide which is "best." It is surprising to learn how many of such fences or hurdles are in use, and we are all likely to know more about it when the designs are printed than we ever did before.

⊙

WE find that a good many of our readers have been draining muck swamps this past year—which were plowed and harrowed last fall. Now they want to know the *best crops to start the swamp cultivation with.* We want help in this matter. Who can tell us what crops are surest on these newly-plowed swamps? Please give us leave to use a leaf of your experience.

⊙

A NEW fraud is reported at work in southern New Jersey. He sells cheap groceries, and promises to take eggs in payment—at 30 cents a dozen. Just as a matter of "good faith," the farmer signs a note for the groceries, and the "agent" signs a note for the eggs. The hens lay the eggs, but they decay long before they are called for by the groceryman. The agent's note becomes yellow with age, but the farmer's note turns up at the bank for payment. Do not sign *anything* for a stranger.

⊙

DR. E. H. JENKINS, of the Connecticut Station, states in his report for 1895, that the low prices for cotton-seed meal and dissolved phosphate rock, induced many farmers to use these substances with muriate of potash to mix their own fertilizers. In spite of various objections, these mixtures have given fairly good results. The nitrogen in the cotton-seed meal is more readily available than that in either fish or tankage. In some cases, the addition of a small amount of nitrate of soda helped the mixture by supplying nitrogen that was immediately available. There were some complaints that the mixture caked and would not run freely through the drill; but this difficulty was overcome by adding 400 pounds of dry and rather coarse raw bone. A simple mixture of 800 pounds cotton-seed meal, 800 of dissolved rock, and 400 of muriate of potash gave a fertilizer analyzing three per cent of nitrogen, eight of phosphoric acid, and seven of potash. A better mixture would be made of 300 pounds nitrate of soda, 600 pounds cotton-seed meal, 700 of dissolved rock and 400 of muriate of potash. The point is that there are often times when nitrogen in cotton-seed meal is considerably cheaper than in tankage, blood or ground fish. The object of home mixing being to save money, of course, it is necessary for the farmer to know where to buy his plant food cheapest. The chances now are that cotton-seed meal will be higher in price.

⊙

WE wish to call special attention to Bulletin 94 of the Geneva, N. Y., Station. It is a pamphlet of over 130 pages, and deals with the science of feeding plants, and the composition and use of fertilizers. It is the most comprehensive thing of the sort that has yet been issued by our experiment stations. It is well worth the study of any one who is interested in growing a good crop, because it gives the principles of plant feeding in a simple way and in such form that it makes an excellent reference book. You should have it in your farm library. If you haven't a farm library, *start one* with this bulletin. It will make a fine starter.

⊙

DR. FISHER, page 18, gives us an interesting statement about his potato crop. The most suggestive thing about it is the care that was taken in selecting and preparing the seed. The object was to make each sprout do its full duty. What a contrast between that method and the plan followed by some farmers. Take a piece of a little tuber picked at random out of a bin, with a thin, pale sprout six inches long, and put it by the side of one of the seed pieces prepared by Dr. Fisher. It is like comparing a poor little hunched-up scrub bull with a vigorous and healthy grandson of Stoke Pogis. Who will be weak enough to argue that the selected and trained seed will not produce the more vigorous plant? Don't waste a part of your crop on poor seed!

⊙

NEW YORK is not the only city that is cursed with bogus commission merchants. A few months ago, a man giving the name of John E. Martin, opened a store in Newark, N. J., deposited a few hundred dollars in bank, and flooded the country with circulars soliciting shipments of produce. He did a rushing business, securing such large consignments by the old, familiar methods—quotations higher than those made by legitimate dealers. Suddenly, one day, the store was closed, and large numbers of confiding shippers were out of pocket to the extent of their shipments. Some of them had received good, even high, prices for their first small consignments, but larger, subsequent shipments were unaccounted for. Some of them lost hundreds of dollars' worth of goods. The moral is plain.

⊙

THIS discussion about the cost of a bushel of potatoes has stirred up so much excitement, that we hardly know whether or not to go on and get figures about the cost of an egg or a pound of butter. One thing we *would* like to know is, whether on these large poultry farms like that of Mr. Mapes, an egg costs less money to produce than in the average farm flock of 50 hens. We would like to know the relative cost of wholesale and retail egg production. There is one thing about a hen that the farmer does not always consider. She eats up odds and ends or small lots of grain which would not otherwise be sold. The cash value of the egg is recognized, while much of the food that produces it would never have been sold. Thus it is hard to tell just what an egg or a pound of pork costs, because the hog and the hen give new values to unsalable products, and do it quickly.

⊙

THE railroads clearly got the worst of it in the hearing about milk rates before the Inter-State Commerce Commission. They now propose to set farmer against farmer by telling the long-distance shippers that the nearby milkmen will monopolize the market if rates are graded by distance. A good many milkmen in the interior are signing petitions in favor of a uniform rate, because they think that this will give them some sort of protection against the milkmen of Orange County and vicinity. They should see that there are two sides to this, for if the rate be uniform, the railroads are at liberty to go still further back for cheaper milk. So that while "protecting" themselves from milkmen between them and the city, they give an advantage to those behind them! There is a good deal more in this question than appears at first thought, for the decision will establish a precedent that will be far reaching in its effect. In any event, the farmer should pay his own freight.

⊙

THE writer of this note purchased of a commission merchant some butter put up in one-pound prints, and nicely wrapped in parchment paper. It came from Ohio, was put up in attractive shape, and was supposed to be first-class butter—but it wasn't. Of the same man, some roll butter was purchased. This came in a barrel. The rolls were of all shapes and sizes, some of them covered with artistic designs, and each roll was wrapped in a little square of white cloth. It was a mixed, miscellaneous lot, of all shades of color. Some of it was good butter—most of it was miserable stuff. But a couple of rolls were sorted out, that were of as good quality as the print butter; but the price of one pound of the print butter paid for two pounds of the other. The milk from which the latter was made might not have been of quite so good quality as the other, but we don't believe that there was the same difference as in the price. The way in which the butter was put up and packed made a big difference in price, however.

⊙

HERE is a note from a subscriber in New York State. We get a good many like it during the winter season:

My neighbor's cows have a habit of gnawing his barnyard fences when they are let out during the day. Can you suggest any remedy?

In order to suggest a remedy, it is necessary to know more about the cause. If this gnawing is due simply to a bad habit, we would put barbed wire in place of the rails, and give the cows some corn stalks or straw to work over while they are outside. This would keep them out of mischief. If the cattle, as is most likely, gnaw the wood because they are diseased by improper feeding or some digestive trouble they must be cured. Possibly they want salt. If so, see that they have rock salt before them all the time, or are salted regularly once a week. Feed bran or oil meal in preference to corn meal. Make a "condition powder" by mixing two pounds sulphate of soda, one-half pound powdered nux vomica, and 100 grains of arsenic. Mix them thoroughly and divide into 50 doses, giving one dose to each cow daily on her feed. Keep the cows in a laxative condition, and card them regularly if possible.

⊙

BREVITIES.

MRS. LEGHORN HEN TO MR. SQUIRREL.

I laughed at you when, all day long, I saw,
How you with ceaseless toil laid nuts in store;
Now, fat and warm, your well-earned food you gnaw,
While I am starved and frozen to the core.
You, with the instinct of wild creatures knew
That man is selfish—I, poor trusting fool,
Lined his egg basket—now winds whistle through
My fondest hopes and here I sadly cool
My comb—unfed, uncared for, in disgrace.
With nerveless feathers drooping, while that wretch
Growls "hens don't lay" beside his warm fire place,
And curses me between each lazy stretch.
Oh, squirrel! Had I only learned *your* trick,
And through the summer hours laid by a store
Of food, I would not stand here cold and sick,
With eggless nest and soul and body sore.
Had I but served *myself* with half the zeal,
That I have served my master—who can say
That I would now the pangs of hunger feel
And pass in wretchedness this New Year's Day?

KNOCK doubt out!

FIX, not mix your thoughts.

BAKERS like eggs with dark yolks.

DON'T let an *a* get into your week days!

"A DOLLAR book for a new subscription!"

NEVER can be *too good* for seed—potatoes!

ADVICE to the white-haired man—never say dye!

THE hide-bound cow is bound to hide her profits.

THE story of "Roup by the acre" begins next week.

WHAT SAY? Plenty of chance for you to talk—page 19.

ARE dairy Short-horns really needed in preference to other breeds?

WONDER if that "leather chewer," page 19, would try his teeth on a chain!

WHEN is dyspepsia akin to holiness? When it comes from too much pie-eaty.

Why do you use salt on asparagus? Is it to kill weeds or to benefit the grass?

WHAT'S the difference between "would if I could!" and "could if I would?"—*will.*

No wonder a wife gets furious after a futile attempt to force a fire out of green fuel.

"TURN over a new leaf!" May be clover can't do that on your soil until you use lime or potash.

WHEN is a chicken a cat bird? When the taste for broilers has not been trained off the cat's tongue.

A GOOD clover sod well plowed under, will make any soil laugh with the harvest. It is a case where humus adds humor.

THE discussion of the merits of "corn hay" is giving an added boom to the old plan of sending the stalks through a thrashing machine.

"STRAW potatoes" is the name given potatoes grown in southwestern Illinois. They are grown under straw. We shall tell *how* soon.

DR. FISHER wants more *available* plant food in the soil than the crop could take out. Why? It will then be sure to have enough, and what is left will not all be lost. It is a case where "a surplus beats a deficit."

THE "war scare" is subsiding. Who wants war anyway? Certainly not the American farmers who would lose much and gain nothing by a war with England. "Let us have peace"—and a parity of gold and silver.

THE President's message hinting at war caused a half panic in Wall Street. American securities shrunk in value. With the money lost in a week, the whole territory in dispute might be bought and given to either of the contending nations. Who lost that money? Speculators. Will they try to get it back from the nation? Yes! Will they succeed?

RECUPERATIVE FORCES IN THE SOIL. VI.

When a farmer can fully realize and understand that his unprofitable farm is not dead, but sleeping; and that it can be re-awakened by the use of practicable and not too expensive methods, he certainly ought to be encouraged to make a study of how it is to be done. His best and handiest means are to buy and study the best agricultural journals, visit the best farms and farmers within his reach, join and be active in a good farmers' club, Grange, or other like society, and make it always his firm determination to let no opportunity to learn more about his business, pass without grasping it. He cannot fail to find some man, somewhere, who has surmounted obstacles which stand in his own way, and who is willing to tell how it was done. Indeed, wisdom of this sort is crying aloud all about us. In every township there are to be found more or less good farmers. Hire out to them, young man, and "steal the trade." There is no law, moral or civil, which will condemn a theft of this sort. It is a kind of stealing which enriches both parties, and very rarely leads to any ill consequences.

I may seem to be wandering from my subject in these remarks; but while speaking of the recuperative forces latent in the soil which was made for man to dress and to till, it may be allowable to point out latent forces elsewhere, the development of which is essential, and which, indeed, must be put in action first of all. For it is certainly true, as was long ago affirmed, that "it is more in the man than it is in the land," when it comes to this matter of availing ourselves of Nature's power and willingness to help. I feel myself, old as I am, that the opportunities are still before me to become more fully and better informed, day by day, as to what is possible to be done with this earth of ours, to make its people wiser and better, as well as richer in every desirable way. The era of human improvement is yet young. Let us all be up and doing, so that we may leave as many as possible the better for our having been born.

T. H. HOSKINS.

A REVIEW OF THE POULTRY MARKET.

The holiday season just closing has been one of the most disastrous in the dressed poultry market, on record. The main trouble was the weather which, though favorable until a few days before Christmas, became suddenly warm, and large quantities were spoiled. This warm weather continued through the New Year market, and tons of poultry were a complete loss, being seized by the Health Board. Some that escaped this fate was sold to the wagon boys for just what it would bring—often not more than two or three cents per pound. Then there were varying grades of quality—or lack of quality—above this, but very little of the best. One trouble was that shippers who had held back at Thanksgiving, because that is the usual time of the glut, had dumped their reserves on the market at the holiday season, and the market was glutted. The quality, too, of that sent last was not so good, on the whole. Usually, when a glut is threatened, and prices decline, the cold storage men buy the surplus to put away until later; but this year, much of the poultry was so far gone that it was useless for this purpose, and it went to swell the bulk at the city dumps.

The New Year market, though not much of an improvement so far as weather was concerned, was in a little better shape, and there was some good stock from near by, and prices received were the highest for a long time. Turkeys, especially, were high, and choice ones went up the day before the holiday, to 16, 17, and even 18 cents, and a few extra ones sold up to 20 cents. These prices were obtained because some dealers were forced to have the birds to fill orders, and cannot be sustained. At the time of going to press, choice dry-picked turkeys are worth 18 cents at wholesale, with choice scalded a cent or two less. Fancy ducks, also, were scarce, and advanced to 16 to 17 cents, while geese were more plentiful, and sold for 12 to 13 cents for the choicest. Fowls and chickens were plentiful, but those of choice quality were not in large supply, and sold well. A peculiar feature of the situation was the high prices of live poultry, and the unusual demand. The call is usually mostly for dressed poultry, but the large arrivals of that out of condition, and the demand for something better than the market afforded, strengthened the live poultry market, and, as receipts were only moderate, good stock made a great advance over the previous week's prices. At the present writing, arrivals have been moderate, but any great increase in the receipts would lower prices. Reports from some parts of the country are to the effect that stock is pretty well cleaned up, and if this condition is general, at least fair prices are likely to be maintained.

One thing we have striven to impress upon our readers is the desirability of dry-picking their poultry. Only this morning, we saw a lot of very fat, fine young turkeys. But they had been scalded, their legs were cooked so that they were red, and many of them were badly skinned. The surface of the bodies was literally cooked. By the side of them were some dry-picked turkeys, really not so good birds, but the manner of dressing made them look much more attractive, and they would sell for one or two cents a pound more. Another thing, if it is necessary to hold the birds for any length of time, the dry-picked ones will retain their good appearance for several days, while the scalded ones will turn dark wherever bruised or the skin is broken, making them look old and spoiled. The scalded ones are much more easily bruised in handling and packing, and the shaking around in boxes and barrels in transit, hurts their appearance greatly. For this market, poultry should have the heads and feet on, and be undrawn. The Boston folks want their poultry drawn. The needs of the market should be studied by any one intending to ship.

THE OTHER SIDE OF "CORN HAY."

Fred Grundy, page 853, gave a glowing description of the workings of the husker and shredder; and Mr. Wing is enthusiastic over the advantage of this method of securing the corn crop, and notes some of the disadvantages. The machine has been used in this community for some years. Of course it has its friends, but one leading objection is that it does not perform enough for the labor employed. It is generally conceded that the men required to run the machine can husk more bushels of corn in the old way. Many of those who have used the machine have lost their fodder by husking it before it was sufficiently cured, or while too wet. The fodder requires to be much drier for shredding than for storing in the old way. Then, again, the average stirring farmer will have his corn nearly husked before the fodder would be in condition to keep if shredded. The long, coarse stalks are a nuisance to handle at best, and I know of no farmer that has experimented with shredded fodder, but acknowledges its greater feeding value, and additional convenience in handling.

In consequence of the small capacity of the shredders and huskers, if farmers wait until the fodder is in fit condition, much of the corn would go into winter unhusked. Instead of waiting, many farmers prefer to save the price of husking, by applying the labor already at hand, and then running the stalks through an ordinary grain thrasher. It puts them in feeding and baling shape equally as well, and performs the work with much more rapidity. To be sure, New York farmers do not raise the large acreage of corn that is credited to western States; perhaps from five to twenty acres to the farm are grown, but with our crops as grown, this means a deal of heavy work. Actual facts are worth considering, but estimates put forth without "a legitimate basis" tend to drive people into unprofitable ventures. Mr. Grundy speaks of a "dozen jobs crowded into one." If this is profitable, why not add two or three more and receive the added profit?

Many farmers here are leaving their corn until well cured, then put it through an ordinary grain thrasher, at the rate of 300 bushels of shelled corn or more per day, at a cost of four cents per bushel for shelled corn. It costs us five cents per bushel of ears for a husker. As the thrasher shells it ready for use or market at less than half the cost of the husker, and prepares the fodder equally as well (some say better), why is not this the coming solution of the gathering of the corn crop? If the objection is lack of storage for curing the shelled corn, the difference in cost would soon pay for increased storage capacity.

J. M. CORWIN.

Seneca County, N. Y.

A DRESS SUIT FOR "HOTHOUSE LAMBS."

The hothouse lamb business has assumed considerable importance with some sheep breeders. It is one thing to grow a lamb, and another thing to dress and ship it properly. Judging from the appearance of many of the lambs received, many more people have solved the problem of growing the lambs than have mastered the mysteries of preparing them for market. As the latter often makes a difference of one-half or even more in the price received, it may, at least, be considered as important as the raising. The market for these is, of course, limited, as is that for any extremely high-priced product. Not every one can afford to eat lamb that costs $8 to $10, and weighs but 25 to 30 pounds dressed. The latter weight is plenty light enough for them after this date; 35 pounds would be better. The season for these opens with the Christmas market, and continues through the winter, prices usually being highest before Christmas. They should be grown as quickly as possible to reach the required weight, and should be fat and plump.

In killing, cut the throat, making as small an incision as possible, and hang up by the heels that the lamb may bleed thoroughly. The blood must be entirely removed to have the meat present an attractive appearance. Open the lamb from the tail to a point about opposite the fore legs. Remove the entrails, but leave on the head, feet and skin. Skin the hind legs and draw the caul over them, and also draw it down over the kidneys, securing it with skewers. Slit the caul just enough to let the kidneys through. Put in what are known as back-sets. These are small pieces of wood about 14 inches long for an ordinary-sized carcass, and pointed at both ends. One end of each is inserted in the flesh about opposite the first rib; they are crossed over the back, and the other ends inserted far enough back on the carcass to draw the carcass open sufficiently to present a good appearance, making it as flat as possible.

Remove all traces of blood, and make the carcass look as attractive as possible in every way. Let it hang until perfectly cool. Replace the skin on the hind legs. Cover all the exposed flesh with clean white cloth, and sew the whole up carefully in burlap or bagging. Mark plainly with the names of both consignor and consignee, send by express, and also advise consignee by mail. Don't send late in the week, and if prices received are not satisfactory, the probability is that it is because some detail in the work has been neglected. It would be a good idea for a tyro in this work to visit some successful grower and shipper, and see the whole operation performed.

THE HORSE IS GOING BLIND.

I bought a five-year-old horse in October and when the cold fall winds began to blow, he had sore eyes which I afterward learned were caused by his wolf teeth being left in too long. Spots one-eighth of an inch across, of a white color, will come on his eye balls; his eyes will run water and be blurred a few days at a time, and then get all right for a while. Some say that when they are troubled like that, they will be blind in a few years.

Killowog, N. Y. R. R. L.

The horse is suffering from periodic ophthalmia, an inflammatory affection of the interior of the eye. The nature of the disease is not well understood. It is known, however, to be associated with certain localities, usually with a low, damp or marshy soil. It is also hereditary, with a taint so strong that it is very liable to be transmitted to the foal if either the stallion or mare has suffered from the disease. A peculiar feature of the disease is its strong tendency to a recurrence of the attacks every four or five weeks (rarely less, sometimes longer) until total blindness results from effusion or cataract. Five to eight attacks usually result in blindness. Sometimes only one eye is attacked at first, and blindness results before the second eye is attacked. The affection usually occurs in young horses from two to six years old, rarely after that age. The wolf teeth had nothing whatever to do with the trouble. It would have made no difference whether they were removed or allowed to remain and shed naturally. The popular belief that the wolf teeth have an injurious effect upon the eye of the young horse, so as to induce either disease or blindness, is another of those old-time fallacies that should be discarded along with the "hollow-horn" and "wolf-in-the-tail" stories. There is no known satisfactory treatment for periodic ophthalmia. The frequency of the attacks and their severity, may be lessened by keeping the animals in good general health, and, especially, in dry, airy well-ventilated stables. During an attack, protect the eyes from the strong sunlight. The following powders given in two-tablespoonful doses on the feed twice daily, will often prove beneficial, and hasten recovery from an attack: Sulphate of soda one pound, powdered nux vomica and sulphate of iron, of each one-fourth pound, mix. When the disease is prevalent, prevention should be sought, by keeping the young horses away from the low, marshy grounds; by careful feeding and stabling, and attention to the general health; and especially, by not breeding from either horse or mare that is or has been similarly affected.

F. L. KILBORNE.

BUSINESS BITS.

This is the best time of year to begin keeping accounts. "Rogers's Farm Account Book" is the best. Send to Geo. A Rogers, No. Andover Depot, Mass.

If you want white turkeys, Guinea fowls, Toulouse geese, o some choice young fowls of the leading breeds, send to D. A. Mount, Jamesburg, N. J., for prices.

Harrows for one, two, three or four horses, cutting from 5 to 24 feet wide, either straight or slanting teeth, are made by G. H. Pounder, Fort Atkinson, Wis. Write him about them.

Have you a hard maple tree on the farm? Then you ought to have some maple syrup; and you will need a double-tin sap spout. You can get a sample by writing the Record Mfg. Co., 111 Main St., Conneaut, O.

Are you feeding raw potatoes to pigs; or any other food to any stock that would be cooked if you had the means of cooking it? If so, you should send for a catalogue of cooking kettles to Economy Mfg. Co., Homer, Mich.

We have met R. H. Brown, of Miller's Corners, Ontario County, N. Y., who advertises seed potatoes. Mr. Brown was well recommended by responsible people, and our readers will make no mistake in sending for his price list.

If you need fruit baskets or crates of any kind send to R. T. Pierce & Co., South Haven, Mich., for their catalogue, which is illustrated with half-tone engravings of their goods, and will be sent free. "The best goods at the lowest prices," is their claim.

"The Wooden Hen," is just the size of a good large hen, but will cover 28 eggs at once, and hatch them, too, if there's any hatch to them. It's the greatest novelty out, and costs but $5. Just think of it! And it will sit the year 'round if you wish. Write Geo. H. Stahl, Quincy, Ill., about it, and he will send you descriptive booklet.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

BUDS.

A bud may never blossom,
Still, hold a perfume sweet,
And none may breathe its fragrance,
Till crushed beneath their feet.
Its torn and mangled petals
Will then the truth disclose,
That only dew and sunshine,
It lacked to form a rose.

Thus many hearts lie bleeding,
Crushed down by hate and scorn;
A smile, a tear, was lacking,
Withheld in life's bright morn.
'Tis well, we know the Master
Than man is far more kind.
Beyond, each bud will blossom;
There, love each heart shall find.

OSCAR F. FROST.

SOME one wishes to know whether scolding ever accomplishes any good that may not be effected in some better way. What do you say, scolding wives? Give us the arguments that uphold your course.

*

THE asbestos mat, mentioned on page 831 (1895), is very useful in the kitchen, and costs but five cents in New York. By its aid, oatmeal can be cooked without burning in an ordinary saucepan, quite as well as in a double boiler.

*

AT the recent live stock show held in this city, there was one exhibit which produced an impression upon us which we believe must have been shared by many others. Some fine specimens of the beef cattle and sheep were sold to slaughtering houses. These were exhibited in the ring, being preceded by men carrying banners bearing the announcement: "Bought by ——— to be slaughtered for the hotel trade." We realized that the vegetarians have a finer sense of right and wrong, perhaps, than the rest of us. We wondered why the close associates of animal life, the country people, should be so insensible to the claims made by vegetarians, that it is cruel to take life of any kind.

*

A CASE is pending in the courts of Washington which ought to arouse another such a champion as Elizabeth Cady Stanton has been. A widow is trying to obtain possession of her children, her husband having willed them to his relatives. It is a surprise to many to learn that, in the District of Columbia, the law allows a man to dispose of his children by will as he chooses. They are his property. Senator Hale, of Maine, has introduced a resolution calling for an investigation of the law. This is, probably, the last "relic of barbarism" on Washington's statute books. We hope that the seat of our Government will, in time, become a credit to American civilization. Until the last session of Congress, it was unlawful for a wife to hold property in her own name, and the husband could take it from her whenever he pleased.

THE SOUTHERN FARMER'S WIFE.

HERS IS NOT A LIFE OF POETRY AND EASE.

IF every northern farmer's wife, tired and nervous, could spend three months among the country housekeepers of the South, she would go home, and commence life over again, quite content with her lot. My idea of the southern woman, as gathered from floating bits of literature, newspaper clippings, etc., underwent a violent change when we came South. Instead of seeing an easy-going, large-eyed, creamy-complexioned woman, who arose in the cool of the morning, sipped a cup of coffee, or chocolate, took breakfast at ten, then enjoyed a siesta in a hammock during the heat of the day, while colored servants did the drudging; we found a sallow-skinned, hollow-eyed, weary-looking woman with a crowd of tow-headed children clinging to her skirts. Large families are the rule in the South. We found this woman quite as often at the wood pile as elsewhere, splitting wood and gathering chips. We found her in the meat house making sausage, and helping put away the last butchering; at the soap kettle, and in the barnyard milking a drove of cows. The southern farmer considers it beneath his dignity to milk a cow.

She boils her clothes in a huge iron kettle, in the yard, laying them over a bench, and beating them with a paddle, instead of washing them with a washboard.

In many cases, cooking is done at the fireplace, after the manner of our great-grandmothers. We found her scrubbing bare floors, and bringing water from the spring. A good pump convenient to the door is a rarity, while "the old oaken bucket that hangs in the well" tries women's muscles all over the South.

Occasionally, one finds a neighborhood, sometimes extending for a number of miles, in which the farmers seem unusually prosperous, having commodious, well-built homes, and the conveniences and some of the luxuries of life around them. But more often the farmer's wife lives in a home bare of ornament, and devoid of many things that a northern housekeeper could not do without. A composite picture of the southern farmer's wife, shows her a quiet, sober-faced woman, leading a hard, laborious life, rearing a large family, patiently accepting the hardships of life as inevitable, keeping her home tidy and orderly; kind and hospitable to the stranger within her gates.

The farmers of the South practice severe economy, and usually have a nest egg laid by for a rainy day; but this economy is often at the expense of the wife, who rides to town in an old-fashioned shawl and sunbonnet, while her lord and master goes well dressed. This is the farmer's wife as I found her among the hills of Kentucky; in the mountains and valleys of Tennessee; in the northern part of Georgia; in the southern part of Alabama, and in the "piney woods" of Florida.

JOSEPHINE STARR.

THE BEST OF LIFE.

ONCE upon a time, as the legend runs, a weary traveler wended his way up the mountain side. As he journeyed, he stooped to pluck a tiny, beautiful flower that caught his eye. At that moment, a door, which seemed to be the entrance to a cave, opened before his astonished gaze; but as he entered, it proved to be the vestibule of a palace, wherein were treasures, new and old, costly and rare beyond description. He heard a voice say: "Take what you will, but don't forget the best." He rapturously feasted his eyes on the wonderful sights, and hastened to load himself with all that he could carry away.

Again he reached the outer world, filled with the delight of possession. But what is this? One by one, his treasures slipped away from his close clasp, and vanished, for he had forgotten the best, his little key-flower.

Life opens up to us like a vast treasure-house. What is the best—for us? To what shall we cling as we press into new avenues, accumulate experience, grasp new pleasures, and delight in new beauties? Is it found in labor, which however distasteful it may at times appear, is, after all, a panacea for many of our ills? Or in a life of ease and pleasure with the thorns of care and trouble carefully removed? Or in music, with its wonderful power to uplift the soul? Or in art, with its charm of interpreting, and enhancing by disclosing the beauties of nature? Or, perhaps, in books, where the "great thoughts belong only and truly to him whose mind can hold them," and the hearts who have dared to cry out of their depths have met an answering throb in our own? In all these ways, and in many others, are hidden treasures which should be sought and held by us just so far as our capacity and opportunity will admit. Not in these, however, is found the key. Isn't the thought of *service* inseparably connected with the highest good?

PATIENCE STRONG.

TEACHING THE VALUE OF MONEY.

IF we expect a child to grow up with a knowledge of the value of money, we must make it a part of his education. It is just as sensible to expect him to appreciate a rare work of art, without ever having seen a painting, as to expect him to use money judiciously without knowledge, gained by experience, of its value. Many young people are spend-thrifts when they come into possession of a little money, simply because they do not know the purchasing value of a dollar.

Let the little one earn a few pennies by hard work, that he may know the cost of them. He may spend a part foolishly. Do not we older children do the same? Carefully explain to him that, so long as he spends all he earns, he will never save enough to buy something greater. Get him to invest his savings in a chicken, lamb or pig. Show him the growth of his cents into dollars. Teach him that money used for present pleasure, is gone and that he soon wearies of his bauble. Make him understand that money is not elastic; that 100 cents will buy just 100 cents' worth of goods. Let him buy and sell, and loan money, to yourself if need be, that he may understand business methods. Take him with you to town when you go to make a trade—purchase or sale. This will not make him grasping if he receive the right kind of training; it will make him careful of little things.

Do not neglect the girls. You think them extravagant. How can they know the difference between economy and extravagance if they are never taught the value of money? Give them a share of something, but let them earn it themselves. Make it large enough to allow them a sufficient amount to make all needful purchases. Be their savings ever so small, have them deposit them in a bank, if conveniently near. Let them have bank books of their own, and make drafts, checks, certificates of deposit, etc.

MRS. V. W. LEE.

MRS. STANTON'S BEGINNING.

"MY wedding trip was to England, where there was a call for the world's anti-slavery convention. This was in 1840. The women had taken a very active part in the anti-slavery agitation, and women delegates were sent; but when they reached their destination, they were not allowed to take their seats. When I returned home, I decided to hold a convention and discuss woman's rights, for I considered the condition of woman about as degraded as that of the slave on the Southern plantation. I wrote to my two friends in the Legislature to know if I could have a hearing on the married woman's property bill, and they replied 'yes.' From 1840 to 1848 Ernestine L. Rose, Paulina Wright and myself had circulated petitions in the State of New York.

"I used to go up in the garret every day and read over my speech, thinking I could slip to Albany and back without the knowledge of anybody but the Legislature; and one day when I was thinking of all this, my father entered with the old Albany Evening Journal, edited by Thurlow Weed. He laid the paper down in front of me, and said: 'What does this mean?' And there I read: 'Elizabeth Cady Stanton is to address the Legislature Monday afternoon, at 2 o'clock, on the married woman's property bill.'

"I answered, 'I suppose it means what it says.' He was perfectly confounded, and so was I.

"Then he said: 'When my clients have gone, I wish you would read it to me.' I was in the depths of despair; I had never seen my name in print before, and thought it was the most awful disgrace that could befall a woman.

"When I read my speech to my father, he suggested several improvements, and found worse laws for illustration than I had, working with me until 1 o'clock in the morning; yet for a conservative old judge, to have his daughter the subject of ridicule, was a deep blow. I spoke two hours, and this, my first speech, was published in the Evening Journal. This same year, 1848, the married woman's property law passed, and gave married women their rights to property. That same year, I called the first woman's suffrage convention ever held in the world. We had not the slightest idea that anybody would make fun of it, but it was laughed at and ridiculed from one end of the country to the other; but I have lived to see an entire revolution in woman's field of energy."

A NEURALGIA PREVENTER.

"YOU would be surprised to know what a comfort that old shawl is to me," said an invalid friend not long since. The article which she was putting out of sight beneath her pillow, had certainly lost its prettiness, through much washing and wear. Once it had been a fluffy, white, knitted thing; now its tasseled fringe was trimmed off, but it was still clean and soft.

"I have always suffered so much from neuralgic pains," explained the invalid, "that I could never, except in the warmest, driest weather, sleep with as much fresh air in my bedroom as I

baby bones

are soft, so soft they scarce can be called bones in the earlier years; gradually they harden, and furnish the frame which supports the growing body. The hardening comes from what chemists term "the mineral substances."

When these are absent we have "Rickets"—a lack of bone-tissue, which shows itself in delayed teething, profuse head-sweats, and later, if not arrested, malformations and deformities.

Such a baby needs lime for its weak bones and cod-liver oil for its fat-starved body. **Scott's Emulsion** of cod-liver oil, with hypophosphites, will give its little body the needed fat in the easiest form.

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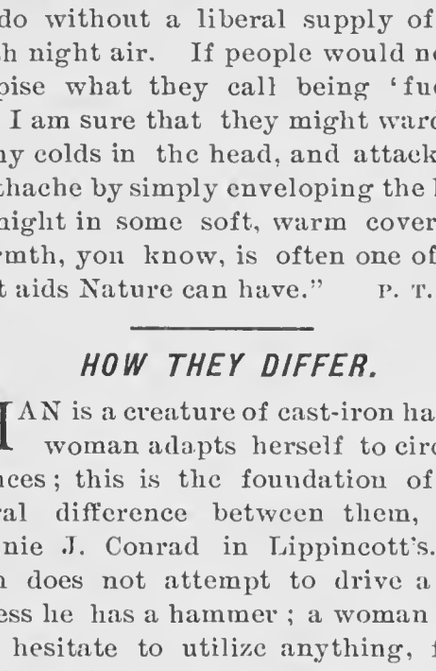
liked. Now I throw this little shawl across above my pillow at night, and can pull it down to ward off any suspicion of draught, and find that I can endure open windows all night with never a twinge of the old pain to spoil the luxury. Of course I not only sleep more soundly, but awake feeling much more refreshed than when I was obliged to do without a liberal supply of the fresh night air. If people would not so despise what they call being 'fudged up,' I am sure that they might ward off many colds in the head, and attacks of toothache by simply enveloping the head at night in some soft, warm covering; warmth, you know, is often one of the best aids Nature can have." P. T. P.

HOW THEY DIFFER.

MAN is a creature of cast-iron habits; woman adapts herself to circumstances; this is the foundation of the moral difference between them, says Minnie J. Conrad in Lippincott's. A man does not attempt to drive a nail unless he has a hammer; a woman does not hesitate to utilize anything, from the heel of a boot to the back of a brush. A man considers a corkscrew absolutely necessary to open a bottle; a woman attempts to extract the cork with the scissors; if she does not succeed readily, she pushes the cork into the bottle, since the essential thing is to get at the fluid.

Shaving is the only use to which a man puts a razor; a woman employs it for a chiropodist's purposes.

When a man writes, everything must



6593—LADIES' JACKET

be in apple-pie order; pen, paper and ink must be just so, a profound silence must reign when he accomplishes this important function. A woman gets any sheet of paper—tears it, perhaps, from a book or portfolio—sharpens a pencil with the scissors, puts the paper on an old atlas, crosses her feet, balances herself on her chair, and confides her thoughts to paper, changing from pencil to pen and *vice versa* from time to time; neither does she care if the children romp or the cook comes to speak to her. A man storms if the blotting paper is not conveniently near; a woman dries the ink by blowing on it, waving the paper in the air, or holding it near a lamp or fire. A man drops a letter unhesitatingly in the box; a woman rereads the address, assures herself that the envelope is sealed, the stamp secure, and then throws it violently into the box.

A man can cut a book only with a paper-cutter; a woman deftly inserts a hair-pin and the book is cut.

For a man, "good-bye" signifies the end of a conversation and the moment of his departure; for a woman, it is the beginning of a new chapter, for it is just when they are taking leave of each other that women think of the most important topics of conversation.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

A woman ransacks her brain trying to mend a broken object; a man puts it aside and forgets that for which there is no remedy. Which is the superior?

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

Ladies' Jacket.

The collar is faced with velvet to match, and two fancy buttons close the fronts, which are closely fitted by single bust darts, and a center seam that curves to the lower edges. The front edges are reversed at the top to form broad-pointed lapels that meet the rolling collar in notches. The smooth back has the center, side-back and under-arms seams, stylishly strapped to below the waist line, where extra fullness is laid underneath to form four rounded box plaits. The mandolin sleeves are shaped in four lengthwise sections, each seam being strapped from shoulder to wrist, box plaits at the top adjusting the fullness. Pattern No. 6593 is cut in six sizes, for 32, 34, 36, 38, 40 and 42 inches bust measure.

PEN POTPOURRI.

Smile upon your undone labor:
Not for one who grieves
O'er his task, waits wealth or glory;
He who smiles achieves.
Though you meet with loss and sorrow
In the passing years,
Smile a little, smile a little,
Even through your tears.
—*Ella Wheeler Wilcox.*

....ADDISON: "Friendship is a strong and habitual inclination in two persons to promote the good and happiness of each other."

....DORA BRADCLIFFE IN LADIES' HOME JOURNAL: "He who always complains of the clouds, receives little of life's sunshine, and deserves less."

....NEW YORK LEDGER: "The work of the world is done in its workshops, not its talking shops, conventions and 'enthusiastic' gatherings, whose enthusiasm never, by any chance, percolates into the adjoining street or slum."

....JUDGE GRANT IN SCRIBNER: "It is extremely probable if not certain that the laws of all civilized States will eventually be amended so as to give women the same voice in the affairs of government as men, but taking all the factors of the case into consideration there seems to be no pressing haste for action."

....ELIZA ARCHARD CONNER: "People wonder that women age more rapidly than men. It is wholly because of the wretched narrowness of their lives, their lamentable ignorance and lack of large interests. They all have to be cut and trimmed to the same pattern, the pattern the Mrs. Grundy of the time has set down."

ODDS AND ENDS.

HOW TO MAKE A FAN BAG.—It requires 2¾ yards of ribbon, of good quality, 2¾ inches in width. Cut it in four equal parts, turn down at the top about two inches for a hem, and shirr; when drawn together, it forms a ruffle. The four pieces are slanted at the bottom on both sides, about two or three inches. The bag is lined with surah to match, and three chenille balls finish the bottom. For strings, 2¼ yards of ribbon, one inch wide, are used. Decided colors are best; cherry gros-grain makes a beautiful one; but baby blue, rose pink or cream color are all pretty. M. J. A.

BATHROOM COMFORT.—Not all bathrooms can be heated in winter to a temperature that makes bathing a luxury rather than something to be dreaded. It is possible, however, to bathe with comfort in a rather chilly bathroom, by using the device given in the Ladies' Home Companion. A rod corresponding to the form of the front end of the bathtub, is suspended over the tub, a few inches below the ceiling. Front and end curtains of washable material are hung upon the rod, and drawn after the tub has been properly filled with hot water. The heat arising from the water will make the air within the curtains very comfortable indeed. When not in use, the curtains can be hung over a support at either end of the bathtub. Such a device is not only of practical value, but adds as well a bit of furnishing to the bathroom that is artistic and agreeable.

WASHING MADE EASY.—Even though one have a washing machine, with the use of a few cheap, harmless and easily applied materials, the labor may be lessened and the color and appearance of the clothes be improved. Slice one pound of soap into an ordinary bucketful of water, and bring to a boil in a washboiler. Pour into a large tub, and add sufficient water to wet the clothes it is intended to wash. Of course the white clothes are soaked apart. To every bucketful of the mixture, add two tablespoonfuls of turpentine, and one tablespoonful of strong ammonia. Into this the clothes are placed, gently pushing them down, so that they are soaked with the mixture; it does not matter if they are not covered by it. This is done the night before the wash, and the clothes are left to soak all night. In the morning one will be surprised to see how easily they can be washed, dirty and greasy clothing only needing to be rubbed gently on the washboard, rinsed and hung out to dry. Fine clothes are helped by boiling. If this be tried once, one will not feel the need of a washing machine. Different brands of ammonia are sold in the groceries at seven cents per one-half pint bottle. These are inferior, and have little strength. Ten cents per bottle is all the druggist will ask for ammonia fully four times stronger, and in quarts at a cheaper rate. This plan may take a little more soap, etc., but these are cheaper than labor, and the clothes are left sweeter, cleaner, and with better color. This is a popular method in eastern Germany and in Russia. G. D. COLEMAN.

Miscellaneous Advertising.

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WINTRY WEATHER WEAKENS

the system, lowers the vitality and decreases the power of resistance against colds and chills. Many people are feeling weak and shivery just now. They complain of cold hands and feet. Their blood doesn't circulate properly; the raw, bleak air seems to go right through them. Others feel worn out and lack vigor. They are bilious, nervous, have backaches, headaches, and a pale, sallow complexion. All these symptoms indicate that the liver and kidneys are out of order. Feeble circulation of the blood shows that the system is in a very low condition. People who feel like this are facing some dangers they little suspect.

LOOK OUT

for pneumonia, influenza or some other dangerous complaint when you are in this state!

If you have any of these symptoms and are not feeling so well as you ought to feel, do not wait until you are laid up with a serious illness. Act at once. Take something that will build up the system, put the blood in healthful motion and act on the liver and kidneys. Prevention is better than cure.

There is only one way to get well. There is only one remedy that can make you well. The remedy you need is Warner's Safe Cure which is recommended and prescribed by physicians throughout the world. This great remedy contains the vital principle essential to the maintenance of health and strength. It increases the muscular energy, fortifies the system and builds up every part of the body. It has never been equaled as a cure for liver and kidney complaint, bladder trouble or Bright's disease. It is the great standard remedy, the best remedy, the most reliable remedy known to medical science. Everyone who has ever tried it, believes in it.

If your health needs attention, do not experiment with inferior remedies. It is cheaper and wiser to take a remedy that has earned a world-wide reputation, which has stood the test of years, and has proved, in millions of cases, that it can always be depended upon to relieve and cure.

DO YOU WASH **DISHES?**

No need of it. The Faultless Quaker will do it for you and save time, hands, dishes, money, and patience; no scalded hands, broken or chipped dishes, no muss. Washes, rinces, dries and polishes quickly. Made of best material, lasts a lifetime. Sell at sight. Agents, women or men of honor desiring employment may have a paying business by writing now for descriptive circulars and terms to agents.
The QUAKER NOVELTY CO., Salem, O.

CLOTHES WASHED
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Are always clean and white. 300,000 of them in use is convincing proof of their popularity. Sold under a guarantee to please. Agents Wanted Write for catalogue and prices, and mention this paper. HORTON MFG. CO. Ft. Wayne, Ind.

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Knits a stocking heel and toe in ten minutes. Knits everything required in the household from homespun or factory, wool or cotton yarns. Most practical knitter on the market. A child can operate it. **Strong, Durable, Simple, Rapid.** Satisfaction guaranteed. Agents wanted. For particulars and sample work, address
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Pat. Oct. 8, '95.

With Root's Home Rep'ng Outfits for half-soling and rep'ng Boots, Shoes, Rubbers, Harness, Tinware, etc. No. 1, 40 items, $3; No. 2, 32 items, $2. Send for FREE catalog describing these and "Root's Simplicity Process" for home rep'ng. Carpenters' and Blacksmiths' tools, etc. Agents wanted. THE ROOT BROS. CO. Box F, Plymouth, O

"FACTS."

We get lots of good words from our readers, particularly at this time of the year. Some of them are printed. Possibly some of you newer readers think that we print all the good things and burn up all the bad words that are said about us! Oh, no! We are not afraid to face the music of any honest critieism. When a man gives fair and open reasons for a verdict against The R. N.-Y., we shall not only give him his dollar back, but also let him have space to talk about it. Here, for example, is a man with an honest opinion:

I have read The R. N.-Y. for the past three years, and had been well pleased with it until the last few issues. But now I think that there is too much wildness about it. Last fall I sent you four trial subscriptions; so to-day I went to see the subscribers and asked them how they liked The Rural and whether they would renew. One of the new subscribers threw his last issue into the fire before reading, and the others were boiling mad. Now I will give you the reason. This is a potato community, and all are of the opinion that publishing such statements to the whole world as that man's from Wisconsin, who can raise potatoes for five cents a bushel, will do them more harm than all the good they can get out of the paper in 40 years. If that man is smart enough to raise potatoes at that price, let him keep his wisdom to himself as manufacturers do. Please do not ask me to get you any more subscriptions. GEORGE KENLINE.

Genesee County, N. Y.

Now we respect that man's opinion, but we don't think it is entirely sound. As for the man who burned up his paper—he isn't a good business man, for that was just like burning up money. If he had even *hinted* to us that the paper was not satisfactory, we would have paid him his money right off. Maybe he can afford to burn up money that way—we can't; but we wish to say right here that we don't propose to hold one cent's worth of any man's dissatisfaction. If you don't like The R. N.-Y. and are "boiling mad" at something that has been printed in it, don't go through such childish performances as burning it up! Write to us man-fashion and say that you are disappointed, and want your money back. You can have it at any time.

*

But is our friend right in his opinion? You see, he doesn't question Mr. Currier's figures. The question is—is it better for him to *know* what is going on among other farmers, and prepare himself for coming changes, or should he be kept in ignorance until the *results* of those changes strike his farm like a thunderbolt? If those Western farmers know how to grow potatoes at five cents a bushel, you may be sure they won't forget how to do it. Suppose that Edison overheard men talking of a plan to utilize the force of the ocean waves, and thus produce electricity at one-fifth the cost of his own plant. Do you think that he would stuff cotton in his ears and get "boiling mad" at the air which conveyed the sound to him? He wouldn't like it, but the result would be that he would overhaul his own plans and think out some better way. We will guarantee that the man who got "boiling mad," will improve his methods of growing potatoes this season, so that he will grow a cheaper bushel than before. We haven't so much hope for the man who burned his paper; but even he will be stirred up to investigate and see how he can squeeze out a little waste. The only trouble is that he won't give us credit for the improvement when, in reality, it was The R. N.-Y. that started him up out of the old rut.

*

Ever since the world begun, men have fought new things, and tried to stifle knowledge. When the Erie Railroad first went through New York State, some farmers gave all sorts of arguments against it. Among other things, they said that the smoke from the trains would settle on the sheep and spoil the wool! There were men who felt like killing George Stevenson or Robert Fulton when they made possible the railroad and the steamboat. The first printing presses and wooden types were smashed by the writers who had been recording the world's thought with a pen. When the United States Government began to pay $750,000 per year for experiment stations, some people said, "There's an end of The R. N.-Y experiment grounds"—but they are still on deck! You can't kill off knowledge that way. If you stuff cotton in your ears, or tie a handkerchief over your eyes so as not to see and hear it—so much the worse for you when it grows into a mighty giant, and changes the course of society. Some years ago, The R N.-Y. told how well bred horses were raised in Wyoming at a cost of $8 a head. There were, doubtless, farmers who got angry at that. Perhaps *they* burned up the paper—at any rate they went on breeding poor little scrub horses that are today worth hardly the old time value for hide and fertilizer. There were other men who saw in that Western competition a stern command to breed *better* horses or none at all. These men were able to hold their own. So it has been and will be with wheat, hay, butter, milk, potatoes and other things. The only men who will stand up against the tide, are those who see it coming, and prepare for it by making a closer study of their business, and developing with the times. The man who hasn't learned some new idea from this potato discussion, is a singular being, and all we have to say is that he needs a harder knock to start up the current of his thoughts.

*

Now what we have to say is that The R. N.-Y. is going right ahead to tell what is being done on American farms—North, South, East and West. We shall try hard to obtain the truth, and then it will be printed without fear or favor. We wish to say to you kindly, but firmly, that if you expect us to dodge any issues or stifle any facts about the development of American agriculture, you would better drop the paper right away. If any of you have already subscribed and don't like this policy, you can have your dollar back at the first whisper that it is desired. If it gives you more satisfaction to burn up your paper than it would to handle the money you have paid—we have no objeetion. We want you to be satisfied. We are going right ahead to sound a warning and tell the truth for the benefit of those who are willing to learn what their mistakes are. A little plain speaking now and then won't hurt us any. You know now just

(*Continued on next page.*)

Last Call for Those Cash Prizes!

Before you get the next issue, those cash prizes will be in the hands of eight agents. It rests with you whether you have one of them or not. As it now stands the $75 check would go to an agent who sent us only about half as many dollars for subscriptions, and some of the smaller checks would go for clubs of from seven to ten names. That is the condition now. We find no fault. Thousands of agents and subscribers have sent in small clubs, but no agents have made an effort to lead in the eontest. The checks will go no matter how small the clubs. There is time enough to start in and win one of the prizes. This is the last word. It rests with you whether you get a check on the 16th or not. You can work up to the night of the 15th, and wire number of names mailed that night, and they will count. THE RURAL NEW-YORKER, NEW YORK.

None So Blind as Those Who Will Not See!

Said a fence maker to a wire maker, "Of course that 'spring steel' in the 'Page' is all bosh." "Don't fool yourself," said the W. M. "We make **train loads** of Page wire and we couldn't **give** them the wire we sell you.

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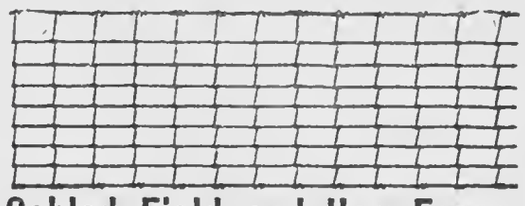

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Illustrated Catalogue Free.

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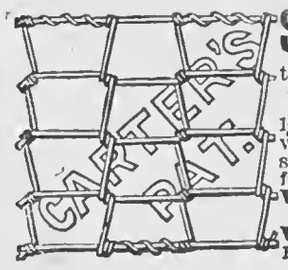


$12.50 FOR A MACHINE

to weave your fence at **25 Cts. per Rod.**

10 No. 10 Gal. wires. Cross wires No. 12. We will sell wire for a **100 rod** fence for **$20. Agents Wanted. Catalogue Free.**

CARTER Wire Fence Mach. Co. Box 30 Mt. Sterling, O.

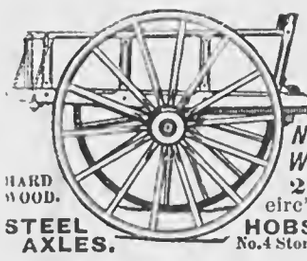
THE BOWEN

Cable Stay Fence Machine.

ONLY $10.00.

No Farm Rights or Royalties to pay for. More machines sold at State Fairs of Ohio, Indiana, Illinois and Missouri, than all other machines combined. Send for circular. Agents wanted in every County.

BOWEN CABLE STAY FENCE COMPANY, Norwalk, Ohio. Write us at once.



Horse Carts

12 STYLES.

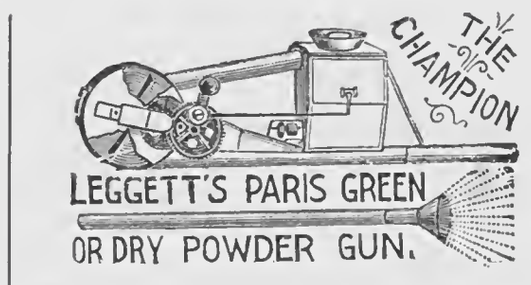
HARD WOOD. STEEL AXLES.

NARROW and WIDE TIRES.

$25 Upwards.

2 and 4 Wheels. Write for circ's and say what you need.

HOBSON & CO., No. 4 Stone St., New York. | *Factory*—Tatamy, Pa.



For Potato Field, Vineyard or Orchard.

Over one acre potatoes dusted per hour, two rows at a time. One pound of Paris-green to the acre; no water or plaster used. One grower writes: "I am highly pleased with the working of your Gun, and if cost was twice as much I would buy one before going back to the old expensive treatment with plaster and water. If all growers would use Green in this way, potato bugs would soon be a pest of the past. A neighbor had a sprayer. He started spraying, and I dusting at the same time. I quit at 10 A. M.; he quit at sundown. Just about the same amount of work done in both cases. I carried 15 pounds; he carried 60 pounds." Circulars furnished showing how to do it. LEGGETT & BRO., 301 Pearl Street, New York: or WM. T. LEGGETT, Pittsburgh, Pa. *Agents Wanted.*

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

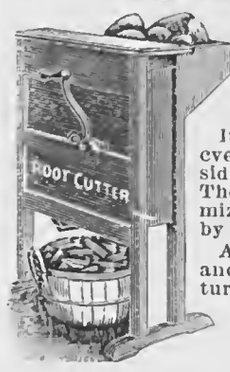
NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

Farmer's Handy Wagon



Metal Wheels for your old Wagons.

Most implements can be used only in one kind of work and in one crop during the year, but our Handy Wagon is saving you money all the time.

It is needed upon every farm, whether sidehill or level. The greatest economizer ever bought by the farmer.

A "NEW IDEA" in wagons, and indorsed by the great Agricultural Colleges. We would like to tell you its advantages. We make other implements and are offering special inducements to those buying during the winter

FARMER'S HANDY WAGON CO., Write us. SAGINAW, MICH.

River Farm—300 acres; 50 improved, balance fine timber Price, $2,800; a bargain. LOUIS P. FAULKNER, Hancock, N. Y.

FIVE GREAT BOOKS FREE.

You want one of these books. We know you do. You probably think that you can afford to buy them. No matter; we will not ask you to buy them. You can get one or all of them without costing you a cent. Just get $1 of your neighbor for a year's subscription to The Rural New-Yorker; send us the $1 and his name and address, and if he is a new subscriber, we will mail you prepaid your choice of the books. If you want more than one book, send a new subscription with a dollar for every book wanted. Please note that two of these books cost $1 each, and the other three 75 cents each. These are not the cheap trashy books usually given for premium work. They are taken from our regular stock, are well printed on good paper, and nicely bound, fit for any library. Let it be understood that these books are given as pay for getting a neighbor's subscription. They will, in no case, be sent to any one for sending his own subscription, whether new or renewal. Don't delay. Get after your neighbor at once. Then he can do the same with another neighbor, and get his book. Thousands of readers stand ready to do a kind act for The Rural. Here is an opportunity to do it, and get paid for it besides. Here are the books:

The Business Hen.

H. W. Collingwood. Breeding and Feeding Poultry for Profit. With special articles by leading practical and successful poultrymen. The egg and the dollar are what it chiefly considers. Cloth, 75 cents.

American Grape Training.

L. H. Bailey. Illustrated by photographic engravings of the actual growing vines, and represents all the practical systems of training in detail. Indispensable to every grape grower. Flexible cloth, 75 cents.

The New Potato Culture.

Elbert S. Carman. Grower of over 1,000 bushels of Potatoes per acre. This book gives the result of 15 years' experiment work on the Rural Grounds. How to Increase the Crop without Corresponding Cost of Production. Manures and Fertilizers. How to Put the Soil in Right Condition. Depth of Planting. How Much Seed to Plant. Methods of Culture. Cloth, 75 cents

First Lessons in Agriculture.

F. A. Gulley, M. S. This book discusses the more important principles which underlie agriculture, in a plain, simple way. It is just what the practical farmer, without a knowledge of chemistry or botany, needs. Cloth, $1.

The Nursery Book.

L. H. Bailey. Handbook of Propagation and Pollination of Plants. Profusely illustrated. It tells, plainly and briefly, what every one who sows a seed, makes a cutting, sets a graft or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number 107, and are made expressly for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees and shrubs, and forest trees. Cloth, $1.

We shall give notice of withdrawal of these terms, later.

THE RURAL NEW-YORKER, New York.

AS WE GO TO PRESS.

(CONTINUED.)

what to expect from us. We frankly admit that we can't raise five-cent potatoes in New Jersey; but with lime to start a good clover sod, with a home-mixed fertilizer, with a modification of Mr. Currier's tools, with Dr. Fisher's plan of preparing the seed, and a dozen other things we have thought out from this discussion, we expect to get closer to it than ever before. You can, too, if you will let your "mad" cool off, and wind up those think-works of yours! Don't think that you can kill off knowledge—you can't do it—you'll die yourself first.

Here's a bit of knowledge about five people who earned five dollars last week by sending the five largest daily clubs.

Dec. 30—M. S. Shelters. Cayuga Co., N. Y.
31—A. H. Root, Madison Co., N. Y.
Jan. 2—J. R. Willson. Ontario Co., N. Y.
3—S. F. Kyle, Tioga Co., N. Y.
4—E. G. Packard, Kent Co., Del.

And here's another bit of knowledge that we don't purpose to keep back. Up to date the agent with the largest club has not sent money enough to cover more than half the cash prize he would draw if the contest closed to-day.

Just think of that, right in this busy subscription season. What a chance to earn $75! Don't burn up this paper because it informs you of this chance, and don't think that you can set the world on fire by the friction produced by sitting on a chair. "Up and at 'em!"

CROP AND MARKET NOTES.

The 26th annual meeting of the Vermont Dairymen's Association will be held at Rutland, January 7 to 9.

The Board of Health disposed of a considerable quantity of poultry during the warm and sticky holiday season.

Several thousand barrels of Russia turnips arrived from Canada during about 10 days, and the market was much overstocked in consequence.

What is termed an "American Polled Jersey Cattle Company," has been incorporated at Cedarville, O., with a capital of $5,000 in $25 shares.

Some not very attractive looking asparagus has arrived from California, but prices received were so low that receivers discourage further shipments.

The fourth annual meeting of the National League of Commission Merchants, will begin in St. Louis, January 8. All shippers are invited to be present.

Wool has recently been shipped from the Cape of Good Hope direct to Philadelphia by sailing vessel. Such wool has generally gone to the London market.

Merchants of Knoxville, Tenn., have received a contract to furnish 500,000 pounds of dried apples for the German army. This will make quite a hole in the supply in that region.

The Cheviot Breeders' Association at their recent meeting at Oneonta, N. Y., elected as president, D. F. Wilber, of Oneonta, and secretary, Robert L. Davidson, Cooperstown, N. Y.

With domestic cabbage selling early in the week for $2 to $4 per 100, Danish cabbage brought $6 to $7 per 100. This cabbage is very firm and solid, many of the heads being almost as hard as stones, and is, also, of excellent quality.

According to a bulletin of the Department of Agriculture, exports of hay from Canada during the year ending Juue 30 were, in 1894, 1,097,576 tons; in 1893, 1,112,838 tons; in 1892, 586,196 tons. The Canadian customs tariff on hay is $2 per ton.

More butter has been returned from Europe. The market was dull there, and on the boom here. But about the time the largest shipments reached here, the market had declined materially, and there was little sale for this much traveled butter.

Any kind of game may be sold in this State the year 'round, provided that it was not killed in, or within 300 miles of, the State. It is now unlawful to kill quail, partridges, or grouse in the State. It is also illegal to kill black and gray squirrels, hares and rabbits, except in some counties which are exempt from the provisions of the law.

The 37th annual meeting of the Pennsylvania State Horticultural Association will be held at West Chester, January 14 and 15. All interested in horticulture are invited to participate. Fruits and flowers will be exhibited. The railroads give special rates, as do the hotels. Eminent horticulturists will address the meetings. E. B. Engle, secretary, Waynesboro.

The 23d annual meeting of the New Jersey State Board of Agriculture will be held at the State House, in Trenton, on January 14, 15 and 16. A varied programme has been prepared on poultry and egg production, the dairy, horticulture, swine diseases, forests and forest fires, conservatism in scientific agriculture, etc., with three illustrated lantern lectures. There will be the usual reports of the officers. Franklin Dye, secretary.

The third annual meeting of the National Dairy Union will begin in Chicago, Tuesday, January 14, at the Sherman House. The object of the meeting is to formulate plans for State and National legislation that will further prevent the fraudulent sale of imitation dairy products. Every one interested in the manufacture, sale or use of pure dairy products, should be interested in this meeting. D. W. Willson, secretary, Elgin, Ill.

A leading poultry dealer says that Maryland and Philadelphia dry-picked turkeys command the highest market prices, not only for the reason that the turkeys are fat and usually of a high grade, but that they are well bled in killing, which naturally gives the skin a bleached white appearance. On the contrary, poorly bled turkeys and other poultry as well, turn dark before reaching market, and present anything but an attractive appearance.

The annual meeting of the Ohio State Dairy Association will be held in the City Hall Building, Columbus, Wednesday evening, January 15, in connection with the annual State Agricultural Convention. Valuable addresses and interesting discussions will be a feature of the meeting. All interested in the manufacture, sale and consumption of milk and milk products are earnestly invited to attend this meeting. L. P. Bailey, Tacoma, secretary.

Farmers' institutes will be held in New York State as follows:

Williamson	Wayne	Jan. 13
Marathon	Cortlaud	Jan. 13, 14
Lakeside	Wayne	Jan. 14
Union	Broome	Jan. 14, 15
Harpersville	Broome	Jan. 15, 16
Rose	Wayne	Jan. 15, 16
Jordan	Onondaga	Jan. 17
Deposit	Broome	Jan. 17, 18
Baldwinsville	Onondaga	Jan. 18
Fayetteville	Ouondaga	Jan. 20, 21
Marcellns	Onondaga	Jan. 21, 22
Skaneateles	Onondaga	Jan. 22, 23
Seneca Falls	Seneca	Jan. 23, 24
Clifton Springs	Ontario	Jan. 24, 25
Waterloo	Seneca	Jan. 27, 28
Ovid Center	Seneca	Jan. 28, 29
Trumansburg	Tompkins	Jan. 29, 30
Phelps	Ontario	Jan. 30
Pittsford	Monroe	Jan. 31, Feb. 1

A dollar book as premium for a new subscription! See page 28.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 47@1 50
Medium, 1895, choice	1 30@1 35
Pea, 1895, choice	1 25@1 30
White Kidney, 1895, choice	1 60@1 65
Red Kidney, 1895, choice	1 20@1 22
Black Turtle soup, 1895	1 70@ —
Yellow Eye 1895, choice	1 45@1 50
Lima, Cal., 1894 (60 lbs)	1 90@1 92
Medium, foreign, 1894	1 00@1 15
Medium, foreign, 1895	—@ —
Marrow, foreign, 1894	—@ —
Pea, foreign, 1894	1 10@1 20
Green peas, bbl., per bushel	82@ —
Bags, per bushel	75@ —
Scotch, bags	75@ —

BUTTER—NEW.

Creamery, State and Penn., best	23 @—
Seconds to firsts	18 @22
Elgin and other Western, extras	24 @—
Western, firsts	22 @23
Western, seconds	20 @21
Western, thirds	18 @19
Western, June, extra	21 @—
Western, June, seconds to firsts	16 @20
State dairy, half tubs, fresh, extras	21 @—
Firsts	18 @19
Seconds	15 @17
Dairies, firkins and tubs, extras	19½@20
Dairies, firkins and tubs, firsts	18 @19
Firkins, extras	19 @—
Firkins, seconds to firsts	15 @17
Welsh tubs, extras	20 @21
Welsh tubs, firsts	18 @19
Welsh tubs, seconds	15 @17
Tubs, thirds	12 @14
Western imitation creamery, firsts	17 @19
Seconds	14 @16
Western dairy, firsts	16 @17
Seconds	13 @14
Thirds	11 @12
Factory, firkins, June extras	11½@13½
Seconds to firsts	12 @13
Tubs, June, extras	13½@14
June, seconds to firsts	12 @13
Fresh, small tubs, extras	16 @17
Fresh, small tubs, firsts	14 @15
Fresh, large tubs, firsts	13 @14
Fresh, large tubs, seconds	11 @12½
Fourths to thirds	9 @10½
Old Western factory or dairy	8 @11
Rolls, fresh, fine	15 @16
Rolls, fresh, common to good	10 @14

EGGS.

New-laid, fancy (nearby)	26	@	27
N. Y. State, country marks, fresh gath'd.	24	@	25
Pennsylvania, country marks, new laid.	25	@	26
State and Penn., fair to good	20	@	23
Western, fresh collections, fancy	24	@	—
Western, fresh collections, fair to good.	21	@	23
Southern, fresh collections	20	@	23
Western, refriger., short holdings, choice	18	@	20
Western, refriger., September, packed	17	@	18
Westesn, refriger., early packed, prime.	16½	@	17
Western, refriger., defective, per case	3 50	@4	25
West'n dirties & inferior, per 30-doz case.	4 00	@4	25
Western limed, prime to fancy, per doz.	17	@	—

FRUITS—GREEN

Apples, Northern, fancy, selected, per bbl	2 50@3 00
Fameuse, per bbl	2 50@3 75
Ben Davis, per bbl	1 75@2 25
Jonathan, per bbl	2 00@3 00
King of Tompkins, per bbl	2 00@3 25
Baldwin, per bbl	1 50@2 50
Greening, per bbl	1 50@2 50
Winesap, per bbl	2 00@3 00
York Imperial, Va., per bbl	2 50@2 75
Spitzenberg, per bbl	1 75@2 25
Northern Spy, per bbl	1 50@2 50
Common, per bbl	75@1 25
Grapes, State, Catawba, per 5-lb basket	7@ 10
State, Concord, per 5-lb basket	7@ 10
Cranberries, Cape Cod, extra sorts, per bbl	—@ —
Fancy, per bbl	10 00@10 50
Prime, per bbl	8 00@9 50
Soft, per bbl	5 00@7 00
Soft, per crate	2 00@3 00
Jersey, per crate	1 75@2 40
Jersey, per bbl	7 00@7 50
Oranges, Fla., per box	3 50@5 00
Grape Fruit, Fla., per box	5 50@7 00

GRAIN.

Wheat	58 @69
Rye	45 @—
Barley	38 @45
Buckwheat, silver	38 @39½
Buckwheat, Japan	— @—
Corn	33 @36
Oats	22 @28

HAY AND STRAW.

Hay, No. 1	85@ —
No. 2	80@ —
No. 3	70@ 75
Clover, mixed	70@ 75
Clover	55@ 65
Salt	40@ 50
Straw, long rye	65@ 75
Short rye	50@ 55
Oat	40@ 50
Wheat	40@ 45

MEATS—DRESSED.

Veals, country dressed, prime	12 @ —
Fair to good, per lb	10½@ 11½
Com. to med., per lb	8 @ 10
Buttermilks, per lb	— @ —
Small, per lb	5 @ 7
Barnyards, per lb	5 @ 6
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 12
Pork, country dressed, 40 to 60 lbs., per lb.	6½@ 7
60 to 80 lbs, per lb	6 @ 6½
80 to 120 lbs., per lb	5½@ 6
120 to 180 lbs., per lb	5 @ 5½
200 lbs and up, per lb	4½@ 5
Tenderloins, per lb	14 @ 15

POTATOES.

Bermuda, No. 1, per bbl	5 00@6 50
No. 2, per bbl	2 00@3 00
Maine Hebron, per sack	1 12@ —
Long Island, in bulk, per bbl	1 00@ —
State Rose and Hebron, per 180 lbs	75@1 00
Burbank, etc., per 180 lbs	75@ 90
Jersey, in bulk, per 180 bbl	75@ 85
State and Jersey, per sack	75@ 80
Common, per sack	60@ 70
Sweets, Vineland, fancy, per bbl	4 00@4 50
South Jersey, per double-head bbl	3 25@3 50
South Jersey, per cloth-head bbl	3 25@3 75
Jersey common, per barrel	2 00@3 00

DRY-PACKED POULTRY.

Turkeys, Jersey and Up-River, fancy	16 @ 18
Md., choice to fancy	15 @ 17
Mich., Ohio and Ind., scalded, fancy.	14 @ 16
Other Western, choice	14 @ 16
Western, fair to good	12 @ 13
Western, inferior	8 @ 10
Chickens, Phila., large, per lb	15 @ 16
Phila., mixed weights, per lb	12 @ 14
Jersey, per lb	12 @ 14
State and Penn, per lb	11 @ 12
Western, per lb	11 @ 11½
Fowls, State and Penn, per lb	11 @ 11½
Western, per lb	8 @ 11
Ducks, Maryland, per lb	16 @ 17
State and Penn, per lb	15 @ 17
Western, per lb	5 @ 16
Geese, Rhode Island, fancy, per lb	— @ —
Other Eastern, per lb	— @ —
Maryland, per lb	8 @ 13
Western, fair to good	8 @ 10
Squabs, tame, white, per doz	2 50 @2 75
Mixed lots, per doz	2 00 @2 25
Dark and poor, per doz	1 50 @1 75

POULTRY—LIVE.

Fowls, local, per lb	11 @ —
Western, per lb	11 @ —
Southern, per lb	10½@ 11
Chickens, per lb	9½@ 10
Roosters, old, per lb	6½@ —
Turkeys, mixed, per lb	10 @ 11
Ducks, local, per pair	75 @1 00
Western, per pair	65 @ 85
Southern, per pair	60 @ 65
Geese, local, per pair	1 25 @1 50
Western, per pair	1 25 @1 50
Southern, per pair	1 12 @1 25
Pigeons, old, per pair	25 @ —
Young, per pair	20 @ —

VEGETABLES.

Beets, Charleston, per 100 bunches	4 00@5 00
Bermuda, per crate	1 25@1 50
Brussels sprouts, per quart	4@ 8
Cabbage, Long Island, per 100	2 50@4 00
State, per 100	2 00@3 00
Foreign, per 100	6 00@7 00
Carrots, washed, per bbl	75@1 00
Unwashed, per bbl	50@ 75
Cauliflower, L. I and Jersey, per bbl	1 00@8 00
Celery, State & West'n, fancy, large, per doz.	60@ 80
State & West'n, average, prime, per doz.	25@ 50
State & West'n, small, per doz	10@ 20
Jersey, large, per doz roots	25@ 50
Jersey, small, per doz roots	10@ 20
Jersey and L. I., per dozen flat bunches	1 00@1 50
California, per doz	25@1 00
Cucumbers, Fla., per crate	1 00@3 00
Hothouse, per doz	50@1 50
Egg plant, Florida, per bbl	4 00@8 00
Green peas, Florida, per crate	2 00@4 00
Charleston, per bushel basket	—@ —
Horseradish, per lb	4@ 5
Kale, per bbl	75@1 00
Lettuce, New Orleans, per bbl	5 00@7 00
Florida, per half bbl basket	1 00@4 00
Boston, hothouse, per doz	50@1 00
Bermuda, per crate	75@1 25
Onions, Orange County, red, per bbl	40@ 80
Orange County, yellow, per bbl	85@1 25
Eastern, white, per bbl	1 25@2 00
Eastern, red, per bbl	90@1 00
Eastern, yellow, per bbl	1 25@1 50
State and Western, yellow, per d. h. bbl.	1 00@1 25
Okra, Florida, per carrier crate	2 00@4 00
New Orleans, per box	@ —
Peppers, green, Fla., per bbl	—@ —
Green, Fla., per crate	2 00@3 00
Pumpkins, per bbl	75@1 00
Radishes, hothouse, per 100	—@ —
Norfolk, per 100 bunches	25@ 75
Spinach, per bbl	2 00@3 50
Squash, Marrow, per bbl	50@ 60
Hubbard, per bbl	60@ 75
Florida, per crate	50@ 75
String beans, Charleston and Sav., per hask.	—@ —
Florida, per crate	2 00@5 00
Tomatoes, Fla., per carrier	1 50@3 00
Per crate	1 50@2 50
Key West, per carrier	1 00@2 50
Key West, per peck box	50@ 65
Turnips, Jersey, Russia, per bbl	60@ 75
Canada Russia, per bbl	75@ 80
Watercress, per 100 bunches	75@1 50

AGRICULTURAL CHEMICALS.

These are quotations for large lots:

Ground bone, fine average, per ton	22 00 @23 00
Kainit, per 2,000 lbs	8 10 @ 9 55
Kieseret, future shipment	7 00 @ 7 25
Mur. potash, 80 p. c.	1 78 @ 1 83
Nitrate of soda, per 100 lbs	1 70 @ 1 80
Double manure salt (48@49 per cent. less than 2½ per cent chlorine)	1 12 @ 1 17
High grade manure salt (90@98 p. c. sulphate potash)	2 08 @ 2 17
Manure salt, in bulk, 24@36 p. c. per unit, O. P., per 100 lbs	37 @ 38
Bone black, spent, per 2,000 lbs	17 00 @18 00
Ammon. superphos., high grade	25 00 @26 00
Dried blood, West'n, h. g. fine ground	1 52½@ 1 57½
Low grade, fine ground	1 50 @ 1 52½
Tankage, per ton	19 00 @19 50
Azotine	1 52½@ 1 55
Fish scrap, wet (at factory), f. o. b	9 00 @ 9 50
Dry (at factory), f. o. b	19 00 @19 50
Sulp. ammo., for gas, per 100 lbs	2 50 @ 2 55
For bone, per 100 lbs	2 40 @ 2 45
S. C., phos. rock, ground, per 2,000 lbs	5 00 @ 5 25
Undried, f. o. b., Ashley River, per 2,240 lbs	3 00 @ —
Dried	3 25 @ 3 50

MILK AND CREAM.

The total daily supply has been 19,743 cans of milk, 178 cans of condensed milk and 392 cans of cream. The average price paid for the surplus on the platforms has been $1.55 a can of 40 quarts.

BRONCHITIS. Sudden changes of the weather cause Bronchial Troubles. "*Brown's Bronchial Troches*" will give effective relief.—*Adv.*

LOOK before you ship your Butter, Eggs, Poultry, Game and Nuts. We can get you highest market prices for fine goods. **Choice Creamery Butter, Fancy Leghorn Eggs, Dressed Poultry and Game a specialty.** Shipping cards and stencils on application to **GARNER & CO., 32 Little 12th St., New York,** Reference: Gansevoort Bank, New York.

WANTED, FOR **Christmas Market,** *POULTRY, GAME, CALVES, ETC.* **E. H. PECK** (Successor) M. N. Edwards & Co. (Est. 1861) **Commission Merchants,** NO. 193 DUANE STREET, NEW YORK. References: Irving Nat'l Bank and THE R. N.-Y.

FRESH Unsalted Dairy and Creamery Butter, EGGS, POULTRY, CALVES, ETC., **On Commission.** I. T. HUNTER, No. 174 Chambers Street, New York.

SOMERS, BROTHER & CO. ESTABLISHED IN 1876. **Fruits and Produce** Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm. Market Reports, Special References, Stencils, etc., furnished free on application. **611 Liberty St., Pittsburgh, Pa.** Inquiries and Correspondence Invited.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

Carman No. 1 Seed Potatoes. Pure Thorburn stock. Vigorous growth Buy direct from grower and get pure stock. Write for barrel prices to NORMAN NELSON, Laney, Wis.

Carman No. 1 Potatoes—(Thorburn Seed). $1 per bushel of 60 pounds; 150 pounds to the barrel. Orders booked now. Shipments made at any designated dates. J. M. MEREDITH, Calcium P. O., Berks Co., Pa.

MAJOR VAUXBELETS 4201—A fine young Guernsey bull, Grandson of Squire Kent, out of Venus Les Vauxbelets 2nd, by Cottager out of Venus of the Isles. $60 takes him. SHOOK BROS., Spring Mills, Pa.

TURKEYS—Mammoth White and Bronze. Toulouse Geese, White Guineas. The leading varieties of poultry. Choice young Turkeys. B. and W. P. Rock, W. Wyandotte and Br. Leghorn Cockerels to spare. Circular free. D. A. MOUNT, Lock Box 17, Jamesburg, N. J.

A FOWL TIP. $15. 100 Egg Self-Regulating Invincible Hatcher. 150 Chick Brooder. $5. Circulars free. Send 4c. for catalogue & treatise No. 23 BUCKEYE INCUBATOR CO., Springfield, O.

WANTED—by a young graduate of the Massachusetts Agricultural College, and son of a farmer, a position as superintendent of gentleman's estate, or other work along this line. Best of references as to character, habits and ability. Address WRIGHT A. ROOT, Deerfield, Mass.

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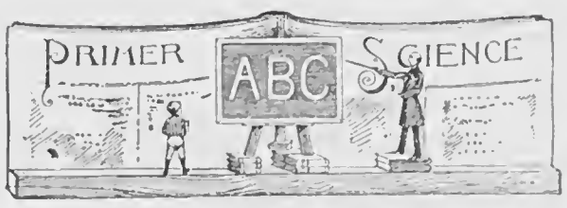

FEEDING A HEN.

PART II.

Last year's "balanced ration" articles dealt with the food of the cow. There we had an animal with an immense paunch capable of holding a large quantity of water and food. The real *digestive* organs of the cow are comparatively small—the greater part of the stomach being chiefly a machine for soaking and grinding up the food so that it may be more readily digested. A horse has a comparatively small stomach. When his teeth are perfect, he chews his food longer than the cow does—though the latter makes use of the "cud"—that is, she can float up food from that great paunch into her mouth and chew it over. The cow's stomach was designed to make use of *bulky* food like hay or stalks, while the horse does better when fed a more concentrated ration. It is a mistake to stuff a horse with hay, while the cow is better for a bulky feed.

When we come to feed the hen, we find a very different state of affairs. Her digestive apparatus is a sort of combination of both horse and cow principles. The hen has no *teeth*, but the work of grinding or softening the food is done in the crop and gizzard which, as every one knows, is a bag or sac containing grit or small pebbles—which smash, tear and grind the food between them. Yet the hen does not leave all this work of grinding to the gizzard, for we have all noticed how a hen will, if undisturbed, tear up fragments of food with her beak, until only small particles are left. The beak really does part of the work done by the teeth in other animals. This grinding and tearing in the gizzard is more like the cow chewing her cud than it is like a horse chewing its food, because before the food goes to the gizzard, it has been acted on more or less by the acids that cause digestion. The next time you kill a hen, it will pay you to take out these digestive organs and trace them through. It is a very interesting thing to observe how the food enters the beak and is ground, softened and digested all along this curious canal.

In humans and horses, and to a certain extent, in cows, the saliva or spittle plays an important part in digestion, especially when the food is well chewed. In some birds, the glands that secrete this saliva are well-developed and active; but the quantity secreted is not great, and it is not probable that digestion is assisted very much in the hen's mouth. We must look to the gizzard and the true stomach and intestines to do the work of nourishing the body.

The "crop" is a storehouse into which the food is swallowed. The secretions of that organ soften and break up this food. It then passes into the proper stomach which contains the chief digestive fluid. The gizzard or grinder may be considered as a part of the stomach, though the grinding is evidently done after the digestive fluids have acted on the food. Probably a large part of the actual digestion or nourishment of the body, is done from the intestines which, as you can easily see, are long and well-developed in the hen. The gizzard seems to be a *grinder* only. There is very little fluid in it, and the food found there is said to be drier than in any other part of the digestive tract.

A few hints suggested by a study of a hen's digestive organs are that, in proportion to her size, she is capable of disposing of bulky food. If kept well supplied with sharp grit for use in the gizzard, and kept in good health so that the digestive fluids flow readily, a hen should be able to dispose of almost any food she can get past her beak. At the same time, for quick and rapid digestion, it is evidently wise economy to do a large part of the softening and grinding for her. When we consider the marvelous rapidity with which an egg must be formed and covered with a shell, we can readily see the necessity of providing food that is easily digested and quickly available; also the great need of a supply of lime to form the shell and, above all, a constant supply of pure water. So you see that this question of properly feeding a hen is more complicated than that of feeding a cow, and that we can, at best, give only general rules and suggestions to go by.

Live Stock Matters.

FORKFULS OF FACTS.

FISH FOR HENS.—S., page 825, can feed ancient fish to his hens, all he wishes, and there will be no harm to them; but everything will taste in the food, and it will kill all of his customers that can tell tar from 'lasses. It is strange that folks don't know that they can't feed rotten food to anything, and get good results in return. L. H. G.

Florida.

R. N.-Y.—What? Not to hogs?

SELF-SUCKING COWS.—I have a self-sucking cow, and wish information in regard to some preventive. Can I get something to fasten in the nose of the cow to stop the habit? W. T. S.

R. N.-Y.—Most hardware dealers can get you a ring, that fits into the nose, with row of sharp spikes on the outside. The idea is to get something on her nose that will prick her every time her mouth comes close to the udder. It is a bad habit. Unless she is a first-class cow you would better make beef of her.

FEEDING TWICE A DAY.—In reply to F. E. B., page 834, I would say that for several years past, I have fed my cows only twice daily; I think it would be just as sensible to get up at midnight and feed as at midday. I think if cows are fed all they can eat up clean twice daily, especially if they are in milk, much better results will be obtained than though they are fed more frequently. I believe it does a working cow as much good to get hungry as a working man, and what man would be foolish enough to have his food meted out every hour or so? When I was a boy, we always had to clean the orts, so called, out of the mangers every day; now you can't find a scrap on anything in the manger one hour after eating, and my stock is looking fine. J. A. O.

Erie County, N. Y.

THE "MILK MIRROR."—Years ago, I read a book which treated of a new system by which it was claimed that the quality and quantity of milk could be most accurately determined by natural marks on each cow—by the shape of the escutcheon, etc. This theory, I think, was the result of experiments by a Frenchman. Has it ever been put to test in this country? If so, has it proved to be what is claimed for it? F. L. H.

Fairfield, Iowa.

R. N.-Y.—Some years ago, this "escutcheon" theory was strongly advocated by some dairymen, and at the present time, a good many farmers will examine the "milk mirror" carefully in buying a cow. The "milk mirror" is the space above the udder and between the thighs. The general theory was that a heavy udder, full of milk, would, by its weight, determine the location of the "curl" or twist in the hair above it. Guenon, who advocated this test, had the matter all mapped out with drawings of the "milk mirror," showing how a good milker ought to look. Other and better tests of a cow's milking qualities have displaced this one, and now it is considered but one of several marks to determine a good cow. The scale of points adapted for the different dairy breeds lay but little stress on it.

KILLING HORNS ON CALVES.—Can THE R. N.-Y. give directions for the effectual prevention of the growth of horns on calves? I have just concluded an experience in dishorning aged dairy cattle, that I do not care to repeat; yet I do not wish any cows in my herd with horns. As I raise all my own cows, it strikes me as the proper thing, to prevent the growth of the horns if it can be done without injury to the calf.

North Yakima, Wash. D. M. S.

R. N.-Y.—Caustic potash is said to destroy the young horn, and various "horn killers" are sold for this purpose. This operating on calves does not prevent fighting, as such stock learn to butt and fight like the polled breeds. On the plains, a polled Scotch bull will often whip a Hereford—"horns and all."

CLEAN MILKERS WANTED.—The story of certified milk, to me, was interesting reading, when it says, "The milkers are obliged to keep themselves clean." How different here in the dairy country! Let a man stand at any of our cheese factories on a warm June morning, and a large proportion of the men and boys that come with their milk look and smell as though a quarantine for a few days, or until cool weather, would be a blessing to the cheese business. Men—and some women—will persist in dipping their hands into the milk pail, to wet the teats to make the cow milk easier; and in order to keep the teats slippery and nice, every time they change their hands from one teat to another, down go their hands into the milk. Then look at their hands, and look at every thing they touch or with which they come in contact. Then pour the milk slowly out of the pail, and see what is in the bottom. Then pour the milk out of the can at the factory, and see what is in the can, and has to go into the cheese vat—except the coarser part; the pure essence has to go, one string of filth from begin-

(*Continued on next page.*)

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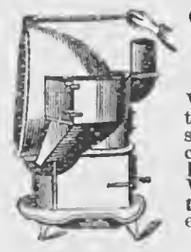

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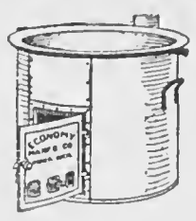

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THE RURAL NEW-YORKER NEW YORK.

LIVE STOCK MATTERS.

(CONTINUED.)

ning to end. All dairymen don't milk in that way, but there are more than most people are aware. How I wish that all those that come to our factories in that shape, were compelled to have their photographs taken, framed and placed on each four-corners of the neighborhood, to remain there until they would change the programme, and become clean milkers. My word for it, there would be less cheese off flavor, when it gets to market. O. H. SMITH.

OBSTRUCTED TEAT.—About three weeks ago, one of my cows had a teat obstructed by a scab growing over the opening. I cut it in two directions, and used a bougie as directed by Dr. Jas. Law for "thickening of the mucous membrane and closure of the milk duct," in the Government report on diseases of cattle. The scab has disappeared, but the milk comes harder and harder at every milking, and seems to grow thicker. What is the cause, and what is the remedy? Have I diagnosed the disease correctly? Two years ago, I had the same trouble with another cow, and she lost her teat. Is it contagious? E. A. H.

Canobie Lake, N. H.

R. N.-Y.—The milk-duct probably requires opening or enlarging with the teat-slitter or hidden bistoury, after which it should be kept from closing by wearing a lead probe or simply a slender quill tied in the duct so that it cannot drop out. If you have no teat-slitter, employ a veterinary surgeon to perform the operation for you. The trouble is not contagious.

FEEDING POTATOES.—We have often given our opinion as to the wisdom of feeding potatoes to stock. J D. Smith in Hoard's Dairyman, gives the following experience:

About the time potatoes were ready to harvest, I raised and bought 18 pigs. Besides these, I had on hand four brood sows, three fattening spring pigs, and one boar. As milk began to fall, I boiled each day (in a farmers' boiler of 45 gallons capacity), about two basketfuls of pumpkins and 1 or 1½ bushel of potatoes. These were mashed fine and mixed with what milk we had, and relished exceedingly by the porkers. After a time, the quantity of skim-milk being less, I began by adding about a peck each day of corn meal, which was thoroughly mixed with the steaming potatoes and pumpkins, and all removed to the barrels in the pens, and mixed with what milk we had. The fat pigs were confined in pens, and I have seldom seen pigs make a better gain. A seemingly small feed has kept the brood sows thriving, while the 18 young pigs have had their liberty, with all the feed they would eat. I have no conveniences for weighing, but I feel sure that the entire lot are making a gain of, at least, a pound apiece daily. The pumpkins are now gone, and we are cooking more potatoes, putting in a few small apples for a relish. Then, too, as the pigs require more, we are adding a little more grain.

Mr. Smith says that he would not feed raw potatoes to pigs, but finds them valuable for cattle, both as a food and relish.

A DISHORNING CONVERT.—"I always had the impression that dishorning was an act of extreme cruelty to cattle," said Mr. Hogan the other day; "but I had a little experience not long ago, that has made me a convert to the doctrine of the high priests of dishorning. It came about this way; I had two old cows and two young ones. I didn't wish to keep them in the stables all day, and I didn't wish to let them tramp my pasture while it was soft and muddy. So I put them in the barnyard, an enclosure about 20 yards square, and went to the house. A few hours afterward, I found one of the young cows badly marked, and that settled the dishorning question immediately.

"I went to a neighbor and borrowed his fine-tooth saw, put one cow after another in the stanchion, tied the head down so that it was immovable, and sawed off every horn on the place smooth with the head. I threw out some fodder in the barnyard, and one-half hour afterward, they were eating together like sheep. I felt a reluctance at first, something like a man who knows he has to shave with a dull razor; but now that I know what the operation is, I wouldn't have anything but a mulley, artificial or otherwise, on my place. They are as quiet now as any cattle I ever saw." J. D.

TWO BIG PIGS.—Having read accounts of the weight of pigs at different ages, in your most excellent paper, I submit one from our section for the benefit of your readers. Mr. Jonathan Sternberg, proprietor of the Vanderpool House, of Manlius, N. Y., purchased two pigs of a neighboring farmer that were farrowed February 6, 1895; they received for their feed the refuse from the hotel kitchen, and this fall were fed $8 worth of grain feed. They were butchered December 11, when 10 months and 5 days old, and weighed 472 pounds and 524 pounds, respectively; the pigs cost $3 apiece, thus making very cheap pork. Please publish this, with a request for some one to beat it if he can. H. J. H.

Oran, N. Y.

ARE DAIRY SHORT-HORNS NEEDED?

It appears to me very doubtful whether the breeding of Short-horns for both beef and milk, can be made a success. While there are many noble specimens of milking Short-horns, the beef habit has been so firmly established in them that the principle of heredity would crop out all along the line, and the chances are that there would be more beef heifers than milking heifers reared.

The mistake in the building-up of young Ayrshires has heretofore been that they have been too much neglected the first year. My idea is that the animal is either made or unmade the first year. A neglected, stunted calf will early develop into an animal of large size. We have been making some experiments in the way of producing a large, more rangy Ayrshire, and we are confident that we are now on the right road. As an illustration, one yearling bull—a year old last March—at several different weighings, gave the following figures: At six months, 540 pounds; at eight months, 670; at one year, 820; at eighteen months, 1,030. A calf from the same cow is now following closely in the footsteps of the yearling.

I must repeat that I am convinced that the Ayrshire has too often been bred downhill instead of uphill, and that, by proper handling, this excellent breed can be made to take the place of some of the larger breeds without any loss in milking qualities. In rearing the young animal, I would not cut off the supply of milk while too young. Keep him from grass the first summer, but teach him to eat old hay when six weeks old. Keep up the supply of milk as long as it can be spared, with the addition of a small quantity of scalded linseed meal and good wheat bran dry, in such quantities as he will eat without leaving any in the manger. The first winter I have found no substitute for a liberal daily ration of sliced roots. If well-bedded and well groomed, there is no reason why a good Ayrshire calf should not develop sufficient frame for the future finishing of fat. But I would not allow the feeding of corn meal or of any fat-forming food to the young heifer until her milk habit has been formed, or to the young bull until I had developed the frame. D. M. CAMPBELL.

Oneonta, N. Y.

LUNG COMPLAINTS, BRONCHITIS, ASTHMA, ETC., are speedily relieved, and if taken in time, permanently cured by Dr. D. Jayne's Expectorant. You will find in it also a certain remedy for Coughs and Colds.—*Adv.*

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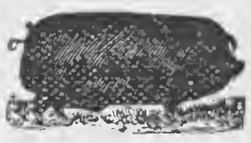
I have now shipped 446 times to men I had sold to before. E. W. DAVIS, Torringford, Conn.

CHESHIRES PURE AND CHOICE.
ED. S. HILL, Peruville, N. Y.



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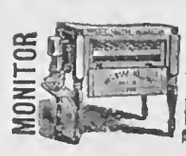

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SENATOR PEFFER has discovered that the average cost of burying a United States Senator is something over $3,000. Let us call it $4,000 apiece and finish up the job.—*Life.*

A FATHER usually worries as much from fear that his daughter will marry the wrong man as her mother worries from fear that she will not marry at all. —*Atchison Globe.*

"YOU and your sister are about the same size, and you look exactly alike. Twins, aren't you?" asked the visitor. "Course not!" exclaimed Tommy, highly indignant. "She's a girl!"—*Chicago Tribune.*

"I'M so happy," she said. "Ever sinee my engagement to Charlie, the whole world seems different. I do not seem to be in dull, prosaic Eastbourne, but in—" "Lapland," suggested the small brother. —*Tit-Bits.*

A MISSOURI farmer figured it out one rainy day that he had walked 300 miles in cultivating one acre of corn. He thereupon sold his farm and moved to town, where he walked 600 miles to find a job.—*Arkansas Traveler.*

"I CAN'T remember where I put my glasses," said Duneombe. "Have you looked for them?" asked Mrs. Duncombe. "No; but I will as soon as I find them," said Duncombe. "I can't see well enough without them to look now."—*Harper's Bazar.*

THEY were talking about the various methods of celebrating the passing of the old year and the coming of the new. "Did you ever dance the old year out and the new year in?" he asked. "Yes, indeed, seores of times," was the reply. And then she was sorry she spoke.—*Tit-Bits.*

BOY: "Say, mom, I busted my ball." Mother: "You shouldn't say bust, John; you should say burst." Boy: "That's what teacher said, but when the prineipal asked me who that was, I said it was a burst of Gen. Washington and he licked me, so I thought I would stick to bust!"—*Truth.*

LITTLE JOHNNY has been naughty, and has to be sent from the table without having any dessert. For an hour he has been sitting in the eorner of the room crying. At last he thinks it time to stop. "Well! I hope you have done crying now," says his mother. "Haven't done," says Johnny, in a passion; "I'm only resting."—*Modes and Fabrics.*

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2399. NEW YORK, JANUARY 18, 1896. $1.00 PER YEAR.

MAPES TALKS "HENS BY THE ACRE."

FIGHTING ROUP AT WHOLESALE.

"A Balanced Ration" as Poultry Medicine.

"Hens by the acre!" some one will say. "That sounds familiar. Why, this must be that lazy crank who was going to turn his hens out to grass, and do most of the work of taking care of them by pressing the button." If you will substitute the words "part of the work" for "most of the work," I won't quarrel with you about the rest.

The fact is, as THE R. N.-Y. has told, that I have some stony, dry pasture land, such as some are utilizing for chestnut culture, and it occurred to me a few years ago that it could be used for hen pasture to good advantage, and be made more profitable than for grazing cattle or sheep. The idea was to colonize the hens on these fields by putting up small houses far enough apart so that each colony would recognize its own home, thus securing unlimited range, and avoid the expense of building and maintaining a yard or run for each flock.

Carrying out this idea, the first move was to build and stock a trial house eight rods distant from my old henhouse which was near the barn, in order to see whether they would "go home to roost," or drift back to the larger house near the barn. They were inclined to meet me half way when I went to give them their supper, and to prevent their massing together in one large flock, I arranged the electric feed boxes by means of which I could scatter the grain on the floor of each of the houses simultaneously without their seeing me. In this way, I succeeded in keeping each colony to its own home, and I soon found that I could close the little door by which the hens entered the house, in the same manner, and save a trip to the henneries after dark.

"HENS BY THE ACRE!" GENERAL VIEW OF THE ELECTRIC HEN FARM. FIG. 14.

This was in the summer of 1892. I wintered 300 hens that winter, and after satisfying myself that each colony would keep to its own house, and lay the eggs inside the houses instead of scattering them about the fields, I prepared to double my accommodations, and raise enough hens to fill the new houses. This programme was carried out successfully, and the winter of 1893-94 found us with 600 hens quartered in 15 houses, averaging 40 in each flock. The hens laid equally as well as when we had only one flock. The demand for guaranteed eggs was apparently limitless, and we found that one attendant could easily care for more hens; so we decided to double our capacity again, and watch results.

Accordingly, in the spring of 1894, we began setting hens and building more houses. Here let me jump ahead nearly two years and show what we have today. Fig. 14 shows a general view of the farm with 21 of the 35 little houses in sight. Fig. 15 shows a single house with its flock of seven-months pullets that are laying about 20 eggs a day now (December 31). The window is shown wide open, as it was a pleasant day and the hens were let out. On sunny days, when it is fit for them to use an open shed, the window is thrown wide open, allowing the sun to shine directly on the dust box, so that the hens have nearly all the advantages of an open shed without the expense. The buildings face south. The window is partially closed at night according to the condition of the weather. It is never wholly closed unless there is likely to be zero weather before morning.

ACRES OF ROUP.—Things went on swimmingly in 1894, and by July we had 30 houses built, all connected on one electric circuit, and working successfully with a battery of 30 cells, one for each house. We also had over a thousand young chicks growing, all hatched by hens. About this time, I discovered that I was off the track. I could not tell where I had gone off, or how to get back on, but the yield of eggs from the hens was falling off decidedly, and the young chickens began to die in large numbers. I did not discover what was the matter until the latter part of August. We were catching some cockerels one evening in order to separate them from the pullets, when one of the boys said,

"Papa, there is something in this box of chickens that smells bad."

A little examination soon established the fact that the stench proceeded out of the nostrils of those chickens. I had often heard and read about roup, but had never actually run across it before, so as to recognize it. Horrors! Here was a situation, indeed! A hasty examination of the surrounding houses revealed the fact that it was thoroughly seated in most of them. The battle was evidently on. The more I inquired about the disease from those who had had experience, the more desperate the situation appeared.

Where did it come from? I could not tell. I could trace back from this point, and remember finding half-grown chickens dead or dying with swollen heads and cheesy eyes, which were probably thrown over the fence, or partially buried under a stone. Going further back, I remembered finding chicks dead and dying with the same symptoms. Still further back, I see some of the hens which hatched and brooded the chicks, with wet noses and a feather glued to the nostril by the dried discharge. These hens were Plymouth Rocks, and came from an old hennery with earth floor and a leaky roof which the spring rains had completely saturated before I put on a new roof. As nearly as I can give it, there is the history of the disease up to the time of discovery.

WHAT WAS TO BE DONE?—Common sense suggested, Clean the houses, and dust dry airslaked lime everywhere. That was simple and safe, and was one of the first moves in the campaign. Advice soon began to pour in, which included spongia, carbolic acid, turpentine, kerosene, ginger, condition powders, patent roup cures, etc. The advice most often met by those who had been through the mill, was to kill off every bird on the place, and take a new start. This was heroic treatment, and as I had learned by this time that the disease was not swiftly fatal, I concluded to wait and watch. I began trying the various cures above recommended with uniform failure as far as the cures went. Some cases got well, and some did not. I think fully as large a percentage recovered where no medicine was used, as otherwise.

In one case, I sent half way across the continent for a bottle of sure roup cure, and selected a fine P. Rock rooster with the determination to cure him or perish. This was in cold weather, so I made a nice, warm coop, and kept him in by the kitchen fire night and day. He proved an obdurate case, and after three weeks I gave him up in disgust and wrung his neck. Many an hour during evenings did we spend sorting out the affected birds from the well ones and doctoring them, only to find at the next examination, that part of the sick ones had recovered, and part of the well lot had contracted the disease, in spite of all our efforts

THE ROUP QUARANTINED.—The first move I made in which I felt that I was gaining ground, was about November 1, when I shut up every bird on the farm inside the houses. This I reasoned would give the frost and snow of winter a chance to purify the land, and give me a pure soil to start with in the spring. I reasoned that the germs of the disease would not live in the open ground through our severe winters. A spring brook naturally divides the poultry land into two sections, with eight houses in the section nearest the barn, and the rest on the other side of the brook. I felt that I was making progress again when we had carried every hen across the brook and shut them in the houses in that section. I depended on the winter's frost and snow to purify and disinfect the soil. How should we purify those eight empty houses? I consulted my family physician who is also president of the Board of Health of the city of Middletown and should be good authority. He said "sulphur fumes, by all means and be generous with them."

After a little experiment, we found that one to two pounds of sulphur placed in four different pans, with the windows tightly closed, would give a generous dose in a room 10 x 12 feet by simply pouring a little alcohol in each pan of sulphur, and applying the match,

We now had all roupy hens on the far side of the brook with eight clean houses and a clean soil on this side. The question was, Can we raise any young chickens, and keep them from contracting the disease? One of the cast-iron rules adopted at the outset is to burn every dead bird, or bury it as deeply as one would a case of smallpox. Towards spring, a large building was set apart for a hospital, into which we began putting the worst cases as fast as we discovered them. Another rule was that a hen which once went into the hospital never should go back among the other hens. If she recovered and got fat, she went to the butcher; if not, she was buried or burned.

As the hens began to get broody, we had to be very careful. If upon examination, a hen was found to be all right, we brought her across the brook into one of the empty houses, and set her. If she remained healthy during the three weeks of incubation, she and her chicks were carried across the road and placed upon new ground. Every chicken coop which had been used the previous season, was thoroughly scalded before using.

It was late before we got started, but we succeeded in raising about 600 chicks which have been as healthy and thrifty as any I ever saw. I have seen only one case of roup among them, and that was evidently what the doctors would call a sporadic case. Except a few that died when very young, from getting wet and chilled, we have lost only this case and one other from this lot of 600, except a few from accident. We hatched another small lot of late ones August 1. They were put in a couple of houses across the brook that had not been fumigated. The result was a malignant outbreak of roup among them a few days ago. Among the 800 hens in that section, I have not been able to find a single case in five months. O. W. M.

(To be continued.)

SOME FAVORITE OLD-FASHIONED PLANTS.

A few weeks ago, on opening the door of a neighbor's greenhouse—an old-fashioned affair, by the way—I was greeted with a well-remembered and grateful odor, and knew at once that an Olea fragrans was in bloom in the house. There are but few more desirable plants than this. It is very nearly hardy, asking for but very little care; it thrives well from year to year, and at this season of the year, and lasting for, perhaps, six to eight weeks, there are numberless, small, white, sweet-scented flowers. It needs but to be kept from freezing in the winter; but with a little heat, it blooms earlier. It is just the thing for a cool greenhouse, or a cottage window.

In the same greenhouse and under the same conditions of treatment, was a little plant of the Magnolia fuscata, a Chinese plant, thriving in the South, but not hardy here. Where there is a little heat, it keeps its leaves all the time, and in late winter produces brownish-colored flowers of delicious fragrance. It is grown a great deal in the South, and its pretty green leaves place it among desirable window plants, even were it not to flower.

Still another old favorite was present, but not in flower, the Cape Jasmine, Gardenia florida. Unless in a quite warm temperature, it does not bloom till towards spring. Its flowers are creamy white, sweetly odoriferous, double and beautiful. It has rather large, bright green leaves. As with the others named, it is easily managed, and really asks for but enough warmth to keep from freezing.

Two other plants not often seen in collections, yet which seem just suited to this old-fashioned cool greenhouse, were the Photinia serrulata and Cerasus Lusitanica. The former has handsome foliage and white flowers, as also has the Cerasus, and the wonder is that they are not grown more than they are. True, small plants do not flower, but the foliage of both is handsome, and even a little freezing in the window, should it occur, would not hurt them. Indeed, there is reason to think that both are hardy, as far north as Philadelphia, at least.

When it comes to considering plants for their ornamental foliage alone, the fine old Magnolia grandiflora should not be overlooked. It is as good in its way as the India rubber plant, which is saying a good deal. In the South, though hardy there, it is much grown in pots and tubs for inside use, because of the beauty of its very large, shining green leaves. Should it become too large in time, it may be set out of doors, planted in some sheltered place, and, if protected for a year or two until its roots get well below the frost line, it will have a good chance of proving hardy, if not north of Pennsylvania.

The common English ivy is a charming plant for windows or rooms. But few plants have darker green foliage, and this color is maintained in spite of bad treatment. It may be treated as a vine, trained up the sides of the windows and over them, in which position it is much admired; or it may be kept more in bush shape. Wire supports to give any shape desired, may be used, as the ivy is very tractable. There are dozens of varieties of this plant, small-leaved, large-leaved and cut-leaved, and some with variegated and others with golden foliage, making in themselves a nice collection for a window or a cool greenhouse.

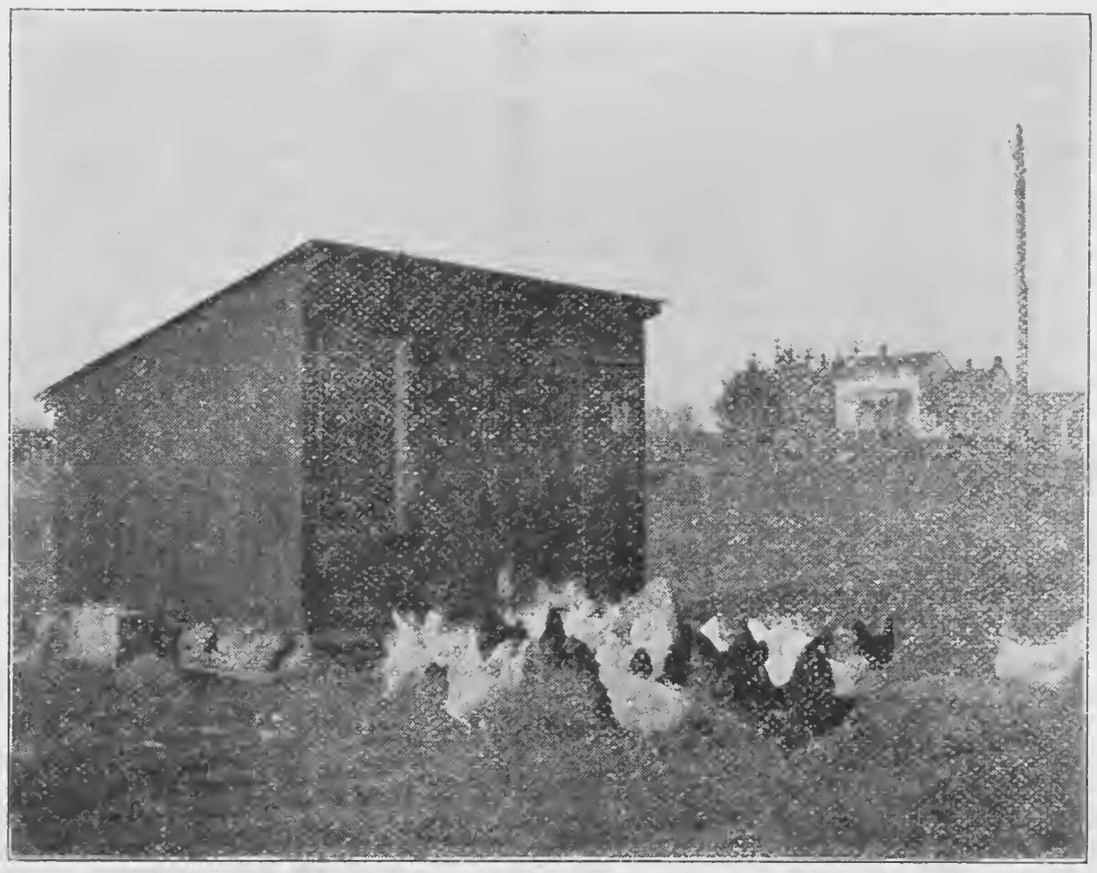
Pennsylvania. JOSEPH MEEHAN.

HOW "STRAW POTATOES" ARE GROWN.

A WESTERN LESSON FOR EASTERN GROWERS.

Mulch Irrigation; No Cultivating; Big Yield.

We have had many strange and wonderful stories about growing potatoes. Now we have another that will take rank with the best. In this great big country of ours, there are all sorts of men, markets and conditions. No single rule can cover them all. The farmers who succeed are those who breed up methods of their own, so to speak. They modify the general rules of culture, and adapt them to the climate, soil, rainfall, market, labor and other special conditions of their own section. We wish you to remember that in reading about these "straw potatoes," for it does not follow that, because Mr. Miller grew his great crop in this way you can do the same. There *are* certain things in his method that may be a benefit to you, and your business is to pick them out and use them. Early in December, Mr. D. F. Miller, of St. Clair County Ill., sent the photograph that is shown at Fig. 16. Here are 512 bushels of Carman No. 3 potatoes piled up in the barn as they came from the field—the product of two barrels of seed. These are called "straw potatoes," and Mr. Miller has given us the following facts about their culture. The two barrels of seed were started from New York on April 1, and were just one month on the road to Illinois. In spite of this long journey, the seed was in good condition, and the potatoes were cut to one eye and planted May 5. Now let Mr. Miller tell his own story:



A SAMPLE HOUSE AND FLOCK OF PULLETS. FIG. 15.

DETAILS OF STRAW CULTURE.—"The land drained well naturally has the best of subsoil. It was not disturbed until May 4, when it was plowed about eight inches deep, harrowed and rolled until it was in perfect condition. But by this time, it was tramped too much to suit me for straw potato ground, so it was plowed again, harrowed with a 12-foot harrow, teeth up, and drawn by two horses. I have converted an old haytedder into a marker which can be set deep or shallow by the lever used in setting the tedder. It has three four-inch shovels, marking six furrows to the round, about three inches deep and three feet two inches apart—one row between the horses, and one on each side. The seed was cut to one eye, and dropped 20 to 22 inches apart. To save drying out, the furrows were not made faster than they could be dropped. The furrows were at once filled with a 12-inch plow drawn by one good horse, going once around the row and throwing all the soil between the rows on to them. We have no machine that will make this ridge as well as the plow, that will not run over and injure the rows. I aim to have about four inches of soil on the seed, and prefer to have the ridge slightly flat on the top.

"The straw was then hauled, using two wagons and four men. We make a driveway every 16 rows, never turning on the field, but always driving through with the empty wagon, making a continuous pile on both sides of the wagon through the field and enough to cover it evenly without bunching, from six to seven inches deep, and never letting the men tramp on the ridges while spreading the straw. The straw may be spread at any time before the potatoes come through. We spent about 1½ day pulling weeds on this acre, going over it at two different times and while the weeds were quite small.

"The yield of this acre or, rather, the yield of two barrels of Carman No. 3, was 512 bushels. In this field, three acres of new varieties were grown. On May 3, we planted an acre of Banners, using 5½ bushels of seed; the yield was 390 bushels. The next acre was Carman No. 3, and the third acre was planted to Carman No. 1. On this acre, we used about 6½ bushels of seed; but cut off the seed ends of most of them. The yield of Carman No. 1 was 330 bushels. The Carman No. 1 did not get the benefit of the late rain which came at the eleventh hour, and so sparing that the digger would throw up soil that had not been wet during the entire season."

NOTES ON THE METHOD.—You will see that, briefly stated, the system is to prepare the land as well as possible, and get the seed planted and covered before the soil dries out. Then, at some convenient time before the plants appear, the whole field is covered about six inches deep with straw. There is no further work about it until the potatoes are dug, except pulling by hand the few weeds that work through the straw. Whenever possible, these straw potatoes are planted on a clover sod, and it is better to plow both in fall and spring. A deep, mellow, well-drained soil is best; but in no case should soggy land be used. If rains fall between plowing and planting, the seed-bed is injured, and it would be better to plow the second time and have a mellow soil to plant in. Mr. Miller says that he plows for only one day's planting (about one acre) at a time, and thus gets the seed in with as little delay as possible. All tramping save what is absolutely needed, should be avoided. "Whenever a horse steps on a hill of potatoes, the damage is a pound of potatoes for each step."

Mr. Miller says that the R. N.-Y. No. 2 potato has, for several years, been the standard for straw potato growers, but that Carman No. 3 now promises to take its place. As compared with No. 1, the No. 3 was two weeks later in starting, and was behind *in growth of vine* all through the season, but being later got the benefit of the later rains, and thus gave the better yield. Speaking of the size of the No. 3 and its habits of growth, he says:

"I dug and weighed many hills containing from 8 to 12 potatoes, where the difference in size between the largest and smallest potatoes would seldom be more than four ounces. I dug two well-measured bushels in different parts of the field, taking all that were in the row. One bushel contained 93, the other 95 potatoes. Where one finds potatoes of an unusual size, it will be where the vine has set but few tubers. I showed vines at the Belleville Fair, 5½ feet long, with all the tubers still hanging to them."

DOES ASPARAGUS NEED SALT?

If so, For What Purpose?

THE QUESTIONS.

We have the following question from one of our readers in Kentucky. Will you tell us what you think of it? What is the general opinion among growers in your locality?

"Is the preponderance of opinion among the best asparagus growers, for or against the use of salt for profit for that crop under ordinary circumstances, and without reference to weed killing? If for, how much should be sown on a three-year-old patch of two acres? The soil is of ordinary fertility, and no salt has been used before."

THE ANSWERS.

Asparagus for market is largely grown by the farmers in this vicinity; in fact, it is one of our chief money crops. We are in the town of Oyster Bay, and the Oyster Bay brand of "grass" is the leading favorite in the New York market. But salt as a fertilizer for asparagus, is not used by any of our farmers, so far as I know; our proximity to the seaside—Long Island Sound—probably renders its application unnecessary. I have tried it, however, on a part of our beds by way of experiment, but without any apparent benefit to the crop. Some idea of how

much salt asparagus will stand with impunity, may be learned from the fact that spontaneous seedlings came up all along the sea shore in the sand, and where extra high tides sometimes wash over them, and they live all right. Nitrate of soda, in quite light dressings, and these repeated twice in spring, gave us the best results. A "complete fertilizer" was also good. WM. FALCONER.

Long Island.

I do not know of any grower of asparagus for market, who uses salt. I have tried it on my bed in a small way, but could see no benefit. I grow as fine and large asparagus as I ever saw in market, use no salt and seldom use manure. I depend on commercial fertilizers, and think that the quality of "grass" so grown is superior to that grown by the use of manure.

Massachusetts. M. MORSE.

I think salt of little use on asparagus as a fertilizer, it having but little manurial value. Its use is as a weed destroyer, and in a slight way for attracting moisture. I know of a peach grower that applies salt for the above purposes and has fine results; but I think that he would have good results by his treatment without the salt. Salt is not generally used on large plantations; though the plant is a native of salt marshes in several countries of Europe, salt is not essential to its successful growth. But it will stand almost any amount of manure of any kind—2,000 pounds or more to the acre will not injure it. N. HALLOCK.

Long Island.

The opinion of growers is that it does benefit the crop to a large degree; especially if the locality is at some distance from the salt water, an application of two tons per acre once in three years is beneficial. It helps to keep down the weeds and improves the quality and quantity of the crop.

Boston. W. W. RAWSON.

We were once of the opinion that salt is a good dressing for asparagus, but careful experiments have shown that, instead of being an advantage, it is really an injury, except for the mere purpose of temporarily keeping the weeds in check. In a soil abounding in humus, as a good asparagus bed should, the effect of the salt is to check the nitrification, hence to retard the active development of the stalks, and to make the crop later. I have, however, had good results from an application of kainit in the fall, so as to give time for the salt to drain away, and for the plants to get the benefit of the potash. I would never advise the use of salt in the spring. Better spend the money for stable manure, cotton-seed meal or nitrate of soda, nitrogenous manures to promote an early and vigorous development of the stalks, and whatever salt is used to be in the shape of kainit applied broadcast in the fall. W. F. MASSEY.

North Carolina Ex. Station.

Our experience is in favor of its use, say, once in three years, about 1,200 pounds to the acre. Of course its main benefit is weed killing, but we think its action somewhat similar to lime in dissolving humus, and thereby unlocking stores of plant food. The best time for application is just before the spring rains, so that the powerful roots will grasp the dissolved food without waste. It is in general use by our growers here, and the prevailing opinion seems to be that salt is the manure for asparagus. But that, I believe, is a mistake; it would be more proper to call it an appetizer or digester. It undoubtedly does good when the soil is rich and in high condition, but I would hesitate about using it on a light soil, for in that case it would act as a stimulant, and destroy the bed by using up all available plant food. W. H. WOODHAMS.

Michigan.

FIVE-CENT POTATOES.—Apropos of five-cent potatoes, I see that no one from the 7x9, rocky-farm corners of New England, where they have to use 3,000 pounds of high-grade fertilizer per acre, pay $1.50 per day for help, and 35 cents per hour for team work, has anything to say on the subject. It is not how to raise them cheaper, that we wish to know, but how to sell them for more. We can't raise them at any such figure, no one can here G. R. J.

Ashby, Mass

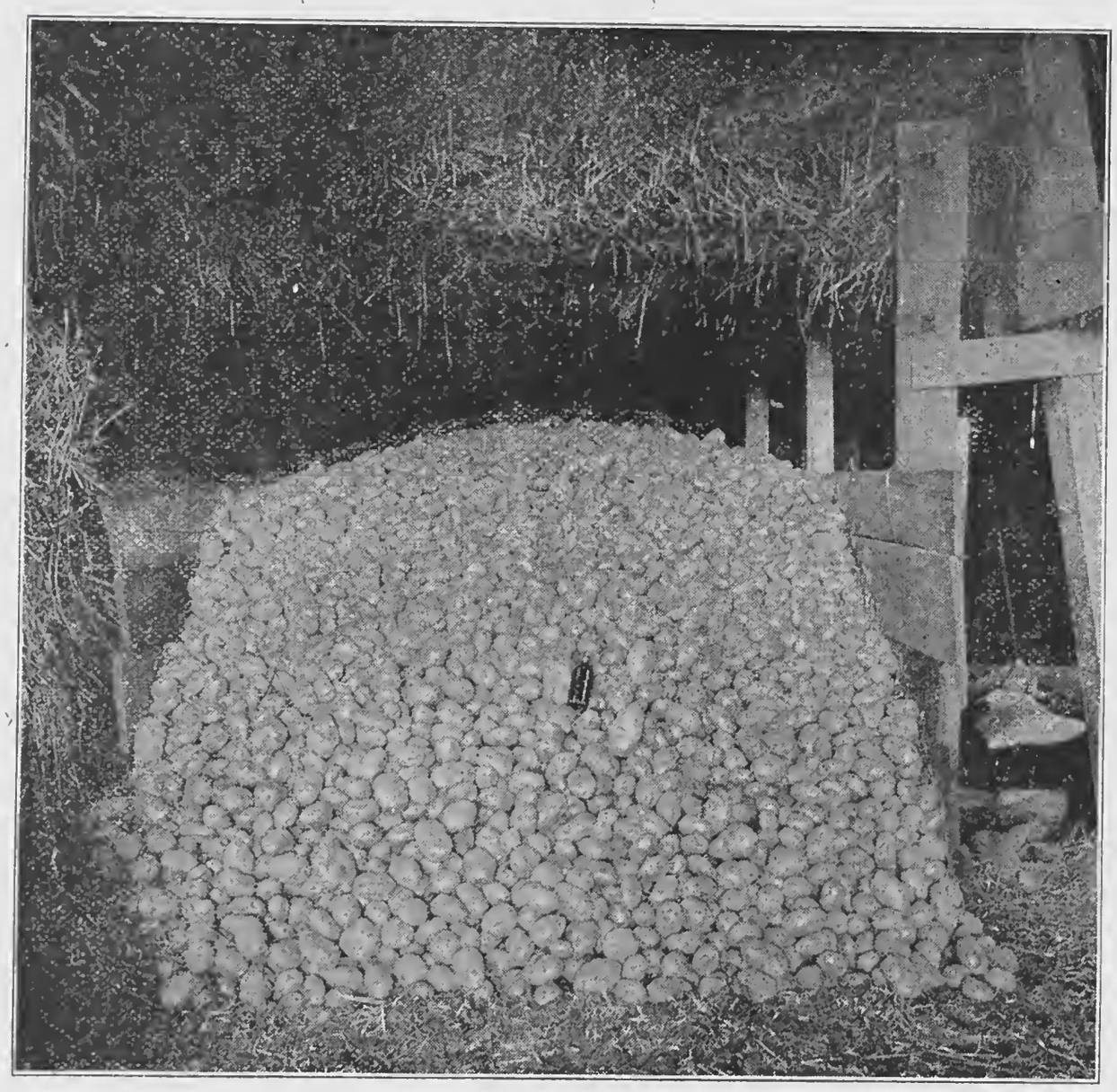
WHAT THEY SAY?

HENS IN WINTER.—Fred Grundy is surely "a little off" when he says, page 774, that hens do no good when compelled to stay, during the day, in the building wherein they roost. This may be true in houses where the droppings are allowed to accumulate under the roosts for a year, before they are removed. The atmosphere in a building of this kind would kill rats. Nowadays, many are awakening to the fact that cleanliness in the poultryhouse is a long step toward success. I have been successful in the poultry business, and have no such thing as an open shed, though it probably has its advantages. I winter my fowls in the same room where they roost, and at the same time secure a nice income from the eggs which they lay. I have never had a sick fowl. My henhouse is built for warmth (I do not believe in artificial heat), and it can, in a few minutes, be made almost air-tight, if occasion require. I have a shelf under the roosts to catch the droppings. Both roosts and shelf can be folded against the wall so as not to be in the way during the day. Each morning after feeding the fowls, I carefully remove all droppings. This requires but a few minutes. The roosts and shelf are then folded out of the way until again needed. After feeding the fowls in the evening, the roosts and shelf are brought into place, and the shelf given a light coating of road dust taken from the dust bath. This dust prevents the droppings sticking to the shelf, and makes their removal comparatively easy. I cover the floor, to a depth of six or eight inches, with dry litter, which is renewed every two weeks. Once in a while I turn all the fowls out, make the house tight, and fumigate by burning a pound or two of sulphur therein. I also dust the fowls occasionally with insect powder. I find no trace of lice or mites in the house or on the fowls. On warm days, the fowls are given their liberty, and can roam over the clover patch, garden or wherever they choose. When farmers and poultry keepers learn the value of cleanliness in the poultryhouse, they will have awakened to a knowledge of the money there is in poultry keeping.

Smithfield, Pa. J. T. C.

CRIMSON CLOVER IN OHIO.—I sowed 14 acres of Crimson clover in corn, from the middle of July to the first week of August, and harrowed it in with a light A-shaped harrow, made of six-inch boards, through which six inch spikes were driven, and the whole weighted down properly. In this way most of the seed was lightly covered. Owing to the exceedingly dry weather, it made but little show, but did, and has done, much better than we expected, during August, September and October. But since then, we have had much rain, and now the clover looks fine but is not thick enough to make a good stand except in places where the ground was moist during the summer. But to-day (December 28), while viewing the fields, I find much heaved up one and even two inches, caused by freezing during and after the recent heavy rain, the ground being full of water and not settled. I fear that some of it will never settle back, yet I think that I shall be well paid for the cost of seed and labor in sowing, even though some or all is killed, as there are sufficient roots, and long ones, too, to turn under next spring to insure a good corn crop. I also sowed one-quarter acre in a potato patch, the first week in September. This came up nicely, and has done quite well since. I mulched it the middle of November, and now it is trying to peep through the mulch. I want this patch for my own seed, for I think that it will be hardier than eastern-grown seed. J. E. H.

Columbus, Ohio.



A PILE OF "STRAW POTATOES" GROWN ON THE MISSISSIPPI BOTTOMS. FIG. 16.

THE FARMER'S BUSINESS APPLE.

IN PARTNERSHIP WITH BENJAMIN DAVIS & CO.

An Ohio Farmer Grows Money on Trees.

(*Concluded.*)

THE VARIETIES.—"What varieties do you grow, and which one do you consider the most profitable for market?"

"The greater number of our trees are Ben Davis, which, with me, heads the list for profit, as it is a heavy and regular bearer of highly-colored, smooth fruit; it is also an extra good keeper. We also have the Baldwin, Spy, White Pippin, Willow Twig, Janet, White Pearmain and a few trees of a great many more varieties. That was my great mistake in planting my orchard—I used too many varieties. Were I to set another orchard for profit, I would use but two or three."

As the sorters now had a load ready for the fruithouse, we followed the apples a degree farther. A light platform sufficiently large to accommodate 21 bushel baskets, had been made for the farm sled, and in this manner the fruit was drawn to

THE APPLE HOUSE.—This building is a substantial, wooden structure with double walls and ceiling. The 18-inch space between the walls is packed with sawdust. The building contains four rows of huge bins, four tiers to the row, and each bin 12 or 14 inches deep, holding, altogether, about 1,200 bushels of fruit. This fruit-house has proved to be a very profitable investment, and a perfect success, as in it the apples keep perfectly until late in the spring. Mr. Pherson, however, does not aim to keep them later than February or March, at which season he says that he is able to secure more satisfactory prices than by holding them later, as they would then fall into competition with the cold storage product. After the apples are once in their winter quarters, they are left undisturbed until the proper time comes 'round for re-sorting, grading and barreling, which is usually done only as orders are received, or a shipment made. Mr. Pherson can then guarantee every apple to be in sound condition. The re-sorting takes out all that show the least signs of decay.

"Into how many grades do you class your apples?"

"We have heretofore sorted into three grades; but this year, our apples are extra nice, and run so evenly in size, that we shall make but two grades—fancy and seconds."

"To what extent is your crop usually diminished through sorting and shrinkage, from the time it is taken from the trees, until it is barreled for shipment?"

"As nearly as I have been able to estimate it, an apple crop will usually lose one-third—33⅓ per cent. 'Loss,' however, is not just the proper word to use, as the culls are profitably fed to our hogs and cattle, which greatly relish them as dessert along with their grain and rough feed, in the winter time. In packing for shipment, the barrels are faced by selecting perfect, average specimens of the grade, and neatly arranging them, stems downward, upon the bottom of the barrel, beginning around the outer edge, and finishing in the center. The barrel is then filled a trifle more than level full, the head forced in by lever power, the hoops tightened and nailed securely with brads. The barrel is then turned over, and that which was the bottom while filling, becomes the head, upon which are stenciled the name of the variety and the grade. When the head is removed at the commission house or retailer's, the faced apples present a

beautiful appearance, and are a true sample of the contents of the barrel."

SELLING AND PROFITS.—Mr. Pherson sells a quantity of his fruit to retailers in Newark, his nearest market; but the bulk of his crop goes to one or more of the larger cities which promise the most satisfactory prices. For his fancy apples, he usually realizes from $3 to $4 per barrel of 11 pecks, which is, I believe, the standard size. For his seconds, $1.50 to $2 per barrel is considered a fair price. Possibly it would be safe to state that the average price for a whole crop is about $2.75 per barrel. The crop, from the time it is taken from the trees until it is placed upon the market, costs for picking, sorting and storing, re-sorting, grading and barreling, transportation and commission, nearly $1 per barrel as nearly as can be estimated; this would leave a net profit of $1.75 per barrel.

Mr. Pherson will have, at least, 350 barrels of sound apples to place upon the market this season; these at $1.75 per barrel, would net him a trifle more than $600. But to bring it down to the very lowest estimate—an average of $1.50 per barrel net, we still have a profit of $525, which is certainly a snug little addition to the credit column of the farm ledger, considering that it is the proceeds from but 10 acres, or but one-sixteenth of his farm. Mr. Pherson will surely enjoy a goodly bank account, so long as those old banks upon his farm, are under the shadow of his old and trusted friend—the director—Mr. Ben Davis.

Ohio. F. H. B.

VARIOUS NOTES FROM IOWA.

MR GRUNDY, on page 853, says concerning shredded corn fodder, that "it will be several years before the average farmer learns just how to manage this new material for the best results." I wish to repeat the word "several" to make it look larger, and I also wish to give an illustration of how slow the progress is up here. Not one of my neighbors has employed the shredder this fall, and I do not know that any corn fodder has been shredded in this township, while last year thousands of acres of the fodder were shredded, and probably two-thirds of my neighbors employed the machine. Now, why is this? The self-binder "took" readily enough among the farmers; everybody has a check-row corn planter, and it is the same way with other improved machinery. The farmers have seemed ready enough to adopt improvements, so what is the matter with the shredder?

I AM feeding potatoes to cows for the first time, and find that it pays. I began feeding turnips and potatoes about November 1. By the 15th, I was feeding one-half bushel of each to my six cows, that is, one-sixth of a bushel of the mixed feed to each cow. The turnips were soon dropped out, and by the last of the month, the cows were each getting a peck of potatoes a day. Two of the cows calved within the month, so I cannot tell what effect the potatoes had on them; but the other four gave milk as follows:

	Yield first five days of month. Lbs. Oz.	Yield last five days of month. Lbs. Oz.	Gain or loss. Lbs. Oz.
Bessie	58 4	62 4	4 0
Pet	68 4	68 12	0 8
Alice	71 8	68 4	3 4
Flossie	70 4	72 0	1 12

Gain, six pounds four ounces; loss, three pounds four ounces; net gain, three pounds, showing that the cows were giving more the last of the month than at the first. I call that a first-rate showing, especially as November was extremely cold, and we would naturally expect the cows to shrink considerably.

I HAVE had a tussle with the hog cholera, and have given the remedy recommended by the Department of Agriculture a trial, and found it a help. As soon as I determined that cholera was on the place, I sold everything which would do to market, leaving me with 14 head. Six of these died, and eight pulled through. Without the help of the medicine, I probably would have fared as one of my neighbors did with the same disease at the same time. He had about a dozen, and lost all but one. E. B. WATSON.

Iowa.

WHAT SAY?

SOME NEW APPLES.—I have a lot of scions of the following varieties of apples: Akin (red), Paragon, Springdale and Shackelford. I would like to have some opinions of R. N.-Y. readers as to the value of these apples, before doing more than testing them. They seem to be unknown here. F. B.

Shelton, Wash.

WHAT ABOUT BONE CUTTERS?—It is high time to call a halt in this bone cutter business. There may be a few places in the East (which I doubt) where the poultryman can get all the bones he wishes to cut. However, at most of the places in the West, there are two bone cutters to one bone, and about the only way one can get the bones, is to buy beef by the quarter or carcass, which brings the price of bones from four to eight times higher than the Eastern estimate. The poultryman or farmer has no dollars, not even the so-called 50-cent dollars, to throw in the junk pile these hard times. F. G.

Stuart, Mont.

R. N.-Y.—Let's have this out, now! How is it with *you?* We know that the use of bone cutters has raised the price of raw bones in some markets. Can *you* obtain the bones you need? What is the price? Have you ever tried working up whole carcasses—like horses—in these cutters?

HARROW; POTATO CUTTER.—What is the best harrow for fitting heavy sod ground for potatoes? How many bushels of medium-sized potatoes are required to plant an acre if cut with the Aspinwall potato cutter, and planted in drills three feet apart, and 15 inches apart in the drill? H. M.

Sun, Pa.

R. N.-Y.—We would like two harrows for such work, a Cutaway or disc to chop up the sod, and an "Acme" to level and pulverize it. Some farmers like a spring-tooth followed by a smoothing or straight-tooth harrow. Will those who have used the cutter, please tell us how much seed they need? Let us know the variety, and how the seed was planted.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Propagating Quinces.

O. P. H., Auburn, N. Y.—How are quinces propagated? Will the sprouts that are rooted, if set out, bear fruit like the tree from which they came?

ANS.—They are propagated either by layers or cuttings. Young shoots are bent down in spring and covered with earth, leaving a few buds exposed on the upright tip. As the buds start, all but the best are rubbed off. These shoots will usually throw out roots, and in the fall may be removed and planted in rows. The young sprouts will bear fruit the same as the original tree.

What Indicates Peach "Yellows"?

W. A. S., Appleton, N. Y.—Is the little sprig of green leaves that starts to grow in the center of peach trees, usually in the fall of the year, a sure sign of yellows?

ANS.—There may be various kinds of "little sprigs" starting up in peach trees in the fall, some indicating yellows, and some not. The autumn growth which indicates yellows, usually appears on the tips of the branches, and is characterized by small, trough-shaped, nearly horizontal, stiff leaves of a light or reddish color. L. H. BAILEY.

A Mixture That Needs Potash.

C. M., Chalfont, Pa.—I have been making a fertilizer from the following formula: Two tons of hen manure, one ton of earth, one ton of S. C. rock, one-half ton of plaster, one-half ton of raw bone. Would this be a complete fertilizer for all crops, without any other additional element? I have been using it for two years, but the results are not what I would like, but they are equal to those obtained from the commercial article.

ANS.—The trouble with that mixture is that it contains but little potash. The hen manure contains a small amount of this substance, but none of the other materials contains any. We think it likely that this mixture will give better results than a common "superphosphate"; but if you will add from 500 to 1,000 pounds of muriate of potash, you will greatly improve it for all crops. We find that most farmers, when they begin to mix their own fertilizers, are likely to neglect the use of potash. This is especially true when hen manure and bone are used, for one is likely to regard them as complete fertilizers. They are not—neither is fish—they all need potash.

Cost and Value of Spraying.

J. R. W., Shortsville, N. Y.—How much does it cost per acre to spray apple orchards 20 years old? How much to dust with Fungiroid with the Leggett gun? Is there any other preparation cheaper than Fungiroid, and just as efficacious? What per cent of apples gathered from orchards, either sprayed or dusted, were marketable? Is it safe to have sheep in an orchard while it is being treated?

ANS.—Estimates made last year varied from 15 to 20 cents per tree for spraying. We are collecting statistics about the use of dry Bordeaux Mixture, which we hope to give before long. From 50 to 90 per cent of the fruit will be marketable, depending on the care with which the work is done. If you have not already done so, you should read the bulletins on spraying issued by the Cornell Experiment Station, Ithaca, N. Y., and the Geneva Station, Geneva, N. Y. Keep the sheep out of the orchard until two days after spraying. We shall be glad to have our readers give facts and estimates of their own, bearing on these questions.

Pop Corn Prices; Mole Traps.

E. P. McC., Scottsburgh, Ind.—1. What is the price of pop corn as the market usually rules? Does it sell sufficiently high to enable farmers to secure a good return by raising two or three acres? 2. Where can I obtain the Reddick mole trap?

ANS.—1. The price of pop corn varies widely. It is one of those special crops grown in some localities, and handled in a particular manner, in the growing of which some persons will make a good profit, while others, and perhaps the majority, will make a failure. The crop succeeds best, and attains its highest quality in certain localities. Growers in such localities, raise large quantities, have special facilities for curing the crop, and know just how to handle it to the best advantage. To most of them, two or three acres would be a small crop. The curing is the most difficult part, as upon the correctness of this depends the value of the corn. Usually, it is not salable until the year after it is grown. A few years ago, such large quantities had been grown that the market was glutted, and prices were very unsatisfactory. But many growers stopped planting for a year, or reduced their acreage, and the market cleaned up until there was again a good demand the past year. Prices run in this city all the way from one to four cents per pound, according to variety, quality and demand. About two cents is, perhaps, an average price. The corn is sold in the ear. The Rice and White Pearl are the favorite varieties. We do not know what might be considered a fair yield. 2. Of the Michigan Wire Shovel Co., Niles, Mich.

Carrying Light Loads Down Hill.

J. R. E., Industry, Pa.—Can you give a description of the trolley used for carrying milk, which was illustrated under "The Story of Certified Milk," in THE R. N.-Y. of December 7, 1895? How should it be built and arranged for carrying light loads from the top to the bottom of a hill? It would be of immense value to one having fruit on steep hillsides, or on the top of a hill, to be able to transport it in this manner.

ANS.—This "trolley" is quite simple. A wire rope runs from the barn to the dairy house, entering a window low enough to permit the wheels on an iron truck to roll in. This wheeled truck is made fast to an endless wire rope which runs around a wheel at both barn and house. These wheels are provided with cranks, and when they are turned around, of course, the wire rope revolves and carries the truck along the fixed rope in either direction. For example, this "trolley" is run along the wire up to the barn. The cans are fastened on by hooks which catch under the rim on either side. Then a man turns the wheel so that the endless wire moves down to the dairy house, carrying the truck and cans along—the wheels turning on the fixed wire. This is easy, as the loaded cans all move *down* hill, and only the empty ones come back. There may be other methods of carrying loads up and down hills that are better than this one. If so, we would like to know what they are.

What is a "Weeder"?

D. C. H., Elizabethtown, Ky.—What kind of tool is a Breed's weeder? I have seen it mentioned many times in THE R. N.-Y., but have never seen a description of it. Is it a kind of one-horse harrow? Is it a good tool with which to cultivate corn? Is it a cultivator? Has it any advantages over a harrow or cultivator?

ANS.—Mr. Breed's original model for his weeder was his hand. There were four fingers and a thumb fastened to a fixed object (the palm), but with hinges enough so that they could play about at will—pulling up weeds and leaving the good plants. He said, "I will make the best *imitation* of the human hand that can be made of wood and steel." He first took a board about six feet long and eight inches wide, and bored two rows of holes a few inches apart the whole length of it. In these holes, he stuck limber sticks about three feet long. Then he fastened some buggy shafts to the upper side of the board, and two handles that reached behind, hitched up the old mare, and started her up and down the rows of young corn and potatoes. You will see that the only parts that touched the ground were the ends of these limber sticks, which twisted and scratched and turned in the soil, making marks more like the track of a hen's claw than that of a cultivator. That was the origin of "Breed's weeder," and the principle has not been changed. Instead of the old sticks, we have long, slender steel teeth which scratch and rake rather than plow and cultivate. The original weeder has retained its general shape and size. The "Z. Breed weeder" has curved teeth somewhat like a horse hayrake, while other makes have various shapes of teeth or board. All that it will do is to *scratch* the surface lightly when the crops are small, thus tearing up and destroying many little weeds. It will not take the place of a harrow in preparing ground for crops, neither will it give a *deep* cultivation. It is just a *scratcher*. It is lighter and wider than harrow or cultivator, and is under perfect control of the driver, who can lift it with one hand over any obstruction Thousands of these weeders are in use. They do best on level land with few stones, though the original weeder was made in a very stony country.

Some Facts About Cold Storage.

B., Constitution, Pa.—1. Would it pay a farmer to store fruit in the cold storage warehouses in the cities? 2. Would it pay a country storekeeper to store eggs?

ANS.—1. No, it will not pay a farmer to store anything in the city cold storage houses, for any length of time—not in this city, at least; storage rates are very high. The place to store produce is in the country where space is not so valuable. 2. In the country, yes, provided the eggs are perfectly fresh, and are rightly handled. Plenty of eggs are thus stored every year. A temperature of about 40 degrees, Fahr., must be maintained, and the eggs must not be kept near anything that would taint them. Of course. the advantage is that eggs can be bought when plenty and cheap, and sold when high.

Cotton-Seed Meal for Poultry.

Y. H. C., West Rutland, Vt.—Is cotton seed meal a good feed for hens? Is old-process oil meal good for horses? I am feeding a small quantity, and it seems to agree with them. What is the analysis of flax-seed meal?

ANS.—We would not feed much cotton-seed meal to hens. A small quantity, say, three times a week with plenty of laxative food, may be safe, but we would not expect good results from it. It is constipating in its effect on the system, and is sometimes fed in small quantities to broilers when threatened with diarrhea. It is safe to feed most horses as high as 1½ pound of oil meal per day. It does them good, especially when they are a little run down or constipated. Most of the "condition powders" contain more or less oil meal. An average sample of whole flax seed will contain 17 per cent muscle-makers, 19 of fat-formers and 35 of pure fat.

A Grain Ration for Dairy Cows.

E. E. T., Scott, Pa.—Corn meal is worth $15 per ton; bran, $17; linseed meal, $20, and ground oats, $18. What ration should I feed with 35 pounds of corn ensilage of good quality, and eight pounds of mixed hay?

ANS.—We presume that this food is intended for dairy cows. As a matter of *theory*, a cow of good size should eat enough food each day to provide 2½ pounds of muscle-makers, 12½ pounds of fat-formers, and two-fifths pound of pure fat. Your 35 pounds of ensilage and eight pounds of hay, if of good quality, will furnish .7 pound of muscle-makers, 7.64 pounds of fat-formers, and .255 pound of pure fat. You need to add grain enough to furnish 1.8 pound of muscle-makers, and about five pounds of fat-formers, and a small quantity of pure fat. Now let us see what you can buy in these foods:

ACTUAL FOOD IN ONE TON.

	Muscle-makers.	Fat formers.	Pure fat.	Price.
Corn meal	145	1,268	69	$15
Bran	234	893	52	17
Linseed	517	530	142	20
Ground oats	169	922	79	18

That is, assuming that the linseed meal is "old process."

Or, to put it in another way, take this table:

POUNDS BOUGHT FOR ONE DOLLAR.

	Muscle-makers.	Fat formers.	Pure fat.
Corn meal	9⅔	84½	4½
Bran	13⅓	52½	3
Linseed	30½	31¼	8½
Ground oats	9⅓	51¼	4⅓

That shows in a nutshell what you can do for a dollar. You need more muscle-makers than anything else, and, according to these figures, corn and ground oats may be counted out, for they bring the cost of muscle-makers too high. There may be corn enough in the ensilage, but for buttermaking more might be added. At the prices given, bran and linseed are the cheapest grains. The trouble is in estimating the value of the hay. We have given it a low valuation, but if of good quality, two pounds of oil meal, eight of bran, and two of corn meal will answer fairly well. A cheaper ration could be made from 1½ pound of oil meal, one pound of cotton-seed meal, six pounds of bran, and two of corn meal. Where ensilage is fed, we consider it safe to experiment with cotton-seed meal. Of course, you understand that this is a theoretical ration, more in the way of suggestion than anything else.

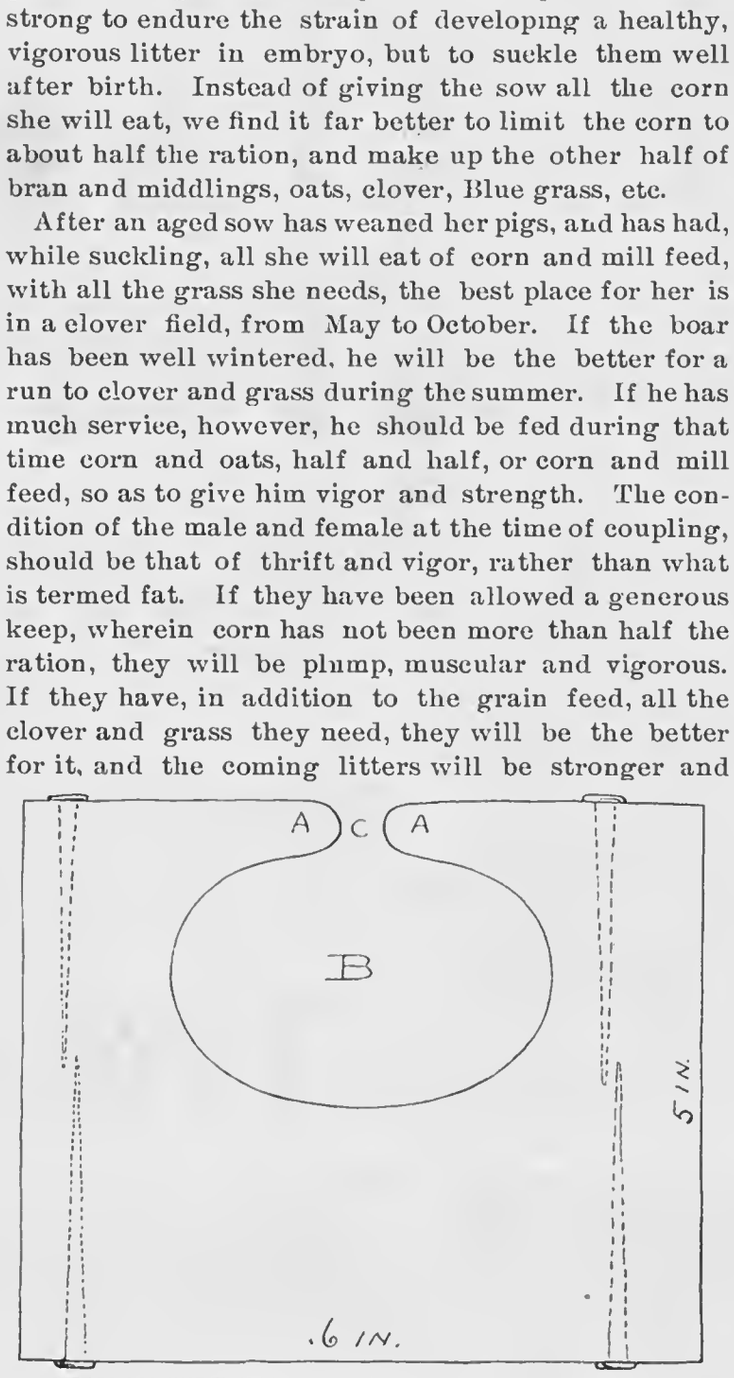
Feeding Corn to Breeding Swine.

G. W. M., Polo, Ill.—Should a brood sow have all the corn she wishes while running with a boar? Should a young brood sow be kept fat all the time? Should a boar be kept fat for good service? Last spring, my sows had only from two to five pigs, and I had old sows and a boar used the second season, which was 19 or 20 months old when left with the sows. The same sows and boar did better the year before. I was told that sows would have more pigs if not fed much when left to run with a boar. I always have fed pretty heavily, and I let the boar run with all the sows, all the time during the season from December to March.

ANSWERED BY L. N. BONHAM.

Corn is not the best feed for breeding stock, young or old. In the West, where corn is our great crop, we are tempted to rely on it almost wholly for growing and fattening hogs. There is no feed they like better, and it is convenient, green or dry, whole or ground. In feeding breeding stock, we should keep in mind that we must feed for bone and muscle, rather than for fat. The former means vigor and strength—the latter weakness and early decline. We aim to feed our brood sows very liberally while young, to secure strong growth and as early development as health will permit. The profitable feeding animal is one that matures early, and the feeding habit and constitution of the dam will be inherited by the offspring. It is the generally accepted theory that the dam imparts to the young her constitution and tendency to growth arising from strong powers of digestion and assimilation. In order to grow a strong and early-maturing sow, with a vigorous constitution, we must give her food that is rich in muscle and bone-forming elements, rather than in fat-formers. We wish to feed the brood sow and the young sow so that they will keep growing bone and muscle, and increase in powers of digestion. They are not only to be made strong to endure the strain of developing a healthy, vigorous litter in embryo, but to suckle them well after birth. Instead of giving the sow all the corn she will eat, we find it far better to limit the corn to about half the ration, and make up the other half of bran and middlings, oats, clover, Blue grass, etc.

After an aged sow has weaned her pigs, and has had, while suckling, all she will eat of corn and mill feed, with all the grass she needs, the best place for her is in a clover field, from May to October. If the boar has been well wintered, he will be the better for a run to clover and grass during the summer. If he has much service, however, he should be fed during that time corn and oats, half and half, or corn and mill feed, so as to give him vigor and strength. The condition of the male and female at the time of coupling, should be that of thrift and vigor, rather than what is termed fat. If they have been allowed a generous keep, wherein corn has not been more than half the ration, they will be plump, muscular and vigorous. If they have, in addition to the grain feed, all the clover and grass they need, they will be the better for it, and the coming litters will be stronger and



MILK MUZZLE FOR A SELF-SUCKING COW. FIG. 17.

larger than if the sire and dam had been made fat on corn alone.

There is a common belief that both the boar and sow are more prolific if they are thin in flesh. But as our aim is to produce, quick-maturing, rapid-feeding pigs, we more frequently gain our end, by having both sow and boar in good flesh, with all that implies of vigor and health. I have seen very promising young sows and boars, that were great failures in the breeding pens, and generally found the cause in heavy feeding of little else than corn. I have also seen as successful breeding from full-fleshed, or fat sows and boars, where the flesh has been put on with oats, mill feed and grass and a little corn. When the sow is in good flesh from a wholesome variety of feed, she is in the best condition to breed, she has strength, with her flesh if she has had all the exercise she would get on grass or clover. She will likely suckle well, and unless very skillfully fed, will lose flesh, before the pigs are weaned. If one can give the sow a gallon or two of skim-milk with all the corn and mill feed she will eat, with all the Blue grass or clover she needs, she will keep up her flesh and flow of milk remarkably, and the rapid growth of the litter, will repay all extra care bestowed on the dam.

We cannot secure best results from corn alone. The food of all breeding stock should be such as contains elements necessary to growing bone and muscle. Corn contains 66 per cent of starch, 7 per cent of fat, and only about 10 per cent of nitrogenous food, with too small a portion of phosphate of lime for building the strong frame-work of the profitable hog. If one has skim-milk enough to give sows and pigs all they will take, he can make good, healthy pigs on corn as his only grain feed. One quart of milk to a pound of corn meal is nearly a perfect feed for pigs. Fifty-six pounds corn meal, with 112 pounds of skim-milk, will make better growth than two bushels of corn. If one has not the milk, then he must have grass or clover, with less corn and more oats, barley and mill feed, to secure the best growth, health and a profitable number of vigorous pigs.

Bunches on Heifer's Legs.

W. M. D., Corunna, Mich.—What shall I do for the bunches on the outside of my Jersey heifer's hind legs? They came on about four weeks ago, were as large as my fist, and do not go away. They are about opposite the udder on the large muscles; are not hard, neither are they sore. This heifer will be fresh next month, and is 18 months old.

ANS.—Try painting daily with the compound tincture of iodine, until the skin is well blistered. Then apply only once or twice a week. If this fail to remove them, employ a veterinary surgeon to remove them by surgical means, if necessary. F. L. K.

Bad Scouring in a Horse.

A. D. W., Andersontown, Md.—My horse scours badly at times when driving, and then again he does not. He does this without any change in food whatever. His hair has the appearance of being dead, and he is in very bad condition, also, although well fed and receiving fairly good attention. What can I do to get him back to his right form?

ANS.—Such scouring is usually due to some fault in the food or drinking water, or to some functional disorder of the digestive organs. You should have given the ration you are feeding, to have enabled me to suggest a change of diet, if desirable. Some horses are predisposed to scour, and are almost sure to do so if driven on the road. Feeding or watering just before driving, increases the tendency. Examine the feed and drinking water to make sure that both are wholesome. Feed only a moderate allowance of corn fodder, giving more grain, if necessary, and do not allow the horse to drink more than 10 to 12 quarts of water at once. Give one of the following powders in the feed night and morning: powdered nux vomica and sulphate of copper, of each three ounces; arsenic, 70 grains; mix, and make into 32 powders. F. L. K.

Contagious Foot Rot in Cattle.

T. R. C., Hustonville, Ky.—What is a remedy for a cattle disease called cracked heels, or sore heels? The cleft of the hoof cracks up further, gets sore, and matter sometimes forms something resembling honey comb. It makes cattle so lame that they can hardly walk. They are worse in the spring and in times of heavy dews. It appears to be contagious.

ANS.—Clean the feet and pare away all dead or diseased horn. Between the claws, it can best be cleaned by drawing a strip of old cotton cloth or untwisted rope backwards and forwards. Then thoroughly canterize all diseased surfaces, with a swab dipped in muriatic acid, after which apply a dressing of pine tar. Repeat once a week until cured. If care be taken in paring away the dead horn so as to expose all of the diseased surface, two applications are usually sufficient to effect a cure. During treatment, the cattle should be kept where the feet will become soiled as little as possible. Even after recovery, all feet should be examined once a month for two or three months, to detect any disease that may not have been entirely stamped out. F. L. K.

Parasites in Sheep; Self-Sucking Cows.

A. P. F., Pennsylvania.—1. What shall I do for my mare? She wrenched her hind fetlock joint; there is no fever and no swelling, but she cannot bend the joint. 2. What can I do for my sheep? They have a cough, and are very poor. I am feeding good, clean corn stalks and Timothy hay. I have no clover. I have also fed them sulphur, and am now feeding condition powders; but they are getting worse instead of better. I do not stable them, but have a good shed in the barnyard for them to run under. 3. Is there any way to break a six-year-old cow from sucking herself?

ANS.—1. Blister the whole joint severely, by rubbing thoroughly with equal parts of sweet oil and strong aqua ammonia well shaken together. If not blistered by the first application, apply a second in three or four days. Repeat if necessary. 2. The sheep are evidently badly infested with parasites, but whether simply grub-in-the-head or intestinal worms, I am unable to say from the description. It would be well to kill one of the worst affected, and carefully examine the sinuses or cavities in the head at the upper end of the nasal passages, and between the eyes, for grubs; and the stomach and whole length of the intestines for round worms one-half to an inch or more in length, and tapeworms of a few inches to several feet in length. Then report the result of the examination, and I shall be able to advise suitable treatment. The sheep should have a ration of grain, which I would advise you to begin at once.

3. A very effectual homemade anti-sucking device, to be worn in the nose, is shown in Fig. 17. It is made of half or five-eighths inch soft wood, usually basswood. It should be about five by six inches, and carved out on one edge as shown in the cut. The opening, *c*, between the two points, is about one-half inch; and the space, *b*, 2½ by 3½. This space and the opening, *c*, will vary a little with the size of the cow, being larger for a larger animal. The points, *a a*, should be well rounded, so as not to injure the nasal septum. The dotted lines represent wire nails carefully driven in the opposite edges to prevent splitting. To insert the anti-sucker, hook one point, *a*, into one nostril, and by manipulation work the muffle edgewise through the space, *c*, so as to bring the opposite point in the other nostril. It can be worn by the cow with very little inconvenience in feeding; but when she attempts to take hold of a teat it is in the way. F. L. KILBORNE.

Some Poultry Suggestions.

C. T. C., ROSENDALE, N. Y.—I have been reading THE R. N.-Y. with much pleasure, and am interested in the poultry articles. Is it necessary to keep half a dozen different breeds of hens to keep up a perfect rotation of eggs, as Mr. Mapes does? As to hens moulting; some hens do moult quicker than others of the same breed, and recover sooner. The cause of this is largely due to the condition of the hen when she began moulting and, the care she has during that time. I think that Mr. Mapes, or any man that keeps hens by the acre, keeps them for profit; if so, why is he bothered with moulting hens? We sell all our hens before the moulting season, as then they bring a good price, and we avoid keeping them two or more months for nothing, as they don't lay many eggs during that season. But how about the eggs when the hens are sold? If pullets are hatched in March and early April, they will begin laying in August, and by September will be down to business, if well cared for, and furnish eggs in October, November and December, when one dozen is worth two that are laid during March and April, when every half kept scrub will lay. As to what breed to keep, my experience has taught me that, for all purposes, the B. P. Rocks lead them all, because they lay when very young, and are good cold-weather layers, which are the kind for profit. The Leghorns will lay more eggs in a year, but will not bring so much cash.

Scalp the Skunk Scalpers.

J. D., ZANESVILLE, O.—Some weeks ago, in THE R. N.-Y., I saw a statement that a bounty was being offered by farmers in some localities for skunk scalps. They must be a bright lot of farmers! The skunk is Nature's most effective exterminator of all kinds of farm vermin. Tomato worms are its favorite dessert. A Muskingum River gardener would no more think of killing a skunk than he would of shooting his best dog. Large tracts of Ohio territory are posted, "No Hunting or Trapping," with the sole end in view of protecting the skunk. The good they do outweighs many times in value an occasional broiler, or the price of their fur. Better talk of paying a premium for the scalp of the hunter or trapper who destroys them!

Milk in Place of Meat.

J. F., NORWALK, O.—If sweet milk is fed to hens, meat is not needed. Clabbered milk is very good in the place of meat. I don't think much of sour milk for hens; it should not be before them all the time, as it keeps them too loose. Buttermilk three times a week is very good. I have not much faith in using milk for mixing the morning mash. Ground feed should be scalded, and it is a little difficult to scald it with milk. Milk of any kind will make the heads and combs look red and healthy. It also makes the egg basket look well. If hens have free range, meat is not necessary.

More About Rams.

J. C. S., ORE BANKS, VA.—In my haste to finish my reply to Mr. Hoyt's queries, page 856 (1895), I omitted to call attention to quite an important fact of general interest. All who have ever purchased a hydraulic ram, as well as those who have made inquiries concerning them, have, no doubt, been informed that a stated amount of water is necessary to operate a ram of a given size. This is true, however, only in a limited sense. To get the full working capacity, as indicated by the quantity of water delivered in a given time, the amount of water specified is absolutely necessary, and it is better to err on the safe side by having a little more. But where the object is more to have a continuous stream, rather than a large amount in a short time, considerably much less water will suffice. All one has to do is to regulate the stroke of the "splash" or waste valve, so that less water can escape at each descent. The speed of the stroke will thus be increased, and the amount of flow from the delivery pipe correspondingly diminished. If Mr. Hoyt's ram is now working with full stroke, he will be surprised to see how much longer the same amount of water will run it after shortening the stroke. Only he must not carry the shortening process too far, as a certain amount of impetus is requisite to assist in making a prompt rebound.

Keiffer Pear in Indiana.

A. R., RAGLESVILLE, IND.—We have some Keiffer pear trees, four or five years old, that are doing nicely; the fruit is good size, colors up finely on the trees, but with some specks, however. It needs to be ripened in a cool, dark place, but for cooking or canning is all right as taken from the trees. I have known the pears to sell as high as $2 per bushel in Washington, Ind. There are no very large orchards of this variety in this county, but one man in Scott County, planted 11,000 trees last spring. I don't know as to the overdoing of this variety; while the quality is not the best, if properly ripened, the pears are very good, and for appearance, I have never seen a pear that was better. No doubt the color is better on high than on low land.

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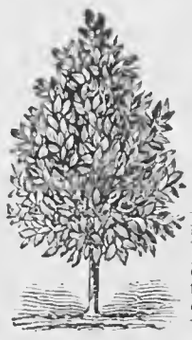

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But the Otaheite is itself a most desirable plant for house culture, and as a garden plant as well during the mild months of the year. It is a plant, too, that will succeed, admirably in any sunny room and, indeed, is becoming highly popular in the cities.

We have before us a plant that is but 10 inches high, and as many in diameter. It is bearing five oranges, three of them ripe, and five others have within a few weeks been pulled off. They average six inches in circumference. The color of the skin is a deep or reddish orange; the skin is very thin, with an intense orange odor. It peels very readily from the flesh. The sections of the flesh which are seedless in the fruit of this particular tree, also part readily, the skin, though thin, being firm enough not to break from the handling. The flesh is very juicy and sweet, though the white skin is rather bitter, but it is easily rejected.

The leaves are evergreen, nearly two inches long, of an elliptical shape and of a medium green color.

The Otaheite is a grand pot plant. It is satisfied with a pot, if the soil is what it needs, and any good, loamy garden soil suffices. Thus cared for, smaller plants than the one we have particularly alluded to, will produce a marvelous quantity of blossoms and fruit. It is a treasure for its flowers alone. With proper care, the plants are never without fruit or flowers, the latter being white, five-petaled, and about an inch in diameter, laden with the characteristic, delicate and delicious odor of orange blossoms. Truly one may, with little chance of creating an adverse discussion as to the choiceness of his taste, say "Could I have but one window plant, it would be the Otaheite." Plants are offered by most florists and nurserymen for from 25 cents to $2 each, depending upon the size, age, vigor and the number of oranges borne. The plants in full bearing may, with proper care, be shipped to any distance, so persistently do the oranges hang on. In fact, one can not pull off an orange, even though fully ripe, without leaving a part of the peel to the stem.....

WE hear, through the Loudon Garden, of new kinds of chrysanthemums bearing green or greenish flowers.....

THE Garden has a good word to speak of bush cherry trees. They are the Morello grafted on Mahaleb stock, which exerts a dwarfing influence, so that the trees may be set nine feet apart, or used for borders. One advantage is that these bush cherry trees may readily be covered with netting to protect the fruit from birds. We are told that the cherries hang in perfection until the end of October.....

To our readers who have interested themselves in our latest trials as to the hardiness of the Rural winter oats and Crimson clover, we would now say: The oats are all right so far. So are the oats and Crimson clover in the plot where both are growing together. The Crimson clover alone seems to have been injured, if not killed, in places. But we are not as yet quite positive about it....

WE know that seed potatoes left in bulk—whether in heaps or in barrels—in cellars, dark and damp, will sprout. The sprouts will grow from an inch or so to several feet. We have assumed that this growth of the buds (eyes) weakens the mother tuber just in proportion to the growth of the stems—for that is just the word. The sprouts induced by moisture and darkness are just as much stems or branches, as are the green, leafy stems that grow from the tuber after it is planted in the open ground, the important difference being that the latter get food from the soil and air and sunlight, while the others live wholly upon the mother tuber, which, when cut and planted, is so weakened that all further growth of shoots must necessarily be slender and weak. The plants never become as vigorous as do those grown from sound potatoes.

What happens when potatoes are kept, from the very time they are dug until the following spring, in a warm, sunny, dry room? The eyes are slow to start. When they do start the growth is slow, forming coxcombed, wart-like, compact, stubby little stems that will remain short and strong up to planting time.

What we have regarded as our best seed potatoes are those which, perfectly sound when placed in a sunny, dry room, have been so left for three months previous to the planting period. Wouldn't it be an experiment worth trying to plant, side by side, under the same conditions, sound potatoes and those exposed as we have described?.....

STARTING the eyes of potatoes by exposing them to warmth and light, may prove of service, as we have shown, in identifying varieties or, at any rate, proving them to be different. Some eyes will give light green sprouts, others dark green, some pink, some light purple, others dark purple, nearly black. Again this stubby growth will be more dwarf and bushy, so to say, in some kinds than in others; some will be more, some less coxcombed than others, each portion or knob being the beginning of the growth of a stem and indicating by the number of them whether the variety has slender, upright-growing or large, bushy tops.

Two potatoes were sent to us six weeks ago. They resembled each other closely in size, shape, number of eyes, and color of skin. The friend said that he had bought one lot for Carman No. 1, the other for Carman No. 3; but he feared that both were the same. We placed them in a sunny window of a warm room. The sprouts are now large enough to show that those of the Carman No. 1 are light green, while those of the Carman No. 3 are dark purple, thus proving them to be different and, probably, true to name.....

YEARS ago, as our older friends will recall, the late Alfred Rose declared that our R. N.-Y. No. 2 was his Beauty of Beauties. He had, a year or so previously, sent a lot of the latter to be tried at the Rural Grounds. When he saw the R. N.-Y. No. 2, and before raising them, he sent out printed pamphlets which claimed them to be the same as his Beauty of Beauties, intimating that, through accident or intentionally, the latter had been propagated and offered under the name of R. N.-Y. No. 2. The result was that lots of Beauty of Beauties were sold for the No. 2, and many of the No. 2 were sold for Beauty of Beauties by seedsmen who believed Mr. Rose's statement. Mr. Rose, at our urgent solicitation, sun-sprouted a tuber of each kind, the result of which was that he fully acknowledged his error with due apologies.....

AGAIN, the sun-sprouting method may be made of valuable service in determining the maturity of varieties; that is, whether they are early, intermediate or late. Generally, the earliest kinds sprout first in the cellar, stored as they may be, the intermediates next, and the latest last. Stored in barrels or in bins or heaps, and, therefore, subjected to varying conditions, it is not easy to tell the season of the variety's maturity. But when single tubers of about the same size and condition are placed in a sunny, warm, dry room, it will be found, we think, that the season of maturity may be fairly well determined. At any rate, the best *keepers* will be found to sprout last.....

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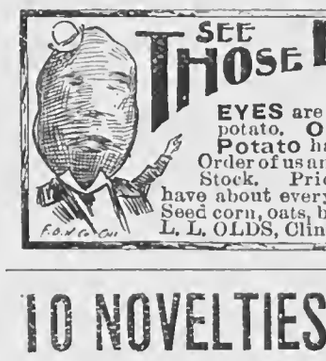

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THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

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SATURDAY, JANUARY 18, 1896.

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THE following books are all first-class—the best of anything in their line:

	Cloth.	Price.
The Nursery Book	"	$1.00
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⊙

IN his account of growing "straw potatoes," page 34, Mr. Miller speaks of making the rows three feet two inches apart. In soils where the vines grow 5½ feet long, as his did, this may be a good distance. But we are inclined to believe that, on drier soils, closer planting would be preferable. What is the best distance, anyway—all things considered?

⊙

MOST of the papers have printed an article advocating the use of Holstein bulls on Jersey cows. Copies of this article were evidently sent to all the papers, and the editors used it as entirely original matter. It was well written and forcible, but struck THE R. N.-Y. as merely a skillful attempt to "boom" the Holsteins. That is all well enough, but when the same article appears, word for word, in a dozen different papers, we think that the average reader will find it a trifle stale. As to the general proposition of the wisdom of crossing these two breeds, the notes printed on page 46, will let a little light into the subject. Both breeds are strongly prepotent with opposite characteristics, so, as Ex-Gov. Hoard suggests, the chances for a good "nick" are not so good as with other breeds.

⊙

ACCORDING to the laws of New York State, the railroads inside the State limits are obliged to sell 1,000 mile books or passes at the rate of two cents a mile. That is to say, by paying $20, a person has the right to secure transportation for 1,000 miles over the road, in one trip or 100, as he sees fit. The intent of those who framed the law was to benefit the public, the idea being that a wholesale rate would encourage people to travel more and give the roads less trouble. While this was intended as a public benefit, certain of the roads have apparently done all they could to make it difficult to obtain these books. For example, they limit the number of offices at which the books can be bought. A friend of ours wished to buy one, and had to wait until it was sent back from the main office. When it did come, it was made out in such a way that only the person buying it was qualified to use it. It also required the holder to buy a ticket before entering a train, using the coupons in the book in place of money. The whole idea of it was to attempt to comply with the law, yet make the conditions such that few people would buy the books. The Erie Railroad has been prominent in this selfish business. We are glad to see that the State Board of Railroad Commissioners have investigated this matter, and decided that these railroads are not complying with the law. The present legislature should overhaul the law, if need be, and leave it in such shape that these 1,000-mile books may be purchased at any station, and be used by any member of the family. It is a foolish and short-sighted policy on the part of these railroads to try to kill off this wholesale ticket business. There are thousands of farmers in the State who would make frequent use of these books if they could buy them handily, and use them for all members of their families. The increase of traffic from this source would far more than make up the difference between the 1,000-mile rate and the retail price. It is a singular thing that the law must be invoked to show railroads how to increase their business; but it seems to be necessary in this case.

⊙

THE President of the Connecticut Sheep Breeders' Association felt obliged to make the following statement at the last meeting of the State Board of Agriculture:

I am not the owner of a single sheep. The town of Oxford still owes me for a portion of a flock that I had been years in growing up so that I took some little pride in it. I shall never keep another sheep until the laws of our State offer me better protection, or until the loss falls uniformly upon the dog-keeping people of the State, and not upon my own townspeople. You may think this queer talk for the president of an association chartered by the State for the advancement of sheep breeding, but it is idle to mince matters. Sheep breeding will not advance in this State until there is better protection from domestic wolves, and this protection will not come until the farmers of Connectient say that it must.

"Domestic wolves"! That is a good name for the four-footed pirates who have so fawned on their owners that they have produced a set of men caring more for dog than they do for decency! Don't blame the dogs—blame the dog men!

⊙

A PARCEL post for the carrying of dairy and poultry products, fruits, vegetables, etc., at low rates, is being discussed in England. The mails there are already much more largely used for the transportation of merchandise than in this country, general parcels not exceeding 20 pounds being carried at about the same rates as in this country. The parcels post is a system by itself, although being conducted in conjunction with the regular letter mail. If these other products are admitted at special low rates, what a boon it will be, especially to the poorer classes, in the way of cheaper food. If this Government owned the transportation routes, instead of the transportation routes apparently owning the Government, such an arrangement might be among the possibilities in this country. Then the farmer in the interior with a small surplus of eggs, butter, or fruits, could send to the city dweller, at a small expense, just what he so much needs, but cannot afford, under present conditions, to purchase. In connection with free rural mail delivery, this would effect almost an economic revolution.

⊙

WE have constantly reminded our readers that pedigreed stock is just now as low in price as the average man of middle age can ever hope to see it. "Blood" is now being sold at a bargain. This is true not only of live stock, but of potatoes. There never was a better time to invest a dollar in improved varieties of potatoes. The price is low, and thousands of barrels of choice seed will be sold for less than the price of eating potatoes in average years. A change of seed—even the same variety you now plant brought from another locality—will give you excellent results. We advise you to take advantage of the low prices for seed, and stock up with new "blood" this season. At the prices now being quoted, there should be the heaviest transfer of seed stock ever known in this country. Many growers are apprehensive for the next crop—made so by the disappointing prices of this year. They must remember that the present crop cannot be stored for another season. It is not like grain. By July, it will be all gone, and there is not one chance in five that the combination of conditions that prevailed this year will occur again in a decade. Many of the speculative growers will reduce their area this year; but our advice to the general farmer is to grow about the same area as usual, and do his best with improved varieties and good culture to produce a full crop.

⊙

SOME years ago, the high price of sugar and the immense sums paid by this country for imported sweets, prompted all sorts of experiments with American sugar-producing plants. At that time, some enthusiasts went so far as to claim that within a few years Kansas would produce vast quantities of sorghum sugar, and greatly reduce the quantity brought from other countries. These dreams have all failed. In 1894, this country imported 4,345,193,881 pounds of sugar—more than in any former year, and at a lower price. Only one sorghum sugar factory was operated last year. The best factory in Kansas, which cost $110,000, was sold recently, under foreclosure, for $9,480. Sorghum-sugar making does not pay; but according to the Kansas Farmer, there is a chance that another new industry may partly take its place. That is the manufacture of tannic acid from canaigre. This plant, called by some, wild rhubarb, contains an average of 25 per cent of tannic acid. It grows wild in Arizona and New Mexico, but experiments have shown that it will thrive and yield large crops when cultivated. The supplies of bark for tanning purposes are running short, and tannic acid, which is the chief principle employed in turning hides into leather, bids fair to have a high commercial value. It is now proposed to use the deserted sugar factories for working up the canaigre root. Here is a case where bitterness yields more profit than sweets. It matters little so long as a profitable industry is provided for farmers of the Far West.

⊙

LAST year, Mr. Woodbridge Strong gave an account of his experiments with growing potatoes under a mulch. It appears from Mr. Miller's statement, page 34, that farmers on the river bottoms near St. Louis, have been for some years working this plan out in successful field culture. During the past year, a number of our readers in various parts of the country, have tried this plan—generally with success. The failures with this system are usually due to the use of too thick a covering of straw or manure, or planting on land that is not properly drained. From our own experiment last year, we conclude that all *cultivation* may be dispensed with if a suitable mulch is used. The amount of hand-weeding required will, of course, depend on the condition of the ground previous to planting the potato crop. Mr. Miller estimates the cost of producing an acre of straw potatoes at from $30 to $36. The quality of these potatoes, he says, is excellent, and they have a sure reputation in the St. Louis market. This method cannot be recommended for all sections of the country without reserve, but a fair trial of it wherever straw or other mulching material is cheap, is a legitimate part of farm enterprise. Says Mr. Miller:

To experiment, is to keep out of ruts; ruts mean stagnation and rust; experiments also create and stimulate enthusiasm, which is the only artificial fertilizer we need at present in this county. With a little more enthusiasm, we may bring from $10,000 to $40,000 more into this county for the potato crop without adding more acres and very little if any more money or labor.

There are a good many sections where "artificial fertilizers *are* needed, but even with them, this sort of "enthusiasm" will not come amiss.

⊙

BREVITIES.

Here is a story you may use when next
You preach a sermon and would have a text.
Only be sure you work the moral in—
A darkey had a dog, long-legged and thin,
With nothing big about him but his tail;
"I'll cut dat off," said Cuffee, "without fail
'Fer wid no tail he ain't so apt to show
Dat he ain't nuffin' but a cur." And so,
A streak of false compassion in his soul,
Instead of cutting at one slice, the whole,
Each week he cut away an inch or more
To make the dog "get used to it" before
He lost his tail. No need for me to go
And rub the moral in, you ought to know
That *you* snip off your faults in just that style.
You don't go to the *root*—but, all the while,
Go snipping inch by inch and never fall
To feel the pain the whole length of the tall.

WATCH the little *thinks*.

A CLEAN shave is a cut away hair row.

A BIG thing—the solution of that sour soil problem.

THE grip of a lawyer isn't a legal tender—it's a legal tough.

WHICH would you rather be, a "fossil" or a "fanatic"—or both?

WE want a little of your ink dropped on that spraying question—page 36.

FAMILY matters are down to bed rock when the baby sleeps in the cradle.

Do we advise you to fortify yourself with spirit? It depends upon the spirit!

WONDER how your wife would like her valentine this year in the shape of dry stove wood!

THE application of that nose-board, page 37, will stop the cow from boarding on herself.

GOOD "blood" is cheap—so let the scrub retire, and give your future calves a nobler sire.

ALL large bodies are made up of atoms. Big results are made of many small "up and at 'ems."

"CHRONIC rootbreaker!" That's the latest name for the man who "rides on the cultivator handles."

FORTY degrees! What about it? That's a good temperature in which to keep apples, potatoes, sheep and hogs.

THE first farmers' institute held in a town generally has a good effect. Why is it that the second and third ones are not usually so good?

WE have a number of questions as to the value of pop corn for poultry food. It differs but little from other corn in composition, and is not worth more for feeding.

NEW YEAR'S advice to the poultryman. Ring out old hens, ring youth on deck, ring out the frost that nips the comb, ring cleanliness in Biddy's home and wring the surplus rooster's neck.

IF the hens' combs become frozen, anoint them with sweet oil and vaseline. A coating of the latter will often prevent the freezing. A hen with a frozen comb is unprofitable, as she generally refuses to lay until it is healed.

LET a man become interested in figuring out a feeding ration from the table of analyses, and the first thing he will prove to himself, is the fact that good clover hay saves grain. You can't possibly dodge that fact when you compare a ration made up *with* clover and one without it.

INSIDE OF THE VEAL MARKET REVEALED.

HOW TO KILL, DRESS AND SHIP CALVES.

From now on for the next few months will be the height of the season for hog-dressed veal calves. Immense quantities come to this market, and some receivers make a speeialty of them. In some of the stores, long rows of them may be seen hanging up by the heels—or, rather, by what remains of the hind legs, for they are all severed at the gambrel joints in a properly dressed ealf.

But there are others whieh are not thus exposed. The combination of dishonest dairyman, unprincipled dealer and soulless railroad, serves to maintain a trade in calves so small and unfit for food that they are not exposed to the light any more than possible, but are smuggled in like eontraband goods. Some avaricious dealers make a business of this class of goods. The writer of this has seen piles of these calves in the dark back eorners of commission houses, which, probably, wouldn't average more than 25 or, at most, 30 pounds in weight. In answer to the question as to what was done with them, an evasive shrug of the shoulders, and a suggestive allusion to "canned chicken," or some similar dainty, was the only reply.

Still the handling and sale of these calves is contrary to law, and inspectors of the Board of Health are supposed to stop the trade. Yet every one that knows anything at all about the New York City markets, knows that thousands upon thousands of them are sold here every year. We have seen ealves that had been sent here for sale, and which were sold, too, that weighed less than 20 pounds when hog-dressed. What is your opinion of a man who is so contemptibly, eriminally mean as to send sueh stuff with the knowledge and expectation that it will be used as food by his fellow human beings? The worst feature of it is that this unwholesome, poisonous stuff is palmed off on the innoeent and the unsuspecting under some disguise. It is to be hoped for the credit of honest farmers, reputable dealers, and the good of confiding consumers, that this disgusting and infamous traffic will be stopped, and that quickly.

But many good calves are sent to this market, meet a good demand, and form a welcome and wholesome addition to many a bill of fare. They should have some age, not less than three weeks, should be well fattened, dressed neatly and eorreetly, and shipped so that they will arrive in good condition. The breed makes little difference if the calf meet the requirements in other directions. Of course, Jerseys and the small breeds are sufficiently matured at a lighter weight than the heavier breeds; the condition of the careass shows this, a small, young ealf being usually thin and poor. The best weight is from 90 to 120 pounds when hog-dressed. Some dealers say that 80 pounds is none too light—provided the calf be in good condition. When the weight goes much beyond 120 pounds, the meat is too coarse. A glanee at the market quotations will show where these are classed, and the mueh lower prices obtained for them. To get these prices, however, they must be in good condition, and dressed in aeeordance with market demands. Only to-day, a fairly good ealf was seen in the market, that had been skinned entirely, and sewed up in cloth. This ealf sold, finally, for two eents per pound below the regular priee. One buyer claimed that the skin would sell for 12½ cents per pound, and all elaimed a greater reduction on aeeount of the skin being off, than was really fair. Only occasionally ean a buyer be found for such.

To dress a calf properly, eut the throat and hang it up so that it will bleed thoroughly; this has a great deal to do with the appearance of the meat. The entrails should be removed, leaving in the kidneys. The latter are the first thing examined by a buyer; if well covered with fat, the calf is eonsidered in good order. The earcass should be opened from about the region of the udder, about to the fore legs. Some open them clear down, but the point is to make them as attraetive looking as possible. The haslet is removed, and is generally shipped in a box separate from the ealf, as the demand is usually good. Some put the haslet inside the ealf, but while this may be allowable in cold weather and for short-distance shipments, it is a bad practiee; for it makes the careass look mussy, and in ease the weather is warm, it is more likely to sweat and spoil. The head should be removed, and the skin cut off baek of the ears. The legs should be severed at the knee and gambrel joints, and only enough of the skin left to fasten nieely over the stumps to protect and keep them clean. A shrewd buyer will insist on having deductions made for all surplus skin—a liberal allowance, too. Many calves are received, having the entire skin of the head and legs left on; this is useless, as it is unprofitable paying express eharges on what must ultimately be a waste.

The calf should be thoroughly eooled, a tag marked with the names of consignor and consignee firmly fastened on, and sent by express if the weather is at all warm, or the distance great. Freighting is risky business. The consignee should also be notified by mail. The best selling days are Tuesdays and Thursdays—Wednesday being the next best. Except under eertain unusual conditions, Friday, Saturday and Monday are bad market days. Above all, be careful to send only to reliable parties, for if a man be inelined to be dishonest, it is an easy matter to elaim that a ealf arrived in bad condition, and consequently sold for a low price. Still, reputable dealers do often reeeive those whieh are in bad condition, and such must sell for what they will bring, if, indeed, they are not seized by the Board of Health.

SOME MONEY IN MASSACHUSETTS POTATOES

In THE R. N.-Y. of December 28—page 858—Mr. Brewster of Plymouth County, Mass., showed how it cost him $138.60 to grow an acre of potatoes. He now sends us the following additional facts about his crop:

If you have not tired of the potato-cost question, I would say that I do not run such an "awful risk" as you say on page 860. Drought has never injured my erop. Scab I know nothing of, other than that eaused by wireworms, in land one or more years from sod; they do not work on potatoes planted on sod, and my idea is that they feed on the grass roots until they are gone, and then go for the potato the next year. Blight has caused me much loss by shortening the growing season. I made up my mind years ago that the blight was caused by the vines being cooked by steam or damp heat arising from the soil. I have never seen blight oeeur exeept where the soil was saturated with water, and after two or three days scalding heat at a temperature of 95 degrees. After the leaves are cooked, they furnish nice lodgings for mierobes, ete. Am I wrong to think mierobes the result rather than the cause of disease in plants or animals? Last season the blight stripped every leaf from three aeres before August 1, except about 200 feet of an outside row against which I turned a furrow of sod on the south side about July 1, and a few hills of Carman No. 1, on the south of whieh I placed boards (flat). The sod reached within 18 inches of the center of the drill. These were green and showed no sign of disease one month after. What does this signify to you?

I plant potatoes six inches deep on a Timothy-Redtop sod, and Mr. Currier's 35-pound 17-foot harrow would be as useless as a feather duster in getting land in condition to furrow. A western man tells me that, with a 24-foot harrow drawn by six horses, he could harrow only 20 acres per day, working from daylight till dark with one hour for dinner. Mr. Chapman says, "My help is mostly boys." Massaehusetts boys go to school, so I employ men at $1.50 per day. I use 15 bushels of seed per aere, which I cannot "cut, drop and eover for 75 cents." I doubt whether my crop uses more than 30 per cent of the fresh manure applied; which, leaving out the hay question, would reduee the eost to 21⅝ cents per bushel. The average price for the past four years has been 65 cents per bushel, at the time of digging, which leaves a profit of $133.33 per aere, which would cover quite a number of Western acres.

I could not raise a erop of wheat and elover, as you suggest, without a good eoat of manure harrowed in, and I think that I might get acquainted with the scab, or are tubers free from it when raised on clover sod? Do you know whether mulched potatoes blight?

I could comfortably house 1,000 hens at an outlay of about $300, giving four square feet per fowl. I have 29 pullets in a $7 house, that have produced 12 dozen eggs in the last six days, and yesterday the thermometer stood at 16 degrees below zero. C. H. BREWSTER.

Plymouth County, Mass.

R. N.-Y.—We shall have something to say about the scab and "microbes" in due time. The harrow deseribed by Mr. Currier was not intended to prepare ground for planting, but to scratch over the field as the potatoes came up, and thus save the cost of early eultivation. So far as average profit goes, you make about the best showing yet, which is quite remarkable considering the immense eost.

CHEAP POTATOES AND CHEAP POLITICS.

After reading the discussion elicited by giving the eost of growing a erop of potatoes, and a ehallenge for eriticism, I eannot but write a few thoughts that eome to me, although not just in line with what has been said. It takes a great deal of nerve to stand and draw the attention and erossfire of the hustling readers of THE R. N.-Y. Their agricultural conditions are so varied, that the search lights seem turned on from every possible direction. We also learn that it is these readers that grow the greatest and most paying erops, and also that those who most need to receive the benefits of these discussions, think that they eannot afford to take a farm paper, and so go on in the old way, never realizing that they are competing in market with those who raised crops at one-fourth the eost. We are all trying to make money, and it seems useless for those in adverse loeations, and under adverse influenees, to raise crops at so great a disadvantage as a great many do. I believe that a great many would quit growing potatoes if they could compare their work with the sueeessful growers, and many would ehange their methods.

As we read of the immense crops that are being raised in the different parts of the greatest nation on earth, we realize that the scienee of production is, as yet, in its infaney, and that as knowledge increases, our possibilities are comparatively boundless. Then I stop and think of the great force that is being exerted—the brain power of the farmers and fruit growers of our land—all in one direction, every nerve being strained to its full tension to make the earth yield up her treasure at the least possible cost, and I wonder, What will be the result? It seems to me time that we turned our attention more elosely to some other braneh es of our calling before it is too late.

What duties are we negleeting to gain a few more of these dollars (the value of which is unknown or at least uncertain at the present time)? Are we looking after the best interests of the school system as closely as after the potato bugs? Are we trying to economize in the finances of the township, as we do in the employment of help to reduce the cost of 10-cent potatoes? When we have to pay all of the profits to the transportation companies and commission merchants, do we go home and grumble to our wives about trusts and monopolies, and not give one little thought as to whom we have left the legislation of this great and free country, and whether they have legislated to the interests of those they represent? A few years ago, as I was coming to manhood, I was advised to inform myself in the politics of the day. I made the reekless answer, "Let the politicians take care of polities; I have all I can do to make a living." And most of the farmers around me seem virtually to have taken that stand, and we all find the latter part of that answer too true. I made a mistake in taking that position; so have you. We as a people are having more than we can do to make an honest living for our families, without making ourselves veritable slaves, with no time for enlightenment or even neighborly conduct. Let us stop for a time and see whether we can think what the effect would be if this mighty force were directed along this line for a little time. Could we not make just as mueh? Think it over.

Ohio. H. W. GILBERT.

BUSINESS BITS.

ARE you going to evaporate any maple sap this season? If so, McLane & Schanck, Linesville, Pa., will be able to interest you if you ask about their evaporators.

S. M. HARRIS, Moreton Farm, N. Y., has a pamphlet containing results of careful experiments with different fertilizers, that he wishes to send free as a means of introducing his nitrate of soda. You can get it for the asking.

□ WE have just received a very pretty illustrated catalogue of farm implements, including mowers, reapers and disc harrows from the Johnston Harvester Co., Batavia, N. Y. If you want one, send a postal card and ask for it.

HAS your wife a washing machine? If not, why not? You should ask yourself this question every Monday morning when the rubbing begins. The Becker washer is one of the good ones. Write N. G. Banghman, York, Pa., for full particulars about it.

IT is claimed that the Lightning seed sower makes it possible to sow clover, Timothy and similar seeds on horseback, and at the rate of 50 to 80 acres a day. The manufacturers put up a pretty safe guarantee by returning the money paid for them if not satisfactory. Frangeu & Buss, Golden, Ill., are the makers.

A GOOD farm wagon is the source of about as much comfort as any other one implement on the farm, and when you are getting a new one, you may as well get a good one—the best, in fact. The Champion pivot-axle wagon is so constructed that the tongue can never whip the team. For this reason, it is called the "Horses' Friend." We have them in use, and prize them very much. The Champion Wagon Co., Owego, N. Y., make them. The same company also make other wagons, grain drills and harrows. Anything this house make will be found first-class.

IN accordance with present customs, there are few more tiresome jobs than transplanting by hand. Besides, the growth of the plant is usually retarded, and in dry times especially, watering is necessary, and this does not always save the life of the plant. Mr. F. Richards, Freeport, Long Island, N. Y., has labored with these discouragements, and has finally invented a set of tools for transplanting that seem to have lightened the labor and prevented the disturbance of plant growth in the process of transplanting. He will send illustrated descriptive circular of his tools on application.

A PROMINENT fruit grower, on whose 20-acre farm we were not able to find a weed in the month of July, said that he killed weeds before they grew. He kept the ground fresh all the time. We can't go into all the wisdom of the practice here; but we wish to say that the custom is getting quite popular with all branches of farming. In order to use a harrow for this purpose on growing crops, it is desirable that it be easily and quickly adjusted so that the teeth may be slanted as desired to slip over the growing plant. This is effected in the Lean harrow made by Roderick Lean & Co., 64 Park Street, Mansfield, O.

PROBABLY no other manufacturer in the country has done so much to supply the people with a good, serviceable shoe at a low cost as W. L. Douglas. His years of experience and immense factory, with all the advantages of improved machinery and wholesale buying of material, together with the division of labor that can be applied in a large factory, enable him to make a shoe for $3 that no small manufacturer can approach in price, style or quality. The shoes may be procured of almost any retail dealer; but the dealer may have only one or two styles. To get an idea of the product of this factory, send for the new illustrated catalogue, to W. L. Douglas, Box M, Brockton, Mass.

Women make the Homes — # WOMAN AND THE HOME — Homes make the Nation

MY LIFE.

I know not if it be short or long,
Dark with sorrow or bright with song,
But I hush my questioning heart with trust,
Knowing that God is always just,
And whatsoever He sendeth me
The discipline I need, must be.

—*Gillette M. Kirke.*

WHAT have we done, now? Really, it becomes serious when some staid head of a house, whose wisdom we respect, sees the necessity of setting us right. But after re-reading the editorial on page 862, we see that it does convey more than we intended that it should, and, moreover, it was rash to trifle with such a question on the eve of leap year. A better word than "proposing" might have been used, the main idea being in the latter part of the sentenee: "That she may rid herself of this dog-in-the-manger elass." The old teaching that women must "suffer in silenee," is what we were aiming at. Mrs. Grundy is always too ready to make matches, and she starts the rumor of a wedding on very slight pretext. When these rumors are groundless, they harm only the woman in question, and this faet justifies a woman in protecting herself from meaningless attentions of men, if she has no father to attend to the matter. We cannot conceive of a womanly woman offering herself to the man of her ehoiee except under very unusual eireumstanees, although we have heard that it has been done without shattering a heart's ideal. But let us discuss this matter if you have anything to say.

*

THE last prize contest has been decided, and the winners are published on this page. The offer is now withdrawn. We are pleased with the interest that has been shown, and trust that our readers have benefited by the results. Perhaps the most important result of these contests has been the insight we have gained of our readers' tastes, and we mean that all shall profit by it in the improvement of our department, which is thus made possible.

*

THE Woman's Bible, which really consists only of the comments of several women on those passages in the Bible referring to women, is reeeiving eondemnation on all sides. It is very evident that women in general are not ready to saerifice their religion for politieal prine'ples or privileges. And, if the leaders of the suffrage movement have reached that degree of degeneration—we cannot call it development—they will only defeat their own ends by proclaiming the faet. If the day ever eome when women will deny their faith and meehanically fall into line with their political leaders, as the bulk of men voters do to-day, that will be the time when woman suffrage would be a greater evil than any it has promised to cure.

THE PRIZE WINNERS.

FIRST PRIZE.

To Keep Children at Home.

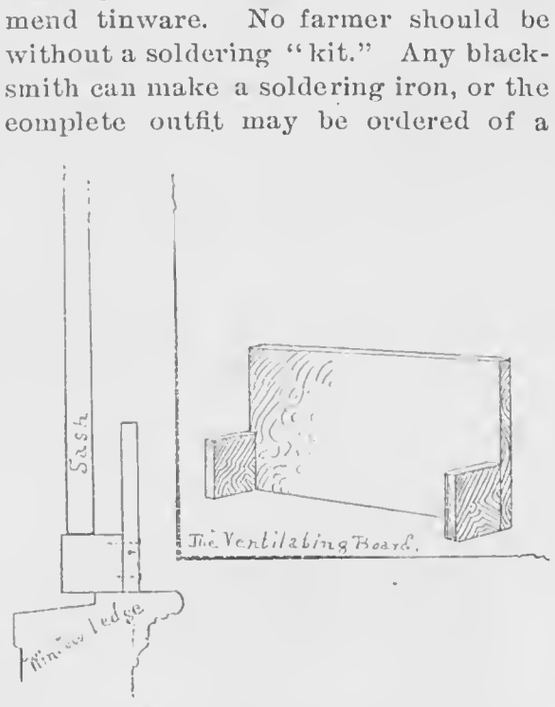
WHEN baby begins to run around and talk, he sees wonderful sights and asks wonderful questions—wonderful both in quantity and quality. The world is wonderland. Nothing is too large for him to try to grasp, nothing too small for him to diseover. And to whom does he eome with his wealth of discovery, and torrents of questions? Always to father and mother, and this is their great opportunity to build for future years. The parents that are wise enough to see this opportunity, will not dare to be "too busy" to give heed to the little one's importunities; but will share in his pleasure over the downy leaf he brings in; will leave supper-getting a moment to go into raptures with him over the sunset; will lay aside the sewing long enough to help straighten out an unruly toy. In short, will be to him what he expects them to be—friends and companions. They will teach him that the real beauties and pleasures of life are not the things we buy with money, but are the dewdrops under his feet, the frost pictures on the window, the ferny nook, the wee brown seed-baby in the heart of the flower—that next year will grow into a plant and have flowers of its own—the dainty little nest and happy mother-bird, the joy of making some person or some animal happy, the delight of diseovering God's hidden treasures by the brook or in the woods. The ehild, taught to see and love all these things and their Maker, will have within himself sources of entertainment, and his affections will be preëmpted for better things than profanity, slangy stories, or eruel trieks.

When father turns aside questions about the beauties and mysteries of life with, "Oh! be still and don't bother," and mother stops on the threshold the joyous bearer of an armful of autumn leaves with, "Now take that trash right out of here," is it any wonder that other companions and other things soon elaim the ehild? MRS. H. MARIE CURREY.

SECOND PRIZE.

Your Own Tinner.

Few people realize how easy it is to mend tinware. No farmer should be without a soldering "kit." Any blacksmith can make a soldering iron, or the eomplete outfit may be ordered of a



TO VENTILATE A ROOM. FIG. 18.

hardware store for $1 or $2. The "kit" eonsists of an old file, a knife for scraping the tin, some resin, a brick, and a bottle of muriatie aeid in whieh some zine has been dissolved. The soldering iron must be well tinned. File the tool until bright, heat until hot enough to melt the solder. Melt a little resin on the brick with the iron, rubbing it baek and forth on the brick until the point is well polished. Melt a little solder on the brick with the resin. This will spread itself over the tool, making a tin eoating. In this condition the tool is said to be "tinned." Never heat the iron red hot, for this will remove the tinning.

When taken from the fire, hold it near the faee, and after a little experienee one will be able to tell just the heat needed. Keep an old rag near to wipe the tool free from ashes. While heating the iron after it is tinned, the dish to be mended must be scraped around the hole until it is clean and bright. Dust on a little powdered resin and, if the tin eoating is worn off, dip a stiek in the acid and wet the tin with it. This eovers the iron with a coating of zinc, to whieh the solder will easily unite. Test the tool, for heat, wipe on the rag, then touch to a piece of solder. A drop will remain on the tool, whieh, when placed on the tin, will flow around and over the hole, making a round spot of new tin. If the first attempt is not a success, it must be beeause the tool is not properly tinned, or the tin around the hole was not cleaned. Mending will be found an easy job, and one that will save the pennies and dimes. LILLIA ARNOLD.

THIRD PRIZE.

Look After Your Dishcloths.

I was thinking of a delightful evening with Emerson that I had enjoyed as a member of a reading eircle, and imagining how elevating would be the thoughts I could arouse by extraets from his beautiful essay on "Friendship." I became deeply absorbed in my theme, so much so that I scarcely heard the knock at the door whieh finally aroused me. On going to answer the summons, I found a little girl, the daughter of a neighbor, whose mother had sent her for me, as several of the ehildren were siek. Putting aside my writing, I at onee went over and found them suffering from fever. On my adviee, a doctor was summoned, but in spite of all his efforts, eaeh case developed into typhoid. The mother, who had the reputation of being an excellent housekeeper, could assign no reason for this sickness; "As I am always so careful in every way," were her words. There were no sewer pipes to leak, no outside influence to produce germs.

The doctor analyzed the water, but found nothing objectionable. He threw disinfeetants into the sinks and slop-pails and still the fever raged. But one day I had to go into the kitehen to make some gruel, and, needing a dishcloth, I looked around but found nothing but grimy rags, which I at once pitehed into the stove, satisfied that I had diseovered the eause of the trouble. Calling the mother, I asked her for a dishcloth. She looked around upon the table. "Why," she said, "there were several here this morning." She then looked in the woodbox, and felt in the cupboard.

"If you called those greasy rags I found here, dishcloths, I have burned them, and never, as you valne your health, use such again." It was plain talk, but I felt it a duty; and so I say to all housekeepers, look after your dishcloths. Let Emerson go unread; let the dust lie on the parlor furniture; let the floor go unswept; leave the spider's work unmolested; let the socks go undarned; eat without a tableeloth; go without a Christmas eake or plum pudding; but, as you love your life, keep your dishcloths clean. H. MAC DONALD.

WHOLESOME AND SUPERIOR BUCKWHEAT CAKES.

WERE we not delighted to read in an authoritative work (partly on dietetics) not long ago, that buckwheat had long been given a bad name whieh it did not deserve? This book has become a standard, and is a household word all over the eountry; but lest I be thought advertising it, I may not mention its name.

Buekwheat is one of the most nutritious of grains; it contains a large proportion of the gluten whieh we are just beginning to appreeiate. The paragraph which so pleased me was to the effect that the common disrepute of buekwheat (healthfully considered), has been due to two eauses: First, the poisonous smut of the grain (to whieh, and not to the grain itself, is due the eruption so often following its use), has not been properly removed. Second, far too large quantities of melted grease, and of sugar and syrup have been the aeeompaniment of the "eakies." "Let the grain be well-eleaned, and let the grease and syrups be superseded by fruit sauces or by honey," says the physieian referred to, "and we shall hear far less of the deleterious effects of buekwheat eakes."

Think, for a moment, of eating buckwheat eakes *with a elear conscience!* Did any one not really strong ever do this? But it may be done, it seems. And the invalid of the family, eating thus with a elear eonseienee, has also been enabled to eat with a tractable digestive apparatus; no small advanee to one in daily bondage to a tyrant stomach.

And such delightsome eakes! Sweet, light, beautifully brown, feathery, why *need* one have a eonscienee as regards eating them? For they do not have even the elamminess of one-day-old bread.

The reeipe is this: three-fourths pint of water (warm); one-third to one-half of a yeast-eake; one eupful of plain buckwheat flour (that is, *not* the prepared flour); one-half eupful of white corn meal; a pinch of salt. This is well beaten and set in an evenly warm temperature over night. In the morning, the batter is thinned a little by the addition of warm water, in whieh has been dissolved one level teaspoonful of soda, and one teaspoonful of sugar. It should not be made thin enough to destroy its spongy character, yet should run easily from the spoon.

After first starting the batter, no yeast is used; the mixture being theneeforth raised by the batter left over on suceessive mornings. After breakfast each morning, one eake that has been left from the morning's baking, is eut into fine shreds, and added to the remaining batter, together with a handful of fresh buckwheat flour. This gives the batter something to work on, and prevents it from souring through the day. The addition of the baked eake is a strong factor in the good quality of eakes; yet, strange to say, adding too many "spoils the broth"—that is to say, the batter.

The above quantities, be it remembered, are for two people. Those with large families eontaining children with growing appetites, may need to increase the quantity a little more than proportionately to the number.

Milk may be added in the morning, instead of water; but I think that it inereases the tendeney of the batter toward

toast bread

and keep it dry. There'll be no danger of its molding. But moisten the bread with water, and see the result. It is covered with mold. So with consumption. Its germs will not grow in the lungs unless everything is suitable to them. Weakness, poor blood, loss of appetite, coughs and colds often prepare the ground for the development of its germs. To destroy germ-life the system must be kept in a well-nourished condition. *Do not lose flesh.*

Take Scott's Emulsion, with hypophosphites, as a preventive. It furnishes the reinforcements necessary for the body to conquer in the easiest possible form. The oil is in a state quickly taken up by the organs and tissues.

Scott & Bowne, Chemists, New York. 50c. and $1.00

souring during the day; yet some cooks always use it. Occasionally, a little fresh yeast is added, but only when the batter seems to show, by sluggishness in rising, or by added tendency to sour, that a stimulant is needed.

Let no novice judge (and condemn) the cakes from the first morning's sample; they are never first-class then. After two or three days of the regular routine, one may be better prepared to pass judgment. The old housekeeper knows, too, that the mere consistency of the batter may decide the table quality of the cakes. If too thick, they will be dry and "chippy"; if too thin, they may be sticky, and will fail to rise properly on the griddle.

In New York restaurants, griddle cakes, and, at this season, buckwheats especially, are quite a feature of the bills of fare.

"Aren't the cakes good?" was said, one morning, at the home table, to a gentleman particularly addicted to ordering these restaurant cakes.

"Yes," was the reply, decided enough, but lacking the enthusiasm which the cook believed the occasion to warrant.

Another tack: "Are they as good as the restaurant cakes"?

"They're better than any we get anywhere except at D's."

"Are D's better than these"?

"No; I don't know that they are. They vary; but they're always tip-top!"

Which, I take it, was a roundabout way of saying that the home supply was "tip-top." Who cares for enthusiasm in such a case? MYRA V. NORYS.

WHOSE IS THE PRIVILEGE?

ON page 862, I read: "If a woman may marry a man to get rid of him, why should we not allow her the privilege of proposing?" etc. What do I think about it? Well, just this: Until you debase the deference every gentleman feels towards the opposite sex, the experiment will be a dangerous undertaking. I am far from believing that there is but one individual existing at a time with whom a person of either sex could lead a happy life. A gentleman always considers in a certain sense, that a lady is his superior, a prize to be attained, something worth striving for. The "new woman" may aspire to certain accomplishments and prerogatives; but it seems to me that the methods pursued by many can have but one tendency, and that a downward one, a lowering of themselves in the estimation of mankind. For a woman to propose, would be equivalent to removing her from the exalted station whence she dispenses the most priceless gift, her heart, and would, instead, degrade her to the condition of a suppliant.

By the nature of man's occupation, he is thrown in contact with all sorts of people, and his experience, not his better mental discernment, enables him, in a measure, to distinguish between a truly good woman and one who suits her deportment to her surroundings. Woman is not, and may she never be, so situated that she can tell from personal observation the shameful double lives only too many men are leading. How does she know that the man who visits her so often, is aught but a dog on the watch for a word, a glance even, that he can construe into an encouragement to advances that her pure heart dreads.

But let us suppose that the man in question is a gentleman sure enough, and that the worst that can be said of him is that he forgets that meaningless acts may be fraught with dire consequences. The number of such men is far from small. Such a man may pay a number of visits as a matter of etiquette, his agreeableness causes marked and pleasing attention to be shown him, he becomes a regular visitor, admires the woman, loves her with a fatherly love, and without meaning to be obtrusive, he unconsciously assumes the role of a protector. If the woman were to propose to such a man, he would feel himself placed in a dire dilemma. He would feel that to refuse her would be equivalent to a gross insult. The chances are that he would accept her contrary to his inclinations, contrary to his better judgment, and, ten to one, his admiration for her would, from that moment, start on the down grade. With the many vicissitudes of life staring us in the face, the ways of life ofttimes so rough that it is difficult for the very best match to pull together, can a woman afford to run such a dreadful risk?

There remains one more class of men to be considered, namely, those who lay claim to the name gentlemen, while at the same time the morals of the world would stand a better show if a millstone were placed around their necks, and they were then dropped into the bottomless deep. Politics, wealth, or social connections may lend some prestige; but I would rather have my daughter marry a gentleman in a log cabin, than such a "dog in the manger" in a palace.

If a woman is determined to marry regardless of the inherent qualities of the man, without lowering herself to make a proposal, she can inform him that she does not purpose to live and die an old maid, and that it is high time for her to give somebody a chance to marry her without delay. If this does not bring him to terms, let her put her threat into execution by bestowing some of her smiles on other men, and giving them an opportunity to realize that the dog has no monopoly over her, and that their attentions are at least fully as much appreciated as the other fellow's. If she has any semblance of tact, she can easily manage to have some other man ask the privilege of accompanying her to the church, the lecture, etc., and can then inform him that a "prior engagement precludes," etc. If he has any notion of marrying her at all, he will not be slow in nipping such prior engagements in the bud by proposing to her. If he does not, and she is worth having her life linked to that of a gentleman, the chances are that some one else will soon "beseech" her for the privilege of protecting her throughout life. In all probability, the latter event would bring her the most happiness. My advice then, is: Never shock the sensibilities of a true gentleman by proposing to him. Beware how you lower yourself beneath a dog by asking him to marry you. You will need no further instructions in regard to the treatment of a "dog in the manger," if you will only coolly reflect for a moment, and then use common sense. J. C. S.

FOR MIND AND HEART.

Pray on, sad heart!
That which thou pleadest for may not be given,
But in the lofty altitude where souls
Who supplicate God's grace are lifted, there
Thou shalt find help to bear thy future lot
Which is not elsewhere found.

—*Ella Wheeler Wilcox.*

....CHAUNCEY M. DEPEW: "There is nothing that I admire more in the battles of life than a sincere crank."

....SOUTH: "If there be any truer measure of a man than by what he does, it must be by what he gives."

....REV. WILLIAM DENMAN: "I am soothed without the 'weed,' intoxicated without the 'cups,' and speeded without the 'whip' when I mount my wheel."

....THE HOUSEKEEPER: "The systematic woman politely informs her friends that she has no time in the morning to see them, but is happy to see them in the afternoon when she can entertain them freely. She regulates her work as systematically as a bank president the work of his office. It requires firmness of will to go on with work and refuse to sit down to gossip with idle callers as the correct man of business does."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

VENTILATING A SLEEPING ROOM.

MAKE a board with two end pieces as shown at Fig. 18. Raise the sash and insert the end pieces as shown in the diagram. This will admit a current of fresh air, but will turn it up toward the ceiling, and obviate a draught upon the bed. There will also be a similarly protected opening at the middle of the window between the sashes.

Few fully realize the importance of fresh air in the sleeping apartments. Of course a delicate person should not have a blast of chilly air coming into his sleeping room, though a delicate person particularly needs pure air. But a well person should accustom himself to a proper amount of ventilation in his sleeping quarters, and where a more elaborate method for the ingress and egress of pure and impure air is not at hand, the simple device shown in the cut will be found advantageous. A. H. D.

ODDS AND ENDS.

FOR EMBROIDERY.—For stamping designs, the following method given in the Household, is a simple and good one. Lay a piece of tissue paper upon the pattern, and trace the design upon it. Then spread a sheet of black impression paper over the material to be embroidered; upon this arrange the tissue paper copy so that the design will be in exactly the proper position, and go over all the lines with a hard lead pencil or steel stiletto. The pattern will thus be transferred to the fabric.

AN OBJECT LESSON.—A small boy was once asked by his mother to go down cellar for some potatoes. This he did willingly. On his return, he came into the sittingroom and said to a friend, staying at his home, "Isn't it funny, Miss A; my mamma always wants me to say 'thank you' to her, but she never says 'thank you', to me, when I do anything for her?" N. C. A.

Miscellaneous Advertising.

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$3. SHOE BEST IN THE WORLD.

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OVER 100 STYLES AND WIDTHS,

CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

Your Past, Present and Future.

You have suffered much in the past. Many of your days have undoubtedly been darkened by the shadow of sickness and ill health. You have oftentimes felt gloomy and despondent. At the present moment you may not be feeling just as well as you ought to feel. Perhaps you are experiencing the first symptoms of some serious ailment which is lurking in your system. Unless it is promptly checked there may be a long siege of illness in store for you. Now is the time to

Stop and Think

about the actual state of your health.

If you are suffering from tired feelings, headaches, backaches, biliousness, debility, and other symptoms, remember that your present and future are in your own hands. You can get that most precious blessing of sound health, as others have done, by the aid of Warner's Safe Cure. Volumes could be filled in telling of what it has done for men and women who were completely run down in health. Its splendid tonic effects give new life and energy to those who are weary and worn out.

If you are in need of help, you should make your present and future happier by putting your system in sound condition. Get a new stock of health and strength by using the great safe cure which builds up the body, purifies the blood and makes the eye brighten with the sparkle of fresh life.

MAGIC LANTERNS
And STEREOPTICONS, all prices. Views illustrating every subject for PUBLIC EXHIBITIONS, etc.
A profitable business for a man with a small capital. Also, Lanterns for Home Amusement. 265 page Catalogue, free.
McALLISTER, Mfg. Optician, 49 Nassau St., N. Y.

CLOTHES WASHED
BY THE WESTERN WASHER

Are always clean and white. 300,000 of them in use is convincing proof of their popularity. Sold under a guarantee to please. Agents Wanted. Write for catalogue and prices, and mention this paper. HORTON MFG. CO. Ft. Wayne, Ind.

THE NEW BECKER WASHER.
A Fair Trial will convince the most skeptical of its superiority over all other washing machines. Thousands in use. *Agents Wanted.* Circulars Free. Made by N. G. BAUGHMAN, York, Pa.

WE TAN Cattle hides and all sorts of skins whole for ROBES and RUGS. Soft, light moth-proof. Get our tan circular. We make frisian, coon and galloway fur coats and robes. If your dealer don't keep them get catalogue from us. The CROSBY FRISIAN FUR CO., Box Rochester N Y

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

SMALL FARM.
69 acres, four miles from Richmond, Va. Lays well, good soil, well watered, fine road, good neighborhood, new dwelling, six rooms and barn. Write for free catalogue. R. B. CHAFFIN & CO., Incorporated, Richmond, Va.

WANTED—Farmer and Buttermaker, under Manager on 100-acre Farm, selling 150 pounds butter weekly, with probable increase. Must understand breeding and feeding. Good house, garden and orchard; excellent land; two miles from town of 10,000; best County in east Pennsylvania. Steady place and good wages to right man. Address, with full particulars, giving references and experience, P. O. Box 1958, West Chester, Pa.

WANTED—by a young graduate of the Massachusetts Agricultural College, and son of a farmer, a position as superintendent of gentleman's estate, or other work along this line. Best of references as to character, habits and ability. Address WRIGHT A. ROOT, Deerfield, Mass.

For new descriptive Catalogue of CHEAP MARYLAND FARMS Address A. P. BARNES & CO., Snow Hill, Maryland.

SPRAYING CROPS: Why, When and How to Do It—By Prof. CLARENCE M. WEED. Illustrated.

This little book tells in plain, understandable English, just what the ordinary farmer and fruit grower most needs to know. It describes all the insecticides and fungicides used in spraying; all the principal appliances used; tells when to spray; what precautions to observe; describes the insects and fungi against which it is necessary to guard; in fact, is a complete, condensed, convenient handbook on the whole subject. Price in stiff paper covers, is but 25 cents, postpaid.

THE RURAL NEW-YORKER.
Corner Chambers and Pearl Streets, New York

Another Subscription Contest

$175 FOR 21 WORKING DAYS.

This contest will begin January 16 and will close February 8, thus covering *a little over three weeks.*

☞ SEVENTEEN PRIZES. ☜

On February 10, we will send 17 checks to the persons sending the largest 17 clubs of subscriptions during the above-named period The $175 will be divided as follows:

First largest club, - - -	$50
Second largest club, - - -	25
Next five largest clubs, $10 each, -	50
Next ten largest clubs, $5 each, -	50
Total. - - - -	$175

In Addition.—The agent keeps his regular commission and also has an opportunity to win the *one dollar bill* which is sent each night to the one who sends *the largest daily club.*

Also.—*We will guarantee a five-dollar cash prize* at the end of this contest to every agent who has secured a club of 20 subscriptions.

THINGS TO REMEMBER.

Two six-month or four three-month count the same as one yearly subscription, and renewals count the same as new names. Subscriptions must all be paid for to count for daily or sweepstake prizes.

At this writing, the contest that closes January 15, is not yet completed. There are yet four days due on it; but it will be over before this number of the paper is in the hands of readers. The result will be announced as soon as we can get the clubs counted up.

Remember there are only about three weeks for the present contest. The largest prize is $50. The commissions and daily prizes will add materially to this. Records of the past show that small clubs have won prizes. It seems, in fact, that any one who starts out at once, and who keeps doing a little every week, is sure to be a winner. Anyway, here is an opportunity to earn a little honest cash in a short time Now, who wants this money? Send for sample copies, return blanks, etc.

THE RURAL NEW-YORKER, New York.

AS WE GO TO PRESS.

A few days ago, a company of daring men in South Africa made a dash into the Dutch Republic. Their scheme was to reach the seat of government, upset the Dutch rulers, and thus dictate terms of settlement to suit themselves. They were smart, but the Dutch were smarter. Resolute men with rifles that do not fail, met them and forced them to surrender. The raid failed. The point we wish to make is that, if those men had succeeded, the world would have rung with their praise. They *failed*, therefore, it was a crime! "The end justifies the means!" That's a bad doctrine and so, also, is the idea that those who fail are not entitled to praise and thanks for their *efforts*.

That's not the way we feel toward those of our agents who do not secure a good-sized club of subscriptions. Of course, we like to see the subscriptions roll in, but we have that arranged so that it is more a matter of business than accommodation, since every agent makes more money out of these clubs than he could make at any other job. When a man sends "just one" new name, or even when he *tries for it* unsuccessfully, we don't find any fault; but, on the other hand, desire to thank him for his efforts. We thank you for the good word, the argument or the bit of personal influence you have turned in favor of The R. N.-Y., whether it results in subscriptions or not. Of course, you understand, we would prefer the subscriptions, but you have our thanks *anyway*. For example, here's a letter from a Pennsylvania man that speaks for itself:

"The sample copies sent me were distributed to the best of my ability, and I have always a good word to say for The R. N.-Y. That it has not borne better fruit is, I suppose, because agents, like statesmen, are "born, not made." Work on my farm is never at an end, and demands my attention. I cannot be, from make-up and existing conditions, an active canvasser, and what little I do will not be for personal gain, but for the good the paper will do all who will read."

We appreciate the situation, and hope that you will try to correct this one mistake of your birth. So just suppose that you make another raid into the enemy's country before you give it up. Read about this new contest. Look over that book offer. Why, here's a man dropping into poetry about it. Read what he says:

"Here is a subscriber for you;
And with't a paper dollar, too.
Please send 'First Lessons in Agriculture,'
For that's the book that I prefer."

The "First Lessons" went by first mail, and we hope that this will not be the *last* lesson our friend will give us in the art of taking subscriptions. Last week, you remember, he had a note about a man who burned up his paper rather than read it. It takes all sorts of people to make a world, and here's a man who evens up the paper burner:

"I sent for a specimen copy of The R. N.-Y., and found in it a 'contract' giving the subscriber the privilege of reading 51 numbers, and then, upon complaint, receive his $1 back, and papers free. It seemed to me a very liberal offer, and then I opened the paper, and almost the first article proved to be something I much desired to know, and fully worth the price of subscription. So I carefully dropped the contract into the stove when there was a good fire, and sent you the subscription. I now inclose $1 for back numbers from November, 1894, to November, 1895. Nearly every number has been of value equal to the sample copy." F. C. C.

Bath, Me.

Last, but not least, are the names of last week's six dollar prize winners:

Jan. 6.—W. S. Moore, Chenango Co., N. Y.
7.—J. S. Steel, Fountain Co., Ind.
8.—E. P. Morgan, New Haven Co., Conn.
9.—Mrs. M. A. Cummings, Lawrence Co., Pa.
10.—J. E. Peak, Steuben Co., N. Y.
11.—Fred. H. Johnson, Worcester Co., Mass

Miscellaneous Advertising.

In writing to advertisers, please always mention The Rural New-Yorker.

Experience

has proven conclusively that better **grapes** and **peaches**, and more of them, are produced when Potash is liberally applied. To insure a full crop of choicest quality use a fertilizer containing not less than **10%**

Actual Potash.

Orchards and vineyards treated with Potash are comparatively free from insects and plant disease.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

S. M. HARRIS, Moreton Farm (P. O.), N. Y.

HIGH CLASS SEEDS.

Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

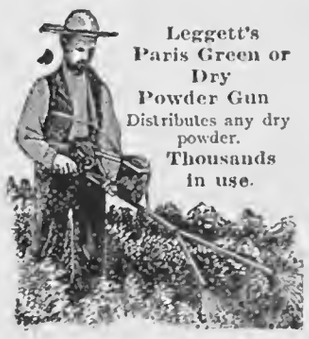
including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

SPRAY WITH THE EMPIRE KING

Our catalogue will tell you why it is the best. Send 2c. for postage and the catalogue is free.
FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.



Leggett's Paris Green or Dry Powder Gun
Distributes any dry powder.
Thousands in use.

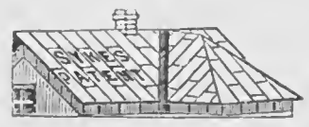
For Potato Field, Vineyard or Orchard.

Over one acre potatoes treated per hour, two rows at a time. One pound of Paris-green to the acre: no water or plaster used. One grower writes:

"Your Dry Powder Gun takes less Green with half the labor that any other greener takes. We can hardly have it home for our own use when we want it, for all the neighboring farmers who have sprinkling wagons and sprayers come and get our Powder Gun and use it instead of their own greeners." Circulars furnished showing how to do it.

LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Pittsburgh, Pa.

Agents Wanted.



The Farmers' Choice IS THE SYKES Improved Iron and Steel ROOFING.

For all classes of buildings, easily applied, cheaper than shingles, will last a lifetime, and is absolutely fire and lightning proof. Reduces your insurance and is the best roof manufactured. Write for our handsome catalogue and mention this paper.
SYKES IRON & STEEL ROOFING CO.,
Chicago, Ill., or Niles, Ohio.

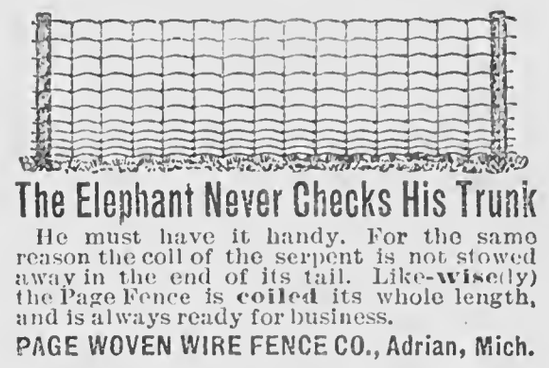
NO TAR QUARTER OF CENTURY OLD.

FAY'S MANILLA ROOFING.

CHEAP STRONG WATER PROOF, Not affected by gases.
No RUST nor RATTLE. *Outlasts tin or iron.*
A Durable Substitute for Plaster on walls.
Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c.
The FAY MANILLA ROOFING CO., CAMDEN, N. J.

SPRAY PUMPS

21 STYLES.
BEST and CHEAPEST.
Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address
WM. STAHL, QUINCY, ILL.



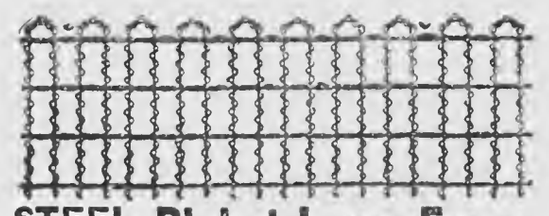
The Elephant Never Checks His Trunk

He must have it handy. For the same reason the coil of the serpent is not stowed away in the end of its tail. Like-wise(dy) the Page Fence is **coiled** its whole length, and is always ready for business.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

SUCCESSFUL FRUIT GROWERS

SPRAY THEIR TREES.
THE DEMING SPRAY PUMPS ARE THE "WORLD'S BEST"
Send for complete catalogue and treatise on spraying, mailed FREE. The DEMING CO.
Henion & Hubbell, Western Agts., Chicago, Ill. Salem, Ohio.

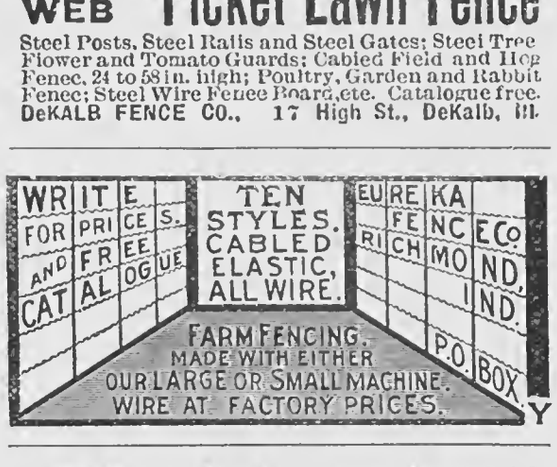


STEEL WEB Picket Lawn Fence

Steel Posts, Steel Rails and Steel Gates; Steel Tree Flower and Tomato Guards; Cabled Field and Hog Fence, 24 to 58 in. high; Poultry, Garden and Rabbit Fence; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.

THE PEPPLER SPRAYER

SIX-ROW
For Trees, Potatoes and Vineyards.
HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.
POSITIVELY WARRANTED THE BEST ON EARTH.
Catalogue free. Address
THOMAS PEPPLER,
P. O. Box 35. Hightstown, N. J.



THE LIGHTNING SEED SOWER!

Guaranteed to Sow from 50 to 80 Acres per Day (either Horse-back or Foot), of Clover, Timothy, Millet, Flax, and all Seeds of same nature.

Will be sent to any Postoffice on receipt of $1.50. If not satisfactory, money refunded.
Circulars Free. Agents Wanted.
FRANZEN & BUSS,
GOLDEN, ILL.
REFERENCE: GOLDEN BANK.

1 MAN-9 HOURS-10 CORDS!

Not a miracle but a wonderful fact. Now in use all over the world. Saves 1 man's time. No backache. Catalogue free. Write today.
FOLDING SAWING MACHINE CO., 63-65 S. Clinton St., Chicago.

FERTILIZERS.

Pure Animal Bone Phosphate. High grade. Licensed and guaranteed Wisconsin State analysis. Catalogue explaining how to use and grow large crops of Fruit, Truck, etc. Samples sent for 10 cents postage. BONE FERTILIZING CHEMICAL WORKS. Janesville, Wis.

ICE PLOWS, $15 C. E. BUCKLEY, Amenia Union, N. Y.

Bowker's Fertilizers.

SOLUBLE — ACTIVE — SURE.
BOWKER FERTILIZER CO., BOSTON & NEW YORK.

Plowing Sod Land.—The practice of growing grass and clover for plowing under the sod as a fertilizer is a part of the best farming. But it cannot be done to perfection without the proper implements. The turned sod needs to be pressed down compactly and covered with enough mellow soil to make a sufficient seed bed. The harrow tears up the sod and scatters it over the surface. But the "ACME" Pulverizing Harrow, Clod Crusher and Leveler, presses down the sod, crushes the furrowed slices, and pulverizes and levels them; and so provides an excellent seed bed and leaves the soil where it will do the most good and decay and provide food for the crop See advertisement on page 45.

CROP AND MARKET NOTES.

The cold snap raised the price of oysters at the beds.

The first Havana vegetables of the season came in during the week.

A cargo of Danish cabbage came this week, and was held for $7 per 100.

Many of the Bermuda and Florida vegetables in this week have been badly frozen.

Recent arrivals of Southern live chickens have been smaller than usual, and sold slowly in consequence.

A number of Jersey City dealers were recently fined for exposing game for sale after the open season.

The Western New York Horticultural Society will hold its 41st annual meeting at Rochester, January 22. Contributions of new fruits, horticultural implements, etc., are solicited. W. C. Barry, president, Rochester.

A meeting of delegates from all farmers' organizations in New York State, is called to meet at Agricultural Hall, Albany, January 18, at 1 P. M., to consider the propriety of asking for legislation on various matters of rural interest.

The Elgin Dairy Market Report, from the October statement of the Internal Revenue Bureau, estimates a reduction in the make of oleomargarine for October, 1895, as compared with October, 1894, in round figures, at 1,000,000 pounds.

The first annual meeting of the Idaho State Horticultural Society, will be held at Boise City, January 22 and 23. The planting and care of fruit trees, and the handling and marketing of fruit, as well as all kindred matters, will be discussed. Exhibits of fruits are desired. Robert Milliken, secretary, Nampa.

New Jersey farmers' institutes will be held as follows:

Keyport	Jan. 17, 18
Caldwell	Jan. 20
German Valley	Jan. 21
Whippany	Jan. 22
Basking Ridge	Jan. 23, 24
Westfield	Jan. 24, 25
River Edge	Jan. 27
Pompton	Jan. 28
Deckertown	Jan. 29, 30
Andover	Jan. 30, 31
Belvidere	Jan. 31, Feb. 1
Washington	Feb. 3
Locktown	Feb. 4
Hopewell	Feb. 5, 6
Harlingen	Feb. 6
Allentown	Feb. 7, 8
Merchantville	Feb. 10
Moorestown	Feb. 11, 12
Woodstown	Feb. 13, 14
Elmer	Feb. 14, 15
Cedarville	Feb. 17
Columbus	Feb. 18
New Egypt	Feb. 19
Manasquan	Feb. 20
Cranbury	Feb. 21
Hightstown	Feb. 24
Millstone	Feb. 25, 26

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	23 @23½
Seconds to firsts	18 @22
Elgin and other Western, extras	25 @—
Western, firsts	23 @24
Western, seconds	20 @22
Western, thirds	18 @19
Western, June, extra	21½@22½
Western, June, seconds to firsts	16 @20
State dairy, half tubs, fresh, extras	21 @22
Firsts	17 @19
Seconds	15 @16
Dairies, firkins and tubs, extras	19½@20
Dairies, firkins and tubs, firsts	17 @19
Firkins, extras	18 @19
Firkins, seconds to firsts	15 @17
Welsh tubs, extras	20 @—
Welsh tubs, firsts	17 @19
Welsh tubs, seconds	15 @16
Tubs, thirds	12 @14
Western imitation creamery, firsts	17 @19
Seconds	14 @15
Western dairy, firsts	16 @17
Seconds	13 @14
Thirds	11 @12
Factory, firkins, June extras	11½@13½
Seconds to firsts	12 @13
Tubs, June, extras	13½@14
June, seconds to firsts	12 @13
Fresh, small tubs, extras	16 @17
Fresh, small tubs, firsts	14 @15
Fresh, large tubs, firsts	13 @14
Fresh, large tubs, seconds	11 @12½
Fourths to thirds	9 @10½
Old Western factory or dairy	8 @11
Rolls, fresh, fine	15 @16
Rolls, fresh, common to good	9 @14

EGGS.

New-laid, fancy (nearby)	26 @ 27
N. Y. State, country marks, fresh gath'd.	23 @ 24
Pennsylvania, country marks, new laid.	25 @ 26
State and Penn., fair to good	20 @ 24
Western, fresh collections, fancy	24 @ —
Western, fresh collections, fair to good.	21 @ 23
Southern, fresh collections	20 @ 23
Western, refriger., short holdings, choice	18 @ 20
Western, refriger., September, packed	18 @ 19
Western, refriger., early packed, prime.	17½@ 18
Western, refriger., defective, per case	3 50 @4 25
West'n dirties & inferior, per 30-doz case.	4 00 @4 25
Western limed, prime to fancy, per doz.	17 @ 18

FRUITS—GREEN

Apples, Northern, fancy, selected, per bbl.	2 50@3 00
Fameuse, per bbl	2 50@3 75
Ben Davis, per bbl	1 75@2 50
Jonathan, per bbl	2 00@3 00
King of Tompkins, per bbl	2 00@3 25
Baldwin, per bbl	1 50@2 50
Greening, per bbl	1 50@2 50
Winesap, per bbl	2 50@3 25
York Imperial, Va., per bbl	2 50@3 00
Spitzenberg, per bbl	1 75@2 25
Northern Spy, per bbl	1 50@2 50
Common, per bbl	75@1 25
Grapes, State, Catawba, per 5-lb basket	7@ 12
Cranberries, Cape Cod, extra sorts, per bbl	—@ —
Fancy, per bbl	9 50@10 00
Prime, per bbl	8 00@9 00
Soft, per bbl	5 00@7 00
Soft, per crate	2 00@3 00
Jersey, per crate	1 75@2 40
Jersey, per bbl	6 25@7 25
Oranges, Fla., per box	3 50@5 00
Grape Fruit, Fla., per box	8 00@10 00
Tangerines, Fla., per box	10 00@14 00
Mandarins, Fla., per box	8 00@10 00

HAY AND STRAW.

Hay, No. 1	95@1 00
No. 2	90@ 95
No. 3	80@ 85
Clover, mixed	75@ 80
Clover	65@ 70
Salt	40@ 50
Straw, long rye	85@ 95
Short rye	60@ 70
Oat	50@ 55
Wheat	45@ 50

MEATS—DRESSED.

Veals, country dressed, prime	11 @ 11½
Fair to good, per lb	10 @ 10½
Com. to med., per lb	8 @ 9½
Buttermilks, per lb	— @ —
Small, per lb	5 @ 7
Barnyards, per lb	5 @ 6½
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 10
Pork, country dressed, 40 to 60 lbs., per lb.	7 @ 7½
60 to 80 lbs, per lb	6½@ 7
80 to 120 lbs., per lb	6 @ 6½
120 to 180 lbs., per lb	5½@ 6
200 lbs and up, per lb	4½@ 5½
Tenderloins, per lb	15 @ 16

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	20 @ —
Medium sizes, per lb	18 @ 19
Small and slips, per lb	13 @ 26
Western, large, per lb	17 @ 18
Western, small and slips, per lb	12 @ 14
Chickens, Phila., large, per lb	15 @ 16
Phila., mixed weights, per lb	12 @ 14
Jersey, per lb	12 @ 14
State and Penn., choice, per lb	11½@ 12½
Western, choice, per lb	11 @ 12
Western, fair to good, per lb	9 @ 10
Chickens & fowls, mixed, West'n, choice.	10½@ 11½
Fair to good, per lb	9 @ 10
Inferior, per lb	7 @ 8
Fowls, State and Penn, per lb	11 @ 12
Western, choice, per lb	11 @ —
Western, fair to good	9 @ 10
Western, inferior	7 @ 8
Old cocks, per lb	7 @ 7½
Ducks, Maryland, choice, per lb	16 @ 17
State and Penn, choice, per lb	15 @ 17
Western, choice, per lb	15 @ 16
Western, fair to good, per lb	10 @ 14
Western, inferior, per lb	7 @ 8
Geese, Maryland, choice, per lb	12 @ 13
Fair to good	8 @ 10
Western, good to prime	9 @ 10
Western, poor to fair	6 @ 8
Squabs, tame, white, per doz	2 75 @—
Mixed lots, per doz	2 25 @2 50
Dark and poor, per doz	1 75 @2 00
Turkeys, Jersey and Up-River, fancy	14 @ 15
Md., choice to fancy	13 @ 14
Mich., Ohio and Ind., scalded, fancy	12½@ 13
Other Western, choice	12½@ 13
Western, fair to good	10 @ 11
Western, inferior	8 @ 9

VEGETABLES.

Beets, Charleston, per 100 bunches	7 00@8 00
Bermuda, per crate	1 50@2 00
Brussels sprouts, per quart	4@ 10
Cabbage, Long Island, per 100	2 50@4 00
State, per 100	2 00@3 00
Foreign, per 100	6 00@7 00
Carrots, washed, per bbl	75@1 00
Unwashed, per bbl	50@ 75
Cauliflower, L. I and Jersey, per bbl	2 00@8 00
Celery, State & West'n, fancy, large, per doz.	60@ 75
State & West'n, average, prime, per doz.	25@ 50
State & West'n, small, per doz	10@ 20
Jersey, large, per doz roots	25@ 50
Jersey, small, per doz roots	10@ 20
Jersey and L. I., per dozen flat bunches	1 00@1 25
California, per doz	25@1 00
Cucumbers, Fla., per crate	1 00@4 00
Hothouse, per doz	50@1 50
Egg plant, Florida, per bbl	5 00@10 00
Green peas, Florida, per crate	2 00@5 00
Horseradish, per lb	4@ 5
Kale, per bbl	1 00@1 25
Lettuce, New Orleans, per bbl	6 00@7 50
Florida, per half bbl basket	1 00@3 50
Boston, hothouse, per doz	50@1 00
Bermuda, per crate	75@1 25
Onions, Orange County, red, per bbl	75@1 00
Orange County, yellow, per bbl	1 00@1 37
Eastern, white, per bbl	1 25@2 00
Eastern, red, per bbl	90@1 00
Eastern, yellow, per bbl	1 25@1 75
State and Western, yellow, per d. h. bbl.	1 00@1 25
Peppers, green, Fla., per crate	2 00@3 00
Pumpkins, per bbl	75@1 00
Radishes, hothouse, per 100	—@ —
Norfolk, per 100 bunches	50@1 00
Spinach, per bbl	2 00@3 50
Squash, Marrow, per bbl	50@ 60
Hubbard, per bbl	60@ 75
Florida, per crate	50@ 75
String beans, Florida, per crate	2 00@4 50
Tomatoes, Fla., per carrier	1 50@3 00
Per crate	1 50@2 50
Key West, per carrier	1 00@2 50
Key West, per peck box	50@ 65

POULTRY—LIVE.

Fowls, local, per lb	11 @ 11½
Western, per lb	11 @ 11½
Southern, per lb	9 @ 11½
Chickens, per lb	9 @ 11
Roosters, old, per lb	6½@ 7
Turkeys, mixed, per lb	10 @ 11
Ducks, local, per pair	75 @1 00
Western, per pair	65 @ 85
Southern, per pair	65 @ 70
Geese, local, per pair	1 50 @1 75
Western, per pair	1 25 @1 50
Southern, per pair	1 12 @1 25
Pigeons, old, per pair	25 @ 30
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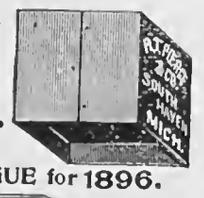

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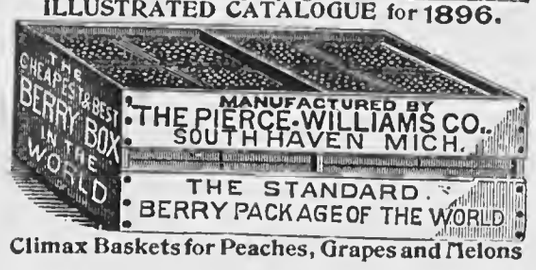

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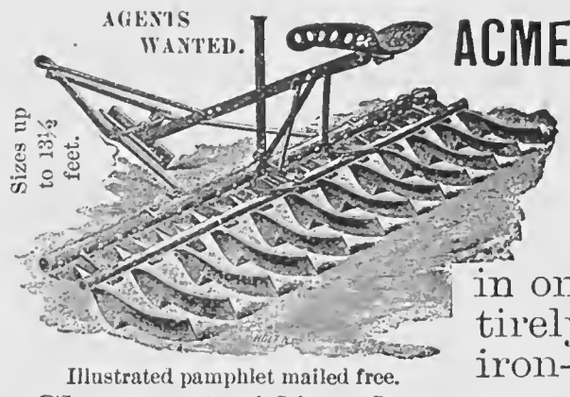

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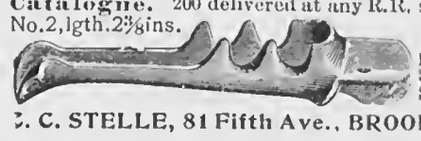

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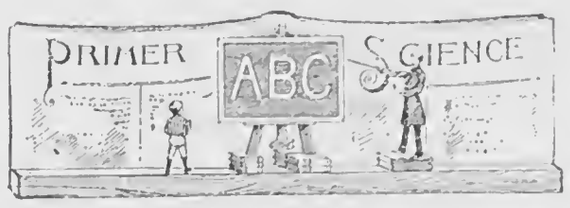

FEEDING A HEN.

PART III.

We wish to be careful to say here that, in these articles, we do not purpose to lay down any definite or exact rules on rations. The object is merely to show, in a general way, how foods differ, and what combinations *seem* to give best results. In the first article, we spoke of four elements that are found in foods. It is one thing to make a good combination of these elements, but unless the owner supplies another in large quantities, the "balance" will tip the scales in the wrong direction. That element is "common sense," and with no animal is this element so necessary as with the hen. Vermin, cold, disease, dampness, all affect the hen and upset the "balance" in the most carefully compounded ration.

The individual hen cannot receive the same care and attention that is given the individual cow or horse. It is easy to tell what is given the single cow, because she is tied by herself, and she can eat what is placed before her. With the hen, it's different, because she runs in a flock of 20 or more, and may secure one-twentieth or one-tenth of the food put before the flock. When a hen is a little sluggish from vermin or cold, she will not get her share of the food. Then again, in every flock, are hens of different temperaments and conditions. Some are nervous and active, while others are lazy and quiet. Some are laying while others are fattening. Just like the members of a big human family—some prefer one sort of food and others another. The good housewife watches them all, especially the children, and often provides a bit of toast or some other dainty for those who, for rome reason, do not relish the regular food. A hen is much like a human in this respect. She must be kept good-natured, warm and free from vermin, and "common sense" means looking out for these things.

Last year, Mr. Glass, of Pennsylvania, told us how he regulated the food for his dairy cows. He fed nothing but ensilage and wheat bran, his method being to feed a quart of bran for each quart of milk they produced. In this way, as the milk dropped off, so did the feed of bran, and there was a saving because, had the cows been fed a general ration, without regard to their yield, these low milkers would have been "robber cows"—that is, they would have eaten grain and paid no returns in milk for it.

Now this system cannot be carried out with a flock of hens, because, in every flock, there will be half a dozen different types. We might make nice distinctions and say that we should feed a certain ration for layers, another for fat birds, another for growing fowls, another for old birds, and so on; but when we have specimens of all these classes in the average flock, we must do one of two things—sort out the birds and put each class by itself, or feed a compromise ration and keep them all together. In dairies where cows are bought rather than bred, a certain proportion of the animals are sure to prove failures as milkers. The usual custom is to fatten them for beef, and a simple way is to put such cows by themselves and feed a pound or two extra of corn meal. Their milk yield dries up, but they become fat enough for beef in a reasonable time.

We have no doubt that it will pay a poultryman to sort out his best laying hens, and put them together where they may be fed a special ration. This will not only give him better stock to use as breeders, but he can make up a cheaper food combination for them. Unless this be done, we doubt whether the "laying rations" sometimes advocated by feeders will answer for the mixed flock. The most a beginner can hope to get out of the scientific side of feeding hens, is the basis for some good experiments, and the chance to save some money in buying food. That was the way Mr. Mapes went at it. Starting with the common idea that costly grain food of some sort was the only legitimate basis for a hen's food, he began to experiment with meat, curd and various other substances in different combinations. He found that the only practical way to make these comparisons was to pick the articles apart into muscle-makers, fat-formers and pure fat, and see how much of each he was feeding. That is the most helpful thing about so-called scientific feeding, and in order to illustrate what is meant by it, let us next take Mr. Mapes's own rations as printed on page 838, and pick them apart.

Live Stock Matters.

A JERSEY-HOLSTEIN CROSS.

Which Breed for the Sire?

THE QUESTIONS.

It is claimed by good authorities that, in crossing two breeds like the Jersey and Holstein, it is better to use the larger and coarser animal as the sire. The statement is made that using the Jersey bull on the Holstein cows, would give an animal inferior to the opposite course. Will you give any reason you may have for this fact—if, in your opinion, it is a fact?

THE ANSWERS.

I have had no experience in crossing Jersey and Holstein cattle, but think that a good animal might be obtained by the use of a Jersey bull on a Holstein cow. I would prefer a Jersey bull and a Guernsey cow. E. L. CLARKSON.

New York.

I have never had any experience with crossing the Jersey and the Holstein. I have seen some exceedingly fine animals as the result of the use of a Guernsey bull on Holstein cows, and I would expect better results from such a cross than from the opposite. My impression is that it will maintain the size and heavy milking qualities with good-sized udder development, and at the same time add equal richness and far more color to the milk, cream and butter to be obtained, than the use of the Jersey male would secure. It is a fact at the present time, with so much attention paid to the question of butter and purer milk, that many of those formerly breeding Holsteins are now seeking the influence of the Guernsey. W. H. CALDWELL.

New Hampshire.

I do not know from practical observation or experience, whether in crossing the two breeds, Jersey and Holstein, it is better to use the larger and coarser animal as the sire, or vice versa. I am convinced, however, that as a rule, the crosses are not favorable. They don't seem to nick as kindly as either the Short-horn and Jersey; Ayrshire and Jersey; Guernsey and Jersey, or the native cow and the Jersey. The potencies of both the Jersey and the Holstein are so very strong, that there is rarely a union of good merit between the two; either the progeny swing one way or the other. W. D. HOARD.

Editor Hoard's Dairyman.

Per contra, it is claimed by good authorities that, in crossing two breeds or races, better results are obtained when the sire is of the smaller breed or race; and the often quoted superiority of the mule (male ass and female horse) over the jennet (male horse and female ass) is cited in support of the theory. □ In regard to the particular case of the Jersey and Holstein, I do not think it is safe to make any sweeping generalization. In crossing two distinct breeds in this way, we may get a very desirable animal, or a most undesirable one, and it is usually impossible to tell beforehand what the result of the union of any two given animals will be. I have seen a number of very fine cross-bred Jersey-Holstein cows and heifers, the result of making the cross in either direction. It is hardly necessary to say that an equal or greater number have been of very inferior quality. H. H. WING.

Cornell Experiment Station.

We have had some experience in crossing Holstein bulls on Jersey cows, and the results have been most satisfactory. We have not tried the opposite cross. As a rule, in breeding horses, the preference has been for the larger, coarser dam, and the finer, smaller sire. It has been claimed that the extremities—head, limbs, etc.—follow the sire, while the body, form, etc., resemble the dam. We are not sure whether this is correct, but have observed that the Thoroughbred sire usually transmits the fine extremities. The French Coacher, those that are closely and strongly bred to the Thoroughbred on the sire side, usually have much of the finish, head, etc., of the sire, and the size, substance and knee action of the noted Bay mares of Normandy.

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Use the Small Breed for Sire.

I have an idea, backed by some experience, which is that the best results are obtained when using the male of the smaller breed upon females of the larger breed. I tried it in my own herd of grades several years ago, have watched the results in my neighbor's experiments and have found the best results to be obtained by using a Jersey male upon Holstein or Short-horn females. The older the female up to seven or eight years of age, the better the product. The progeny of this mating, in a majority of the cases, had the quick maturity, and quality and life of the smaller animal, with the increased size, ruggedness and milking quality of the larger animal; the progeny from these matings, on an

(Continued on next page.)

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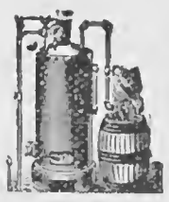

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LIVE STOCK MATTERS.

(CONTINUED.)

average, grew to be larger and more even in size and conformation than those in which the large male was crossed on the smaller female. Of course the breeding and individuality of the male may have had something to do with it, but not all.

When the large Holstein male was used on the Jerseys and Devons, the calves were not, or did not seem so strong, and a number of the cows had very serious times in calving, several good ones being lost as the final result. One trial was enough for me, but several of my neighbors, owing to the circumstances which surrounded them, tried it several years; but the results were not such as to induce them to try it further when they could find the smaller male from a desirable family. Some of the best crosses I have seen, were the Jersey and Devon. The best five heifers I ever saw in milk, were the result of crossing a Guernsey bull on some Ayrshire cows which were unusually heavy milkers. For quantity, and finely-shaped udders, I never saw their equal, and I tried to buy them, but they could not be bought.

In poultry, the best results I have always found, with very few exceptions, were from crossing smaller males on the larger females; like the active, nervous Leghorn male of one year, on Brahma or Cochin females two years old. The progeny feathers rapidly, matures quickly, is always of fine shape, the pullets lay at a very early age for their size, and the males make fine market fowls at almost any age. The average size of the progeny was larger than when the opposite method of crossing was practiced. Others may have had very different results, and if success has crowned their efforts by mating the opposite from my notion, I would by all means advise them to stick by the method which has brought them success, rather than to chase after the notions of others. But from what I have done, and what I have seen, I can very candidly say that I am convinced that, in making crosses of large upon small breeds to produce the best animal for business, and the most profitable for the working farmer, dairyman or poultryman, the smaller male should be used upon the larger female. JOHN B. BOWKER.

Worcester County, Mass.

FORKFULS OF FACTS.

A CURB CURE.—I enclose a prescription for curb, for C. G., page 857, which cured one for me, so that one could not tell which leg had been affected: One ounce each oil origanum, oil spike, oil amber, spirits turpentine and camphor. Mix and rub on thoroughly two or three times a week. It will blister if too much be used. L. B.

Mount View, Md.

A HEN RATION.—I am a farmer, but have an eye on the hen. I feed my 60 hens each morning 1½ gallon of warm mixed feed, in the proportion of two bushels of wheat, one bushel of rye, one bushel of buckwheat, three bushels of oats, 1½ bushel of corn ground fine. I feed one quart of wheat at noon, and one quart of shelled corn at night. They have oyster shells, and a warm house; 25 of them are Mareh-hatched, all are in good condition, but do not lay.

Vermilion, Ill. W. J. A.

BROODY HENS TO ORDER.—There are times in the year when it would serve our purpose if we had a few broody hens to set; but we realize Josh Billings's proverbial philosophy "the best time to set a hen is when she is reddy." I have been able to modify Mr. Billings's statement somewhat, by getting hens ready when I wish them. The plan works best with old hens, those that are fat, and preferably, Cochins. If the hens are not quite fat enough, begin to fatten them a short time before you will need them, giving a good corn ration. When you need them, have some baskets, or boxes with some ventilation, and covers, that will, when closed down, allow the ladies room to sit comfortably but not to stand, on some nest eggs. These boxes should be arranged in some quiet room or building, and in 48 hours, the hens will generally begin to show a broody disposition. Every morning and evening they should be allowed off for food and water and a little exercise. Corn should be the principal diet, and a little sulphuric acid in the water, fluid extract of podophyllin or linseed meal in soft food will keep the bowels all right. On the third day, some of the hens can often be intrusted with the eggs; a hen that will not be persuaded to be broody by the fifth or sixth day, would best be rejected. Some will call this cruel, etc., but as it is generally in cold weather (in early spring), that we need them, a hen thus provided is certainly more comfortable—and it is less cruelty—than to leave them exposed to the weather of that season of the year. This simple plan I have used with success, and if broody hens are needed at a time when otherwise they are not to be had, it is worth the little trouble it involves. GEO. D. COLEMAN.

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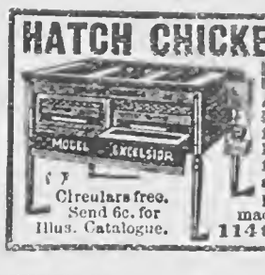

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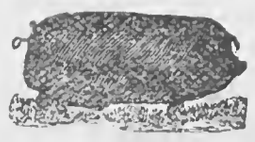

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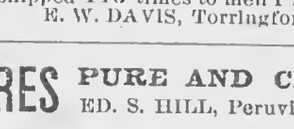

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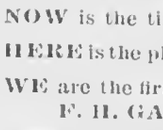

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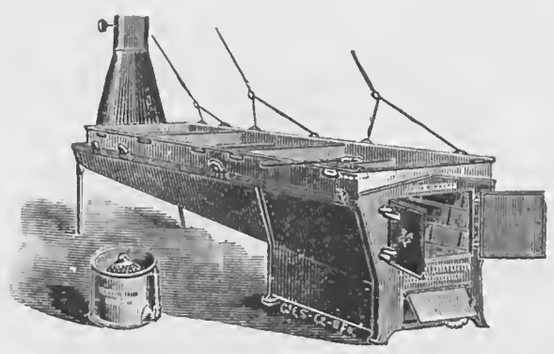

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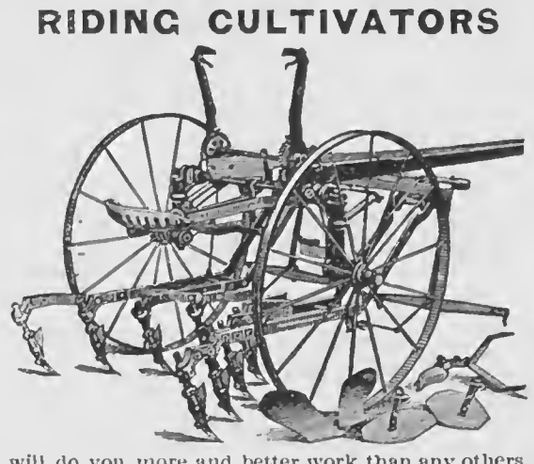

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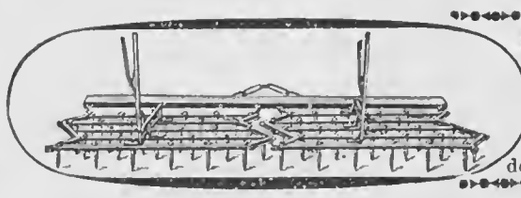

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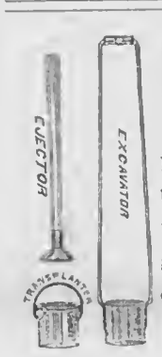

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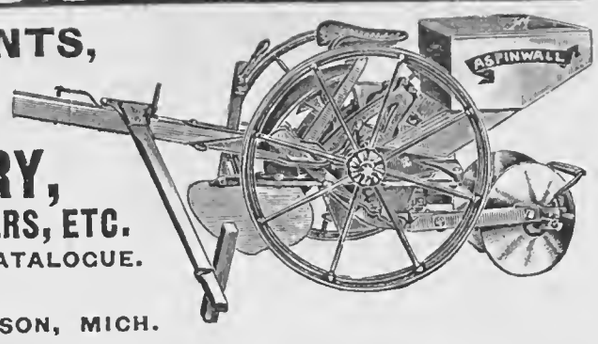

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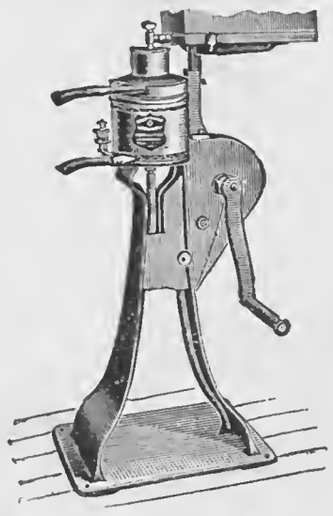

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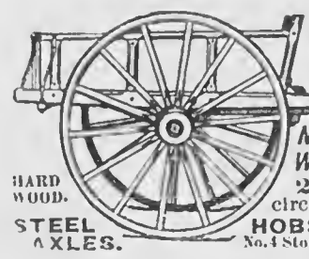

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2400. NEW YORK, JANUARY 25, 1896. $1.00 PER YEAR.

MAPES TALKS "HENS BY THE ACRE."

FIGHTING ROUP AT WHOLESALE.

"A Balanced Ration" as Poultry Medicine.

(*Concluded.*)

"BALANCED RATION" COMES IN.—Do I consider the disease contagious? Most assuredly I do, when the conditions are right. Ah! Then there are conditions! Can you tell what they are?

Hardly! Some things which I have observed, lead me to suspect that the diet has something to do with it, as well as the environments. I am inclined to think that if a hen has a properly balanced ration, she will have vigor enough to resist infection. I believe that one of the requirements of the latter, is a certain proportion of animal food. My flock was improving nicely the early part of last winter, and by January 15, we were getting a good many eggs. About this time, my supply of meat scrap gave out, and I could not obtain any for some time. At the same time, we were busy harvesting ice and neglected securing skim-milk with which we were mixing the morning's feed. The egg yield fell off sharp; in fact, almost ceased, and in a short time, roup broke out in a severe form in nearly all the flocks.

Another straw pointing in the same direction, is that I attempted to raise my young chickens that year without animal food. A mixture of wheat bran and corn meal with cracked corn was the principal feed. This might have been all right with a few who could roam about and forage for worms, bugs, grasshoppers, etc.; but with over 1,000 on a small space, such morsels were soon unobtainable.

Roup has always been called a winter disease which usually disappears, or is greatly abated, with the advent of warm weather, and incidentally of a chance to forage for such food. Putting this and that together, I began to reason that an exclusive grain diet furnished too much carbonaceous material or fat-formers. In Nature's effort to secure sufficient muscle-makers, more carbonaceous food was taken into the system than could be assimilated. This surplus of carbonaceous matter might clog up the system, and make it more susceptible to infection.

Again, a hen is an omnivorous animal, and I suspect that there is a difference between a certain amount of muscle-makers in vegetable food and the same amount in animal food which has once gone through the process of digestion which is not fully understood. Look at the difference in the digestive apparatus of herbivorous animals like the ox or sheep, with their four stomachs, and the hen with her gizzard.

THE THEORY TESTED.—I put a good deal of stress upon this point, as I believe that it occupies an important part in the study of the subject of balanced rations. I had a half-dozen chronic cases of roup in my hospital, and I concluded to do a little experimenting. Accordingly, about August 1, I put three healthy cockerels with them, and began feeding them with a liberal proportion of animal food in the form of meat scrap and milk curd or pot cheese. They were obliged to drink from the same basin, and eat from the same trough. I kept them upon this diet for six weeks, and in spite of the fact that they were closely confined in that building which had contained hundreds of cases of roup and had never been disinfected, the cockerels remained perfectly healthy. After six weeks of this treatment, I concluded to put them upon an exclusive corn diet, and see whether I could clog up their systems with surplus carbonaceous matter. They had fresh water every day, the same as before, and all the good corn they would eat. At the end of nine days, two of them had contracted the disease, and on the 13th day, the third one had it.

After a few days, when the disease was well developed, I put in two fresh, healthy birds, and placed them upon a diet containing about half the amount of meat scrap and pot cheese as in the first case. These two cockerels contracted the disease in just four weeks, and in the meantime two of the first lot of three had recovered. "That doesn't prove anything," you say? It may be that it takes four to six weeks to contract the disease, I told myself. So, I decided to put in two more healthy birds, and put them upon a diet of corn at once. This I did December 6; up to yesterday (December 13), they showed no symptoms of roup, but to-day, I notice that one of them is affected, and I fully expect the other to take it in a few days.

WHAT ROUP IS.—What are the first symptoms? Where the disease is the result of contagion, the first symptom is a watery discharge from the nose. After a few days, the discharge becomes of the consistency of thick syrup, and has a peculiar, offensive odor. As the disease advances, the bird, although retaining a good appetite, loses flesh rapidly. The head begins to swell, one eye and sometimes both being completely closed. Sometimes a thick coating forms on the tongue and mouth. If it take this form, the odor is decidedly different, and death speedily follows in most cases. I am inclined to think that there are two distinct types of the disease, catarrhal and diphtheritic.

In a sporadic case, the bird evidently takes cold, and swelling of the head and eyes is the first symptom, with a watery discharge from the nose. Loss of appetite and the offensive smell and thickening of the discharge from the nose, are likely to follow, in which case I think it becomes contagious, but not before.

If my supposition (I hardly call it a theory) that a properly-balanced ration makes a healthy, vigorous bird able to resist infection, and that an excess of carbonaceous matter in the ration goes into the circulation, clogging up the system and making it peculiarly susceptible to infection, what a field it opens up to our scientific men. Think of the joy of being able to raise a herd of cattle with vigor enough to resist the deadly baccilli of tubereulosis! Why, in 10 years, we could stock the country with healthy cattle, to say nothing about what might be accomplished by carrying the same idea into the feeding of the human race! Gentlemen, will you take it up and sift it?

Orange County, N. Y. O. W. M.

A VERMONT ROAD MADE FROM A MUDHOLE BY PLOW, SCRAPER AND STONE WALL. FIG. 19. SEE PAGE. 50.

PLUMS GRAFTED ON PEACH STOCKS.

WILL THESE MAKE DESIRABLE TREES?

What are the advantages of using peach stocks in grafting plums? What are the disadvantages, and is the practice, on the whole, desirable?

Plum Stock Preferred in Georgia.

We find that many varieties of plums, especially those of the Chickasaw and peach-leaved native types, succeed very well when grafted upon peach seedlings. In fact, trees of these varieties live just as long upon peach seedlings as upon Marianna plum stocks. We have Kelsey plums budded upon peach stocks which are now 13 years old, and still in excellent condition. The only disadvantage that we have occasionally found in using peach stocks, is that, in some soils, they are subject to root knot, whereas Marianna stocks are less liable to this drawback. As a rule, the Japanese varieties of plums make a stronger growth upon Marianna than they do upon peach stocks; therefore, we prefer the latter, as a rule, for plums in general. P. J. BERCKMANS.

Georgia.

Would Not Use Plum on Peach.

With the domesticas and northern Americanas, there is, in my opinion, never an advantage, but a disadvantage, rather, in the use of peach stocks for the plum. This method of propagation is believed to be but little practiced at the North. It prevails, rather, in the more southerly localities in which the Chickasaw and the more southerly strains of Americana are mostly grown. These possess peculiar characteristics more nearly akin to those of the peach, upon which they are, therefore, probably more generally successful. Even in such case, however, there is much reason for the assumption that even the southern varieties of plums would be more perfectly "at home" upon stocks of their own species, and it may be reasonably suspected that peach stocks are in general use at the South mainly because they are more readily obtained. At the North, I would in no case use plum trees grown on peach stocks, except, possibly, to be planted in very light, dry soils, in which the peach stocks would be more at home. The short-lived character of the peach, and its liability to the attacks of yellows, borers and other maladies, are serious objections to such practice, at least at the North.

Michigan. T. T. LYON.

A New Idea from Maryland.

The disadvantages, or rather, the objections to the peach as a stock for the plum, are, First, that a good many varieties of plums do not unite solidly and firmly with the peach. Second, the peach root does not succeed satisfactorily on heavy clay, or cold soils. Third, the borer, or peach tree grub, seems greatly to prefer the peach tree to all others, in which to propagate its kind. As a stock, however, it has some advantages, too, especially to the nurseryman. The stocks are easily and cheaply grown, and are rapidly worked at a minimum of expense. In the orchard, there is no such thing as "suckers," or sprouting from the roots, as is the case with most kinds of plum stocks that are used, and with all imported stocks, I believe. When plums are worked on peach—grafted—on the single-root plan, so that when the trees so grown are set in the orchard, all of the peach is well under ground, they are just as good for all soils where peach trees succeed, as trees grown on plum stocks. I, however, would prefer trees on plum stocks, to those budded above ground on the peach, for any soil.

This stock question, as it affects the propagation of plums, involves much of great importance to plum growers. Nothing is in use to-day, in that relation, that is in all respects satisfactory, or that pleases alike both nurserymen and orchardists. While the Marianna is, doubtless, simply a Myrobolan plum, when stocks are grown from its cuttings, there is perfect immunity from the very objectionable feature of suckering or sprouting from the roots. And the individualism of each stock so grown, is in no respect seriously different from its fellows. Which fact, biologically considered, is a very important one. Imported Myrobolan seedlings have each distinct individualisms, varying, one from the other, rendering them better or worse as the case may be, as stocks; no uniformity as to affinity, as would be the case with stocks grown from cuttings of one single type. The Marianna stocks, as propagated and used to-day, are, doubtless, the best stocks for the plum at the command of propagators. There are, however, some kinds of the European type that do not succeed satisfactorily when worked on Marianna.

I have experimented a good deal with stocks for the plum during the past 15 years, and discussing the subject last year with United States Pomologist Heiges, he asked me whether I had ever known the trees of the hard-shell almond to be attacked by the peach borer. The question itself was like turning a search-light on a dungeon. I have examined every hard-shell almond tree that I have seen since, and in no single instance have I yet found borers present, or indications that they had ever touched the trees. Now would it not be worth while for readers of THE R. N.-Y. having trees of this kind, to investigate, and if found to be exempt from this pest, it would in all likelihood prove a desirable stock for many varieties, at least, of the plum I think that the tree itself is considerably hardier than the peach. It is a sure and good bearer, thus insuring an easy way to the procuring of a supply of stocks. If free from injury by borers, it would have two good points in its favor to commend it above the peach. J. W. KERR.

Maryland.

"An Unsolved Problem"; Favors Plum.

I consider this entire question as yet unsolved. We have such a great variety of plums springing from six or eight distinct species, each with its peculiar growth, so that the stock which suits one class, is poor for another. But so far as plum stock is concerned, we can narrow it down quickly to one or two species—the Myrobolan being far better than any other, and the Marianna (which is, apparently, a hybrid of that with Chickasaw) stands at the head for vigor, long life and uniformity, and takes the bud or graft most readily through a longer growing season than any other. So far as I have observed, it is much more congenial to the varieties of plum in general, than peach stock, yet there is a deal of difference in its congeniality for some classes of plums over others. It takes and carries the Chickasaw varieties perfectly, and about equally well most of the Japan varieties. Especially do Burbank, Abundance, Satsuma and Hattankio thrive upon it. The Americana varieties generally, although in some respects apparently very nearly allied to the Japan species, P. triflora, do not do so well. Their wood is much harder, and they do not maintain an even growth at the juncture, as though their denser wood impeded the flow of sap. The peach budded on Marianna or any other plum stock, is quickly dwarfed and dies in from one to three years invariably. From this I infer that the peach is much less congenial as a stock to plums, than is the Marianna, although plums do far better upon it than it does upon any plum.

LEAF OF ROSE-MARGINED EUROPEAN BEECH. FIG. 20. From Nature. See Ruralisms, page 55.

Ten years ago, I planted a plum orchard including numerous varieties, running through the different species, all (with few exceptions on their own roots) budded on peach. In six to seven years, all Americana varieties, such as De Soto, Quicker, Forest Garden, etc., were dead. The European and Chickasaw varieties, including Wild Goose, failed a year or two later. The Golden Beauty and Wayland, a little better still, and Miner and Weaver are yet alive and bear annually. All these trees suffered from attacks of the peach borer in the peach stock portion. Many, as do peach trees here in many places, where the soil is seapy, suffered and died from root rot, a fungous disease induced by first drowning the feeding roots. The plum trees in this plantation on their own roots, were most vigorous, and remained sound in roots. The Marianna trees, especially, were very robust and sound throughout, and appeared as though they might have endured 20 years in good condition. But they are valueless for cropping, so I grubbed them out.

In 1894, I planted another plum orchard on the same character of soil, partly the same plot, nearly all budded on Marianna stocks. I have full notes of behavior of all the varieties in the first orchard, and am keeping a record of those in the new orchard, in order to make comparisons. So far, the Marianna plum roots have under my observation everywhere resisted borers and root rot (caused in peach by seapy land), and have generally given indications of being a better stock for plums than is the peach. But, as I stated at first, scientific demonstration in the matter is yet lacking. Such problems as this require 8 to 12 years in large and varied plantations, side by side, on each class of stocks, and on different soils, in different climates, to demonstrate fully. Such is well worthy the attention of the experiment stations. However, if the changeableness in working forces that has so much prevailed in most of our stations, continue to prevail, all such long-lived, important problems are likely to remain unsolved by them.

Texas. T. V. MUNSON.

THE TRANSFORMATION OF A MUDHOLE.

HOW THEY BUILT A COUNTRY ROAD.

The picture on the first page shows 60 rods of permanent road in the town of Rupert, Vt., built in the spring of 1895, by A. Hopkins, road commissioner. The sheep thereon are a flock that happened to be going by at the time the photograph was taken. The archway at the lower extremity shows indistinctly an iron bridge, put up the past season.

This piece of road, being situated only about 100 rods from a railroad station, has been known for years, far and wide, as the poorest in town. Teamsters always loaded according to what they could haul through "the mudhole," as it was generally termed.

It was built in this way: As soon as the ground was thoroughly settled in the spring, a hole was dug in the road large enough to take in a heavy Syracuse plow. Six strong, steady horses were attached, and, by going very slowly, the road was gradually broken up the entire length and 11 feet wide. An excavation was then made, by the use of an improved wheel scraper, to the depth of about two feet. The hole thus made was then filled with large stones a little more than level full. These stones were purchased, at small expense, of a nearby neighbor who had a stone wall that was exactly in his way. On top of the stones, was then piled coarse gravel taken out of a brook, to the depth of eight inches.

The dirt taken out in excavating, was next scraped back, and the road shaped 40 feet wide. Then every 20 feet eight-inch tile were put in from the edge of the stone, at right angles with the road, and run to the outside ditch with a good fall. The tile were placed 20 feet apart on either side, a row on one side came between two on the other—thus placing a row every 10 feet. Mr. Hopkins considers the tile indispensable, for after heavy rains, they have often been noticed running off large quantities of water that would otherwise have remained in the road to soak through and make mud.

A thorough job has been done, and this road will stand for many years a monument to its builder, and an honor to the town. More are needed, and I predict that each year will see additions of this kind, for Rupert has awakened to the fact that money invested in thoroughly built roads, like this, pays the farmer a higher rate of interest than money deposited in savings banks, and is absolutely safe. C. S. H.

Brattleboro, Vt.

WHAT THEY SAY.

TAR FOR TIN ROOFS.—"How would coal tar answer in place of paint for a tin roof?" My experience is that it is no good; I would rather leave the roof without any protection than to paint with common coal tar. I know of several tin roofs that have been ruined by the use of tar as a paint. Several years since, I repaired a roof that had a tin valley painted with common mineral paint and oil. The rest of the roof was a tar gravel, lapping down on the tin about 10 inches. When taken up, the tin was rusted out for the entire length of the building, as far as covered by the coal tar; where covered with paint alone, it was sound. The acid in the tar soon destroys the tin. The best paint of which I know, and I think that it will last longer than any of the oxide or specially prepared paints, is made of finely ground slate and linseed oil. T. L. H.

Fairfield, Iowa.

TO KILL RATS.—Place three or more half barrels or barrels that will hold water, where rats are thickest; fill two-thirds full with chaff or sawdust, or fine straw. Set something next them, or lean a board to the top so that the rats can get up easily to jump in. Have chaff near enough to the top of the barrel, so that they can jump out easily, or put a small piece of board in so that they can get out on that. The last time you are at the barn in the evening bait each barrel well with something of which the rats are

fond—crumbs, meat bones, cheese rinds, sweet apples, corn, etc. Do this one week regularly so as to get them all to come. Then empty out the filling, and put in water, a little more than half full. Put on top of the water, some of the same filling taken out, to cover it, and bait with sweet apples, or pieces of corn on the car, something that will float. The rats will jump in, but will stay and drown. If this be done when the water freezes, it will be a failure. In that case line the inside of the barrel with tin for 12 or 14 inches at the top; then leave in the dry chaff, but much lower than you would the water, so that they can not jump out. Old deep milk cans may be used, and no water be used, only to drown them after they are caught, which is the best way to kill them.

Susquehanna County, Pa. J. M.

VIRGINIA WINESAP APPLES.—I noticed in the report of the late New York Fruit Exhibition, the mention of the York Imperial apple. From all I can learn, I think this is a new name given to our Piedmont Winesap, the best all-'round apple I know. In a market report mention is also made of Virginia Imperial as second in price to the York. It is also stated that the Yorks are selling better in London than the Pippins. If my guess is correct, the "Yorks" are the best selections from our reddest and largest Winesap, while the Virginia Imperials are not so finely colored or so large—in fact are Winesap seconds. And some sharp and cute apple dealer has changed the name for trade purposes. Until the Chicago Fair advertised our Winesaps, there was no great market for them. They are bound to lead all others for their shipping and keeping qualities, besides being the most beautiful in color, and, withal, having a fine spicy flavor. I keep them all winter in a dark granary. One winter they froze and thawed in the dark, without any injury, and I kept some of them till May. Another advantage they have is that bruises seldom cause rot. Our black mountain soil does better for the Pippins, while our red and iron-mixed soil beats the world for producing the Imperial Winesap. If I were to put out a new orchard of 1,000 trees, I would use 950 Winesaps. As far as my observation goes, the best keeping Northern apples become here late fall. My Roxbury Russets mostly fell from the trees in September. C. M. E.

Amherst, Va.

WHAT COLORADO POTATOES COST.—So much potato talk has gone through THE R. N.-Y's columns, that we can no longer stand it, and herein is our story, if the truth is considered as such in the estimation of some of the Eastern potato growers. We planted, the past year, three acres of potatoes on new land, one acre each of World's Fair, Maggie Murphy and R. N.-Y. No. 2, side by side. This ground was sage brush plowed or broken up the fall previous. Nine bushels of seed of the World's Fair, were planted in hills on this acre, 12 bushels of Maggie Murphy in drills, and 11 of the R. N.-Y. No. 2. All the above were dropped by hand, the first 15 inches apart in the row, the second 12 inches, and the third 14 inches, as near as they could be dropped that distance, and in rows three feet apart. The first or World's Fair yielded 425 bushels, the Maggie Murphy 400, the R. N.-Y. No. 2 475—a total yield from the three acres of 1,300 bushels. Here is the cost of the three acres:

Plowing land	$3 75	Covering	$0 75
Harrowing twice	1 50	Harrowing twice	1 50
Furrowing for seed	75	Cultivating three times	4 50
32 bushels seed	12 80	Irrigating twice	75
Cutting	1 25	Water tax	1 50
Dropping	1 50	Harvesting	11 00

Total cost to grow 1,300 bushels of potatoes	$41 55
1,300 bushels at 20 cents	260 00
Net profit	$218 45
Net profit per acre	$72 816

No manure was used, and the figures above given include wages paid (including board), at the rate of $1.50 for team and feed a day (not man and team, merely team alone). To the above cost might be added $1 for wear and tear of tools, etc. HOOVER & MOORE.

Garfield County, Col.

HOW TO DISHORN.—It seems to me that your correspondents, page 866, tell the *why* of dishorning better than the *how*. Fig. 22 shows how I do it. It is a plain stanchion, set in the mouth of a chute three feet wide, built inside of a strong corral. The stanchion is built like any other, except the bar, P, which is nailed across about 20 or 24 inches from the ground. The one-half-inch rope, E, should be about 12 feet long, with a three-inch ring tied to the end of it. When the steer's head is in place, the stanchion closed by means of the rope, D, and fastened by the pin at X, put the rope, E, over his neck back of the ears, bringing the ring down under his chin. Then take a bight of rope, poke it through the ring, and bring the loop up over the nose. Let a man pull on the other end of the rope, and the steer's head comes down in the notch, C, so tight that he can neither move nor bawl. B is a small block fastened to the bottom part of the stanchion by a staple: P is a temporary bar set up while the steer is being put in the stanchion. When the horns are off, take the bar, P, down, and dishorned steers pass out into another pen, and are thus kept separated. S. C.

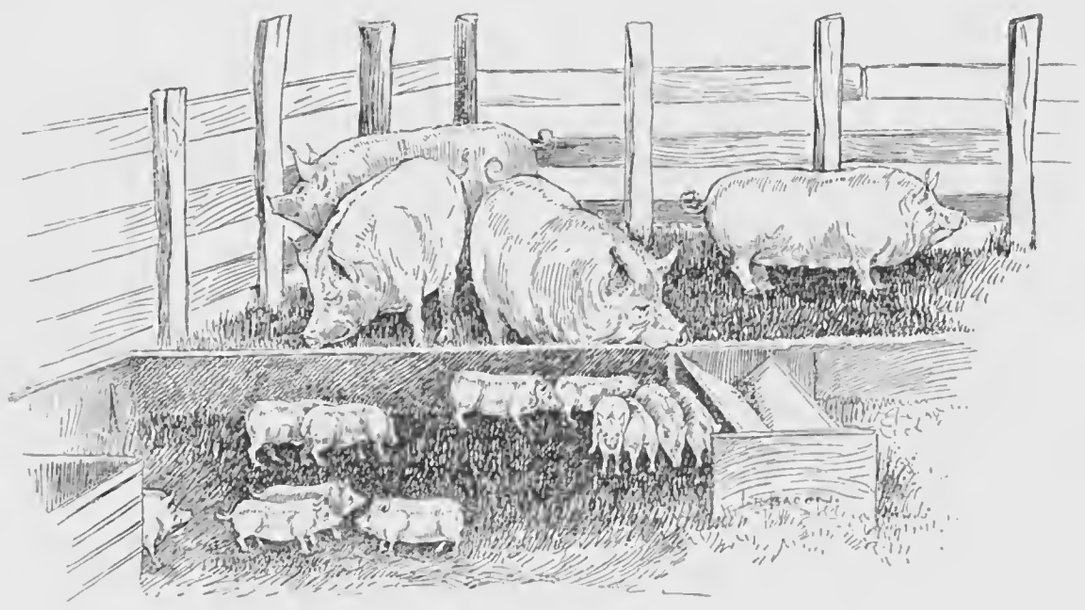
South Side, W. Va.

HORSE SHOE FARM NOTES.

CARE AND COST OF KEEPING A CHESHIRE.

A neighbor who came in to spend the evening, said, "I sold eight pigs for $10 to-day; they were three months old. I shall fatten the dam and quit the business."

"But," said I, "you got good interest on the money invested and for the feed consumed."



A GROUP OF CHESHIRE SWINE. FIG. 21.

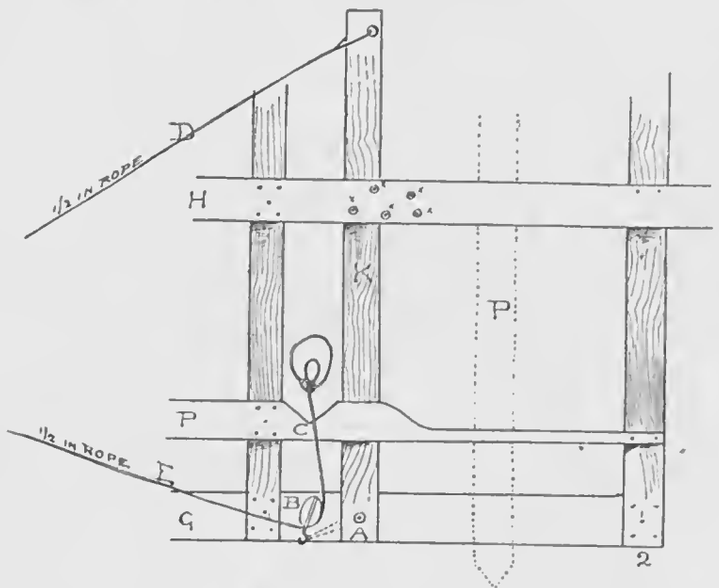
"Humph!" he snorted; "I have fed that worth of bran alone since last spring."

"You must have a fine lot of manure, for you kept the sow in the pen. That's worth a good deal."

"No! I threw it out into the small yard, and she rooted it into the ground. I guess there is nothing but mud there."

That is the style of the ordinary farmer, on nearly every farm. Hogs confined to a small pen and muddy yard, bare floor, no water to drink, and expensive food fed; manure wasted, small litters of stunted, scrub stock, sold at a sacrifice. No wonder my neighbor was discouraged; but should I tell him that he received more than such care deserved, the "fur would fly." The fact is that swine receive the least care, and pay the best of any stock on the farm. The same lack of intelligent management in the care of cows, would ruin both owner and dairy.

"Why do you keep your hogs shut up?" I asked. "The hog is a grazing animal, and should have vegetable food every day in the year." Yet men will laugh at me when I tell them that they will keep in good condition on grass alone during summer, or that they can be wintered on raw, flat turnips, or beets, with but little grain. Last summer, we kept on two acres of land, six mature Cheshires, from May 25 to August 15, without any other food except 400 pounds of wheat bran. For two weeks green oats and peas, and after that corn fodder, were added to the grass. They commenced farrowing in September, and received a little milk, wheat bran and oil meal. We never had a stronger lot of pigs. Our old sows averaged 12, and those with first litter nine pigs each. As soon as the young pigs will notice anything, we sprinkle whole wheat where they can get it, and put milk in a low, narrow trough for them. They soon learn to eat, and do not require so much of the mother. She shrinks on her milk, and does not get so thin and run down as when compelled to furnish all food. By the time the pigs are 12 weeks old, she will take the male, though still giving a little milk, which serves to put the "gloss" on the youngsters.



A STANCHION FOR DISHORNING. FIG. 22.

Fig. 21 shows a litter of 12 pigs two days old, and the little mother, 10 months old, looking over the board, wondering what is to be done now. The gentleness of this breed is proverbial, and that with their ease-loving disposition, accounts for the possibility of keeping them so cheaply. They neither worry nor wander off any flesh. This little mother had eaten nothing but grass when the little fellows were farrowed, since service. The pigs were farrowed in the same field with the others seen in the picture, without molestation. When cold weather set in, all were put in pens. They are fed a quart of fine wheat bran or middlings mixed with cold water, and about one-half bushel of raw flat turnips each day. They are always in good breeding condition.

This year, after re-sowing our seed three times, we gave it up as too late. Dry weather and grasshoppers robbed us of our cheapest food. Beets will be fed instead. One man writes, "Our pigs won't eat turnips." The reason is that he fed them whole, and they hurt their mouths. They should always be cut up. He fed them to supplement a grain ration which was sufficient to supply nourishment. A hog will eat what it likes best first, and squeal over what's left. Make the vegetable food the bulk of the ration, and supplement with grain enough to furnish warmth. There is not much warmth in a turnip, and if the pig is kept in an open pen, fed in a trough frozen half full of dishwater, and sleeps on its wet, dirty bed which often freezes so hard that it does not thaw out again until spring, it will not thrive. No animal loves a warm, clean, dry bed, or will try so hard to obtain it, as the hog. If given free range of the farm for a few days, it will always select the biggest straw pile in the warmest spot that is dry. Little fellows three weeks old, will leave the dirty pen where the mother is confined, and sleep in the dry litter which is on the barn floor. Man has abused the hog so long that his children know no better, and believe that the reputation given this animal is a fair one; but his character is directly the opposite.

Our hoghouse is ceiled inside on the sides and top, and stuffed with straw. The floor is tight. The manure seldom gets cold enough to freeze even slightly, and the pens are cleaned every second morning. "A good deal of care?" Yes, but cheaper than the cost of added grain, loss of stock and reputation. With this comfort, the hogs are esthetical and inclined to be vegetarians. Thus far, we have never lost an animal by sickness, had pigs eaten by their mothers, or bothered to sit up with them at farrowing time. By the use of these methods and common sense, one can make money with any of the varieties of swine adapted to grazing.

Nine of those shown in the picture were sold for $72 when 10 weeks old. Two will be fed beets, wheat middlings and a little oil meal, and we confidently expect that they will win the greatest honors at the fairs next fall. I say this to show that it is not a starvation method, and we believe it. I estimate the cost of keeping a brood sow to be, for food, 100 bushels of turnips, $3; one-half ton of grain, $10; pasture and soiling, $3; total, $16. As I would be willing to care for the swine on a large scale for some one else for the manure, I make no charge for labor. As the "little mother" will raise another litter within a year, I claim that a good profit is proved.

C. E. C.

HOW THEY STUDY HORTICULTURE.

SOME MYSTERIES OF PLANT LIFE REVIEWED.

Writers in horticultural papers often deplore the fact that schools are not provided for the study of the scientific facts, the knowledge of which is so necessary for success in horticultural work. If they are referred to the agricultural colleges, wherein many a systematic course of instruction is given, they immediately decry them as theoretical, impractical, book-farming institutions.

For nearly three years I have been in a position to note closely the work in the "Short Course in Agriculture" in the Wisconsin Agricultural College, particularly the work in "Plant Life." The course embraces dairying, stock feeding and breeding, agricultural chemistry, etc., in addition to the study of plants. Two hours each working day are spent in Horticultural Hall, built and fitted especially for this work as well as for experimental work. After one hour spent in the lecture room, where the students are taught the principles of plant life by Prof. Goff, they don their working jackets, and file into the laboratory, where, seated at tables, plentifully supplied with all necessary apparatus, they carry on work

for themselves. The work here is purely investigational. The work for the day is outlined by Prof. Goff, after which the students perform the work, and either at the close of the exercise, or on the following day, note the results.

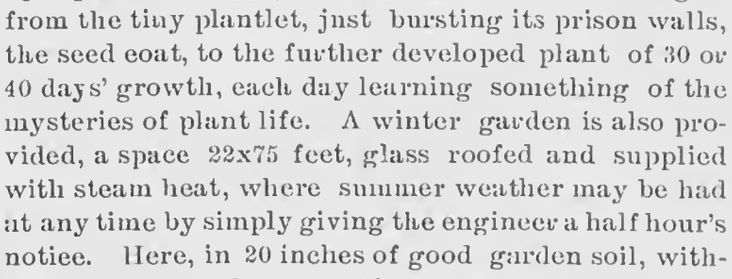
An outline of a portion of the work done here, will give a chance to judge whether it is practical. "The first step in germination is absorption of water by seeds: some seeds absorb water more rapidly than others." To demonstrate this, each student placed in separate bottles, with a known quantity of water, a number of beans and Honey locust seeds. On the following day, the students observed that the beans had swollen very much, but the water had not risen in the bottle, greatly to the surprise of many, showing beyond doubt, that the beans had absorbed water. The Honey locust seeds, however, showed no change.

The statement was made to the class that seeds absorb the necessary water more rapidly, when the soil is packed firmly about them, and in close contact, than when it is left loose. The boys set out to prove the truth of this assertion by determining the volume of 50 beans by means of graduated cylinders, and then placing them in a box containing moist loam and packing the soil firmly about them. Another box was prepared in a similar manner, except that the soil was left loose. On the following day, by determining the volume of the beans in each box, and comparing the figures with those of the previous day, they discovered that the beans in the "packed" box had absorbed from 10 to 15 per cent more moisture than those in the "loose" box. This trial taught the "why" of many operations, that probably every student had performed dozens of times without stopping to think why. Why are field crops rolled? Why is a roller attached to a garden seed sower to follow the drill?

They were then asked whether the temperature of the soil affected absorption, and answered by preparing two boxes in the manner described in the previous trial, except that in neither was the soil packed. One box was immediately placed in a temperature of 40 degrees, and the other in a temperature of 70 degrees. Upon examination and re-measurement on the next day, the "cold" beans were found to have absorbed several per cent less water than the "warm." Query: Is it better to plant corn, beans and like seeds, very early in spring, or to wait until the ground has become warm?

These experiments were followed by others, showing that oxygen is necessary to germination, the practical application of a seed tester, etc. Later on, each student will be given an opportunity to study the development of clover, corn and other plants, aided by a plentiful supply of the plants in different stages, from the tiny plantlet, just bursting its prison walls, the seed coat, to the further developed plant of 30 or 40 days' growth, each day learning something of the mysteries of plant life. A winter garden is also provided, a space 22x75 feet, glass roofed and supplied with steam heat, where summer weather may be had at any time by simply giving the engineer a half hour's notice. Here, in 20 inches of good garden soil, without interference by supporting posts or other obstruction, trees are planted, grafted and budded, and other practical horticultural work follows, until the boys actually begin to believe that there is, after all, something in "book farming." So firmly do they believe it, that a large percentage of them return for a second winter's work, which is given on advanced lines.

Many of these young men are sons of farmers, who were successful in their work and gained a competence thereby, *without* "book farming," as they will tell you. Very true, but in a day when competition was not one-half as keen, and on soil and in seasons when seed time and harvest came and passed gladly and profitably. EXPERIMENT STATION.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

What is "Spontaneous Combustion"?

Several Readers.—What is the cause of spontaneous combustion in barns, stacks or piles of rags?

ANSWERED BY PROF. W. A. ANTHONY.

When a substance takes fire without the application of heat from any outside source, or at least, without being heated from without up to the ignition point, such an occurrence is described as spontaneous combustion. Numerous cases of such fires have occurred. They are generally due to a slow oxidation of combustible material. It is well understood, I think, by everybody, that the heat of an ordinary fire is due to the combination of the combustible material with the oxygen of the air. This chemical operation generates heat. With most combustible substances, this combination with the oxygen of the air will not occur except at the elevated temperature that accompanies combustion, hence, in most cases, combustible substances have to be heated, usually by contact with another substance already in process of combustion, up to the point at which the combination with oxygen will occur, the temperature of combustion being then maintained by the process of combustion itself. But there are many substances which will slowly combine with oxygen, even at ordinary temperatures; and it is a well-known fact in science, that whenever oxygen combines with a combustible substance, precisely the same quantity of heat is developed for a given amount of substance consumed whether the combustion takes place slowly or rapidly. It is evident, however, that in the case of slow combustion, the heat will be developed slowly, and may escape so rapidly as to produce but a very slight rise of temperature. In fact, the combination of the material with oxygen may be so very slow, and the facilities for the escape of heat so good, that the rise of temperature produced is entirely insensible. But, notwithstanding this, it is still a fact that the total amount of heat developed when the operation is complete, will be the same, whether the operation go on slowly or rapidly.

Now, suppose that a given substance, such as oily waste, be piled up in a compact mass; the oxygen of the air will combine with the oil, developing heat, which, in consequence of the exceedingly poor conducting power of the mass of waste, and the small surface exposed for the escape of heat, will accumulate in the mass and raise its temperature. And it is possible, under certain conditions, that the temperature may rise to the point necessary for the rapid union of oxygen with the material, which is accompanied by the evolution of gas and flame, and which we call combustion. Fires have not infrequently occurred from just such an action in a pile of oily waste. A pile of rags saturated with paint or varnish may also bring about the same result. If such a pile of waste is in the vicinity of a hot steam pipe, this will aid in bringing the temperature up to what is necessary for quick combustion.

Soft coal containing sulphur, or iron pyrites, when damp, may take fire spontaneously. In this case, the moisture greatly facilitates the slow oxidation which results in the attainment of a temperature necessary to rapid combustion. I have known several instances of this kind. In one case, several tons of bituminous coal, which had been wet on the cars, were put into a vault near a large building. The coal took fire, and it was impossible to quench the fire except by shoveling the whole mass over. In another case, about 100 tons of coal in a coal-house connected with a manufacturing establishment took fire in consequence of the escape of steam underneath. The steam furnished the moisture which is necessary to the oxidation of the sulphur compounds.

There is nothing mysterious about these cases of spontaneous combustion. In any case where a slow oxidation will take place at ordinary temperatures, heat must be developed and the temperature must rise. The rise of temperature will be greater or less as the facility for the escape of heat is less or greater, and it is evident that under certain conditions, the heat developed by the slow oxidation may be sufficient to raise the temperature in the interior of the mass to the ignition point.

Setting Fruits on Leased Land.

S., Berks County, Pa.—I purpose moving this coming April to a very productive farm, of ironstone soil, with good railroad facilities, and in close proximity to a manufacturing town. I have leased this farm for five years. Shipping milk will be one of the main moneymakers. In connection with this, I would like to cultivate small fruits, as they are in demand. The place now has but little fruit on it, and the farm contains only 60 acres. I purpose putting out one acre of strawberries and raspberries, together with currants. What I wish to know in particular, is, would it be advisable for me to plant a certain number of plum trees, cherry trees, peach trees and grape vines, such as would come in bearing soon? I would have to pay for fruit trees, and, if I left at the end of five years, the fruit trees would remain. I have had eight years' experience among small fruits, and like the business; besides, my children are of such an age as to be of great help to me just now. If this should be so, what varieties of the above mentioned trees ought I to plant to reap the most benefit? I do not want any more than I can feed well and attend to so as to give the best results.

There are many reasons why the culture of berry fruits will always be profitable to growers who live in close proximity to a flourishing town. Tree fruits are naturally exposed to all the vicissitudes and severities of our trying climate; but the lowly berries are as secure as the reeds in old Esop's fable, which endured the storm that laid low the oaks. This renders the berries reliable for annual crops, and the grower has only to select good sorts, and give faithful and skillful culture to be sure of success. The first fruits of each year are berries, and they are more enjoyed and more eagerly accepted because of the awakened appetite. As to planting fruit trees on land leased for but five years, only peaches and plums would be likely to repay the cost within that time, and could not be expected to yield much profit until later. They would be out of place in ground used for growing small fruits. Their roots and leaves would rob it of moisture, and their heads would cut off needful sunlight. Yet tree fruits must always be the source of the main fruit supply for the greater part of the year, and for the chief uses. W. G. R.

Pennsylvania.

There would be no assurance of getting proper and just remuneration for the planting and care, at his own expense, of any of the kinds of fruit named, during the five years. While plum and peach trees ordinarily produce fruit before reaching that age, the fourth and fifth years might, as likely as not, both fail, for various causes, to give him a crop. Then, again, such fruits would only attain good bearing age at the expiration of his lease. With grapes, his chances are better; yet, upon the whole, the better policy would be to concentrate labor and capital on the small fruits, as with these he has strong collateral backing in the way of experience. J. W. KERR.

Maryland.

Fattening Pigs on Potatoes.

N. A., Austinburg, O.—I shall have 200 bushels of small potatoes to feed this winter. I am planning to buy some pigs six weeks old, and feed them cooked potatoes mixed with other feed. I can buy buckwheat at 30 cents per bushel, corn at 35 cents, oats at 25 cents, bran at $15 and middlings at $16 per ton. What would be most profitable to mix with the cooked potatoes? How many pigs could be profitably fed 3½ months?

ANSWERED BY J. M. JAMISON.

The ton value of these feeds at the prices given is as follows: Buckwheat, $14.28; corn, $11.25; oats, $15.62. Their nutritive ratio is as follows:

Corn	as 1: 8.6
Buckwheat	as 1: 7.4
Middlings	as 1: 6.9
Oats	as 1: 6.1
Bran	as 1: 5.6
Potatoes	as 1:10.6

The potatoes as pig food are worth about one-fourth as much as corn, a little more as compared with bran middlings and oats, and more than one-third the value of buckwheat. If N. A. purchase pigs just weaned for feeding, some care must be exercised to compound a ration that will be as near like milk as possible. The best that can be done with the foods mentioned, the nutritive ratio will be wider than desirable. The nutritive ratio of milk is 1:3.37. Bran comes nearer this than any other. A ration having a nutritive ratio of 1:5, and a little wider, does very well for the first feeding period of young pigs. As N. A. will purchase the foods to mix with his potatoes, he will find it profitable to use a quantity of old-process oil meal to mix with the other foods used. In making up the ration, I would leave out the oats and buckwheat. Pigs do not take kindly to oats. The feeding value of the buckwheat is too low—the price considered—to be used with profit. I think that he can purchase bran and middlings lower than the prices named, if bought in large quantities; here bran can be bought in ton lots at $12, middlings at $13. At any rate, if I had the potatoes to feed, I would commence with bran and middlings equal parts by weight. If oil meal is purchased, I have found in practice when the pigs have the run of the fields, that one pound of the oil meal to four pounds of bran, does well. The oil meal will keep the bowels in good condition, preventing constipation, also furnishing the muscle and bone material necessary for such young animals. I would feed but little corn to begin with, and still would wish to use all that their systems would stand, and make the best growth as it is the cheapest of all the foods. The quantity used can be increased as they near the marketing time, till the grain ration is principally corn. I would not shell and grind the corn, as it would not pay. I would mix the other ground foods with the potatoes.

As to cooking the potatoes, only the amount of water necessary to cook them should be used. If they are small, I would try to get them eaten without mashing them, which will probably be done if the other food be thoroughly mixed with them with only sufficient water to make the ground feed adhere to the potatoes. The quantity of potatoes used, should, in some manner, be regulated as the corn feeding, commencing lightly and increasing towards the last. In a case of this kind, the judgment of the feeder has much to do with results. It is very hard to compound a ration on scientific principles, and use the potatoes in large quantities. If the hogs can be given the range of a Blue grass pasture, woods or clover sod, they will balance to a great degree, the inaccuracies of the ration fed, by what grass they can gather,

and more, they will thrive better if allowed all the exercise they will take.

In buying pigs at six weeks old, N. A. will have the best time in their lives to make a profit on the food consumed. As to how many can be profitably fed for 3½ months, it depends on the experience of the feeder, and the facilities to care for them. The smaller the number kept together, the better they will thrive; but the larger the number kept, the less the cost of caring for them, proportionately. Particularly is this true as regards the cooking of the potatoes. In my management of pigs, so far, I have had the best success with lots numbering from 30 to 40. In this case, great care should be exercised to prevent overfeeding; always have them come to their feed with a hearty good will, but not as starvelings.

Ross County, Ohio.

Will it Pay to Steam Fodder?

A. S. S., St. Charles, (No State).—What is the value of steamed corn fodder compared with dry? Will cattle eat it any better? I have a plenty of it, and can buy it for 15 cents a shock 16 hills square. I have facilities for cutting it, but not for steaming. I am using a four-horse sweep power, but I don't like it as it takes too much of my time from the farm. I feed in the barn all the time, nearly, and cut everything the cattle eat. The question is, Will it pay me to get an engine and use it for cutting and steaming, also to steam milk cans and bottles? I can get a second-hand 10-horse-power very cheap. What would be the difference in fuel required between a 10-horse-power and a four-horse-power engine, all other things being equal? A four-horse-power would do the work.

ANSWERED BY PROF. I. P. ROBERTS.

So far as the experience of many intelligent feeders goes, it is found unprofitable to steam the ordinary coarse fodders fed to cattle. It might pay you to buy the engine you speak of, and a shredder for reducing this dry corn fodder, although I am somewhat doubtful of the economy of this method of treatment. I would say, cut it as you have heretofore, dampen it with warm water and mix the grain feed and some roots with it; that is, make a pile in one corner of the barn where it will not freeze, and let it remain from 12 to 24 hours to soften and become digestible. A little experience will show how long it is best to let it remain before feeding.

I think that an improvement might be made by ensiloing these stalks when they are green; they are then palatable and easily masticated. It is bad economy to handle them over two or three times, allowing the water to dry out and then cut them at an expense two or three times greater than would be incurred if they were cut green (dry corn stalks are far more difficult to cut than green ones) and also have the trouble of replacing water which has dried out.

Steam power is far more satisfactory than horse-power in every way, and the chances are that you would make an advanced economical step by buying the steam power referred to, although it is larger than necessary, and by using steam for bringing the drinking water of the cattle up to 90 degrees, and for steaming and cleansing the milk utensils. With a 10-horse-power engine and an enlarged cutter, the chaffing of the green stalks could be done very quickly.

Another Chapter on Lime.

C. W. D., Duffield, Pa.—Being interested in THE R. N.-Y.'s articles on curing a sour soil, I wish to say that I sowed a phosphate containing 25 per cent of carbonate of lime, on wheat. So far as the wheat is concerned, it does not show, at present, as well as that where I sowed acid phosphate. Will this carbonate of lime (said to be from animal matter), have the effect of curing too much acidity in the soil?

D. J. B., Harborton, N. J.—Although I have been using lime on land for some 50 years, at different times, I have been much pleased with THE R. N.-Y.'s articles, in regard to lime for sour soils. In this connection I would like to have you tell me about using lime on land where commercial fertilizers are used. I have seen statements that lime would, sooner or later, cause the active principles in superphosphates to revert, and become of no benefit. It is a question with our farmers whether they should lime where commercial fertilizers are used. Our farmers are not well informed as to agricultural chemistry.

ANS.—Yes, the carbonate of lime contained in that "phosphate," will tend to cure sourness in the soil; but it will not act so quickly as airslaked lime or lime prepared with water as described on page 21. The fact that the acid phosphate gave a better yield, does not prove that the soil is not sour. We would say that this land evidently needs phosphoric acid in a soluble form. The acid phosphate supplied it, while the other did not. On *poor* land, you cannot expect to obtain good results *from the use of lime alone.* What the lime does is to put the soil in better condition to give up to the plants the potash, phosphoric acid and nitrogen which are supplied in manure or fertilizers. Take two men in zero weather, and set them to picking up stones. Give one a warm pair of mittens and no food, and give the other a big dinner but make him work with bare hands! Neither one could earn his salt; but give them both mittens and dinner and they will do good work. You might say that in the sour soil, lime represents the mittens and complete plant food represents the dinner.

We went all through this matter of the changes that take place in phosphoric acid last spring. You will find it on page 212 of last year's volume. In a few words, this is the story: A "superphosphate" is a "phosphate" that has been acted on by acids so that the phosphoric acid in it is soluble in water. The action of the acid is to break up the combination between the phosphoric acid and lime. When *soluble*, there is but *one* part of lime in the combination, and in this form it will dissolve in water like sugar or salt. But when placed in the soil near lime, this *one part* mixture at once makes a chemical combination with another part of lime, in which form it is *reverted* or not soluble in water. So that when you use lime in connection with the *super*phosphate, you may expect that it will be quickly changed to this reverted or non-soluble form.

Is this a bad thing? Yes, and no. When this soluble phosphoric acid is put into the soil, it is absolutely sure to revert. That cannot be prevented. If lime is present, it will form most of its combinations with that substance; but if lime is absent, much of the phosphoric acid will unite with iron or alumina, and thus take a form that is not nearly so soluble as the lime combination. You might, for the sake of illustration, say that soluble phosphoric acid represents sugar which will readily dissolve in the mouth. When reverted with lime, it is like rock candy, and when reverted with the iron or alumina in the soil, it is like a tough gum drop. Which will you take for your coffee?

To our mind, the chief advantages in using a superphosphate, are that phosphoric acid is cheaper in this form, and that by reason of its solubility, it is soaked and distributed all through the soil. It is sure to revert, however, and it is simply a question whether the lime combination is not better than the other. In our own case, with an application of lime, we would prefer to use most of the phosphoric acid in the form of bone—which would not be affected by the lime. At the same time, if the soil were evidently sour, we would not fear to use the lime and take the chances on a superphosphate.

The Five Varieties of Crimson Clover.

J. W. O., Hillsboro, Ill.—Is there any difference in the hardiness and size of Crimson clover grown from imported seed, and that grown from American seed? Our Crimson clover seems to stand the cold all right in this climate, but it does not grow large enough, and seems to be of rather dwarf nature. I have reason to believe that the seed used about here is imported seed. Are there different varieties as some claim?

ANS.—There are five varieties of Crimson clover, Trifolium incarnatum. They differ in regard to the size of the plants, and in hardiness. Four varieties produce crimson blossoms. The fifth differs in the color of the flowers, which are white. The cause of the small growth of the clover referred to, may be due either to the variety, or it may be caused by the poverty of the soil upon which it was grown. Some imported seed produces plants which are as vigorous growers, and as hardy as those grown from American seed; but it cannot be depended upon to do so. I have seen in fields of Crimson clover which were sown with domestic seed, plants that, when mature, were only from six to twelve inches in height; but it was due to the lack of plant food in the soil. Other fields that contained abundant plant food, and were sown with some of the same lot of seed, yielded a heavy growth of the clover, with plants from two to three feet in height. A liberal application of potash to the soil produces a great increase in the growth of Crimson clover. The imported seed cannot be relied upon to give a satisfactory growth, and farmers in this State will not use it. Very much of it is mixed with a variety of Egyptian clover seed, which yields a heavy seed crop in a suitable climate, but it does not withstand our winters. M. H. BECKWITH.

Delaware Experiment Station.

Best Crops for Swamps.

J. W., New York.—Will you get the opinions of some of your readers, as to the best crop to plant on a piece of swamp land, cleared, tiled, plowed and harrowed last fall? The land is in corn, and consists of about four acres.

I would suggest that it be sown to buckwheat after thorough and repeated harrowings. Buckwheat roots are well-known looseners of bogs or humps.

Oneonta, N. Y. D. M. C.

Most of our muck farms were once timbered, tamarack, elm, and underbrush growing profusely. Within the last few years, special attention has been given to the working of muck soil, or swamp farms. I assume that the land is cleared from bogs and sticks, and properly drained with the largest tile, or an open ditch. When land is drained, the action of sun and frost will soon convert the soil into productiveness, and about the only drawbacks will be early frosts. You cannot work this land with the same tools you have worked hard land, and if you try, you will get discouraged and make a failure. You must have a plow with a long moldboard, with a share to cut the whole width of the furrow, and a sharp coulter. Then turn the furrow clear over, roll, and work with a disc harrow until you get a good seed bed, and finish with a 60-tooth spike harrow. My first crop is Hungarian or buckwheat, which subdues or breaks up the old sod. If your land is not too rough, potatoes may be planted with success. After the first crop, I work the land a little deeper, and plant to celery, cabbage, or onions in the order named. Experience is necessary in selecting varieties specially adapted to the soil.

Jackson, Mich. A. W. J.

A Ration for Fattening Lambs.

A. J. B., Youngstown, N. Y.—I am feeding 65 lambs this winter for spring market. What should be the feed ration? I have corn, oats and peas, whole wheat, oil meal, bran, and some clover, but depend mostly on thrashed corn fodder for rough feed.

ANS.—Corn meal should form, in connection with the other foods mentioned, one-third of the grain ration. Corn meal, 100 pounds; wheat bran, 100 pounds; oil meal, 20 pounds; peas, 30 pounds; oats, 50 pounds. Mix and feed from one-half to one pound per day per lamb. This will do when shredded corn stalks are used, but when clover is fed, there should be a greater proportion of corn, and less of oats and peas. If one feed is of shredded corn and one of clover each day, then the corn should not be increased and the oats and peas diminished as much as when clover is fed exclusively. Sheep do not relish wheat as well as the other grains, either whole or ground. Better feed the wheat to the chickens. The grain alone would give a nutritive ratio of 1 to 5.5. The shredded corn fodder would widen it possibly, to 1 to 6 or 1 to 6.5. It would still be too narrow for fattening lambs in cold quarters; if kept in warm quarters, it would be wide enough. By substituting a little corn for a part of the highly nitrogenous food (peas and oil meal), the ration could be easily widened. A few mangels or some other succulent food would improve the ration. I. P. ROBERTS.

Get Ready to Fight Celery Blight.

S. W. F., East Benton, Pa.—Will raising celery on muck soil, year after year, finally cause the crop to blight? I have 1¾ acre, on which I raised celery for five years in succession. I set it in beds of from four to five rows, six inches apart in the row and nine inches between the rows. The beds are four feet apart, and banked between the inside rows with a shovel. I used only special fertilizer, and did not use any barnyard manure. The blight came on the plants set from the greenhouse in June, and on the plants set from the field in August. The first that I noticed it on the early celery, was soon after a hard rain the latter part of June. What the blight did not destroy, the frost did. I sold only $30 worth this year from the same ground from which I sold $800 worth last year.

ANS.—The mere fact of continuous cropping with celery, will not cause blight, as this trouble is due to a specific fungus If practicable, grow your celery on other land next year. If not, try spraying early in the season with ammoniacal solution of copper carbonate—one ounce of copper carbonate, enough ammonia to dissolve it, and nine gallons of water. Try the mixture on a few plants first, and dilute it if any injury occur. W. M. M.

The Apple Crop and 17-Year Locusts.

H., Ironton, N. J.—Why does an enormous apple crop always come the year after the 17-year locusts? Several of your friends have been hoping to read something about this in THE R. N.-Y.

ANSWERED BY M. V. SLINGERLAND.

The answer to this question must first involve the asking of one or two others. Can it be demonstrated that there is always an enormous apple crop the year following the appearance of 17-year cicadas? During the past 10 years, the cicadas have appeared somewhere in the United States every year except 1887, 1890, and 1892; and they will appear somewhere every year for the next 10 years. Has the general apple crop of the country been "enormous" during seven out of the past 10 years? If so, we have good reason to suspect that it will be every year for the next 10 years. Or, are we to infer from H.'s question, that the enormous apple crops occur only in the regions where the cicadas appear the previous year? Let us see how this should have affected the New York apple crop. Five distinct broods of the 17-year cicadas are known to occur in the State. Brood VIII. appeared on Long Island in 1889. It was brood XII. that appeared in the Hudson River Valley in 1894. Brood XIX., a small one, occurs in only a few counties in western New York, and appeared last in 1882. Brood XX. appears only in the extreme western counties of the State, and was last seen in 1883. Brood XXII., a large one, appeared on Long Island and near Rochester in 1868 and 1885. Now, was there an enormous apple crop on Long Island in 1869, 1886, and 1890; in the Hudson River Valley in 1895, and in western New York in 1883, 1884, 1869, and 1886? If so, apple growers in these localities may quite confidently expect an enormous crop in 1899, 1900, 1902, 1906, and 1911; and possibly a good crop during some of the intervening years!

Having thus pointed out the facts of the case so far as the 17-year cicada is concerned, I must leave it for those who think that the insect has any connection with the apple crop, to demonstrate the relation. I do not believe that there is any shadow of a reason for supposing that the appearance of the cicadas has any effect whatever on the apple crop of the following year. It is a mere coincidence if an enormous crop does follow a cicada year; stranger coincidences have occurred. I fear that H. reached the conclusion stated in his question, by what one of my friends calls the "kangaroo" (jumped-at) method.

The R. N.-Y. Seedling Potatoes.

THEIR HISTORY; MONEY PAID FOR THEM.

It occurs to us that our readers may care to know just what the editor in chief of The R. N.-Y. has made (in money) from the sale of the several potatoes that have originated at the Rural Grounds. There is no secret about it. That we have not told the story before, is because it has never occurred to us to do so, and this, perhaps, because we have had from week to week matters that seemed to us more interesting and instructive to our friends to talk about. Their cumulative and somewhat remarkable popularity may now be our excuse for speaking of what there would have been less reason for talking about while their reputation was still, in a measure, problematical.

It is, perhaps, 16 years ago that we first sowed potato seeds—this rather to find out how difficult or easy it might be to raise seedlings than in any expectation entertained at the time, of originating a variety or varieties more valuable than the best of those in the market at that time. Our first work was to plant 62 different kinds, intending to cross them and to sow the crossbred seeds. This was a failure. We were unable to find any pollen. Just where we obtained our first seed balls, we cannot say. It may have been from several that formed on one or the other of the 62 kinds. At any rate, it was at about that time that we began to raise potatoes from seed.

Year after year, we sowed seeds in February, transplanting the seedlings to small pots in early spring, and thumping them out with the ball of soil intact into plots of well-prepared garden soil. Year after year, the best tubers of the largest-yielding hills were selected and planted the next season, while other seedlings were grown from the occasional seed-balls that the seedlings yielded. So we continued with little hope of getting a variety superior to the Early Rose, Peachblow, Burbank, White Star, Beauty of Hebron and the best of the many new varieties which were then offered from year to year, by enterprising seedsmen.

The Rural Blush was first offered for sale in 1882. It was not, as many suppose, one of our seedlings. It originated with Mr. E. S. Benham of Attica, N. Y., who sent us a bushel for trial the year before. We were so pleased with its fine quality and drought-resisting properties, that we commended it to one of our seed firms, who at once bought the available stock, and introduced it, the name of Rural Blush being given in recognition of the part we had taken in calling attention to its merits.

We continued to sow seeds and to select the shapeliest tubers from the most prolific hills, numbering each kind every fall as dug; wrapping the tubers in paper, and entering our notes of progress in a book kept for the purpose.

We were determined not to introduce any of our seedlings that, as they grew at the Rural Grounds, did not seem superior to any then in the market. There was no reason why we should. Our work in experimentation of all kinds, was carried on for the love of it, as well as in the hopes of adding to the prestige of The R. N.-Y., a desire only less intense than the writer's devotion to his home and family. Surely the origination and introduction of any plant that a year, or at most two or three years, would suffice to show only its inferiority, would neither satisfy his love of serving the public through experiment work nor further the real interests of the paper. It is generally an easy matter to make money by extravagantly and ingeniously advertising the assumed merits of any plausible method or device, or the alleged marvelous value of any new plant. But just so sure as the novelty falls far beneath the intrinsic worth claimed for it, just so sure those who have deceived the public will fall in the public's estimation.

The R. N.-Y. No. 2 was the first potato that we felt confident would do us no discredit. A selected bushel was sold to a leading firm for just $200. It was named the No. 2 because it was an intermediate as to the period of ripening, and we hoped, sooner or later, to produce a worthy companion of earlier maturity. The earlier variety was named the Carman No. 1. Forty-eight selected tubers of this were also sold for $200. It is proper here to state that sample tubers of the Rural Blush, R. N.-Y. No. 2. and Carman No. 1 were sent free to thousands of our readers. Later came the Carman No. 3. About the same number of this—we have never raised seedlings in large quantities—were sold for $200. Not a tuber of any one of the three kinds was reserved for our own use.

For some 10 years past, we have been raising seedlings from the Rural Blush. Until four years ago, none seemed to be equal to the parent. We finally selected

(*Continued on next page.*)

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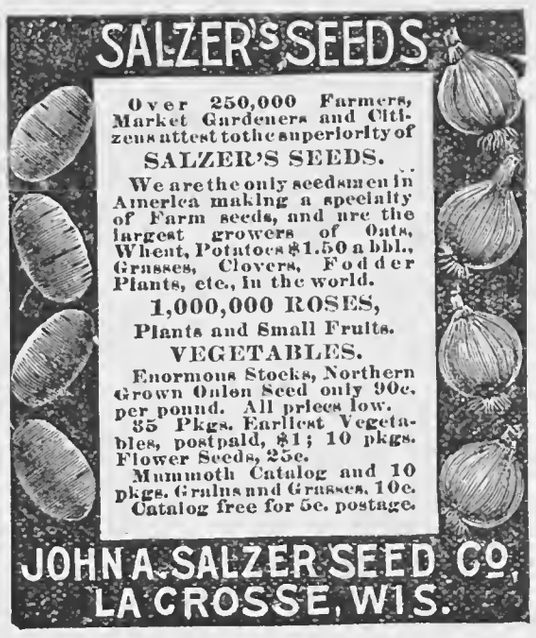

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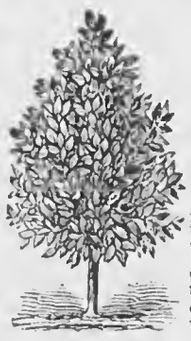

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42nd YEAR. 1000 ACRES. 29 GREENHOUSES.

THE STORRS & HARRISON CO., Painesville, O. Box 216

RURALISMS—Continued.

a tuber having a singularly corky skin for further trial. The next year it yielded heavily, and the quality was found to be superior to the parent, which is saying a good deal. It was decided to have this variety introduced under the name of the Carman Peachblow, and our little stock of it—about 40 tubers—was sold for $200.

For years we have been raising seedlings from the R. N.-Y. No. 2, from seeds kindly sent to us by a friend in Ghent, Belgium. The variety has never produced seeds at the Rural Grounds, and the balls kindly sent to us by American friends, contained no viable seeds.

We were at length rewarded by the production of a variety in every way, in so far as we may judge, the equal of the R. N.-Y. No. 2. differing in two respects: The skin is netted and the quality better. This was sold, as were its several predecessors, for $200. We have not, as yet, been advised what name it will bear. This and the Carman Peachblow will be offered for sale next fall, we believe.

Whether we shall ever have the good fortune to hit upon another variety of potato worthy of introduction, remains to be seen. We doubt it, though we have still many seedlings on probation. We would not, however, risk much upon the probationers' chances.

Here is the whole story, RURAL readers. Beyond the sale in bulk of these five kinds to leading seedsmen, we have never sold a tuber directly or indirectly through THE R. N.-Y., or through any other source. We have alike printed unfavorable and favorable reports. In truth, had there been a consensus of condemnation of the three kinds now fairly-well tried, or if there shall be such a consensus as to the two kinds not yet offered, we hope to be the first to publish it.

It will now appear that for our 16 years of potato work, we have sold five kinds for precisely $1,000. We dare say that, had we used our columns for advertising the three kinds now offered for sale, retaining the entire control as long as possible, THE R. N.-Y. might easily have made a snug little fortune. But, tell us friends, were we to crack up the plants that have originated at the Rural Grounds while we sold them to you either directly or indirectly, do you think that you would place as much confidence in the thorough impartiality of our plant reports, as you now do?.....

IN June of 1894, we spoke of a novelty among trees sent to us by Ellwanger & Barry, of Rochester, N. Y., viz., the Rose-margined European beech. We do not know anything of its origin. Probably it is a sport of the Purple beech, the central portion of the leaf being of a dark purple color, the margin being a pink rather than a rose color. When the leaves first unfold, this color is really a light purple. It is not accurate to speak of this color as being that of the *margin*. From the illustration, from nature, shown at Fig. 20, it will be seen that the rose or pink color is not confined to the margin.

The little tree is a beautiful object in the early season, but we are not yet ready to say that the rose-colored part of the leaf will stand the summer sun without some shelter.....

THERE is another novelty among beeches to which we have not before alluded. It is called the Dark Purple-leaved beech, differing from the Rivers (the best hitherto of the Purple beeches) in the one important respect that the leaves are of a still darker color, and more glossy. It is also said to to be a more rapid grower.

We think that, at least, one Purple beech—whether it be the new or the old—should be in every collection of trees. The leaves, after they lose their purple color, become of a green so dark as still to make a notable contrast with the foliage of most other deciduous trees. In the early season, it is very pleasing to sit under the foliage when the sun is shining and the sky is blue .....

LADY CLAPP, we are told by good judges, is a most valuable new pear to succeed the Bartlett, ripening, as it does, in mid-September. The size and color are the same as Bartlett, and the quality first-rate, being melting, vinous and juicy.....

WE would say to those of our friends who purpose buying any of the choicer magnolias, that, though the first cost is considerably more, it pays to buy those which are pot-grown. Magnolia roots cannot bear exposure, and are impatient of injury of any kind. Those grown in pots, if properly grown, are sure to live.

Miscellaneous Advertising.

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The Canadian Government recently sent an appraiser to the principal bicycle factories in this country, to determine the exact value of various makes for import into Canada. After an exhaustive investigation, his report to his Government rated

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$10 for largest potato sent me within 10 days. Send weight, name, and 10 cents for agreement. We are responsible. Address A. C. GEARHART, West Decatur, Pa.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

Carman No. 1 Potatoes—(Thorburn Seed). $1 per bushel of 60 pounds; 150 pounds to the barrel. Orders booked now Shipments made at any designated dates. J. M. MEREDITH, Calcium P. O., Berks Co., Pa.

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243 bushels from one peck of seed corn.
1,000 bushels of oats, average weight 50 lbs. per measured bushel.

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Farm seeds grown by farmers for farmers. *We are the largest growers of Farm Seeds in the world.* You can't succeed with "scrub" seed any better than with "scrub" stock. Let us send you our catalogue free.

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are always THE BEST. Grown from pedigree seed in the new lands of the cold North-East, they yield Earliest and largest crops in every climate.

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THEY ARE LOW IN PRICE.

Market Gardeners, Farmers and all Seed Buyers, get my prices before you buy. Write for 1896 Seed Annual and Special Wholesale Price List. Send for samples of any seeds you wish to test. SALESMEN WANTED EVERYWHERE. Write now.

FRANK H. BATTLES, ROCHESTER, N. Y., Grower of Farm and Garden Seeds.

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PEACHES Crosby & Champion

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THE HUNTINGTON SEED CO. INDIANAPOLIS IND.

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Palms are considered the rich man's plant, because so high-priced at the North. We grow them at a minimum of cost, and to introduce them to the general public, we will mail a fine, healthy plant—*and a copy of our catalogue, which tells just how to manage Palms in the window*—postpaid to any address for only 20 cts.

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Known as Australian Silk Oak (but is not a true Oak). A splendid Fern-leaved pot plant, as decorative as a Palm, as hardy and easily managed as a Geranium and as graceful as a Fern. The dust, heat, and gas of living rooms has no visible effect on it, and *everybody* should grow it. A fine, strong plant—*and a copy of our catalogue*—sent postpaid for only 15 cents. **Or for only 25 cents we will send both the Palm and Grevillea—and a catalogue—to any address.**

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C. E. KELLEY, Newark, N. Y.

Send for our 1896 Catalogue of Northern Grown

SEED POTATOES.

Catalogue FREE. | Prices Reduced to suit the times. | AGENTS WANTED.

HOOKER, GROVER & CO., Nurserymen and Seedsmen, Rochester, N. Y.

Choice Peach Trees a specialty by the 100, or 1,000, or in car lots. Send for prices. R. S. JOHNSTON, Box 4, Stockley, Del.

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AND THE ELEGANT NEW APPLE
DOWNING'S WINTER MAIDEN BLUSH
Like its parent, Fall Maiden Blush, but keeps well all winter. Catalogue of these valuable fruits and other leading varieties is now ready. Address,
E. M. BUECHLY, Box 242 Greenville, O.

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FREE of interest to progressive growers and careful buyers. SIXTY VARIETIES.
C. N. FLANSBURGH, Leslie, Mich.

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ORIOLE the best early Strawberry. New and fully described in our 1896 Catalog Large stock of all berry plants at very low prices. MILLER, the New Early Red Raspberry, reduced to $2 per 1 0.
SLAYMAKER & SON, Dover, Del.

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Grown from Treated Seed. *Secured First Premiums.*
Our list includes the cream of the potato family. Write for prices and full particulars.
HERRICK SEED CO., ROCHESTER, N. Y.

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THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

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SATURDAY, JANUARY 25, 1896.

OUR CATALOGUE REVIEWS.

NEXT week we shall begin our reviews of the current year's catalogues, and earnestly endeavor to make them as impartial and suggestive to our readers as our experience in growing plants of nearly all kinds—especially those of more recent introduction—may enable us to do. For several years past, we have devoted the greater part of a single number of THE R. N.-Y. to these reviews. This has met with the cordial approval, in so far as we may judge, of both our readers and the catalogue makers. But there seems just this one objection that may fairly be urged against a single catalogue number, viz., we are obliged to wait until rather late in the season before all the catalogues have been received. It would appear, still further, that if the notices of the catalogues be published as received, through several numbers, that they will individually be likely to receive more thoughtful consideration than if all, or most of them, appear in one issue. We urge it upon our readers that they send for these catalogues, and that they carefully compare them, so that they may be guided by the tone of the matter of the catalogue as well as by the consensus of opinion regarding the best plants and seeds to buy, which to select—which to reject. We would again caution our friends against unsupported superlative claims, emphasized by absurdly exaggerated illustrations. Let them bear in mind that good, conscientious firms cannot afford to overpraise anything they may have to offer. It is only those who care less for a permanent reputation for fair dealing, than for the money they may make for several years through gross misrepresentations, that are reckless as to the claims they make for the goods they offer.

⊙

UNDER "Live Stock" this week, will be found some remarks about shoddy and the damage that is done by using this substitute in the place of pure wool in clothing. We advise you to take the livest sort of stock in this idea. Selling shoddy-made cloth for "all-wool" clothing, is just as damaging to the wool-growing industry as oleo is to the dairy business. It is a dangerous counterfeit, and should be exposed.

⊙

SINCE the year 1878, the sum of $154,232,806 has been lost in this country by defalcations—that is, it was stolen by persons in positions of trust. In 1895, these thefts amounted to $10,423,205. This vast sum accounts for the stealings of trusted *humans* only. If we could include the money wasted by scrubs—robber cows, sheep, horses, poultry, etc., the sum would be multiplied by three. Down with the barn defaulters—the scrubs.

⊙

THE Atlanta Constitution offered prizes for the best crop of corn, and has just printed an account of the crop that won first prize. It was grown in Georgia and planted April 1 on good land without manure or fertilizer. It was cultivated four times and hoed once, with a total cost of plowing and working of $9.75 per acre. The yield was 176½ bushels of shelled corn! The proof of this yield and the estimate of the cost were examined by the State Commissioner of Agriculture and other well-known men, and are, therefore, vouched for. That beats Wisconsin potatoes at five cents a bushel, and shows what folly it has been for the Southern people to import corn or meat from other sections of the country. Another prize offer has been made by the Charleston News and Courier, which is of interest to farmers. That paper offered prizes for an account of the most successful pork making experiment, and hundreds of farmers have been fattening pigs and estimating the value of the food given them. This is excellent work for papers to engage in, for every contesting corn field and hog pen becomes a local experiment station from which the neighbors are sure to learn something new about the production of food.

⊙

TAKE a steam engine. Put it in a tight building, and get up steam. The next day, move it out into the cold, and get up steam again. It takes more fuel to do a certain amount of work outdoors than it does when inside. You understand that fully. You also understand that a cow is a living engine. Food is fuel. The frost in the air eats up the fuel under the boiler; it also eats up the food in the cow. If you have food and fuel to throw away—enough said. If not, you would better keep a tight board to windward of boiler and cow.

⊙

LAST week, at the Vermont Dairymen's Association, held in Burlington, some one entered a sample of the best oleomargarine. The object was to try to obtain a prize for it, and brag that the judges could not tell it from good butter. The scheme failed, for the judges, without knowing what it was, found the sample so low in flavor that it could not win a prize anyway. The color, grain and texture of good butter were well counterfeited, but the makers could not counterfeit the *flavor* of first-class butter. In Pennsylvania last year, these oleo rogues entered fine butter, won a prize, then destroyed the sample and claimed that it was oleo. In Vermont, they entered the real goods and were fairly beaten. Would that this could end them; but no, they will be at it again within a month!

⊙

THE R. N.-Y. is receiving many words of praise and congratulation this season. The one that pleases us most of all is the following note from a friend in Iowa:

i am German. but i understand

plain English, i understand you

This man first sent for a sample copy. After reading it carefully, he sent his money for a year's subscription with this brief but expressive note. That is one of the best compliments THE R. N.-Y. ever received. We would rather give *soluble* information than any other sort, for, if we are not mistaken, one great trouble with the agricultural science of the day is that the teachers keep it locked up in insoluble words and sentences that have to be planed to make plain English out of them.

⊙

WE have been waiting for one of those Colorado potato growers to give us his estimate of the cost of growing potatoes under irrigation. We have it on page 51. The heavy yield is largely due to the fact that the crop could not suffer from lack of water. There was no expense for manure and fertilizer on this "virgin soil," therefore, the cost of a bushel was light. The *water* for the crop cost $2.25. This low rate was obtained because many farmers joined their money and forces, and built their irrigating ditch together. Why do *you* let that water run to waste through your farm when crops are stunted by drought? Can't stand the expense of irrigating alone? Well, are you on such bad terms with your neighbors that you can't *organize* as the Colorado farmers have done? How can you keep up with them unless you employ the forces they have harnessed? These forces are water and coöperation.

⊙

SOME celery growers at Jamaica, L. I., bought, in 1893, celery seed of a Brooklyn seed dealer. They paid for it and planted it, expecting Golden Self-blanching celery. It proved untrue to name—an inferior sort—and damaged the growers to the extent of several thousand dollars. They brought suit against the seedsman to recover damages, charging misrepresentation of seed. The dealer's defense was that he bought the seed in open market, and sold it in the original packages without guaranteeing it. Probably each package had printed on it the well-known sentences quoted in the article on "Tested Seeds" on the opposite page. The judge dismissed the suit, thus sustaining the seedsman without a trial. From a legal point of view, seed buying is a one-sided operation so long as the seedsmen sell under that stereotyped "guarantee." If you accept the seeds and plant them, you plant with them any legal case you might have for damages if they prove untrue. At least one seedsman in America has recognized the fact that "tested seeds" must stand the test, or his reputation, like his seeds, will be declared worthless.

⊙

ANOTHER swindle on farmers has come to light in New Jersey. Parties in town bought hay of farmers at the barn for so much per ton. When starting after a load, they put several hundred pounds of stones in the bottom of the wagon, had the latter weighed on the town platform scales, and on the way to the farm left the stones along the road. When the load was weighed on the return to town, the original weight of wagon and stones was, of course, deducted, thus cheating the farmer out of a weight of hay equal to the weight of the stones. Some one finally suspected them, watched and saw them unloading their ballast, and spoiled their little game. The stones they had unloaded weighed about 400 pounds or more.

⊙

AT the Connecticut State Grange meeting on Wednesday, a quartette of singers began, without notice, to sing America. Out of an audience of 1,200 people, at least 1,000 joined in, and sang from memory, not one, but three verses of that noble old hymn:

My country 'tis of thee
Sweet land of liberty!

It was an inspiring moment when 1,000 voices rolled out those words. The wonder was that so large a proportion of the people had these words packed safely away in memory. We doubt whether any audience of equal size *outside* of New England could have produced so many people ready, at a moment's notice, to sing that song through without a break. Try it yourself. If you can't get beyond the first two lines, we suggest that you can well serve your country by sitting down to commit it to memory without delay.

⊙

BREVITIES.

Young man, a bit of science now for your consideration.
Heed well the wisdom of these words—make your own application.
Pop corn! Why do these little grains snap up and burst with heat, sir?
While finer looking grains of corn char down to coal complete, sir?
There is an oil within the shell—all through the season's cropping.
Dame Nature has been packing it all ready for the popping.
And so the heat that "pops" one grain but burns and chars another,
Because the larger lacks the oil found in its little brother.
And now, young man, bear this in mind, in life's great field of cropping:
You'll find *a question*, like pop corn, that must be solved by popping.
Go pack it full of honor, truth, of manliness, politeness,
If you would have that question pop into a ball of whiteness,
For it will only char and burn, and ruin life's digestion,
Unless your're full of honest love before you *pop the question.*

"SOFT jobs" are scarce.

THE borer is a peach leech.

STRIKE the key note keenly!

CAN a hen stop laying eggs at will?

GIVE us fractional currency again.

FREE TRADE in cats makes a tariff on rats.

THE hired man may be higher than his employer.

"*Good roads by bad men*"! Keep a-talking about it.

INK is black, but it can be made to throw light through a pen.

A PIG'S squeal is a farm *in sty toot* very popular on some farms.

THE plum growers don't seem to take much stock in peach stock.

ABOUT the same price—and profit. A bushel of wheat and a pound of hothouse grapes.

NORTH DAKOTA pays a bounty of one cent a pound on potato starch made from potatoes grown in that State. There's "paternalism" for you!

MR. MUNSON has it right on page 50, when he says that the constant changes in our experiment stations will preclude any valuable scientific work.

J. H. HALE says that all peach buds but those of the Crosby variety, in his Connecticut orchard, were killed last fall. The Crosbys are still alive.

NOTICE the difference between *going* into a business and growing into it. As they say about oysters, an R makes the difference between poison and health.

WE are getting many letters from those who oppose building and loan associations for one reason and another. We shall consider these objections soon.

THE man who starts out to get a big feeding value from boiled potatoes, is likely to be disappointed unless he remember that the potatoes are 85 per cent *water*.

THE Guernsey men have had a clear field in that dairy discussion thus far. Wait! A Jersey dairyman will talk next week with words fairly plastered with butter and profit.

SULPHATE of henhouse is a first-rate thing to give the hens. How do you prepare it? Turn the hens out of the house. Put sulphur in a dish, inside. Pour some alcohol over it, set on fire, and then close the house up *tight*.

IT was a singular fact that, last week, that Massachusetts man who spent $138 on an acre of potatoes, told us how he housed 29 hens at a cost of $7. Really, that is more remarkable in its way, than potatoes at five cents a bushel!

THE Board of Control of the Geneva, N. Y., Experiment Station elected Prof. E. B. Voorhees of New Jersey as director. Prof. Voorhees has finally decided to remain in New Jersey, and the Board of Control must, therefore, try again.

DID you ever try touching your tongue to a piece of iron or steel outdoors this frosty weather? If not, try it the next time you are tempted to put a frosted bit in a horse's mouth, and tell us how you like it. The bits should be of rubber, or else be wrapped in leather during winter.

HOW HOTHOUSE PRODUCE IS SELLING.

LETTUCE, TOMATOES, MUSHROOMS, ETC.

Hothouse produets form quite a feature of the eity markets during winter. We have already written of hothouse lambs, but this is only a trade term. The hothouse fruits and vegetables so common at this season, are actually grown in hothouses in various parts of the country. Southern New England, New York, New Jersey, Pennsylvania, and sometimes, still more distant States, eontribute to the supply. Among the vegetables grown are lettuce, tomatoes, radishes, cucumbers, rhubarb and asparagus. Fruits include mostly grapes and strawberries, and occasionally peaches. Mushrooms are also much in evidenee, but these are not always, and probably not generally, grown in hothouses. A dark, warm cellar is the chief requisite.

The question that interests the present as well as the prospective grower is as to the profit in the business. Is there money to be made from it now? Does it promise a good profit in the future? It is a curious business. It means simply the maintaining of a summer temperature and atmosphere during the frosty winter months, and furnishing the conditions neeessary to insure thrifty plant growth. Some suceeed in doing this, and make money; others fail, and lose a large part of their investment. In one way, the hothouse business at the present time, especially the growing of vegetables, is a sort of lottery. Before the advent of so large a supply of vegetables from our Southern States, the West Indies and Bermuda, not to mention more distant points, the market was a pretty eertain one. Now so many of these produets are plaeed in our winter markets in sueh prime eondition, and at such reasonable priees, that they lessen the demand for, and lower the price of, the hothouse stuff. But now and then, when, as last winter, the Frost King sweeps down over the South, and blaekens and blights every green thing, and man is helpless to stay his eourse; the man whose field though small, is eovered with glass, is secure in knowing that what means desolation and loss to many a Southern grower, means an extra demand, and extreme and highly profitable priees to him. But no man ean foretell these times, and if he plod along eontent with small profits year after year, this time may eome when a single eold wave may insure him a handsome profit on his many years of hard work.

But what of the future prospeet? As to vegetables, at present, under ordinary eonditions, the business seems to be overdone. The market gardener who needs his greenhouses to start early plants for his spring garden, may find it profitable to furnish winter labor, and keep his plant at work, to produee these vegetables. But there seems small eneouragement to engage in the business for the sole purpose of producing winter vegetables for market. Except under the eontingency already noted, the existing supply is, in general, too large, and prices received, too small. Sometimes, on eertain days, the supply runs short, and prices temporarily go up abnormally high. The man who ean wateh the markets elosely, has here an indisputable advantage over his distant eompetitor.

Just now, the supply of radishes largely exeeeds the demand, and priees, as one grower expressed it, will not pay for the eoal consumed. They are selling for $2.50 to $3 per 100 bunehes, and each bunch should contain 10 or 12 radishes.

Recent arrivals of southern lettuee have been badly frozen; hence this has helped the sale of the hothouse produet. Priees have ranged from 40 or 50 cents to $1 per dozen for a choiee article. This should be fairly remunerative, but it is not a very high priee.

Tomatoes, now, are almost a drug on the market, and it is hardly safe to quote prices, they are so fluetuating and uncertain. We have tomatoes in this market now from Florida, Key West, Bermuda and California, and priees received for some of those from the hothouses, can hardly be sufficient to pay for the cost of produetion.

Cueumbers are rather scarce at present, hence the price received is good. They are now quoted at $1 to $2 per dozen—something like oldtime prices. But a heavy supply may swamp the market in two days' time, and cut the priee in half, or even more.

Rhubarb is received in small quantities, but the demand is light, and priees now being realized, it would seem, must be very unsatisfaetory to the grower. The same with asparagus. There is little demand for it. Some has been received reeently from California, but it sold for very low priees. We shall soon have a supply from the South.

Mushrooms of good quality usually bring high priees, but at the time of this writing, good ones are being sold for 50 eents per pound, and it doesn't seem possible to clear up the aeeumulation. Two or three days ago, they were worth 75 eents per pound. Will these figures pay the growers much of a profit? One trouble with the mushroom market, as well as the market in some other lines, is that too many of a poor quality are received. Sueh serve to fill up the market, and render it dull, though not selling for any priee worth mentioning.

One point in eonnection with the low priee of many produets, is that transportation rates are not reduced in proportion to the decline of prices. Grain rates from the West have been largely reduced during the past few years, though not in proportion to the lower priees ruling. But it eosts just as much to get some products to market as it ever did, while priees are not one-half so high. If transportation prices were arranged on a sliding scale, it would be of tremendous help to those who ship from distant points. But, of eourse, this is impractieable, and right here comes in the advantage of being near the market.

The highest prieed products in market at the present time, so far as we have seen, are the hothouse strawberries. The writer was shown a neat pasteboard box eontaining two ⅛-quart enps, neatly covered with white paper, the wholesale price of which was $5, or at the rate of $7.50 per quart. These have always been eonsidered the most difficult to grow of any of the hothouse fruits. It has always been almost impossible to learn anything of the methods of produeing them; but last fall THE R. N.-Y. succeeded in getting the method of a successful grower, and this was published in the issue of December 7. Of course the demand at the prices quoted, is extremely limited; but as prices of any of this class of goods decline, the demand increases in a much greater proportion. It seems to require more skill to grow these than almost anything else, henee the prospeet is that skill and intelligence will be well rewarded in the production of these dainty luxuries.

Hothouse grapes usually bring high priees at this season, but one wholesaler said that he never before knew the prices to be so low. He was selling fine domestic grown Gros Colmans for 75 eents per pound, an extremely low priee. A good many of this variety are imported from English hothouses, but the prices reeeived are equally low. Still there is usually a good profit in growing hothouse grapes, and priees are sometimes excessively high—$2 or $3 or more, per pound. There are undoubtedly many small towns where a good profit might be made by starting a small hothouse to supply the local market. But it is a business one should grow into, rather than go into.

"TESTED SEEDS."

Last spring, I bought some melon seed of a seedsman here in Hartford. I had previously arranged to take the garden of a neighbor, in eonneetion with my own, and deeided to plant the whole patch with melons. After getting the soil in good eondition, taking a great deal of pains, I planted the seed. Not one eame up. I thought that it was probably owing to a eold snap that happened to come soon after; so I planted again—of the same seed—with the same results. It never occurred to me that there was anything the matter with the seed. I thought, as no doubt hundreds of others have thought who have had such results, that it was owing to certain conditions of weather or soil which might never occur again. In the fall, I went to this same firm and bought some lettuee seed for my eold frame, and my experience in starting this was identical with the previous one with the melons, although I bought what was represented as being better than the average. I made up my mind that the trouble was with the seed, and I sent it to the experiment station at New Haven. Dr. Jenkins gave it three tests and reported, "It is unquestionably worthless." As I made a number of sowings, I found at last that I had waited too long, and so lost the use of my frame. Some time after this, I saw the seedsman and told him my experience, and he quoted the conditions under which the seed was sold as follows:

> While we exereise the greatest eare to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop. If the purehaser does not aeeept the seeds on these conditions, they must be returned at onee.

I asked him whether he thought that he had used "the greatest care" to have good seed, and he replied that he thought that he had, by simply buying of what he considered responsible men. Last October, there was a discussion in THE R. N.-Y. as to the amount of damages—the liability of a nurseryman—where a lot of seedling peaches were found in an order of budded trees. I do not now remember all the points brought out in the different opinions expressed, but it was agreed that there was a damage. One correspondent thought that to replace the trees and pay 50 eents per tree in addition for loss, would be fair. Seeds are almost the only merehandise which one can buy and absolutely get nothing for his money; in faet, get less than nothing. There has been a great deal of worthless fertilizer sold, but this traffie is now regulated. Is it not possible in some way to regulate the sale of seeds? I would think that the honest seedsmen would be in favor of some aetion. If it is not practicable actually to give a "warrant," a statement that the seed was tested, this being plainly printed on each paper sold, would show that an effort had been made to sell good goods. CLARENCE BRYANT.

FEEDING VALUE OF DRIED BREWERS' GRAINS

Are dried brewers' grains good feed for eows and horses? Which is the best way to feed them, wet or dry? C. W. K.
Hurlbutt, Conn.

The follo wing notes are sent by men in New Jersey who have fed these grains. For horses and poultry the grains are usually fed dry; for eows or hogs they are in most cases soaked before feeding:

Dried Brewers' Grains Compared With Oats.

I have had only one year's experience in feeding dried brewers' grains to horses, and am fairly well satisfied. If the grains are perfectly sweet, they are all right, and horses do well at less expense; but occasionally, a horse does not eat them well. At the present low price of oats and all other grain, not much can be saved in feeding brewers' grains to horses.
J. M. WHITE.

We have used dried brewers' grains for horses and cattle, but haven't fed them to poultry. Experiment has shown that three pounds of dried grains are equivalent to about four of oats in feeding value, and the best results are obtained if they are soaked for about 12 hours before feeding. I can not recommend that they be substituted for corn, but rather that the ration be corn, bran and grains, equal parts. Also, on account of their bulky nature, less hay was neeessary than where other grains were exclusively used.
New Jersey College Farm. E. A. JONES, Supt.

I have fed dried brewers' grains to horses during the past two years, with, I think, very satisfactory results; but I have never fed them to poultry. As a rule, the grains are considerably eheaper than oats, and about the same or a trifle more expensive than corn and rye. It would hardly be possible to compare their feeding value with other grains, as I do not consider them desirable except when fed in combination with other grain. When fed with ground corn, rye, or both, I prefer them to chopped oats, as a balaneed ration is easily obtained, and the mixture more readily eaten, and with better results. Of course, under certain conditions, nothing can take the place of nice, whole, sound oats. As a rule, when feeding ground feed, I would buy them in preference to whole oats, the price being the same. Dried grains vary considerably in quality, and only bright, sweet grains are a desirable feed. DAYTON N. WARBASSE.

I have used a good many dried brewers' grains, but not with the best of satisfaetion. As regards this comparison with oats for horses, there can be no comparison made. H. M. BENNETT.

After 10 years' experienee and eareful observation in different feeding trials, I am fully justified in the following conclusions: 1. That two pounds of grains can be substituted for three pounds of either corn, oats or bran, when fed to cows for the economieal produetion of milk. 2. That the same substitution applies to the feeding of horses, when the grains do not prove too laxative; in some individuals, it would not be admissible to feed the grains, as a ration without some admixture of corn meal or other feed, on aeeount of the action of the bowels. Some horses refuse to eat them at first, while others prefer them to other feeds. About two years ago, Prof. Voorhees of the New Jersey Experiment Station, at New Brunswiek, eonducted a feeding trial on street-car horses in that city, to test their comparative value with oats, and found them much more economical, and equally satisfactory in other ways. 3. That similar results follow the feeding of grains to poultry, especially when eggs are desired; the high per cent of gluten makes the grains very desirable for this purpose. The grains have a more marked laxative effeet upon fowls than other animals, and should rarely be fed alone. The grains are sold at the present time, in New York City, at $14 to $15 per ton, and, in my opinion, are cheaper at $20 per ton, than oats at 30 cents per bushel. GEO. B. HURFF.

BUSINESS BITS.

THOSE who want Chester White swine will find G. R. Foulke of West Chester, Pa., a reliable man to deal with.

WE have had several inquiries as to where Belgian hares for breeding may be obtained. Requa Bros., Highland Mills, N. Y., can furnish them.

A. C. BROSIUS of Cochranville, Pa., sells the Keystone dishorning clipper. We understand that this tool is quick and effective in shieing off horns. The work is done rapidly, and there is no crushing of the horn. Horns were made to be clipped, but it has taken man a long time to find it out.

THE articles on "Feeding the Hen" are interrupted this week, but when we get at them again, one of the most important things we shall bring out is the fact that animal food of some sort is needed by the hen. It is well enough to know beforehand that C. A. Bartlett of Worcester, Mass., sells such food in various forms.

To grow five-cent potatoes, or any other potatoes eheaply, the cost must be reduced by taking advantage of every improved implement. The Davenport potato cutter and planter, does the marking and furrowing, cuts and drops the seed, and then covers it, all in one operation. Write for a free catalogue that tells all about it, to Department K, Plano Implement Co., Plano, Ill.

THE Bowker Fertilizer Company, Boston, Mass., is noted for the neatness and value of the pamphlets and circulars they issue as advertising matter. This firm sells high-grade fertilizer and chemicals, poultry food and oyster shells and the new "insect lime" which THE R. N.-Y. mentioned some weeks ago. This substance is excellent for protecting large trees against climbing insects. Every one has heard of the "Stockbridge" fertilizers. Mr. Bowker was the first man in this country to manufacture a dry powder of meat and bone suitable for poultry feeding. The wide range of the products sold by this firm will warrant every farmer, poultryman and gardener in sending for catalogue and circulars.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

It is stated that the managers of the greatest liquor trust in America, recently adopted an ironclad rule to employ none but strictly temperate men. That's consistency for you. But who expects to find any sort of virtue in the liquor business?

*

The Queen of Portugal has studied medicine, passed a successful examination, and is now qualified to take charge of the king's health. He would not obey his physicians, but had more respect for the queen's commands, so she fitted herself to dispense medical advice. Now he is gaining in health. That's a good example of energetic womanhood rightly appreciated.

*

Why will those who call themselves authorities on dressmaking, continue to advise putting on a garment wrong side out in order to pin the seams in fitting? Any one who has had much experience and given intelligent attention to her work, knows that a perfect figure is a rare thing, and that imperfections are generally one-sided—a high shoulder, etc. In fitting a garment wrong side out, the alterations for these faults of the figure are in the wrong place when the garment is reversed. Common sense is a much better guide when one has it, than the advice of some who profess to know their business. Even a skirt should be fitted right side out.

*

Isn't this a solution of the "new woman" problem: There are really *two* "new women"? The one from whom we shrink, is that one who has a grudge against the Creator because she is cast in the mold of a woman, and spends her life in trying to fit herself into the grooves of man's questionable habits, ignoring his virtues. The other new woman rejoices over the opportunities that are hers, and considers her God-given responsibilities so sacred that she calls to her aid all the intelligence and courage that she can command, that she may discharge her duties faithfully. She is not the dependent, childish creature that woman once was. She has become a woman, and put away childish things. She has awakened to her great responsibilities. Need we be surprised when she asks great privileges?

LEARN HOW TO SHIRK.

SAVE SOME OF THE UNNECESSARY WORK.

It is sad but true that many of our oldest and best housekeepers do not know how to shirk. It is fully as important in this busy world of ours, to know what to leave undone, as to know what must be done. When we stop to realize how many steps must be taken every day, dishes washed, meals cooked, beds made, rooms swept, and the thousand and one duties performed that fall to the lot of every good housekeeper, is it any wonder that such a large class of wives and mothers break down every year, or what is infinitely worse, go insane? The chief fault, and it may well be called a very grave fault, with many housekeepers, is that every moment in the day is given to housework or sewing.

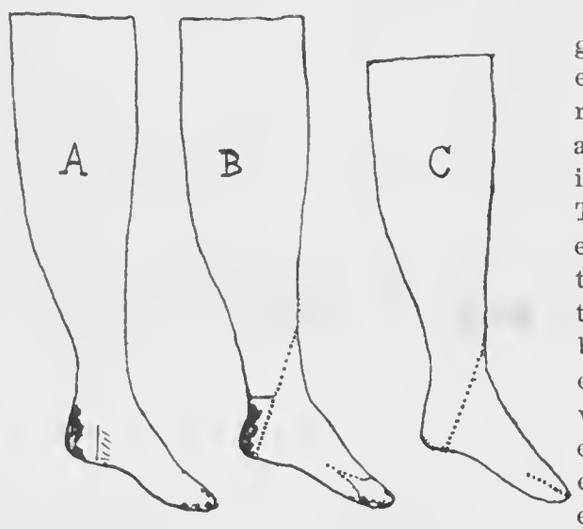
I realize full well how little time there is to call one's own, when one pair of hands must do everything; but it is a thousand times better to leave some of the non-essentials undone, and to read a bright sketch or short story every day, and to get outdoors long enough to breathe in the pure air and sunshine. A half hour's nap will prove most refreshing every afternoon, where one must rise very early every morning, and the time taken will by no means be lost.

A good homemaker means far more than simply a good housekeeper, however much that may mean. Not always do we find our most delightful homemakers the best housekeepers; but they do possess the happy faculty of making the cosiest and most attractive of homes where one and all love to come and stay.

Supposing the house is not swept thoroughly every week! It is not such a terrible thing after all. How much wiser to save one's strength and time, so that the family will find you bright and cheerful when they come home at night, than to find a house swept and dusted from attic to cellar, and a tired and cross wife and mother.

A carpet sweeper is a great saver of labor. Instead of scrubbing the kitchen so often, cover the floor with a large rug of old ingrain or rag carpet. Tack down the corners to hold it in place. It is much easier to sweep than to scrub; then this rug may be shaken out of doors twice a week. Cover the kitchen tables with marble oilcloth, which is easily wiped, and much easier to keep clean than the wood.

If you cannot afford a baking table with its modern conveniences, perhaps you or the good man of the house, can rig up a homemade affair which will save no end of steps. In the large, old-fashioned kitchens, how much time was con-



CUTTING OVER STOCKINGS. Fig. 24.

sumed in getting the utensils ready for baking, to say nothing about the steps taken? Everything is handy in the new baking table, the molding board, rolling pin, flour, sugar, spices, baking powder, soda, salt, etc. Another most important convenience for the kitchen is a dishwasher. Many of the new ones are comparatively inexpensive, and no woman who has her own work to do for a large family, should be without one. There is no household task more monotonous than washing dishes three times a day, 365 days in a year. CARRIE MAY ASHTON.

HELP THE SCHOOL TEACHERS.

It takes a great deal of strength, and vital force, to keep a mixed school. A graded school is hard enough for a teacher; a school where the pupils are of all ages and conditions is much harder. So the first way to help the teacher, is to help her to save her strength. Give her a steady boarding place. It is a relic of ancient barbarism, the plan of making a teacher board around—one night here, three nights there, a dozen in another place. Cold rooms, icy beds! I have known teachers to get colds in such, that resulted in their deaths. I hope every man and woman who reads The R. N.-Y., and has any influence in such matters by vote or otherwise, will use that influence to secure steady boarding places for the teachers, near to the school houses. For years before the town system was adopted here, we had the teacher board at the house nearest the school. The matter of hiring board was usually left to the school committee; but sometimes it was let to the lowest bidder. One living near the school always bid off the board, as they did not have the expense of carrying the teacher.

But if the teacher must board around, see to it that she is made as comfortable as possible in every way, when she boards with you. The teacher needs good food, needs a warm dinner, needs a rest after school instead of visiting. She should have an opportunity to go to a warm, quiet room, and read or lie down. She should not be compelled to take a long walk in snow or mud, to get to or from school.

Then the readers of The R. N.-Y. can help the teachers by encouraging them to introduce improved methods of teaching. If the teacher is wide-awake and progressive, seek to learn just what she is trying to do, and then give her your sympathy and encouragement. There are always enough to hinder and discourage, people who delight in clinging to antiquated ways. But just as sure as the children of the farmers are educated in the same way that their grandfathers were, they are handicapped for life. A good education counts for more to-day than it ever did before, and it is going to count for still more in the future. Many farmers' children get all their education in the common schools, and if these are not good, if your child is badly taught, it will be a great loss.

See to it that your teacher reads some good educational paper. I wish that every farmer could read one. I have read the Journal of Education for years, and it has been a very great help to me in learning the new educational methods. The American Teacher is another most excellent periodical to put the best of the new ideas in education into a teacher's mind. A teacher has no more business to go without reading a teacher's paper, than a farmer has to farm without a good farm paper. And the country schools would be far better, if every farm home were supplied with educational reading.

When a timid teacher tries to introduce better methods, she needs sympathy from the parents. But too often, instead of sympathy, she gets only discouragement. If she wish to beautify the school room, aid her in it. Show her that you are her friend. If you see faults in her, try to tell her of them in a kind way. Don't listen to or repeat slanderous stories about her. Above all, do not encourage your children in any disobedience. It is amazing how foolish some parents are. If everything doesn't go to suit them, they will take their children out of school. Try to have your children go to school punctually and promptly every day of school. If there is a "fuss" in or about the school, don't you help it on, but seek to be a peacemaker. Since we adopted the town system, our schools have gone on much better in every way. J. W. NEWTON.

USING DRY BREAD.

"What will you do with this pile of dry bread?" I asked a city friend where I was visiting.

"Oh! put it in the garbage pail, or give it to some beggar. I never fuss with dry bread."

I never have bread to throw away, as it can be made a part of many appetizing dishes. The best dumplings I ever ate were made of a quart of bread crumbs soaked in sweet milk, one egg, a teaspoonful of baking powder, and flour sufficient to make a stiff batter that would drop from the spoon on the chicken boiling in the kettle.

A nice dressing for roasts of beef, pork and veal, and my Johnnie cake pudding is greatly liked, using the pieces left over. It should not be made so thick as for white bread pudding. One pint of crumbs to three pints of sweet milk, three eggs, one cupful of sugar, spice, cinnamon, and a cup of raisins and currants mixed, make it very nice. Care must be taken in baking—if baked too long, it will get watery, which spoils it.

One morning, not having potatoes enough, I used part bread crumbs in the hash, and it was pronounced even better than all potatoes with the meat.

An old colored woman who had been a great cook in her day, who had called for scraps of bread, when asked what she did with them, replied, "I steam them, but I put a cloth around the pieces so they won't get soggy, ma'am. I cut them in strips or squares, and butter them good, and pile all on a plate, then pour maple 'lasses over all, and it's just delicious, ma'am, with a cup of coffee for breakfast." The garbage pail in the city, and swill pails in country, often tell the story of where the hard-earned dollars go. MRS. F. C. JOHNSON.

THE LITTLE ONE'S BED.

Long ago, the doctors pronounced cradles unhealthful, and said that many a baby had died of brain fever brought on by continuous rocking, says Isabel A. Mallon in Ladies' Home Journal. So his highness, the baby, dreams beautiful dreams in a tiny bed of his own that does not rock. Sometimes these are of brass, sometimes of iron, enameled white, or of rattan, but always standing on strong legs. Curtains of silesia of the color chosen for the baby, are over-draped with dotted muslin trimmed with fluted ruffles. The curtains are not only dainty to look upon, but they keep the draughts away, while they are not so thick as to forbid the entrance of fresh air. Feathers are counted too heating, and so the tiny pillow and small mattress are filled with carefully-picked white horse hair, fine as possible. The small blankets are bound with ribbon of the proper color, the muslin sheets are hemmed by hand, and there is also provided a dainty comforter made of cheesecloth; this is filled with lamb's wool, tied with Tom Thumb ribbon and bound like the blankets. A rubber sheet is a convenience, also. Any pretty sentiment may be worked on the

borrowing

If you have borrowed from health to satisfy the demands of business, if your blood is not getting that constant supply of fat from your food it should have, you must pay back—from somewhere, and the somewhere will be from the fat stored up in the body.

The sign of this borrowing is thinness, the result—nerve-waste. You need fat to keep the blood in health, unless you want to live with no reserve force—live from hand to mouth.

Scott's Emulsion of cod-liver oil, with hypophosphites, is more than a medicine.

50 cents and $1.00

SCOTT & BOWNE

Chemists - - New York

pilloweases which are to be used for the baby's carriage pillow; those for his bed should be simply hemstitched. If he should have appeared with the summer time, the pillow cases may be of linen; but for any other months, they are better made of fine cambric or muslin of one of the soft brands.

ODDS AND ENDS.

CUTTING OVER STOCKINGS.—A great many practice the economy of cutting over cotton stockings when they become worn. At Fig. 24 is shown one way of cutting which is very economical, and avoids some of the objectionable seams necessary in other methods. The stocking, with worn heel and toe, is shown at A. In B. the dotted lines show where to cut; C shows the finished stocking, dotted lines marking the seams. It will be necessary before joining the foot portion to the leg, to slope the cut, carrying it higher in front just enough to make it the same length as the corresponding seam of the foot portion. G. H.

WALL HANGINGS.—It is much more of an art to select paper that will look well after it is hung, than the inexperienced think. It very often happens that a wall paper which pleases in the roll, or when displayed by the salesman, produces an altogether different effect when once pasted on wall or ceiling, where the whole design shows itself. Where pictures are to be hung on the walls, it is best and safest to choose a plain paper without design, such as the studio or cartridge paper, and one in which the

6604—CHILD'S JACKET

design is very unobtrusive, but intricate, well and closely worked in and out, so that there will not be a spotty effect, which follows what may be called a set design or pattern. The latter is tiresome to the eyes, and hard to manage as a background for furnishings of any kind. Next to delicacy and negativeness of design, one must consider the room and its furnishings as to the prevailing tint that should decorate the walls. Avoid pronounced and dark colors and decided patterns. Remember that it requires an extra lamp to lighten a room hung with dark paper. M. W. F.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

Child's Jacket.

This garment is a very necessary and convenient part of a child's wardrobe, and may be made up as plainly or as fancifully as desired. It is simply shaped with shoulder and under-arm seams, and closes in front with pearl buttons and buttonholes. The full puffs are arranged over sleeve linings that are faced and decorated at the wrists to form cuffs, frills of lace falling over the hands. The broad, fancy collar finishes the neck, a frill of lace edging it all around, with the insertion laid on half an inch from the edge. Fancy pockets trimmed to match are placed on each front. No. 6604 is cut in four sizes, for a child of six months, one two and four years of age.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

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To charm, to strengthen, and to teach,
These are the three great chords of might;
And he whose ear is tuned aright,
Will hear no discord in the three,
But the most perfect harmony.
—*Longfellow.*

....ANONYMOUS: "When a man goes into the kitchen to help his wife, she has to drop everything and wait on him."

....BISMARCK, IN A YOUNG GIRL'S ALBUM: "Beware, my child, of building castles in the air, for they are buildings which we erect so easily, yet they are most difficult to demolish."

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....THE HOUSEKEEPER: "Many people think that because there is a baby in the house all else must be overlooked in an endeavor to keep the small monarch in a pleasant humor. Their agility to obey his behests would indicate that, in case of a revolt, he and not they would be able to execute sentence of punishment."

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Purify the Blood with Ayer's Sarsaparilla.

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Colds, Coughs and Chest Pains, Nervous, Muscular and Neuralgiac Pains, Stomach, Kidney and Liver Trouble, Dyspepsia, Malaria, Rheumatism, Gout and Inflammation. Price, 25 cents each; 5 sent for $1.00. At all Druggists.

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Dr. Scott's Electric Insoles. For a limited period we will give to every one who sends us $1 for four of our Plasters, a pair of Dr. Scott's Celebrated Electric Insoles (Price, 50c.), which will positively keep the feet warm and dry. Send for our circulars, giving information concerning all our goods. This offer is made for a short time only; do not delay; send at once; you may never have the chance again. *Agents wanted*

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Disease is an effect, not a cause. Its origin is within; its manifestations without. Hence, to cure the disease the cause must be removed, and in no other way can a cure ever be effected. Warner's SAFE Cure is established on just this principle. It realizes that

95 PER CENT.

of all diseases arise from deranged Kidneys and Liver, and it strikes at once at the root of the difficulty. The elements of which it is composed act directly upon these great organs, both as a food and restorer, and, by placing them in a healthy condition, drive disease and pain from the system.

For the innumerable troubles caused by unhealthy Kidneys, Liver and Urinary Organs; for the distressing Disorders of Women; for all Nervous Affections, and physical derangements generally, this great remedy has no equal. Its past record is a guarantee of continued performance. WARNER'S SAFE CURE CO.,

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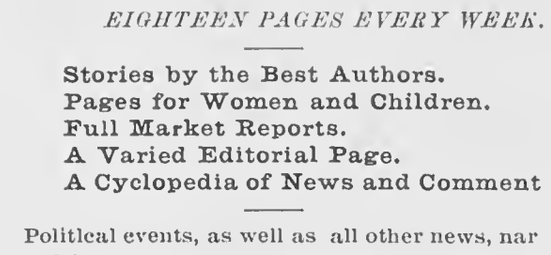

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You want one of these books. We know you do. You probably think that you can afford to buy them. No matter; we will not ask you to buy them. You can get one or all of them without costing you a cent. Just get $1 of your neighbor for a year's subscription to THE RURAL NEW-YORKER; send us the $1 and his name and address, and if he is a new subscriber, we will mail you prepaid your choice of the books. If you want more than one book, send a new subscription with a dollar for every book wanted. Please note that two of these books cost $1 each, and the other three 75 cents each. These are not the cheap trashy books usually given for premium work. They are taken from our regular stock, are well printed on good paper, and nicely bound, fit for any library. Let it be understood that these books are given as pay for getting a neighbor's subscription. They will, in no case, be sent to any one for sending his own subscription, whether new or renewal. Don't delay. Get after your neighbor at once. Then he can do the same with another neighbor, and get his book. Thousands of readers stand ready to do a kind act for THE RURAL. Here is an opportunity to do it, and get paid for it besides. Here are the books:

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We shall give notice of withdrawal of these terms, later.

THE RURAL NEW-YORKER, NEW YORK.

We hoped to be able to give the names of the prize winners this week, but, for various good reasons, it has been found neeessary to defer this till next week, when we shall give the whole story. In the short space given us this week, let us deal with the future. How about the $175 that will be due on the night of February 8? There are 17 prizes for 17 energetie men or women. Are you at work, or are you merely *thinking* about it? Thought is good—when it is yoked with *action*. You can't expeet to earn a prize by sitting in a chair and rubbing your head—you must expeet to rub some of the leather off your boots. Fair warning now! That money is going! Remember that every elub of 20 wins $5 *anyway!*

Another thing—don't forget those books. Here they are:

	Cloth.	Price.
The Nursery Book	"	$1.00
First Lessons in Agriculture	"	1.00
American Grape Training	"	.75
The New Potato Culture	"	.75
The Business Hen	"	.75

These books are all first-elass. Do you know what we do with them? Send us one *new* subseription (not your own) and you may take your ehoiee of any one of these five books. We shall mail it to you prepaid. Now why not get a dollar from that neighbor or friend of yours, and thus put him in the way of obtaining 852 pages of good reading matter while you plaee one of these books in your library. Our adviee to you is to do this very thing. We may be prejudieed, but anyway that is what we advise. One reason why we do this is beeause hundreds of our readers have seeured these books, and all of them thus far are highly pleased.

And now, let's glanee through a few letters reeently reeeived. Here's one short and sweet:

Inelosed please find $1 for 1896 subseription. As you live, don't miss a single number, for it is both victuals and drink—a "balanced ration" for both man and beast! C. V. B.
Long Branch, N. J.

There will be no miss or mistake if we ean help it. Here's another:

I took THE R. N.-Y. for a number of years, dating back some 40 years, when published in Rochester. I think D. D. T. Moore was at the head. I am now what my neighbors call, a man of leisure, but am anxious that my children and grandchildren should keep abreast of these modern modes of farming. I seldom come to the city now, but when I do come, you will *C. a hay Cd* drop on your floor. B. J. (age, 75.)
Highland Mills, N. Y.

We shall be glad to see you. Hay is the foundation crop of the world, and a "hay seed" is one of the pillars of agrieulture.

Now one more:

I have taken THE R. N.-Y. but a short time, but I get more than $1 worth every week, by comparing the ideas of others with my own. C. H. B.
Massachusetts.

You know that one valuable point we elaim for THE R. N.-Y., is that its eirculation is widely extended so that, in any farm diseussion, we obtain ideas from all over the land.

Spaee is short, but we must give you one more. Here it is:

I wished to give a neighbor a New Year's gift, and I could think of nothing better than THE R. N.-Y., as I know that he will get more good out of it than from anythiug else I could give him at several times the eost, and he will never know how he got it. JOHN MOLYNEUX.
Tennessee.

We are heartily in favor of a neighborly feeling, espeeially when it takes that form. It won't hurt our feelings if 10,000 of our readers find themselves similarly disposed.

Now one more from a Wiseonsin man.

Please eommenee my time with the first issue for January, as I intend to keep right on with it. One of my neighbors has been taking THE R. N.-Y., and I have been reading it. He says that he eannot afford to take it any longer, and I eannot afford to go without it, although I now have more papers than I ean read; but I shall drop some of them when my time expires, and eontinue with THE R. N.-Y. E. J. SCOFIELD.

That's the other side of the neighbor question. Does it hit you?

Now, last of all, we must give the names of last week's dollar winners. Here they are. Your name should be there:

Jan. 13.—Mrs. E. B. Engle, Franklin Co., Pa.
14.—W. S. Moore, Chenango Co., N. Y.
15.—W. S. Moore, Chenango Co., N. Y.
16.—J. F. Rose, Genesee Co., N. Y.
17.—Fred. H. Johnson, Worcester Co., Mass.
18.—Jos. Morris, Sanilae Co., Mich.

CROP AND MARKET NOTES.

Supplies of pork have been larger, and the priee has declined.

The poultry market is dull under heavier arrivals and lighter demands.

English growers want the duty on beer ehanged so as to encourage the growth of hops and bariey.

Bradstreet's advices make the Australian wheat erop 16,300,000 bnshels, against 21,900,000 last year.

The bean erop of southern Washington was very large last year; but freight rates are so high that large quantities are being stored.

The North Dakota State Dairymen's Association wiii hold its seeond annual eonvention at Lisbon, Februnry 13 and 14. A large number of loeal speakers and prominent authorities on dairy subjeets will make addresses. E. F. Ladd, seeretary, Fargo.

Paeifie eoast hop growers are reported to have deeided to plow up a large area of their hopyards. There has been no money in this erop durlng the past few years, and reduelng the aereage seems to be the only way of affording relief. This eourse would seem to be a wise one for eastern growers to pursue.

A market authority says that much pork is spoiled in stieking, the knife penetrating the shoulder, and eansing the blood to settle there so that the meat soon spoils. Great eare should be exercised in having the carcass as clean as possible, and by all means have it thoroughly eooled. A fine appearanee always helps the sale and inereases the price.

The English market for American apples is very strong, and the supply light. Higher prices are anticipated. Latest quotations from Glasgow and Edinburgh are as follows: York Imperials, $4.62 to $5.35; Winesaps, $4.87 to $5.35; Rome Beauty and Ben Davis, $4.12 to $4.87. Quotations from Liverpool are as follows: Newtown Pippins, $2.93 to $4.38; Golden Russets, $1.70 to $2.43; Baldwins, $2.79 to $4.12.

Number of barrels of American apples shipped during the week ending January 11, were as follows:

From U. S. and Can. to Liverpool	12,000
From U. S. and Can. to Glasgow	1,600
From N. Y., Halifax and Can. to London	15,000
Total	28,600
Corresponding week in 1894	49,000
Total shipments from U. S. and Can. this season	560,000
Total shipment to date last season	1,205,000

Shipments this week were about 1,400 barrels.

The egg market was nearly swamped the past week. Reeeipts were very heavy, and many of those reeeived from the South and West, as well as some from nearer points, were so dishonestly packed as to kill the trade. Cases of "strictly fresh," would have a layer of fresh over the top, the rest being refrigerator eggs, and some eases were made up of a mixture, largely refrigerator. Under ordinary eonditions, the lower prices prevailing would stimulate eonsumption, but this sort of trickery disgusts dealers and destroys demand. Little of this trickery ean be laid to the farmers, however.

(*Continued on next page.*)

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Best Machinery at Lowest Prices.
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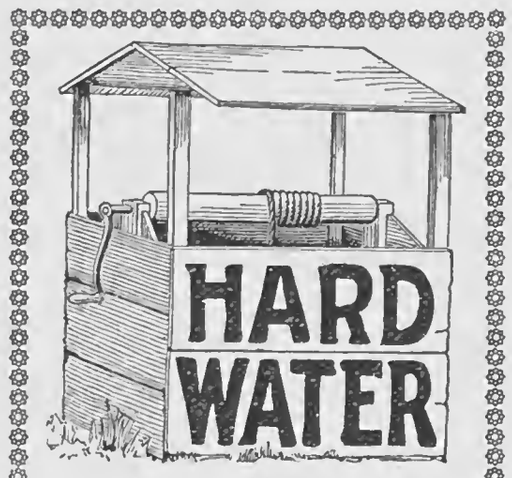
DeLOACH MILL MFG. CO., Box 367, Atlanta, Ga

ICE PLOWS, $15 C. E. BUCKLEY, Amenia Union, N. Y.



Some women who live in the country, at some seasons have to depend on hard water for eleaning purposes. As soap has very little effeet in making it soft, the work of keeping tilings elean is made harder than ever. Over a million women know *now* and more *ought* to know that

GOLD DUST
Washing Powder

ean be used successfully with the hardest water. It is a *time saver, labor saver,* and *money saver,* and *especially* in the *dairy.* Nothing *cuts the grease* on milk palls, pans, &e., so thoroughly and keeps the milk room so sweet and elean. Sold everywhere in large paekages at 25 eents.

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Guaranteed to Sow from 50 to 80 Acres per Day (either Horse-back or Foot), of Clover, Timothy, Millet, Flax, and all Seeds of same nature.

Will be sent to any Postoffice on receipt of $1.50. If not satisfactory, money refunded.
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FRANZEN & BUSS,
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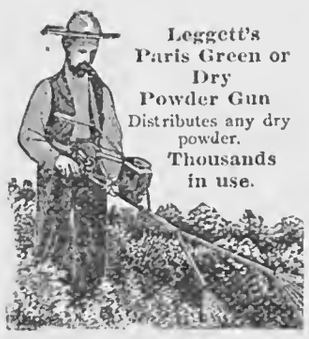
REFERENCE: GOLDEN BANK.



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Distributes any dry powder.
Thousands in use.

For Potato Field, Vineyard or Orchard.

Over one acre potatoes treated per hour, two rows at a time. One pound of Paris-green to the acre; no water or plaster used. One grower writes: "Your Dry Powder Gun takes less Green with half the labor that any other greener takes. We can hardly have it home for our own use when we want it, for all the neighboring farmers who have sprinkling wagons and sprayers eome and get our Powder Gun and use it instead of their own greeners." Circulars furnished showing how to do it.

LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Pittsburgh, Pa.

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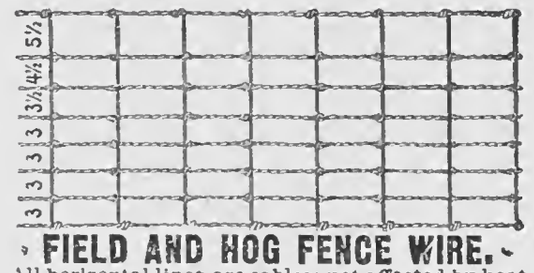

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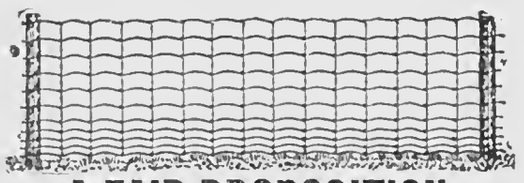
All horizontal lines are cables; not affected by heat and cold; adjusts itself to hilly ground without buckling. Built for service and durability. Write for full information.
UNION FENCE CO., DeKalb, Ill.



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Also manufacturers of **Iron Cresting, Iron Turbine and Buckeye Wind Engines, Buckeye Force Pumps, Buckeye, Globe and Champion Lawn Mowers.** Send for Illustrated Catalogue and Prices to
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WOVEN WIRE FENCE
Over 50 Styles

The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from
14 to 22c. a Rod.
Illustrated Catalogue Free.
KITSELMAN BROS.,
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Farmer's Handy Wagon

A "NEW IDEA" in farm wagons, 30 in. high, 6-in. tire, recommended by the Agricultural Colleges and Farmers in every State in the Union. We wish agents, and will give special introductory prices in new territory. Other farm implements are used only in one kind of work and in one crop during the year, but our *Handy Wagon* saves you money and labor every day. Good on sidehill or flats. It is handy, cheap, durable, and leaves no tracks in the fields. Beautiful Catalog free. Costs nothing to investigate, and will interest every farmer

Metal Wheels for your old Wagons.

Farmer's Handy Wagon Co., Saginaw, Mich.

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This little book tells in plain, understandable English, just what the ordinary farmer and fruit grower most needs to know. It deseribes all the insecticides and fungicides used in spraying; all the principal appliances used; tells when to spray; what precautions to observe; deseribes the insects and fungi against which it is necessary to guard; in fact, is a eomplete, condensed, eonvenient handbook on the whole subject. Priee in stiff paper eovers, is but 25 cents, postpaid.

THE RURAL NEW-YORKER.
Corner Chambers and Pearl Streets, New York

PERFECT FRUIT IS PRODUCED **BY SPRAYING.**
Our 32-page Illustrated Spray Pump Catalogue tells **How** and **When** to Spray—mailed **Free.**
THE DEMING CO.
Salem, Ohio.
Gen'l Western Ag'ts. Henion & Hubbell, Chicago.

SPRAY WITH THE EMPIRE KING
Our catalogue will tell you why it is the best. Send 2c. for postage and the catalogue is free.
FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

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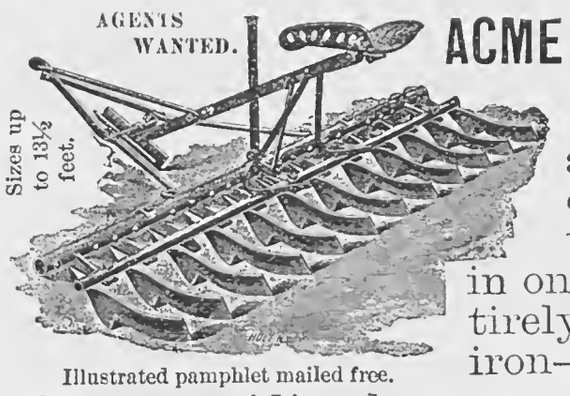

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Adapted to all soils and all work. Crushes, cuts, lifts, pulverizes, turns and levels the soil in one operation. Made entirely of *cast steel* and wrought iron—*practically indestructible.*

Cheapest riding harrow on earth. $8.00 and up.

SENT ON TRIAL To be returned at my expense if not satisfactory.
N.B.—I deliver free on board at distributing points.

DUANE H. NASH, Sole M'f'r,
Millington, New Jersey, and Chicago, Ill.

PLEASE MENTION THIS PAPER.

THE WORLD'S EIGHTH WONDER.

It's not a pyramid nor a hanging garden; it's Salzer's Silver Mine Oats, which yielded 209 bushels per aere. Silver King Barley produces 116 bushels per aere. You can beat that in 1896, and win $200. Largest grass, elover and grain seed growers in Ameriea!

148-page Mammoth Catalogue, 5-eent postage, or if you will cut this out and send it with 10 eents postage to the John A. Salzer Seed Company, La Crosse, Wis., you will receive their Mammoth Catalogue and 10 packages of grains and grasses, ineiuding package of Silver Mine Oats and Silver King Barley.—*Adv.*

Crop and Market Notes—Continued.

The annual meeting of the Mutual Cheese Factory and Creamery Insurance Company, of St. Lawrence, Lewis and Jefferson Counties, N. Y., was held in Ogdensburg, January 7. The company was organized last May, and has had but one loss, necessitating an assessment of $3.90 per $1,000 of insurance.

It is said that $50,000 more came in to the Chautauqua region for grapes last year, than during the previous year, though the crop was considerably less. This shows that a surplus is dangerous. The growers also made a gain because they did not have to buy baskets for, and pay for handling, the extra grapes which would have been produced but for the frost.

Receipts of live poultry by car-loads for the past five years, are as follows:

	1895.	1894.	1893.	1892.	1891.
Western	1,218	1,165	910	926	864
Southern	204	158	115	98	42
New York State	1	2	1	1	1
Express	153	183	157	119	124
Total car-loads	1,576	1,508	1,183	1,144	1,031

The increase in recent years is larger than appears from this table; for more of the patent wire cars have been used, and these contain nearly, if not quite, twice as much as the old-time cars.

The fourth annual meeting of the National Butter and Cheesemakers' Association, will be held at Cedar Rapids, Iowa, during the last week of February. A working creamery using 5,000 pounds of milk daily, will be in operation, and all of the different and latest patterns of butter and cheesemaking machinery, as well as refrigerating and other kinds of apparatus allied to the trade. Processes will be described, and illustrated lectures given. Every section of the dairy producing districts will be represented. In addition, liberal prizes will be given for the best exhibits of butter and cheese. Every maker of creamery butter and factory cheese in the United States is invited to become a member. For further information address the secretary, E. I. Burridge, 79 Fifth Avenue, Chicago, Ill.

Farmers' institutes will be held in New York State during February as follows:

PLACE.	COUNTY.	DATE.
Pittsford	Monroe	Jan. 31, Feb. 1
Wallkill	Orange	Jan. 31, Feb. 1
Spring Valley	Rockland	Feb. 3, 4
Batavia	Genesee	Feb. 3, 4
Akron	Erie	Feb. 4, 5
Riverhead	Suffolk	Feb. 5, 6
Lockport	Niagara	Feb. 6, 7
Williamsville	Erie	Feb. 7, 8
Yorktown	Westchester	Feb. 7, 8
Wales Centre	Erie	Feb. 10
Fishkill	Dutchess	Feb. 10, 11
Holland	Erie	Feb. 11
Delavan	Cattaraugus	Feb. 11, 12
Highland	Ulster	Feb. 12, 13
Franklinville	Cattaraugus	Feb. 13, 14
Olean	Cattaraugus	Feb. 14, 15
Rhinebeck	Dutchess	Feb. 14, 15
Stockport	Columbia	Feb. 17
Belfast	Allegany	Feb. 17, 18
East Greenbush	Rensselaer	Feb. 18, 19
Hume	Allegany	Feb. 18, 19
Greenwich	Washington	Feb. 19, 20
Easton	Washington	Feb. 20
Pike	Wyoming	Feb. 20, 21
Perry	Wyoming	Feb. 21, 22
Valley Falls	Rensselaer	Feb. 21, 22
East Bloomfield	Ontario	Feb. 24, 25
West Sand Lake	Rensselaer	Feb. 24, 25
Avon	Livingston	Feb. 25, 26
Wayland	Steuben	Feb. 26
Fonda	Montgomery	Feb. 26, 27
Dansville	Livingston	Feb. 27, 28
Herkimer	Herkimer	Feb. 28, 29
Hornellsville	Steuben	Feb. 28, 29

CONDENSED CORRESPONDENCE.

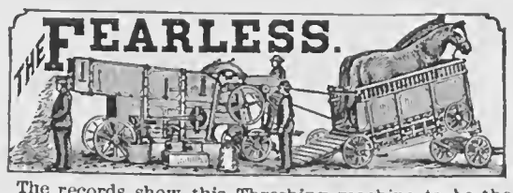
WINDHAM COUNTY, VT.—I plowed December 25, 26 and 28, and January 1, laid about 450 feet of 10-inch tile and about 250 feet of eight-inch. I have also been taking out stumps. This is quite a novelty for the last of December and first of January, here in Vermont. A. A. H.

VIRGINIA MUTUAL INSURANCE.—We have two mutual fire insurance companies in this locality. One, the Independent Mutual, started with headquarters in Alexandria, 28 years ago, now has about $4,000,000 worth of property insured, and the assessments have averaged less than $2.50 per 1,000 per year.

The Falls Church Mutual started six years ago, and has nearly $2,000,000 worth of property insured; the assessments have averaged $2.25 per 1,000 per year.

These companies have more or less property insured in Washington, D. C., Alexandria, Va., Leesburg, Va., Falls Church and other towns, and the city property has proved much the safer, the losses in cities and towns having been very light. Insurance by the mutual plan is much cheaper than can be given by the stock companies, and the expense will not average half so much. Mutual companies, as a rule, employ no agents, the directors effecting the insurance, and, being interested, are very particular about the character of risks taken. D. O. M.

Falls Church, Va.



The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	22	@22½
Seconds to firsts	17	@21½
Elgin and other Western, extras	23½	@24
Western, firsts	21½	@22½
Western, seconds	19	@20
Western, thirds	18	@—
Western, June, extra	21	@21½
Western, June, seconds to firsts	15	@20
State dairy, half tubs, fresh, extras	21	@—
Firsts	17	@19
Seconds	14	@16
Dairies, firkins and tubs, extras	19	@19½
Dairies, firkins and tubs, firsts	17	@19
Firkins, extras	17	@18
Firkins, seconds to firsts	14	@17
Welsh tubs, extras	20	@—
Welsh tubs, firsts	17	@18
Welsh tubs, seconds	14	@16
Tubs, thirds	12	@13
Western imitation creamery, firsts	17	@19
Seconds	14	@15
Western dairy, firsts	15	@17
Seconds	13	@14
Thirds	11	@12
Factory, Fresh, small tubs, extras	16	@17
Fresh, small tubs, firsts	14	@15
Fresh, large tubs, firsts	13	@14
Fresh, large tubs, seconds	11	@12½
Fourths to thirds	9	@10½
Old Western factory or dairy	8	@11
Rolls, fresh, fine	15	@—
Rolls, fresh, common to good	9	@14

EGGS.

New-laid, fancy (nearby)	20	@	21
N. Y. State, country marks, fresh gath'd.	19	@	19½
Pennsylvania, country marks, new laid.	19	@	20
State and Penn., fair to good	18	@	19
Western, fresh collections, fancy	19	@	—
Western, fresh collections, fair to good.	18	@	18½
Southern, fresh collections	18½	@	—
Western, refriger., short holdings, choice	16	@	17
Western, refriger., September, packed	16	@	16½
Western, refriger., early packed, prime	15	@	15½
Western, refriger., defective, per case	2 50	@	3 75
Western limed, prime to fancy, per doz	15	@	—

FRUITS—GREEN

Apples, Northern, fancy, selected, per bbl	2 50	@3 25
Fameuse, per bbl	2 50	@3 75
Ben Davis, per bbl	2 00	@2 75
Jonathan, per bbl	2 00	@3 00
King of Tompkins, per bbl	2 00	@3 25
Baldwin, per bbl	1 75	@2 75
Greening, per bbl	1 75	@2 75
Winesap, per bbl	2 50	@3 25
York Imperial, Va., per bbl	2 50	@3 00
Spitzenberg, per bbl	1 75	@2 50
Northern Spy, per bbl	1 75	@2 75
Common, per bbl	75	@1 25
Grapes, State, Catawba, per 5-lb basket	7	@ 11
Cranberries, Cape Cod, extra sorts, per bbl	—@	—
Fancy, per bbl	9 50	@ —
Prime, per bbl	8 00	@9 00
Soft, per bbl	5 00	@7 00
Soft, per crate	2 00	@3 00
Jersey, per crate	1 75	@2 25
Jersey, per bbl	6 25	@7 00
Oranges, Fla., per box	3 50	@5 00
Grape Fruit, Fla., per box	8 00	@10 00
Tangerines, Fla., per box	10 00	@14 00
Mandarins, Fla., per box	8 00	@10 00

FURS AND SKINS.

No. 1 Quality.	North'n, West'n and Eastern.			Southern and Southwestern.		
Black bear	18 00	@	30 00	10 00	@	25 00
Cubs and yearlings	5 00	@	15 00	4 00	@	10 00
Otter	6 00	@	10 00	5 00	@	7 00
Beaver, large	6 00	@	7 00	5 00	@	6 00
Medium	4 00	@	5 00	3 00	@	4 00
Small	2 00	@	3 00	1 50	@	2 50
Silver fox	25 00	@	100 00	—	@	—
Cross fox	3 00	@	8 00	—	@	—
Red fox	1 25	@	1 50	1 10	@	1 25
Gray fox	45	@	65	40	@	55
Wolf	1 50	@	2 00	1 00	@	1 50
Prairie	60	@	80	45	@	65
Wolverine	3 00	@	4 00	—	@	—
Lynx	1 50	@	2 00	—	@	—
Wild cat	45	@	65	25	@	45
House cat, black	20	@	30	15	@	25
Colored	5	@	10	4	@	8
Marten, dark	3 00	@	8 00	—	@	—
Pale	1 50	@	2 25	—	@	—
Skunk, black	1 00	@	1 10	80	@	90
Half-striped	60	@	65	50	@	55
Striped	30	@	35	25	@	30
White	10	@	20	10	@	15
Raccoon	50	@	75	40	@	50
Opossum	15	@	20	10	@	18
Mink	85	@	1 40	60	@	1 00
Muskrat, fall	6	@	9	6	@	8
Winter	9	@	12	8	@	11

GRAIN.

Wheat	58	@69
Rye	45	@—
Barley	38	@45
Buckwheat, silver	38	@39½
Buckwheat, Japan	—	@—
Corn	33	@36
Oats	22	@28

GRASS SEED.

Clover, per 100 lb	6 50	@ 7 75
Timothy	5 50	@ 4 75

MEATS—DRESSED.

Veals, country dressed, prime	9	@	9½
Fair to good, per lb	8	@	8½
Com. to med., per lb	7	@	7½
Buttermilks, per lb	—	@	—
Small, per lb	4	@	6
Barnyards, per lb	4½	@	5½
Spring lambs, each	4 00	@	8 00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	10
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	—
60 to 80 lbs, per lb	6	@	6½
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4½	@	5
Rough, per lb	3	@	4
Tenderloins, per lb	15	@	16

POTATOES.

Bermuda, No. 1, per bbl	4 50	@6 50
No. 2, per bbl	2 00	@3 00
Houlton Rose, per d. h. bbl	1 50	@1 75
State Rose, per d. h. bbl	1 25	@1 50
Other Maine Rose, per d. h. bbl	1 25	@1 50
Maine Hebron, per sack	1 10	@ —
Long Island, in bulk, per bbl	85	@1 00
State Rose and Hebron, per 180 lbs	75	@1 00
Burbank, etc., per 180 lbs	65	@ 85
Jersey, in bulk, per 180 bbl	65	@ 85
State and Jersey, per sack	70	@ 80
Common, per sack	50	@ 60
Sweets, Vineland, fancy, per bbl	4 25	@4 75
South Jersey, per double-head bbl	3 25	@3 75
South Jersey, per cloth-head bbl	3 25	@3 75
Jersey common, per barrel	2 00	@3 00

"Pulverize the land, whatever you "do; Go on the principle of the woman "making gooseberry pie—who sweetened "it all she dared, and then shut her eyes "and put in a handful more. Work your "land until it is fine enough and then go "over it again. If you do not think this "will pay, try it on a strip through the "field, and then contrast it with the bal-"ance." See advertisement of the "ACME" Pulverizing Harrow, Clod Crusher and Leveler, on page 60,—*Adv*

POULTRY—LIVE.

Fowls, local, per lb	10	@	—
Western, per lb	10	@	—
Southern, per lb	9½	@	10
Chickens, per lb	8	@	9
Roosters, old, per lb	6	@	—
Turkeys, mixed, per lb	7	@	8
Ducks, local, per pair	75	@1	00
Western, per pair	70	@	90
Southern, per pair	65	@	70
Geese, local, per pair	1 25	@1	62
Western, per pair	1 25	@1	50
Southern, per pair	1 12	@1	25
Pigeons, old, per pair	25	@	30
Young, per pair	20	@	25

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	19
Medium sizes, per lb	16	@	17
Small and slips, per lb	13	@	15
Western, large, per lb	16	@	—
Western, small and slips, per lb	12	@	14
Chickens, Phila., large, per lb	14	@	15
Phila., mixed weights, per lb	11	@	12
Jersey, per lb	11	@	12
State and Penn., choice, per lb	9½	@	10½
Western, choice, per lb	9	@	10
Western, fair to good, per lb	7	@	8
Chickens & fowls, mixed, West'n, choice	9	@	9½
Fair to good, per lb	7	@	8
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	9	@	9½
Western, choice, per lb	9	@	—
Western, fair to good	7	@	8
Western, inferior	5	@	—
Old cocks, per lb	5	@	6
Ducks, Maryland, choice, per lb	15	@	16
State and Penn, choice, per lb	15	@	16
Western, choice, per lb	14	@	15
Western, fair to good, per lb	10	@	12
Western, inferior, per lb	6	@	7
Geese, Maryland, choice, per lb	10	@	12
Fair to good	8	@	9
Western, good to prime	8	@	10
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	2 75	@3	00
Mixed lots, per doz	2 25	@2	50
Dark and poor, per doz	1 75	@2	00
Turkeys, Jersey and Up-River, fancy	13	@	14
Md., choice to fancy	12	@	13
Mich., Ohio and Ind., scalded, fancy	11	@	12
Other Western, choice	11	@	12
Western, fair to good	9	@	10
Western, inferior	6	@	8

VEGETABLES.

Beets, Charleston, per 100 bunches	7 00	@8	00
Bermuda, per crate	1 50	@	—
Brussels sprouts, per quart	4	@	10
Cabbage, Long Island, per 100	3 00	@5	00
State, per 100	2 00	@4	00
Foreign, per 100	5 50	@6	00
Carrots, washed, per bbl	75	@1	00
Unwashed, per bbl	50	@	75
Cauliflower, L. I and Jersey, per bbl	—@		—
Celery, State & West'n, fancy, large, per doz.	60	@	75
State & West'n, average, prime, per doz.	25	@	50
State & West'n, small, per doz	10	@	20
Jersey, large, per doz roots	25	@	50
Jersey, small, per doz roots	10	@	20
Jersey and L. I., per dozen flat bunches	1 00	@1	50
California, per doz	25	@1	00
Cucumbers, Fla., per crate	2 50	@5	00
Hothouse, per doz	1 00	@2	00
Egg plant, Florida, per bbl	4 00	@7	00
Green peas, Florida, per crate	2 00	@5	00
Horseradish, per lb	4	@	5
Kale, per bbl	75	@	90
Lettuce, New Orleans, per bbl	6 00	@8	00
Florida, per half bbl basket	1 00	@3	00
Boston, hothouse, per doz	50	@1	00
Bermuda, per crate	75	@1	25
Onions, Orange County, red, per bbl	75	@1	00
Orange County, yellow, per bbl	1 25	@1	50
Eastern, white, per bbl	1 50	@2	00
Eastern, red, per bbl	90	@1	00
Eastern, yellow, per bbl	1 25	@1	75
State and Western, yellow, per d. h. bbl	1 00	@1	25
Peppers, green, Fla., per crate	2 00	@3	00
Radishes, hothouse, per 100 bunches	2 00	@3	00
Norfolk, per 100 bunches	—@		—
Spinach, per bbl	2 00	@4	00
Squash, Marrow, per bbl	50	@	60
Hubbard, per bbl	60	@	75
Florida, per crate	50	@	75
String beans, Florida, per crate	2 00	@3	00
Tomatoes, Fla., per carrier	1 50	@2	50
Per crate	1 50	@2	25
Key West, per carrier	1 00	@2	25
Key West, per peck box	40	@	60
Turnips, Jersey, Russia, per bbl	60	@	75
Canada Russia, per bbl	75	@	80
Watercress, per 100 bunches	75	@1	50

MILK AND CREAM.

The total daily supply has been 20,077 cans of milk, 180 cans of condensed milk and 365 cans of cream The average price paid for the surplus on the platforms has been $1.55 a can of 40 quarts.

IRRITATION OF THE THROAT AND HOARSENESS are immediately relieved by "*Brown's Bronchial Troches.*" Have them always ready.—*Adv.*

GRAPE CULTURE.

With 35 years' experience in the vineyard, and 30 years as local dealer in vines, am confident it will pay you—if you have planted or intend to plant a few vines or a vineyard—to enclose 25 cents in stamps for my practical treatise on "Grape Culture," or $1 for 12 first-class vines, two each Niagara, Pocklington, Delaware, Brighton, Worden and Wilder—best White, Red and Black varieties—or choice of same with book free, or 20 Concords and book. Order now. Will mail book at once, vines in early spring, postpaid. Safe arrival in good condition guaranteed. Vines for vineyard planting a specialty. Price list free. J. H. TRYON, Willoughby, Ohio.

POTATO SIR WILLIAM

THE NEW HANDSOME RECORD BREAKER,

The latest market report state that the by-products of Quality, Shape and Size, are worth $1.10, if properly placed inside a barrel of potatoes; or, in other words, these by-products represent the difference between 65 cents and $1.75 on a barrel of market potatoes—a clear profit of 170 per cent. Do you use them? If you want stock that is chuck full of these by-products, write me. My prices are right, and stock will please you. R. D. BURR, Gloversville, N. Y.

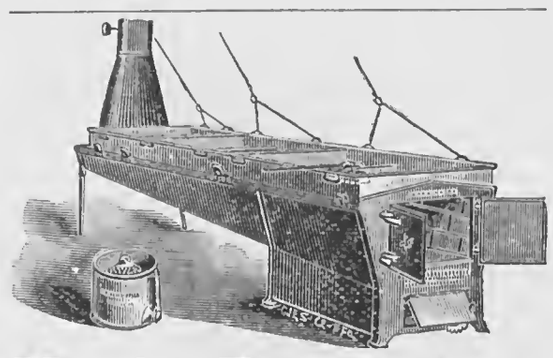
SEED POTATOES.

Maule's Early Thoroughbred and Irish Daisy, Carman No. 1 and No. 3, and Rural No. 2. Standard varieties, $1.25 a barrel. Car lots low. Over 800 barrels sold to seedsmen. To the *first* one sending for circular from any *one* post office, I will mail a small tuber free of Carman No. 1 (large one for 10-cent stamp).
S. J. SMITH, Seed and Stock Farm, Padelfords, N. Y.

GEO. J. RECORD'S
DOUBLE-TIN SAP SPOUTS

THE BEST AND CHEAPEST. Over 6,000,000 in use. Ask your dealer or write for FREE sample.

RECORD MANUFACTURING CO.,
111 Main Street, Conneaut, Ohio.
Manufacturers of Spouts, Butter Pails, Cans, Etc.



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MOST DURABLE, MOST ECONOMICAL, CHEAPEST. Manufactured by

McLANE & SCHANCK, Linesville, Pa.

Cider Machinery.—Send for catalogue to Boomer & Boschert Press Co., 118 West Water St., Syracuse, N.Y.

CHAMPION EVAPORATOR

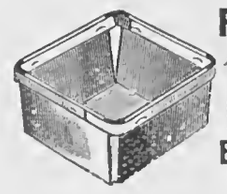
FOR MAPLE, SORGHUM, CIDER, AND FRUIT JELLIES
Write for 1896 Catalogue.
THE G. H. GRIMM MFG. CO., Hudson, Ohio, or Montreal, P. Q.

PLANT BOXES $2.25 PER 1000.

For HOT-BED USE
4-inch cube, 4½-inch cube, or 5-inch cube.

BERRY CRATES and GRAPE BASKETS.

Write for price list. Address
COLBY-HINKLEY CO., Benton Harbor, Mich.



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Also Beekeepers' Supplies.
Now is the time to order and get the DISCOUNTS. Catalogue and price list free. Address
BERLIN FRUIT BOX CO.,
Berlin Heights, Erie Co., Ohio.

POULTRY

40 Standard Breeds illustrated & fully described in my new Poultry Book. Reliable information for poultrymen & intending buyers. Good stock Ducks & Geese; also Shetland Ponies. Send 6c in stamps
E. H. COOK, Box 42, Huntley, Ill.

LOOK

before you ship your Butter, Eggs, Poultry, Game and Nuts. We can get you highest market prices for fine goods. **Choice Creamery Butter, Fancy Leghorn Eggs, Dressed Poultry and Game a specialty.** Shipping cards and stencils on application to
GARNER & CO., 32 Little 12th St., New York,
Reference: Gansevoort Bank, New York.

WILLIAM H. COHEN & CO.,

COMMISSION MERCHANTS.
Our Specialties are
Game, Furs, Ginseng, Poultry, Calves, Hothouse Lamb and Mushrooms.
229 and 231 Washington Street, New York.
Also Packers of First-class Canned Goods.

E. H. PECK

(Successor) M. N. Edwards & Co. (Est. 1861)
Commission Merchants,
CALVES POULTRY, GAME, Etc.
No. 193 DUANE STREET, NEW YORK.
Liberal advances by arrangement. Sales and checks mailed daily.
References: Irving Nat'l Bank and THE R. N.-Y.

FRESH
Unsalted Dairy and Creamery Butter,

EGGS, POULTRY, CALVES, ETC.,
On Commission.
I. T. HUNTER, No. 174 Chambers Street, New York

SOMERS, BROTHER & CO.

ESTABLISHED IN 1876.
Fruits and Produce

Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.
Market Reports, Special References, Stencils, etc., furnished free on application.
611 Liberty St., Pittsburgh, Pa.
Inquiries and Correspondence Invited.

Northern Grown Seeds.

Sure to Come Up and Insure the Best Crop.

YOU CANNOT BE TOO CAREFUL IN SELECTING YOUR SEEDS. We have the following kinds in stock and know them to be right:
CLOVER SEED.—Mammoth and Medium, Alsike, Alfalfa, Scarlet, White. TIMOTHY, BLUE GRASS, RED-TOP, ORCHARD GRASS, LAWN GRASS and MIXED PASTURE GRASS SEED, in bushel and car-load lots, of the highest grades and pure. We buy of growers and don't mix Mammoth and Medium clovers. Samples and prices on application. Our 1896 Catalogue is now ready to mail.

THE HENRY PHILLIPPS SEED AND IMPLEMENT COMPANY, Toledo, Ohio.

Live Stock Matters.

A CATECHISM ON SHODDY.

WHAT HURTS THE FARMERS' WOOL?

What is shoddy? It is a fibrous material resulting from the grinding up of old woolen rags.

For what is it used? For mixing with good fibers to make cloth and yarn.

Why is it mixed with good fibers? Because it has not enough strength to hold together when used alone. Yet, sometimes, the amount of good fiber used is very small.

Has the shoddy mixture, when manufactured into cloth, good qualities? It has. It is warm, often of good appearance, and can be sold cheaply.

What, then, is the objection to its use? That it lacks durability, often in so marked a degree as not to be worth the cost of making up. That it is not sold as "shoddy" but as "all-wool goods."

Is not this a fraud? Yes.

Ought we not, then, to prohibit the manufacture of shoddy altogether? No. The man who grinds the rags of the Italian nobleman into wool, is doing as lawful a business as the man who grows the wool on the sheep's back. The other man who makes the shoddy wool into cloth and garments, is also doing a perfectly honorable business, so far as its intrinsic merits go.

Where then is the fraud? It consists in selling the finished product for what it is not.

Does the use of shoddy hurt any one besides the final buyer? Yes. Every pound of shoddy used supplants 2½ pounds of the farmer's unwashed wool.

How can that be? The shoddy pounds are scoured pounds. Wool wastes in scouring, more or less, according to the kind. Of some wools, three pounds would not make a scoured pound.

How serious is that? What is the yearly consumption of shoddy in our country? Nearly 100,000,000 pounds.

What was the clip of all our sheep last year in scoured pounds? Not above 85,000,000 pounds.

Why! That beats the Jews, doesn't it? No. It "beats" the Gentiles, principally.

What can we do about it? There are two things. First, we can pass laws compelling all manufacturers to label their products just what they are; if all wool, stating so, if part cotton, stating that, and if part shoddy stating that also. This is the plan proposed by Mr. Miller.

Would that be a good law? Excellent if it could be enforced. It might meet with overwhelming opposition from manufacturers, merchants and importers. There would be great danger of its shortly becoming a dead letter from lack of enforcement.

Ought we to work for such a law? Undoubtedly, if there is nothing simpler and more effective.

Can you, then, suggest another way? Yes. Let our State, the United States preferably, give an inspection to such manufacturers as desire it, marking all honest goods and stating plainly on the label that the goods contain no shoddy. It might be well, too, to state the proportions of good fibers used, as wool, cotton, silk or linen.

What would be the advantage of that? When one went to buy woolen fabrics, he would see in the store or shop goods with the inspector's stamp on them. He would feel sure that they were genuine, and would buy them even though they did cost more than the goods without the labels.

We would feel sure that the uninspected goods were spurious, then? We would know that there was very strong presumption that they were spurious.

What would be the effect on our honest manufacturers? It would boom their mills. Many who are now using shoddy, would cease using it, so as to claim the Government inspection and guarantee.

What would be the effect on the shoddy mills? They would "gang their own gait," with lessened profits and reduced output.

Why do Ohio people propose to inaugurate this idea? Because they do not care to wait interminably for National legislation. Because they wish to boom their own honest mills. They expect other States to fall in line.

What do you wish me to do to help it along? Write to your Representative, telling him that you are in favor of the measure. He desires re-election, and is anxious to please you. Send him a letter or even postal card.

Here's a point we have overlooked: Can the inspection be applied to ready-made clothing? Yes, that is the best feature of it. That is the kind of clothing that our people wear.

Would it not be a great expense to the State? No, there need be no expensive machinery about it at all, and the manufacturers might bear part of the cost by paying small fees for the services rendered.

Is there any precedent for such a plan? Yes, the United States inspection of meats is similar. That has resulted in very great good in selling our meats. I always try to buy the "United States Inspected" meat. Yet there is not the liability of fraud in our meat that there is in our clothing. J. E. WING.

TO FATTEN THE OLD COW.

If I had an old cow, and wished to prepare her for beef, I would not try to fatten her, but would aim to lay lean meat on her bones as rapidly as possible. When this is done, an old cow's meat need not necessarily be a tooth extractor. To accomplish this, a highly nitrogenous food is necessary. I would feed such a cow a mixture composed of one part cotton-seed meal, two parts linseed meal, two parts corn meal, and four parts wheat bran. I would feed her as much as she would eat up clean after her roughage. I would give her for the latter, dry feed in the morning and ensilage at night. The quantity must be determined by the size and appetite of the cow. Should this, as is likely, much increase the flow of milk, I would make the best of this until the quantity is again materially reduced; then milk her once a day, and gradually extend the time between milkings, but never strip her after the drying-up process begins.

To preserve the beef, cut up, pack in a barrel, cover with water, and for every 100 pounds of beef, add six pounds of salt, two pounds of sugar, one-fourth pound of pepper and two ounces of saltpeter. This is for use in cold weather. For warm weather, enough more salt must be added to make a brine that will float an egg. Or, in cold weather, make a mixture of one ounce of saltpeter, one pound of sugar, two pounds of salt; cut up the beef, rub well with the mixture, and pack closely in a barrel, and the beef will make its own pickle. In spring, take out what remains, hang it up to dry, and smoke. It will make quite a relish for summer use. J. C. S.

Milk the old cow all winter until the middle of March, then once a day until the middle of April. Then give no grain, and milk once in two, then once in four to five days. Let the udder get feverish, and milk part out once or twice, and the cow will dry up 10 days after you quit milking, which will be on grass feed. Let her run to grass 10 days before feeding grain. Commence with one quart a day, increase to two in 30 days, then to four in 60 days. Then stable and feed no grass, but good hay; increase the grain to six and eight quarts, or as much as the cow will eat clean, giving a part mixed feed, as all corn is too heating and cattle tire of it. If cows are fed a little gluten meal while milking, to clean the old flesh off the bones, you can fill the old hide with better beef in this way than can be cut from a two-year-old heifer. Four to six weeks in the stable will be more profitable than longer, as it does not pay in weight, and prices are likely to be lower later on.

Polkville, N. Y. D. B. L.

THE GUERNSEYS AGAIN.

In a recent R. N.-Y., a correspondent asked, "Which are to be preferred, Jerseys or Guernseys?" As I understand his inquiry, it was in reference to grading up a dairy herd. For this purpose, the Guernsey is preferable. Go into New England, down the Hudson into New York, into eastern Pennsylvania, Delaware, New Jersey and Wisconsin, and you will not only find fine herds of thoroughbreds, but you will notice that the dairymen of those sections have been

(Continued on next page.)

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(*Hand & Power.*) Cuts all kinds of roots & vegetables for *Stock Feeding*. The only machine made with self-feeder. Warranted to do *perfect* work. Feed left in shape to prevent all danger of choking. Used everywhere. Address O. E. THOMPSON & SONS, No. 17 River St., YPSILANTI, MICH.

IT'S RELIABLE

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28 sizes and styles. Every mill warranted. For All Kinds of Grinding. A boy can operate and keep in order. "Book on Mills" and sample meal FREE. All kinds mill machinery. Flour mills built, roller or buhr system. Reduced Prices for '96. NORDYKE & MARMON CO., 270 Day Street, Indianapolis, Ind.

HARRISON'S BURR-STONE **FEED MILLS** are the best constructed, least complicated and fastest grinding mills yet produced. They were granted the highest possible award at the World's Columbian Exposition in 1893 for Extreme Simplicity, Acceptable Work and Low Price. Send 2c. stamp for our 48 page Illustrated Catalogue. LEONARD D. HARRISON, Box O, New Haven, Conn.

This Mill **GRINDS CORN** and Cob, rye, barley, oats and wheat; fine, *and does it all on one set of grinders without injuring them.* Different from others. The Best. (I also make 5 sizes of belt power mills.) P.N. BOWSHER, South Bend, Ind.

SEPARATOR and POWERS for 1, 2, & 3 horses, with governor, either level or regular tread.

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Pain often concentrates all its Misery in RHEUMATISM

Use at once **ST. JACOBS OIL** if you want to feel it concentrate its healing in a cure.

Your money

back if you want it—Vacuum Leather Oil. Get a can at a harness- or shoe-store, 25c a half-pint to $1.25 a gallon; book "How to Take Care of Leather," and swob, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

Sold only in cans, to make sure of fair dealing everywhere—handy cans. Best oil for farm machinery also. If you can't find it, write to VACUUM OIL COMPANY, Rochester, N.Y.

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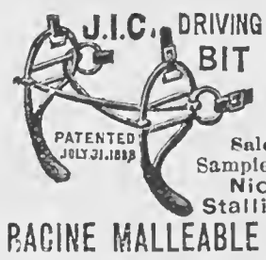

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NEW CATALOGUE FOR 1896 Printed in colors that are correct. Best and finest illustrated Poultry Catalogue ever printed. Get it and be convinced. It tells how to make poultry pay, how to build poultry houses, gives remedies for diseases, also lowest prices of fowls and eggs. If interested in poultry this book is what you want. Sent post paid for 15 cents. The J. W. Miller Co. Box 144. Freeport-Ill.

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Horses, Cattle, Sheep and Swine.

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Every Horseman Should Try

"Tuttle's Elixir,"

The greatest horse remedy in the world. Not simply guaranteed to cure in the advertisement, but backed by a standing offer of $100 Reward for every failure. If it won't cure your horse of Colic, Curbs, Splints, Contracted and Knotted Cords, Shoe Boils, when first started, and Callous of all kinds, you will receive the above reward. Used and indorsed by Adams Express Company. Sample free for three two-cent stamps to pay postage.

DR. S. A. TUTTLE—Dear Sir: This is to certify that I have used "Tuttle's Elixir," and cured a spavin on a mare that had been lame more than a year, and for colic I think it is the best I ever saw.

J. H. SHAW, No. Weymouth and Boston Express.

Address Dr. S. A. TUTTLE, 27 Beverley St. BOSTON, MASS.

LIVE STOCK MATTERS.

(CONTINUED.)

impressed with their substantial, business-like appearance and golden-colored products, and have drawn on the breed for grading up and improving their dairy stock. Especially is this true in the North and East, since the prevalence of tuberculosis has been so prominently marked out.

Dairymen are fast realizing that the cross of the Guernsey on the high-grade Jersey, Ayrshire or Holstein cows, makes a superior animal, with a strong constitution not liable to disease, of good size and fine handling, which are essential in the farmers' market, and the rich, golden milk, cream and butter so characteristic of the Guernsey. This richness is combined with good size and constitution, and particularly quiet, gentle and tractable temperament. The prevailing color is a delicate shade of fawn with white markings. They are rangy, deep animals, characterized by plenty of udder development, with soft, silky texture of skin, and creamy color.

As four-year-olds, they are usually giving 16 to 18 quarts of milk during the first four or five months after calving, with ordinary keep, and are persistent milkers. Their milk and cream are of marvelous color and richness, and butter that in grain, flavor and golden color excels that of any and all other breeds. Their ability to produce butter fat and butter at a low cost, demands the careful attention of all dairymen. The reputation of the Guernsey for rare excellence in this respect, was signally established in the trial tests at the agricultural experiment stations, and also at the Columbian Exposition. From this experiment work, it is found that the Guernseys made more cream, and made more profit in selling cream, than did the Jerseys or any of the other breeds. It is truly said that the Guernsey has but to be tried to be appreciated.

In this connection, it is interesting to note the large number of Guernsey breeders who formerly bred both Jerseys and Guernseys, the two breeds now recognized as excelling all others for butter production, and who have so clearly recognized the superiority of the Guernsey that they have discarded their Jerseys and now breed nothing but Guernseys.

Another advantage which the Guernsey cow has over the Jersey, is in the size of her calves. The farmer who desires to improve his dairy animals by crossing, will select the Guernsey bull. The calves will have larger size, and be more profitably turned into veal, or if raised, will take from the potency of the Guernsey the marvelous richness of the breed. All that is needed to popularize the Guernsey cow among practical farmers in any section is the possession of a single herd. A few visits and careful watching of such a herd, will convince all dairymen of the superiority of the Guernseys.

WM. H. CALDWELL.

FORKFULS OF FACTS.

CURING SELF-SUCKING COWS.—I would advise W. T. S., to try beef gall on the teats of the cow that is in the habit of sucking herself. I emptied the gall into a bottle, which I kept handy where I milked, and after milking saturated the teats with the gall. If it becomes dry, put in a little water to thin it. If W. T. S. will try this, I think that it will do the work. W. S. P.

Blaine, W. Va.

VALUE OF PINE TAR.—Pine tar may be put to handy use on the farm. In the fly time of last summer, I mixed about two parts grease with one of tar, heated this till it melted, then with a worn paint brush, applied the mixture to the cows, putting it on thickest where the flies are most accustomed to gather. This mixture is easily and rapidly applied, and is very effective for about half a week. Put on twice a week, the cows will have quite an immunity from the flies, and will more than repay this in the larger amount of milk they will give. When I used a little tallow in place of some of the grease, I think that it staid on a little longer, and I think that if more, rather than less, tar be used, it will be more effective and satisfactory.

Just after harvest last summer, when I let the cattle in on the field I had cleared of grain, one of my cows got her foot caught in an old barbed wire fence. She had badly torn the hoof and the fleshy part above and around the hoof. She was very lame. I put on tar the second day. I worked the tar into the wounds as well as I could once every morning, for one or two weeks, and after that at longer intervals. I attribute the rapid healing of this bad wound to the antiseptic and healing properties of the tar. LEWIS OSTENSON.

Wisconsin.

BONE MEAL FOR COWS.—On page 24, I noticed a query from a subscriber in New York asking what ails his cows, because they chew his fence. All that ails that man's cows is, that they want something they do not get in their feed. They lack phosphate. If he will buy some bone meal, that is ground for feeding purposes, and feed his cows a handful each every day, until they don't care for any more, it will stop them chewing boards. I have had cows chew brick, pieces of sticks, and old bones by the hour; but after feeding bone meal a few weeks, they would stop chewing such things. Wheat bran fed liberally will have the same effect. A few years ago, I moved on to a large milk farm, where butter and milk had been sold for 75 years or more. I had a good deal of trouble this way, and also in the bones of the cows growing out of shape, having what we farmers call "bone ail." I found that feeding bone meal and bran would stop it, and I have even cured young heifers when their joints had grown out of shape, by simply feeding bone meal and shorts. C. W. D.

Rutland, Mass.

PROF. C. S. PLUMB, of the Indiana Station tells Hoard's Dairyman, in speaking of tuberculin:

It is my intention to purchase no animal in future to bring on to the farm, before it has been tested with tuberculin, neither shall I allow the use of our service bulls upon untested cows belonging to other parties. And I will finally state that, were I a private stockman, I would pursue the above practice at my own establishment.

Why isn't that a sensible statement?

IF IN NEED OF A REMEDY for a Sore Throat, or a Bad Cough or Cold, use promptly Dr. Jayne's Expectorant, a useful medicine to keep in the house because of its great helpfulness in all Lung and Throat troubles.—*Adv.*

THE
MOST SUCCESSFUL REMEDY
FOR MAN OR BEAST.
Certain in its effects and never blisters.
Read proofs below:
KENDALL'S SPAVIN CURE
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DR. B. J. KENDALL CO.
Sirs:—I have used your Kendall's Spavin Cure with good success for **curbs** on two horses and it is the best Liniment I have ever used.
Yours truly, AUGUST FREDRICK.
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COW DON'T BREED?
THOUSANDS CURED—BOOK FREE.
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What a Lot of Eggs
the hens lay when fed on Green Cut Bone! With a dozen hens
Mann's
GREEN BONE
Cutter

will pay for itself in a short time in the increase of eggs.

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SENT ON TRIAL. 180 Highest Awards received.
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WE ARE FURNISHING
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From our factories in each of the above cities. Our O. K. FOOD is still the leading brand, fresh made, dry and right. If your grain dealer does not keep it, send to the factory nearest you. CUT GREEN BONE a specialty. Send for catalogue to
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Makes hens lay.
Makes chickens grow.
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CRUSHED OYSTER Shells for Poultry 100-lb. bag, 60 cents; five, $2.50; ten, $4.50. Per ton, $8. E. N. LEETE, Leete's Island, Conn.

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Simple, durable, economical. Best workmanship and materials guaranteed. Most reliable and successful in the United States. Absolutely self-regulating. Perfect ventilation assured. Our hot-water brooders guarantee uniform heat. No crowding nor smothering. Send stamp for catalogue. Circulars free.
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CLOTHILDE H. H. B. 1308.
Milk record 26,021 pounds 2 ounces in a year. Butter record, 28 pounds 2¼ ounces in a week.
We have 100 of this cow's descendants for sale. If this is the class of cattle you want, write to
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HIGH-CLASS
Registered Jersey Cattle.
ROBT. F. SHANNON, Pittsburgh, Pa.

REGISTERED GUERNSEYS.
Seven Heifers in calf, 18 to 26 months; six Cows three Bulls, 10 and 14 months. Address
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FOR SALE Registered GUERNSEY bull calf (three months), well marked. Right in color and all points. Dam, a fine butter cow with "butter" ancestry; sire, equally famous for his get. No money could buy him if needed. His kind scarce.
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SWEEPING REDUCTION to suit hard times, and reduce large stock of choice animals. *You run no risk* sending order, as I am *the only* breeder guaranteeing satisfaction, and agreeing to refund money and pay freight *both ways* on any stock rejected. *You* are to be the judges. My swine are the old "True Type," having broad, dished face, lop ear, straight hair and back, good body, bone and ham, and are *growthy*, but not coarse.
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PIGS *Prize* Chester Whites, Berkshires, Jersey Calves, *pure* Collies, Beagles, Fowls. 61st year. F. MORRIS, Norway, Pa.

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WE are the firm That always please.
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Bred for laying qualities and hardihood. All profitable varieties. M. SAGER, ORANGEVILLE, PA.

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Best in the world, hot water, pipe system. Will hatch chicks when others fail. Catalogue Free.
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It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. A. C. BROSIUS, Cochranville, Pa.

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"MY dear boy, observe the postage stamp; its usefulness depends upon its ability to stick to one thing until it gets there."—*Life Savers' Record.*

GEORGE: "You would marry the biggest fool in the world if he asked you, wouldn't you?" Ethel: "Oh, George, that is so sudden."—*Modes and Fabrics.*

TEACHER: "What was Washington's object in making the perilous trip across the Delaware?" Dick Hicks: "He wanted to see if the peach crop was a failure."—*Puck.*

SUNDAY SCHOOL TEACHER: "What are we to understand by this passage: 'Ye ask and receive not, because ye ask amiss'?" Precocious Boy: "Ought to ask a widow."—*Credit Lost.*

"I'M goin' to tell my pa on you," said Johnny Smithers, as the blacksmith pared some of the horn away from the horse's hoof. "Why? What have I done?" asked the blacksmith. "You 'ain't got shoes to fit Dobbin, an' you're whittlin' off his feet to suit those you have got."—*Harper's Round Table.*

"I HOPE it isn't heresy," remarked the Rev. Fourthly, sampling some of the fruit he had just purchased, and throwing it away, "to express the opinion that when the Lord looked on everything he had made and pronounced it very good, he hadn't yet made the Ben Davis apple."—*Chicago Tribune.*

FERRARI, the celebrated composer, relates the following anecdote in his memoirs: On a cold December night a man in a little village in the Tyrol opened the window and stood in front of it, with hardly any clothing to his back. "Peter," shouted a neighbor, who was passing, "what are you doing there?" "I'm catching cold." "What for?" "So I can sing bass to-morrow at church."—*Household Words.*

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POTATO Cutter and PLANTER.

It marks, furrows, cuts, drops and covers all in one operation.
No more cutting seed by hand.
It cuts the potato the same as if done by hand.
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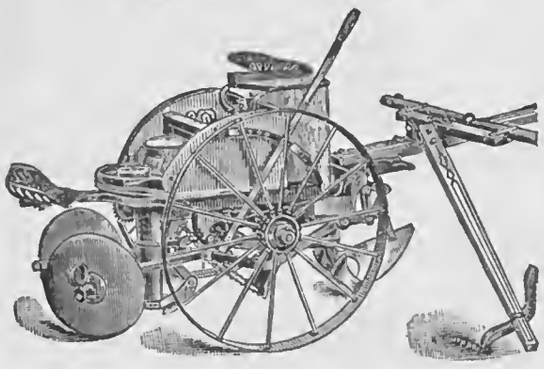

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1861 **35th Annual** 1896

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places profitable agriculture by practical every-day methods within the reach of every farmer.

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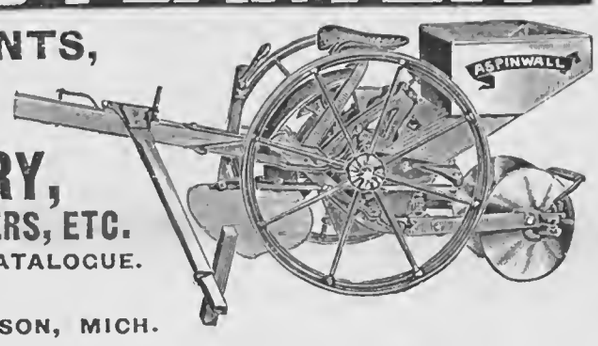

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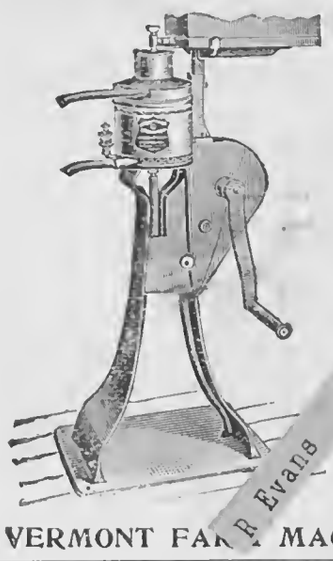

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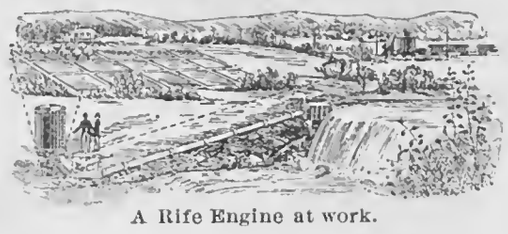

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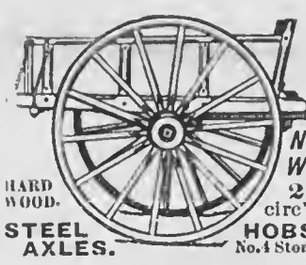

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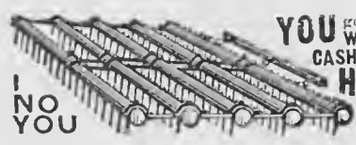

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2401. NEW YORK, FEBRUARY 1, 1896. $1.00 PER YEAR.

TEN COWS; TWO TONS OF BUTTER.

STRONG ARGUMENT FOR THE JERSEY COW.

July 1, 1893, Mr. C. E. Chapman gave the work of my dairy. The average per cow then was 331 5-7 pounds. To show that we are progressing, I send you the work of our dairy from January 1 to December 31, 1895.

Name and Herd Register Number.	Age, Years.	Days in Milk.	Milk — Pounds.	Milk — Ounces.
Daisy's Last 46376	9	365	8,997	8
Vagabondia 58726	8	320	7,153	1
Daisy Mugwump 61012	8	294	6,833	6
Eurio Queen 54733	8	300	5,265	1
Easter Daisy 77340	5	320	5,051	5
Marampos Nettie 84499	4	365	6,898	9
Marampos Buttercup 92803	3	320	6,659	9
Marampos Queen 92812	3	365	5,952	4
Marampos Flora 92807	3	320	5,721	7
Marampos Butterfly 92809	3	300	3,927	1
Total			62,459	3
Average			6,245	14
Butter			4,164	
Average			416.4	

We have used the churn test, it not being convenient to use the Babcock test continually; but each cow has had a fat test. We find that it takes 15 pounds of mixed milk of the dairy for one pound of finished butter. The cows have not been crowded to do this work, but have worked at a disadvantage. We made a mistake in the spring, and did not put in a soiling crop; through the drought, we did not have any green feed. Then butter was so low that we thought that we could not afford to feed grain, so no grain was fed from the time the cows went to pasture in May until some came fresh in September.

This herd is all of my own breeding, with one exception. In a recent issue, a correspondent says that he is sick of scrubs, and wants to know what breed to take—Jersey or Guernsey. THE R. N.-Y. says to the breeders, "Fire away!" We did not fire at once, as our gun was a muzzle loader, and the charge was not all in, and we did not finish loading until December 31. In the meantime, we have anxiously watched for some of the big breeders to fire off some of their modern breech loaders; but as yet we have heard nothing from them, and as we are loaded we will shoot our old musket.

Twenty-one years ago, we were in about the same position of your correspondent, keeping cows that gave us about 125 pounds of butter per year. We were about to give up and go out of the dairy business, when we were induced to visit a herd of Jerseys. What we saw and learned there, we shall never forget; but the result was the purchase of a bull calf. When he was old enough for service, we bred our cows to him, and we obtained some very good heifer calves. When they came fresh at two years of age, they gave as much milk as their mature dames, and made one-third more butter. We were so well pleased with their work, that we decided to keep nothing but purebreds. One of those heifers after she became mature, made over 400 pounds of butter, three years in succession. Another made 504 pounds in a year.

In all these years, the Jersey cow has never failed us. When sickness came, she paid the doctor's bill. When the lightning burned our barns and all their contents, she helped build the new one. And now she has taken another obligation, that of putting the boys through school, and while she has done all these things, at the same time she has been constantly lifting the mortgage from the farm. She has never bolted or gone on a strike, but has ever been faithful and true. If your correspondent should ever be called upon to go through any of these experiences, and wishes a cow to keep his head above water, the Jersey is the cow.

ANDREW BAKER.

Mapleton Farm, Tompkins County, N. Y.

JERSEYS IN THE SHOW RING. A GROUP OF BUTTERMAKERS AT THE DUTCHESS COUNTY (N. Y.) FAIR. FIG. 25.

THE BUSINESS JERSEY COW.

WHAT SHE DOES WITH A GOOD PARTNER.

Mr. Myron Reightmyer of Schoharie County, N. Y., has a herd of business Jerseys of which he is justly proud. This herd was originally started by J. D. Mitchell of Bovina, and when the celebrated "cow census" of Delaware County was taken, it was found that an average of 362 pounds of butter for each cow in the herd had been actually *sold* to a New York commission house. This was aside from the milk and butter used in the family and considerable whole milk that was fed to calves. In 1894, under like conditions, the herd averaged 367 pounds of butter per cow—the herd numbering about 50. Of course there are three things that contribute to this success. In the first place, the cows are well bred. They are chiefly of the St. Lambert and Stoke Pogis 3d strains, and not only were the foundation animals good, but by watchful selection and skillful mating, their good qualities have been developed and improved. In the next place, the cattle were fed and cared for so that they were kept happy and satisfied; and last, but not least, they were crossed with the kind of man who knows how to make a success of dairying. Cow, feed and man are the great dairy trinity, and it is hard to say, after all, which is most important.

In speaking of his herd and his methods of caring for it, Mr. R. says:

"I have my cows fresh in February and March, and make butter the entire year, milking until within two weeks of coming in. This is something that must be done in order to secure a great butter record. I feed my milch cows one bushel of fine cut ensilage morning and night, and two quarts of grain thrown on the ensilage each time. At present, the grain is one-half buckwheat middlings at $13 per ton, and the other one-half is corn-and-cob meal. At noon, they are fed straw or stalks, and are watered twice each day. Young cattle are fed the same, except their grain, which is equal parts whole oats and wheat bran. I have running water in the barns, and my cattle are not let out in storms. The cattle are very thoroughly groomed.

"We feed ensilage until grass comes. I sow five acres to oats and peas for 20 cows—three bushels to the acre, 1½ bushel oats and 1½ peas. I sow at three different times. The first sowing is just as early in the spring as possible, the next 10 days later, and again in 10 days. Each sowing is cut and fed until the grain becomes too hard, when it is cut for grain. These three successive sowings give the very best of a soiling crop for six weeks. This is succeeded by sweet corn planted May 20—10 days later than the general corn crop. Besides this, I feed from 200 to 500 bushels of apples each fall, many loads of pump-

kins and bushels of small potatoes. This method of dealing with the cattle makes them return me a gross income of $100 per cow. My butter is made by the Cooley cold-setting process, is packed in tubs and one-pound prints, and is mostly sold to the Fifth Avenue Hotel, New York City, and the remainder to the Delevan Hotel, Albany, N. Y. The prints are in the form of a square, marked thus: M M / M M wrapped in parchment paper, shipped in special cases, and are sold for a very fancy price."

A COLD-COUNTRY HOGHOUSE.

In building a cheap pen for pigs, a few days since, I hit upon a plan which I have never seen described elsewhere. The walls are made by tacking tar felt, well lapped, on each side of the 2 x 4 studding. Over the paper are nailed inch boards of a cheap grade, as close together as practicable, thus making a dead-air space in the wall. The roof is treated in the same way, and both walls and roof are shingled outside over the boards. The side walls are only 3½ feet high, and the roof has only a very moderate pitch, so that the height above the floor in the middle, is only about nine feet. An alley, four feet wide, runs through the center, with four 8 x 10 feet pens on each side, the building being 24 x 32 feet in size. This construction insures a warm and dry building; but the peculiar feature is the skylight windows, which are placed in the roof. The frames are made so that double windows may be used in winter, while in summer the second sash can be removed, and the remaining sash raised so as to secure the best of ventilation. These windows have two advantages: The light and sunshine are both admitted where needed, the building being as light as day; yet the walls may be low, resulting in a warm building at the least possible cost. Of course so warm a building would not be necessary for many of your readers, but the plan of lighting will serve them well.

Fig. 26 gives a clear idea of the building and yards attached. The sides of the building face east and west. If it be desired to have all the pens and yards face south, the same construction may be used, with a roof sloping south and an alley along the north side, with a single row of pens south of the alley.

Hugo, Minn. A. G. W.

WHAT THEY SAY?

Sowing Millet.—In this latitude (Allegany County, N. Y.), it does not do to sow millet earlier than the first of June. I did so once, and lost the crop by frost June 6. I would not sow Medium clover alone in August; dry, hot weather soon after germination often kills it. I have had good success in seeding down with millet. One peck of clover seed per acre is enough when no grass seed is used. C. A. W.

Free Mail Delivery; Fractional Currency.—There is a paragraph on page 8, January 4, which should be printed every week in capital letters until heeded, especially the little clause about fractional currency. When you strike a keynote like that, go on with your music, and continue to strike long and loud until our legislators hear and heed. If they could know what a convenience it would be to one little woman (that's I), they would pass such a law without delay. Why not? Uncle Sam is willing, and knows that we cannot safely send silver in a letter. I wish very often to send a fraction of a dollar in a letter for bulbs, seeds, or to a magazine or something similar, and must needs go to the barn, harness my horse, drive to the village (for there is no man here), and get stamps or pay extra for a postoffice order; or else go without the things I desire and could have, had we the good old rag money of war times. M. E. P.

Wayne County, N. Y.

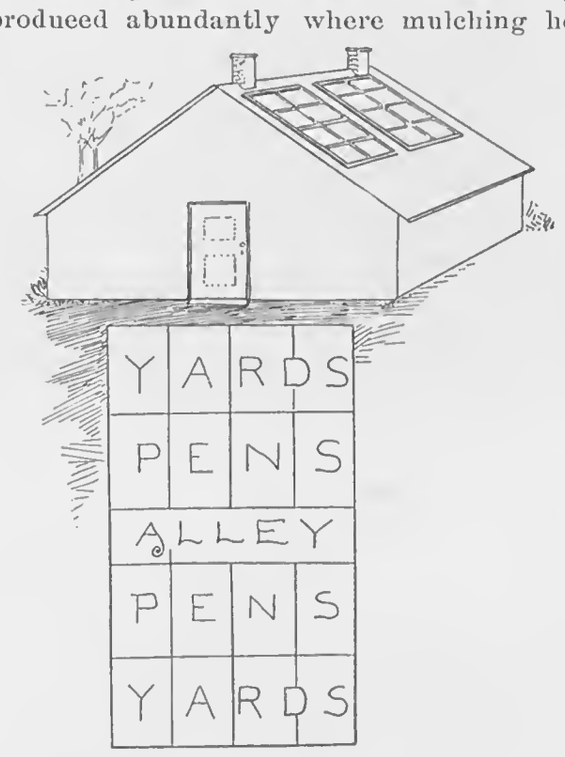
Making Farrow Cow Beef.—I have had considerable experience in making beef from farrow cows—having frequently fed a car-load at a time. By all means milk the cow. If she is giving six quarts of milk per day, she will increase it by increase of feed. Her milk will more than pay for any ration fed her from now to grass growing. At the same time, she will put on flesh rapidly, especially as the days grow longer, and warmer. I would suggest a daily ration of 30 to 40 pounds of ensilage, four quarts of corn meal, six pounds of wheat bran and two pounds of oil meal. I have never fed cotton-seed meal. Give this, in two feeds, the grain fed on the ensilage. After each grain ration, feed what hay she will eat up *clean*. Do not feed at noon. Give a little salt daily, and a chance to drink twice a day. The milk from a farrow cow will make more and better butter than the same amount of milk from a cow in calf. If the butcher does not offer a good round price for the cow before May 1, take away her grain feed and after a few days dry her, by stopping milking, except now and then to keep the udder from spoiling. After she is dry, turn her to grass and feed her three quarts of corn meal and bran, half and half, twice a day. Let her run in good pasture four weeks, and one will be surprised to see how fat she is. It will then be the time when winter-fed beef is scarce, and grass-fed cattle are not fit for the market, and the cow will be wanted at nearly twice as much per pound as she would have sold for the first of winter; her milk and added pounds of beef will give a profit above the cost of feeding her. CHAS. R. BEACH.

Wisconsin.

Some Cow Notes.—In a recent R. N.-Y., I noticed a complaint of cows eating fences and boards. Several years ago, my cows had the same habit, and in the summer, would chew bones. I bought 10 pounds of good bone meal, and gave a small handful every other day, covering it with meal, as they would not at first eat it clear. Some of them were very fond of it. They soon quit their fence eating, and I have had no further trouble in that way, or with hunting for bones, as I occasionally give them a little bone meal.

If those farmers who keep a few cows and during the winter are so troubled to churn their cream, will have a new milch cow or two, and have the milk and cream properly cared for, they will have no trouble to have their butter come. Winter is the nicest time in which to raise a calf, as with many after the hogs are killed, there is plenty of skim-milk, which should be warmed and some middlings added. The calf will soon learn to eat hay, and in the spring will be ready to turn to grass and will grow right along. FARMER.

Treatment of Pear Trees.—In regard to further treatment of C. A. G.'s 1,000 pear trees, page 19 (why in rows only one way ?), I would object decidedly to sowing corn, believing that such a course of mulching would be of more injury than benefit to the trees. I have in mind a pear orchard that, for a series of years, has produced abundantly where mulching heavily



A COLD COUNTRY HOGHOUSE. Fig. 26.

with straw or coarse barnyard manure has been practiced, cultivation of the soil having been entirely discontinued. On my own grounds, where a similar orchard of 1,000 dwarf pear trees was planted last season, beans were grown, and thorough cultivation given. After the beans were harvested, the soil was well worked, and two bushels of oats per acre were drilled. Notwithstanding the severe drought, a fair growth was attained, sufficient to form a mulch that, I believe, will be a source of fertility, and also a protection to the soil during the present winter. A similar course of treatment will be followed during the coming season.

Western New York. IRVING D. COOK.

Hen Ration Suggested.—If W. J. A., page 47, will feed his flock of 60 hens the following, I think that he will get eggs: Give for the morning feed, two quarts of potatoes, boiled and mashed, in milk if he has it, if not, the water in which they are cooked. Add two quarts of wheat bran, and two quarts of wheat middlings, with a little salt and one-half teaspoonful of red pepper. This mixture should not be too soft, something of a crumbly nature will suit the hens better. The noon feed should be raw cabbage, beets, onions, or sweet apples. The last two need to be cut up fine. A handful of small grain should also be scattered in the straw or chaff, so as to keep them busy and give an appetite for supper, which may be whole corn, peas and wheat, well warmed if the weather be cold. Do not forget warm water three times a day, also a good feed of fresh meat three times a week. The meat should be cooked. I am feeding horse meat, steamed. By the way, this is a good use to which to put the old horse, and then you know that he is not being swapped off at every turn of the road. It's evident that W. J. A.'s hens are too fat. As to the quantity of the night feed, he can soon learn what they will pick up clean. Keep grit, old mortar and oyster shells before them all the time. That's my bill of fare, and I get eggs. W. H. H.

Charlotte, Vt.

Width of Cow Stall.—I find that a five-foot stall floor gives the best satisfaction. The measurement is made from the stanchion to the drop to the manure gutter. In one cow barn, I put in three lengths, five feet three inches, five feet, and four feet ten inches. After 10 years' use, the proprietor says that when the floor fails, he will have them all of one length, and that will be five feet. As he keeps no small cows, I think that he is right. If a stable is to be used for young stock, or stall-feeding steers, to get the best results it would be well to lengthen and shorten, to suit the average stock to be fed. For the benefit of those who may wish to put in stanchions and stalls, I give the dimensions that I use, and which have given good satisfaction to the users: Length of floor from stanchion to drop to manure gutter, five feet. From center of stanchion to center of stanchion, 3½ feet; neck space between bars, 6½ to 7 inches. In one barn, I put in an equal number of stanchions and stalls. The stalls have a low manger, 18 inches high, the floor five feet, partitions three feet long from the manger, and three feet high; width of stall, three feet ten inches. The proprietor thinks that the cows are more contented in the stalls than those kept in the stanchions, and do better. T. L. H.

Fairfield, Ia.

That Leather Chewer.—If J. R. E., page 19, will mix some aloes or quinine with a little grease, and rub the mixture into the hitching strap and bridle reins, his horse will probably forget chewing them while he ponders over the mean trick played by his master. But no one thing is a "sure cure" for different animals of similar morbid habits. Carelessness or inattention is only too often the cause of a so-called morbid habit, which, after all, may be only a natural craving. I half way suspect that that saddle horse would be grateful for a more ample allowance of salt than he now gets. At all temperatures, moisture of a saline taste exudes from the hands and is imparted to the leather, and it may be this that the horse is trying to get. But he may be a "keener," and know that gnawing the straps will give him his liberty. If such is the case, he may not mind a little obnoxious taste in pursuit of his object. A strong, light chain would have to be used for tying purposes, and that part of the reins to which he has access should be wrapped with soft, flexible wire. To make a neat job, make a small hole through the rein at the starting point, insert one end of the wire, fasten, wrap the wire the desired distance, keeping it tight, and fasten by passing through two small holes and bending back and under. Give a liberal supply of salt, and try the bitter grease before resorting to metal. By so doing, you may do yourself and horse a favor. J. C. SENGER.

Virginia.

More About "Corn Hay."—Some eight or nine years ago, the ordinary grain thrasher was first used hereabouts for shredding corn fodder, and has been used to a limited extent up to this time. But I never knew of the same farmer using the method twice. The cost is too great for the amount of work done, although somewhat more rapid work is done than with the husker and shredder. Then the shelled corn is so split and broken, that it is unmarketable. A neighbor used a thrashing outfit one day, and the result was seven tons of corn fodder, 200 bushels of shelled corn. The cost was, for the thrashing outfit, $12; for four teams, $10; for three extra men, $3; one boy 50 cents; a total of $25 50. Clover hay is selling on the farm for $4.50 per ton. Where does the profit come in on the shredded fodder? Another farmer purchased a shredder and husker, built an immense shed to store the shredded fodder, and filled it in the fall of '94. The result is fodder almost ruined by heating. This year he has filled his shed with the whole corn and stalks. He used a corn binder, and as soon as cured, the corn was hauled to the shed, using a rope sling connected with a carrier, which dropped it wherever desired. In this way, there is no danger of heating, or of damage by storm, and he can shred as needed, using only his own help. With the present capacity of shredders and corn-thrashing machines, it requires close calculation to get any profit out of them. There certainly is none when the shocks of corn are left standing in the field until late fall or mid-winter, to be damaged by the fall rains and winter snows, as a large part of them are.

Northern Illinois. DWIGHT HERRICK.

Self-Cleaning Stalls.—On page 303 of the year book of the Department of Agriculture, 1894, Mr. Alvord says, in regard to cow stables, that self-cleaning stalls and gutters have not proved successful. Is that so? I would like to hear from those who have tried them. I have three stalls of my own designing, made entirely of wood, that give fairly good satisfaction. I intend to put up half a dozen additional stalls in the spring, and had thought to put in an iron grating over a cement gutter. Now I wish to know wherein that will fail, if fail it will. E. B. WATSON.

WHAT SAY?

A Crop of Oats.—I would like readers of The R. N.-Y. to give their methods of raising oats—fitting the seed bed, the number of bushels to sow per acre, broadcast or in drills, deep or shallow, the kind of soil where their methods succeed, variety of oats, etc. Last season was a very dry one here. I raised from 11¼ acres, 897 bushels on a stiff clay soil. My oats weigh 44 pounds per measured bushel. If any reader of The R. N.-Y. can beat that, under similar conditions, I want his method and variety of oats. If The R. N.-Y. wishes my method, I will give it. S. B. F.

Blake, O.

R. N.-Y.—Let's have your method to start off with!

Sugar Beets and Ensilage—The article on page 2-3 of January 4, from Greeley, Colo., seems to sustain and agree with our experience in feeding sugar beets with corn ensilage, only our fine corn ensilage gives no unpleasant taste to the milk. We desire practical experience in feeding sugar beets with corn ensilage. How far can beets be substituted for bran, oil-meal, etc.? We have grown 15 to 20 tons of fine beets per acre at small cost, except the labor, and if these will take the place of costly purchased feeds, it will result in saving that much. I am aware that this is not in accordance with the theory of well-balanced feed rations; yet our experience shows that the best possible results, both in milk and butter, are attained in autumn when our cows are on good Blue-grass pastures, and have also the range of stalk fields after husking. Will not good corn ensilage (whole corn, ears and all) and plenty of sliced sugar beets, very nearly imitate the above ration of Blue-grass and corn-stalk pasture? My experience seems to show that this is true. Who has had experience along this line? Actual experience is what is inquired for, not theory. B. F. A.

Covington, O.

R. N.-Y.—We shall be pleased to have actual experience in this matter from those who have really fed sugar beets and ensilage. Here is a comparative statement of the analysis of some of the foods mentioned:

POUNDS TO THE 100.

	Muscle-makers.	Fat-formers.	Pure fat.
Good pasture	3½	10	3-5
Corn stalks	2.4	31½	½
Ensilage	1.2	12	½
Sugar beets	1	16½	1-10
Clover hay	7 4-5	40¼	1½

It will thus be seen that the best pasture and corn stalks will enable the cow to balance her own ration, and the probability is that, left to herself, she would eat about enough of the stalks to give the regular standard ratio between muscle-makers and fat-formers. With ensilage and sugar beets, this would be well-nigh impossible, since both of these foods are weak in muscle-makers. By the addition of clover hay, the ration would be improved, but even then it would be difficult to get the results obtained from the good pasture and stalks.

Fertilizers for Canadian Corn.—Has it been found profitable to use commercial fertilizers on corn when raised as a grain crop in Canada? I would like to know the best system to follow in raising corn in what we might call the flint corn region. I would like to have the experience of others. I think an exchange of ideas would benefit the most of us, as I am satisfied that there is much for us to learn on this important matter. J. C.

R. N.-Y.—Let's hear from our Canadian friends who have used fertilizers. Corn is really a warm-country plant. How has its culture been modified to suit cold countries?

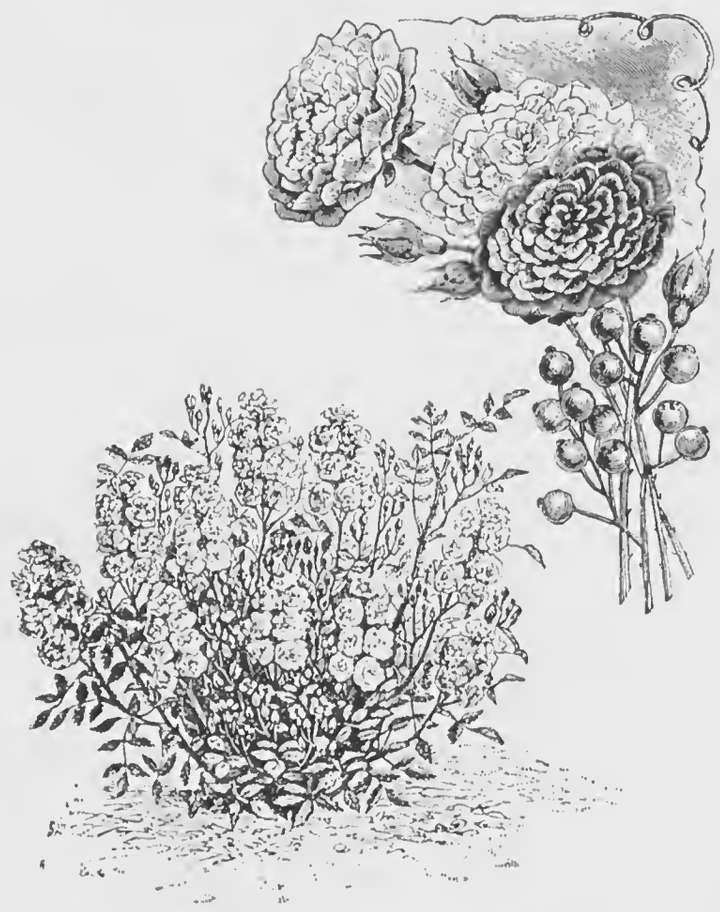
Miller Raspberry Hardy.—The mercury went two degrees below zero on several occasions last winter, and it was generally conceded that nothing equal to it had been experienced for many years; yet the Miller Red raspberry came out alive to the tips, while many other varieties were badly winter-killed. Another thing, last season proved conclusively, that several spurious sorts were sold for Miller; while plants of the true Miller came through not in the least hurt, these were in some instances killed to the ground. Although resembling Miller somewhat, they lack size, productiveness and hardiness common to that sort. My field has no protection whatever, is not within one-half mile of a woods, and could not well lie in a more exposed or colder situation. Chas. Wright.

Delaware.

Farmers as Breeders.—I have a dairy of 12 cows, and sell my milk to a factory. I would like to get some registered thoroughbreds, that are not common through the country, so that I could sell the calves and cows for a good price, and also have a breed that gives a good flow of milk, and fattens easily. I have been thinking of the Devons. I have a good stable, with stalls, and the cows are fastened with chains. Now can a farmer of limited means make a success of raising thoroughbreds to sell; that is make money at it? Or can only those that have plenty of money afford it? T. O.

Tioga County, N. Y.

R. N.-Y.—Here is a good chance for comparing notes. This is a live question, and we would like to have farmers discuss it.



ROSA MULTIFLORA NANA. Fig. 27.
(See Catalogue Reviews, Page 70.)

CARE AND FEED FOR BREEDING DUCKS.

Ducks for breeders should not be too fat, and their quarters should be clean, dry and not too warm. There should be some ventilation on the south side of the coop. If shut up too closely in their quarters,

CUPID SWEET PEA. Fig. 28.
(See Catalogue Reviews, Page 70.)

the sides and top of the compartment will get very wet from their breath and steam that will rise from them; in cold weather, this will freeze; then again, on warm days, will thaw, which makes the place very damp. By properly ventilating the building, this may be avoided; either place a screen in the window, or else have a hole cut in the door with slats over it, that the steam may pass out and not settle on the inside.

Bed their house two or three times each week; planers' shavings are very good for this purpose. Ducks need not be watered during the night. A very good feed for breeders is composed of clover hay, cut short, five quarts; corn meal, one quart; bran, five quarts; middlings, three quarts; beef scrap, 1½ quart; put enough boiling water on the cut hay to soak it. Let it stand overnight in some sheltered place where it won't freeze, to be ready for the morning feed; put it into the mixing box first, then add the ground feed and mix all thoroughly. Make it wet enough to be somewhat clammy or sticky, as ducks cannot eat dry, loose feed very well. Have water near by for them to drink at feeding time; this completes the morning feed.

At night, give them equal portions of whole corn, wheat and oats. To give some idea of how much to feed at once, I give the amount I feed to a flock of 90 in one yard. I take a three-hooped pail for a measure, which holds about eight quarts; for the morning feed, two pails heaping full of the first mixture, at night one pail of mixed whole grain as above stated. With a little calculation, any one can tell how much to feed to a flock of any size. Outside of this they get nothing else to eat.

If there is no stream running through the yard from which they can get grit or coarse sand, crushed flint should be put in boxes and placed in the yard. I would caution any one who thinks of going into the duck business, against breeding anything but white ducks. The Pekins lead all others for market purposes. If our western breeders would do away with the colored ducks, and raise nothing but the Pekins, they would realize one-half more from their stock. We bought and fattened about 12,000 western ducks this fall. I dare say that one-half of them were colored, of very inferior stock. We found from actual test, that the colored ducks were not so hardy as the white, and much less profitable, as it took longer to fatten them. If the farmers would lay out a small sum of money, say, for one sitting of white duck eggs, and raise a few to begin with, they could soon do away with the undesirable mongrels they now have, and the second year would pay them tenfold. F.

WILSON'S YELLOW EYE PEA BEAN. Fig. 29. (See Catalogue Reviews, Page 71.)

A FARMER'S CARROT CROP.

EASILY GROWN; SAVES MUCH FEED.

It seems to me that carrots are the most valuable of all the roots usually grown for stock, yet I seldom read anything about them. I recall but one failure to get a stand, in my experience covering some 15 years. My failure was on a piece of Timothy sod, plowed during May, when the ground was dust dry to the bottom of the furrow. The seed was drilled before the weeds had time to show, and, of course, the weeds came first, robbing the carrot seed of moisture and plant food. How foolish I was! But this was before I had The R. N.-Y. with articles from experienced writers on soil and soil moisture, etc.

My best crops in field culture, have been on clover sod plowed in the fall; but I don't always have that. My plot last season was a mixed Timothy and Blue-grass sod—the clover had all run out—plowed in May. It should have been plowed earlier. The smoothing harrow and roller were used as often as time would permit. We expected rain, but it didn't rain. I usually sow about Decoration Day, but waited until June 8, then shoved the "dust-mulch" off with a two-horse corn marker, set at 31 inches, marking three rows at a time. Ashes were flung in these marks at the rate of a scooped handful to three paces, followed by the New Model hand drill which sowed the seed, and worked the ashes in somewhat, at the same time. The New Model is well adapted to stony ground or rough usage. I began this marking late in the afternoon to avoid drying out. The next morning before the dew was off, all was in apple-pie order.

Carrots don't come up as quickly as most garden seeds; but, unaided by rain, to my surprise, they were pushing their way above ground in five days. The stand was all that could be desired. The first operation in cultivation was to turn the ridge, left by the marker, away from the drill. The Iron Age cultivator with one side-hoe set like a plow, and two ordinary teeth to steady it, was used going up on one side of the row and down the other. We hand-weeded once at an expense of $4 per acre, when from four to six inches high. At this time, I use both side-hoes always throwing the soil away from the plants. A board fastened behind the cultivator leaves everything level and fine.

I always order seed early, and never depend on what may be had at the village store. The Chantenay is my favorite variety; it is stump-rooted, much like the Oxheart, only finer grained, and not so likely to crack open while growing. Unlike the long sorts, it requires no thinning, and will produce a crop of about the same size throughout. The tops are light, yet strong enough to pull by if the ground is moist from rain, as it usually is in late October. I have discarded the long varieties, because so expensive to dig, and hard to top; I don't like to use a knife. I grow a few long ones, however, for the fair.

My boy, at the age of six years, helped me pull a crop, pulling one row while I pulled two. We lay them in bunches, two or four rows together, draw them into the root cellar, or slide them down a chute through a window, tops and all. They are topped on stormy days, evenings, and by the children. The necks are so light that they are snapped off as one would break a stick of candy. The children get from one to two cents per bushel crate for topping.

They are fed to all farm animals, poultry included. In the fall, we feed them to horses and cows with the tops on. Cattle can eat them handier if cut; horses and colts take them whole. Six hundred bushels is a fair crop per acre, in field culture. The Chantenay yielded at the rate of 700 bushels on rich bottom land, sown June 27, with garden culture. Crimson clover sown among carrots, August 20, and worked in with a board scraper on the cultivator, came well, but made no growth, as we had only one rain in six weeks following August. W. BENTZIEN.

Steuben County, N. Y.

EARLY-SOWN RYE A FAILURE.

Nearly all writers recommend sowing rye early. I favor early sowing where it succeeds, but my experience impels me to be cautious about recommending the practice. Success depends entirely upon the condition of the weather. It is often recommended to sow in corn at the last plowing. I did it once, and lost the seed and labor. A neighbor last summer tried it with the same result. The rye that survived till the corn was up, perished soon after the shade of the corn was taken from it.

Last year I sowed about the middle of July by drilling it in the standing corn; it was nearly a total failure. What withstood the drought and corn cutting, perished when re-seeding was done with the drill. Of all small grains, rye is the easiest destroyed by working over it with a harrow or other tools in the fall season; especially is this true if the weather is dry. Several years ago, I plowed a field of wheat stubble in July, put the land in the finest order, and sowed a heavy seeding of rye the first week in August. I had great expectations for the amount of fall and winter pasture I would get, but was disappointed; the rye came up well, but on account of the dry weather, made a poor growth. What appeared strange, it rusted badly before cold weather came on, so badly that, in walking over the field, one's shoes would be colored.

This year, August 9, I sowed a potato patch of three-fourths acre to rye, and secured a fair stand; but during the extremely dry weather, it made very little growth, and was badly injured by the rust. Two years ago we sowed in corn the first of August, at the rate of two bushels per acre; after the corn was all cut we sowed it over with the exception of about one-quarter of an acre, and this would better have been reseeded. These are my experiences with early sowing, without a single success. I have about concluded to take no risks in this direction in the future. These hard times, double sowing costs too much.

Ross County, Ohio. JOHN M. JAMISON.

COAL TAR FOR A TIN ROOF.

THE QUESTION.

How would coal tar answer in the place of red paint for painting a tin roof? H. B. T., Beverley, W. Va., R. N.-Y., page 20.

THE ANSWERS.

Move North or Stick to Red Paint.

If H. B. T. will move about 1,000 miles further North, coal tar might do for his tin roof. The temperature of such a roof in his latitude, is often in the neighborhood of 150 degrees and over during summer. The smell would not let him forget the nature of the covering, and he might utterly ruin his Sunday-go-to-meeting suit by having some of it drip on him on such a day. The dark color of the tar would greatly intensify the heat under the roof. Unless he is inclined to be wicked, and needs the heat and smell as a constant warning, he would do better to stick to red paint instead of having black tar sticking to him.

Virginia. J. C. S.

Various Values for Coal Tar.

Coal tar makes a good, cheap paint for tin roofs with two objections: 1, It is liable to contaminate rain water used for domestic purposes, as for watering stock. 2. Black absorbs heat, causing undue expansion of the metal. But it will protect from rust as well as any paint that can be used, and may be used to advantage on all iron exposed to the weather. I always use it on smoke stacks, sheet iron chimneys, and such work.

Coal tar is also a valuable wood preservative, and an excellent paint for fence posts, and all rough wood work. The ends of the posts to be set in the ground should be thoroughly saturated. A mixture of equal parts of coal tar and kerosene oil or crude petroleum, will give the best results. The posts should be thoroughly seasoned and dry. Stand them in an oil barrel and soak in the tar and oil 24 to 36 hours. When taken out and allowed to drip a short time, spread with a brush on the unpainted surface, any surplus adhering to the post. When dry, give a coat of clear tar. After setting, paint the entire post, and once a year thereafter with clear tar. Good sound cedar, chestnut, or butternut posts treated in this way will last as long as any one man can live to keep them painted. Coal tar will not flow freely in cold weather; in warm sunshine it works all right, or in a warm room; it is not desirable to heat it, as it makes it gummy after a little; but if it must be heated to use in cold weather, it should be done with hot water in a dish like a glue pot. A brush may be left in or out of the tar for six months or a year, and be ready to use in 10 minutes after it is placed in fresh tar. G. S.

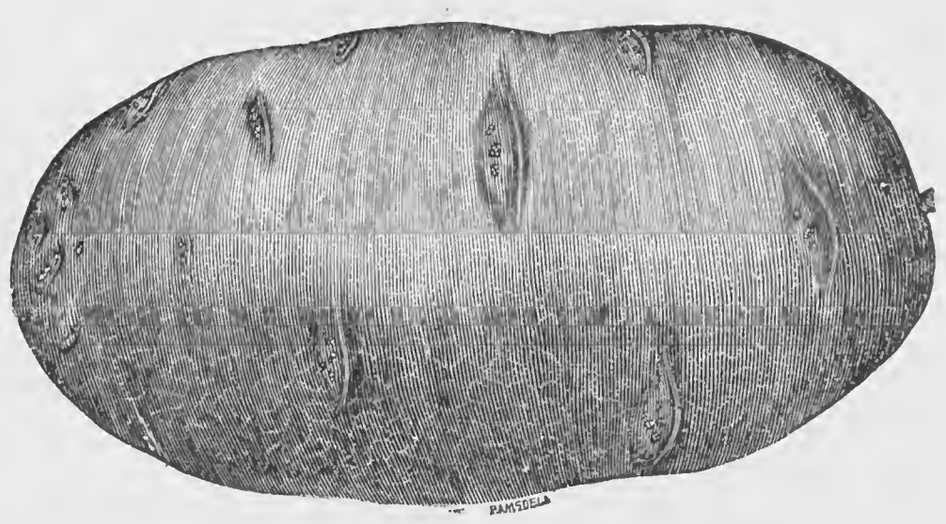
Summit Station, N. Y.

Coal tar is used extensively on ships for painting chain cables, chain plates, etc. During the war, when the prices of paints were high, it was used to some extent for painting ships' sides. But it is not good to paint wood, as it blisters and makes the wood punky. There are several grades; British luster is best. One will need a long-handled brush made for the purpose, as an ordinary brush is not fit; the tar would not spread, as it would fill the bristles.

Marshfield Hills, Mass. G. A. D.

SOWING FLOWER SEEDS.

There is a great deal of interest in watching the growth of seedlings, and the one who has room for a few pots or small boxes, will find pleasure in sowing a few seeds of flowering plants for the purpose of stocking the flower beds in spring. This work should be got in hand by the time February is here. Petunias, phlox, verbenas, nasturtiums, asters, lobelias, marigolds, zinnias, alyssum and many other sorts may be started in this way. Soil for seeds should be light, always. It is not that the plants to be raised prefer it—they may or may not do this—but when heavy soil is used instead of light, it becomes hard in time, preventing the seeds from pushing their way through it readily.



THE MONEY MAKER POTATO. FIG. 30. (SEE CATALOGUE REVIEWS, PAGE 71.)

If the conveniences permit of the use of a box, a shallow one to fit the table or stand should be procured. It need be no more than three to four inches deep. As its use will be but temporary, there will be no need to have holes in the bottom to let out water; indeed seeds do not require such copious watering that there would be water to run from the box. To have the light soil spoken of, procure any good garden soil, mixing a little sand and well-rotted manure with it. Fine seeds require fine soil, and it may be necessary to sieve it to get it fine enough for the top layer. It is best to have it tolerably fine all through the mass, for the seeds are better covered then, and it is easier to transplant the seedlings when this becomes necessary.

Very fine seeds require but little more covering than they would get if pressed in the soil with a flat piece of wood. It is a pretty safe rule to cover them to about their own depth. Thus while the fine seeds of the petunia and lobelia would do if but pressed into the soil, the nasturtium and sweet pea would need a covering of about one-eighth of an inch. Seeds, wherever they are, are the better for being in the dark, and this applies with more force to those in a dwelling room than elsewhere, because with darkness there is less evaporation and the drying out so rapidly of the soil, is one of the drawbacks of gardening in rooms. The boxes could, therefore, be placed in any dark place for a little while until the seeds show signs of sprouting. The aim should be to keep the soil moist enough so that the seeds will germinate without having to water it. This is sometimes effected by placing a sheet of paper on the soil, and on the paper a layer of damp moss. As soon as the seeds sprout, take the covering off, and bring the boxes to the light.

When the plants are an inch or two high, they should be transplanted to other boxes, setting them far enough apart to allow of their growing large enough that they may be transplanted with little balls of earth to the flower garden when the time comes. JOSEPH MEEHAN.

Pennsylvania.

BLASTING STUMPS WITH DYNAMITE.

"Do you think that it pays to dynamite stumps?" I asked a man who had done considerable of that work lately.

"I don't know," was the reply; "but I can give you a few figures, and you can judge for yourself. I dynamited about three acres of my own last spring, and did it so economically that my services were in demand by several other stump-ridden farmers. But as to the question of paying, I hardly think that it would pay to spend money for dynamiting green stumps, especially of maple and gum. If they are allowed to remain in the ground two or three years after cutting dynamite will lift them out nicely; the seasons make the roots more brash, and the power of the explosive finds less resistance. Another consideration that enters into the question of paying, is the value of the ground to be cleared. It wouldn't pay to blast stumps in pasture land, but land that will produce good, paying crops, I think could be improved by blasting at a figure that will bring good returns."

"What was your experience with the three acres you mentioned?"

"I blew out over 100 stumps with a case and a half of blasting powder. There are two or three grades of this powder. The best, marked 40 degrees N. G., comes at $9.50 per case of 50 pounds; the next grade at $7.50, with the per cent of N. G. a little lower. I used the weaker on old stumps that were badly rotted; the other on solid stumps. The best fuse costs 60 cents per 100 feet, and caps 90 cents per 100. I blew out stumps, hard and solid, that were 2½ to 3 feet through, with three sticks, or 1½ pound of the stuff."

"How is it handled for blasting?"

"When the ground is soft in the winter or spring, drive a piece of two-inch tubing about four feet long, under the stump to about the center; a long auger of the same size will be handy if a root is struck with the tubing before it reaches the center of the stump. If you can get the hole partly through the center root, if there be one, so much the better. You then fix a piece of fuse long enough to reach to the bottom of the hole, to the cap. Be careful how you handle the cap; it is always dangerous to fool with, and if it goes off, will blow your fingers off. Then you punch a hole in the cartridge with a wooden stick, deep enough to cover the cap. You then let down your charge to the bottom of the hole, tamp up with dirt, mud or any other substance, light the fuse, and take a run for your health. I've seen a pound of the stuff throw half of a stump that would weigh 300 or 400 pounds, more than 100 yards. A little practice will enable anybody to blast, and as he gets experience, he will understand how to adapt the charge to the size, solidity and position of the stump." J. D.

Ohio.

LET THE FARMER PAY MILK RATES.

With reference to the hearing before the Inter-State Commerce Commission as to milk rates, permit me to add some practical evidence of the value of a system of rate paying by the farmer instead of by the milk dealer. Some years ago, I was sending milk daily to a dealer. By agreement, he paid me a price equal to that paid by dealers for milk received from the Erie and the Harlem Railroads. The freight at that time on those two roads was 45 cents per 40-quart can. The farmers on those roads were paid a net price without reference to freight, so that if the farmer received 2½ cents per quart, the cost to the dealer was 2½ cents plus the freight of 1⅛ cent, or 3⅝ cents per quart. This was the sum I was to receive, and pay my own freight. I was shipping over the Pennsylvania Railroad from a station south of New Brunswick, N. J. The rates on that road were all graded according to distance, varying from 15 cents per can to 30 cents, which I think was the highest, none coming from south of Trenton. My freight was 25 cents per can of 40 quarts. I thus received a price of 3⅝ cents minus five-eighth cent for freight, or a net price of three cents per quart. This was one-half cent per quart better than Erie or Harlem shippers were receiving for the same distance, and cost the dealer no more than he would have paid

had he obtained his milk from either of these roads.

When the Inter-State Commerce Commission of that day began their crusade on behalf of the farmer, my cinch was gone. Erie and Harlem put their rate to 30 cents, within five cents per can of my freight rate. I interviewed my man at once. The subject matter of the conference was the propriety of a division between us of the changed condition rates, in a re-adjustment of prices.

"Not by a long shot!" was his emphatic reply. "Them farmers have been kicking until they have got the rates off 15 cents, but do you suppose that they are going to get any of it? Not much! They will get just the same price—no more—and will be lucky if they get that, and the 15 cents reduction in freights the dealers will jam down in their own pockets. If you will take 3¼ cents for your milk, and pay your own freight as heretofore, all right. If you don't want to do this, good morning. I shall buy from the Harlem or Erie people hereafter."

Of course, I had to "knuckle," and thereafter obtained 2⅝ cents net, instead of three cents as formerly. Here was a direct evidence of the value of the agitation by the farmers.

I saw a Harlem milk farmer not long after, and inquired how the new rates were affecting him. "Affecting us? We are not getting a cent more than we were, and I hear now that, as freight rates have been put down for us, the milk dealers are talking of paying us less for our milk." I believe that it was a fact that a little later on, the farmers were obliged to take less, all on account of the good work they had started in diminishing freight rates.

Had the custom and practice been for farmers to pay their own freights, the lessened rate of 15 cents per can would undoubtedly have been to their benefit; but so long as the dealer handled the freights exclusively, he could readily manipulate the changes to suit himself. That the shipper should pay his own freights in milk as in other goods, is apparent enough in the determination of Western farmers to keep rates low. Let the rates go up, and the Western producer at once feels it. He has to pay more to get his goods to seaboard and, of course, receives a net lower price at home. But let rates go down, and at once he obtains a better price for his produce. This is well enough known all over the West, in fact everywhere apparently, excepting among those who conduct the milk-producing business about New York. A. T. T.

RHUBARB FOR THE FARM.

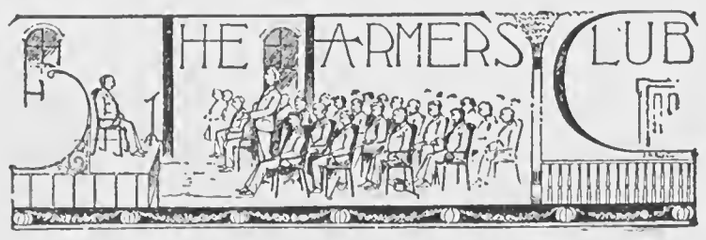
Farmers are frequently condemned by town and village residents, including editors, because they do not have good vegetable gardens. These people do not see the difficulties which the farmer has to overcome. A man who has seen the precious days of seed time slip by with his men and teams idle because of bad weather, can be pardoned if he dislikes to break into a good day to "make garden." Neither can a man who strains every muscle to make the best possible use of good weather to crowd on his work in the field, be expected to turn to garden making as a recreation for his evening hours.

There are some vegetables, however, whose cultural requisites are such that the farmer can meet them easily and without interfering with the regular work of the farm. One of these is rhubarb. A plant or two is usually found about the farm house, but in such a condition as to be of little use, its product being very different from the rich and tender stems which, in many forms, might add to the variety on the farmer's table. The plant is a hearty feeder, and needs a deep, rich soil. The spring crop is really made the previous autumn, and it is then that it needs care, and, with the exception of the first year, it needs no attention that the women cannot easily give at any other season.

To have good rhubarb, one should provide a place not less than five feet in diameter for each plant, where water will not stand in the spring, and which will not be shaded or sapped by neighboring trees. This should be made as mellow and rich as thorough spading and manure can make it, to the depth of, at least, 18 inches, and 30 would be better, an abundance of manure being well mixed with the soil to the very bottom of the bed. Set the plant, and protect it from weeds until it has gained size and strength enough to protect itself. Break out any flowering stems that may appear as soon as they can be seen, and do not be tempted into using any of the leaves the first year. On the first of August, give a dressing, at least four inches deep, of well-rotted manure. Spade it in well, and soak the bed with water—a half barrelful to a plant will not be too much. As soon as the ground will do to work, spade it over again, and the cultivation is finished.

The next year the plant will furnish an abundance of leaves. These should be snapped off by a sharp pull outward and downwards, so as to separate them at the base without disturbing the bud. Cutting instead of pulling is undesirable, as it leads to great loss of sap and consequent weakening of the plant. The leaves may be taken freely, only taking care to leave as many as six healthy, vigorous ones on the plant, and not to continue the pulling later than August 1, so that the plant may have a chance to gain strength to make the next season's crop. At the close of the season of use, give a heavy dressing of manure, spade in, soak with water, and respade. Treated in this way, a plant will continue productive for five to eight years, after which it should be replaced by a fresh one.

There are several varieties of rhubarb, varying somewhat in character. The Linnæus is very thin-skinned, and of fine color and flavor. The St. Martins is a new English sort having a distinct and spicy flavor. The Victoria has very large, broad leaf stalks, and is very productive, but not thin-skinned or particularly well flavored. WILL W. TRACY.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Churning the Whole Milk.

W. L. F., Orsburn, Colo.—If I churn the whole milk from 10 or more cows, would I obtain as good results as I would by using a separator?

ANS.—The question may be answered briefly, that in all probability, less butter would be obtained from churning the whole milk. The amount of fat left in the buttermilk depends in general upon the richness of the cream and the temperature at which it is churned. The richer the cream in fat, and the lower the temperature, the more complete the churning. Milk having a good deal less fat in it than even thin cream, is, of course, churned with more difficulty, and less completely. If skim-milk and buttermilk both contained the same percentage of fat, it would make no difference so far as loss of fat is concerned, whether the cream or whole milk were churned. It is only with the greatest skill and under the best conditions, that the percentage of fat in buttermilk falls any where near as low as the percentage of fat in separator skim-milk. For this reason, then, it is usually a profitable practice to separate the skim-milk from the cream before churning. H. H. WING.

Grafting German Prune on Plums.

C. A. G., Lyons, N. Y.—I have 150 plum trees, five years old, but plums are so cheap that they hardly pay for picking. I intend to graft them to German prunes. Will they grow and do well on plums? I intend to plant 100 more trees next spring. Which is the more profitable, the German prune or the Japan plums?

ANS.—C. A. G. does not say whether his 150 trees are of American or European type; this would make much difference as to grafting German Prune on them. If American, I would advise him not to do it; but if European, the grafts will unite well. As to the 100 trees which he expects to set next spring, I would set 40 Burbank, 40 Abundance, 10 Satsuma and 10 Kerr or Georgeson (all are good yellow kinds). I think that the Japanese kinds deserve planting quite largely. H. E. V. D.

When Pears Will Bear.

D. H. G., Greenfield, Ind.—In how many years after planting will each of the following varieties of pears begin to bear: Bartlett, Clapp's Favorite, Anjou, Lawrence, Lincoln Coreless and Koonce?

ANS.—If dwarf varieties, three years. If standards, five to six years except Lincoln and Koonce. We cannot answer definitely as to these.

Can We Starve the White Grubs?

D. H., Rochelle, Ill.—Can the larva of the May beetle be killed (starved to death) by turning under a meadow and thoroughly cultivating through the spring and summer, not growing any crop?

ANSWERED BY M. V. SLINGERLAND.

So far as we know, there has been recorded but one series of definite experiments to test the practicability of "starving out" White Grubs. In 1891, Prof. Perkins, of the Vermont Experiment Station, carried on a series of such experiments, all giving practically the same results. He found that, in no case, were White Grubs starved that he confined for weeks, and in some cases for months, in sand much more free from organic matter than the soil in any field used for growing crops. White Grubs of all ages were used in the tests, and the result convinced him that "it is quite useless to attempt any serious injury to the grubs by letting land lie fallow, or that there is any feasible way of starving them." Thus we very much doubt whether D. H. would materially lessen, by starvation, the number in his field by the method he indicates; at least, the benefit would be very small compared with the loss of the land for a season.

Meadow lands infested with White Grubs, should be plowed and thoroughly cultivated in the fall, then planted to some crop that requires thorough cultivation the next season. The fall cultivation will destroy many of the insects which are then in a very tender stage in little earthen cells in the ground; and the thorough and frequent cultivation of the following crop will soon discourage the grubs. Even though the land be not plowed until spring, I would advise growing some cultivatable crop on it. You can protect some of the plants from their ravages, and thus not lose the use of the land entirely. A short rotation of crops, never letting meadow lands lie more than two years in succession, is the best discourager of White Grubs of which I know.

Wood Ashes and Leather Scraps.

H. J., South Sandisfield, Mass.—Are wood ashes of black birch from the wintergreen mill, at 15 cents per bushel, a cheap source of potash if to be drawn five miles? What use can I make of apple pomace to be had at, probably, 25 cents a load? Of what value are leather scraps to be drawn four miles? How shall I treat them?

ANS.—If we had the weight of a bushel of these ashes, we could tell better, as we could get an idea of the amount of water they contain. If they are dry and have been kept under cover, that is a fair price for them. Apple pomace has but little fertilizing value. We would use it on grass or grain, scattering it like manure from the wagon. Don't haul any leather scraps four miles. They will be of little or no value as plant food in your generation. There is no satisfactory home treatment you can give them.

Potash With Manure and Fish.

F. H. L., Northampton, Mass.—What is a sufficient amount of potash in the form of salts to use on an acre of corn fertilized with barnyard manure, or with pure dried fish?

ANS.—Briefly stated, our advice would be to use muriate of potash and add 30 pounds to each ton of average manure, and 500 to each ton of pure dried fish. We would also add 25 pounds of bone to each ton of manure, and would not use dried fish and potash alone on potatoes, unless the fish can be bought very cheap.

How to Prevent Bursting Cabbages.

D. P., Waseca, Minn.—How can cabbages be prevented from bursting? Mine grew very large last summer, and fully one-half burst before they were ripe.

ANS.—Bursting of the heads will often follow a sudden stimulation of the plants after a period of relatively slow growth; e. g., stirring the soil while the heads are forming, after a period of neglect; or a heavy rain after a long drought. One preventive is to give frequent but shallow cultivation, and keep the plants growing as uniformly as possible. If the heads are completely formed before the close of the growing season, partially pulling the roots from the ground will check the growth. This may be done rapidly and easily by means of a potato hook, pulling the cabbages over to one side, thus loosening the roots on one side.

Grapes in Cold Storage.

H. D., Tryon, N. C.—How are grapes kept in cold storage? Are the grapes put in baskets before putting them in the cold storage room? Are they thoroughly ripe when picked for this purpose? What temperature must be maintained to insure their keeping? How long can Niagara grapes be kept in cold storage? Is it necessary to have air circulation in the storage room?

ANS.—Any good building in which the temperature can be held even at about 35 degrees, with ventilation as may be required, this to be determined by noting how the fruit is keeping, will be found available for grapes. No positive rules can be laid down. A cooling room in which the fruit can be first cooled, is a necessity; if placed directly in cold storage, the temperature will be found to be raised rapidly by placing a quantity of warm fruit in the room. As even a temperature as possible, is much the best. Grapes should not be packed in baskets for shipping before being stored. They should be ripe, as grapes do not mature after picking. Niagara or any other variety, can be held only for a limited time, some varieties longer than others. G. C. SNOW.

Horse-radish for Market.

W. A. W., Cayuga County, N. Y.—Will you tell about the preparation of horse-radish roots for market? How small roots are used? How are they packed for shipment? Can it be raised successfully on muck that will grow good celery? What is an average yield per acre?

ANS.—The roots are washed clean and packed in barrels. No small or very prongy roots should be put in; three-quarters of a pound is a good weight. Around New York, the market gardeners always grow it as a second crop, and use the small rootlets for planting. It should grow well on the land mentioned. Market gardeners in this vicinity on rich land, grow as much as 10,000 pounds per acre, but this is much beyond the average. The horse-radish market has been much overdone during recent years, though the roots are now selling at a good price.

Catalogue Reviews

J. M. THORBURN & Co., 15 John Street, New York.—The ninety-third annual catalogue issued by this firm, representing, probably, one of the largest collections of seeds in the world. This firm are the introducers of the potatoes Carman No. 1 and Carman No. 3, which they claim are respectively the best second-early and the best late variety ever grown, and we have no reason for disputing the claims. They are now offered at popular prices, and THE R. N.-Y. hopes that every one of its readers that raises potatoes, will at least plant a trial quantity and report to us the result whether favorable or unfavorable to the high claims made.

The new muskmelon, Long Island Beauty, of the old Hackensack type, is, we believe from our trials of it, the very best of its class. We may also recommend the three recent novelties among peas, Duke of York, Queen and Station. Among new tomatoes, are the "Thorburn New York," Waldorf, Autocrat and Democrat, the last two of which originated at the Rural Grounds. The new radish, Round Scarlet China, matures, it is said, in from six to eight weeks, valuable as a winter as well as a summer variety.

Among other varieties, we would call especial attention to the Walker Improved Exhibition onion, the Thorburn Valentine Wax bean, Marvel of Paris bean, Black Queen beet, Melrose sweet corn, as early as the Cory with much larger ears, seven different new Chinese vegetables; the Golden Queen Datura.

This firm offers the largest collection of seeds for hardy trees and shrubs and vines of any firm in America. They offer the incomparable Reddick Moletrap, thoroughly tried at the Rural Grounds, for $1 each.

Rosa multiflora nana, see Fig. 27, seems to be a novelty of curious and special merit. The plant blooms the first season from seed sown in the open ground. If started in frames or in boxes indoors, and transplanted as we would asters, the plants, we are told, will be in full bloom in July, continuing to bloom in great profusion until late fall. The flowers are of perfect form and produced in every color of other roses. The plants grow only about 15 inches high.

W. ATLEE BURPEE & Co., Philadelphia, Pa.—Some of our readers may remember our reference to a remarkable dwarf sweet pea made in these columns nearly two years ago. It is now offered by this firm. It is considered the floral wonder of the age. The plants grow but five inches high. The flowers are pure white in color, and as fragrant as any other pea. It will be prized either as a pot plant for the house, or a border plant in the garden, as it will stand trimming to the desired shape and compactness. Cupid received the highest honor given by the Royal Horticultural Society of London, in 1895, and a first-class certificate as a distinct novelty of surpassing merit, by the National Horticultural Society of Paris, last July. It appears that Cupid was discovered by Mr. C. C. Morse, in 1893, and Burpee & Co. now control the entire stock. It is said to come absolutely true from seed which are offered for the reasonable price of 25 cents per packet. Our cut—Fig. 28—was drawn from nature. This catalogue of nearly 200 pages, is divided in this way: Over 50 pages to novelties and specialties; 63 to vegetables, potatoes, etc.; 10 to corn, oats, grasses, clovers, fertilizers, thoroughbred poultry, and the rest to flower seeds, bulbs, roses, etc. Mr. Burpee offers seeds of the true Saghalin at 10 cents per packet, but condemns it now, as last year, as comparatively worthless as a forage plant.

GEORGE W. P. JERRARD Co., Caribou, Maine.—A catalogue (52 pages) which, while making potatoes a main specialty, offers sub-specialties in the way of select kinds of oats, peas, sweet corn, beans, beets, onions, squashes, pumpkins, cucumbers, cabbages, muskmelons, etc.

The two leading new potatoes are the Somerset and Country Gentleman. The latter resembles the Beauty of Hebron except that the coloring is more marked, giving the skin a mottling of buff and rose. It is rather late as to maturing, the eyes are shallow. It is said to be a large yielder. It is claimed that the Somerset is not only a great yielder, but the tubers "grow to a very large size"

(*Continued on next page.*)

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Allow your blood to get impure and your system all run down, because in such a condition you will be in danger of pneumonia and grip. Take

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The One True Blood Purifier. All druggists, $1.

Hood's Pills cure Liver Ills; easy to take, easy to operate. 25c.

450,000 TREES

200 varieties. Also Grapes, Small Fruits, etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price list free. LEWIS ROESCH, Fredonia, N. Y.

Choice Peach Trees a specialty by the 100, or 1,000, or in car lots. Send for prices. R. S. JOHNSTON, Box 4, Stockley, Del.

STRAWBERRY PLANTS THAT GROW.

I have a large stock for spring of 1896, including the standard sorts; also many of the later introductions, such as Brandywine, Bisel, Eleanor, Clyde, Splendid, Satisfaction, Wm. Belt, etc. My prices are right. Send for list.
C. E. WHITTEN'S NURSERY, Bridgman, Mich.

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STRAWBERRIES.

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WHITE IMPERIAL excels all others in quality for a fine table currant.

PRESIDENT WILDER combines qualities that make it the most valuable market and table Red Currant that has been put upon the market. For prices apply to

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Pear, Apple, Plum
Cherry and Peach Trees

We have a large block growing on rented land. The lease expires this spring. The stock must be sold without regard to cost of raising. Have fixed the lowest prices ever quoted. THE TREES ARE FINE. This is, no doubt, the best opportunity offered planters during the past 25 years. WHITING NURSERY CO., Roxbury, Mass. Nurseries at Geneva, N. Y.

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TATGE
The Best.
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Most Beautiful.
Send for Catalogue.
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In one night 20 feet long! That was a miracle! But Salzer's Sand Vetch, the coming hay plant, grew 10 inches in seven days on fine, dry soil, without a drop of moisture. That's something for drought tried soil; so is Giant Spurry, Teosinte and lots of things you'll find in our catalogue.

If you will cut this out and send it with 10 cents postage to the John A. Salzer Seed Co., La Crosse, Wis., you will receive their mammoth catalogue and 10 packages grasses and grains, including Sand Vetch, free.—*Adv.*

The BEST SEEDS that GROW are from Philadelphia— **BURPEE'S**
A handsome New BOOK of 184 pages (price 10 cents) mailed FREE to planters who intend to purchase.

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Your Name AND **ADDRESS**
Plainly written on a postal card and addressed to W. F. ALLEN, JR., SALISBURY, MD., will bring you free of charge his 32-page Illustrated Strawberry Catalogue, containing several original wood engravings, and honest descriptions of over 60 varieties (largest and best Strawberry Catalogue published); also sample copy of *The Strawberry Culturist*.
SEND NOW! If you grow strawberries, you can't afford to be without it.

100 BRANDYWINE BY MAIL FOR 75 ¢ — SEND FOR MY CATALOGUE — T. C. KEVITT ATHENIA N. J.

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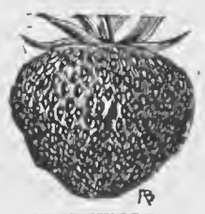

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WITHIN REACH OF ALL are the prices on ROGERS' FRESH-DUG DANSVILLE TREES. It's easy to see the reason why. Orders filled direct from the nursery row, trees not heeled in over winter. No loss of stock; no loss to customers. How few nurserymen can say this; yet how much better 'tis, *you know*. Our little book for business buyers (*free*) tells about our trees, and *how we know they are true to name*. Our "Bargain Counter" will interest you. Dansville is 40 miles from Rochester.
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We offer many new and valuable Trees and Small Fruits for Spring planting, among them The Alice Grape, hardiest, keeps all winter. Walter Pease Apple, finest desert Apple. Bourgeat Quince and others. Our catalogue of Hardy Northern grown stock sent free; or with color plate and coupon good for 50 cents on orders, for 2c. stamp. FRED. E. YOUNG, NURSERYMAN, Rochester, N. Y.

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...THE ONLY
NEW DOUBLE SWEET PEA, Bride of Niagara,
True to name. Price—Packet 25 cents, half packet 15 cents.
The Wonderful CRIMSON RAMBLER ROSE, only 15 cents.
Mixed Varieties, per pound 40 cents.
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Lithographs of Double Sweet Pea, Roses, Fuchsias, Blackberries, Raspberries, New Leader Tomato, Vegetables. Filled with good things, old and new. Presswork on Novelty Pages, entirely new idea—a real work of art. Full list of Flowers, Vegetables, Small Fruits, etc., with description and prices. Mailed on receipt of .Jc., which may be deducted from first order—really free,—or free with an order for any of the above.
TRIED AND TRUE NOVELTIES
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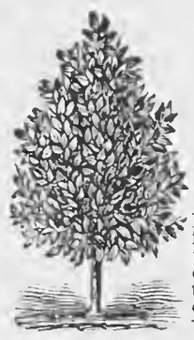

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100,000 Nut Bearing Trees,
2,000,000 Small Fruits and Grapes.
750,000 Roses, Everblooming and Hardy.
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Full supply Flower and Vegetable Seeds, Plants, Bulbs, etc. Elegant 168 page catalogue free. Send for it before buying. Everything mail size postpaid. Larger by express or freight. Safe arrival and satisfaction guaranteed. We occupy 1½ miles on the bank of Lake Erie. No hardier, healthier trees are grown on the continent. Why not procure the best direct from the grower and avoid all commissions. It will save you money.
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THE STORRS & HARRISON CO., Painesville, O. Box 216

CATALOGUE REVIEWS.

(CONTINUED.)

of almost faultless form, as shown in its portrait. The color is bright red, eyes nearly even with the skin, quality of the best. It is elaimed that the Early Harvest is earlier than any other potato, of fine quality and a large yielder.

In the way of bean novelties Wilson's Yellow Eye Pea bean is offered as combining the fine texture of the small pea bean, with the fine flavor of the old Yellow Eye. It is regarded as not only one of the best all-purpose market kinds, but exeellent as a string bean, so that growers will have little oeeasion to bother with varieties to use green merely. See Fig. 29.

EDWARD F. DIBBLE SEED CO., Honeoye Falls, N. Y.—This firm had under enltivation last year, about 700 aeres of potatoes—that is, a bloek of potatoes about four miles around it. All of the old standard and promising new kinds (207 varieties) were tried side by side under as nearly the same eonditions as eonld be given. The new Honeoye Rose gave a yield of 8,000 bushels upon 24 aeres. It is elaimed that it is as early as the Early Rose, and better in every way. The new late potato, "Rose No. 9," averaged last year 550 bushels per aere. A prize of $50 is offered for a name. The Carman No. 3 yielded 630 bushels per aere "of as choiee, handsome stoek as we ever saw." The new Peerless Junior (a seeond early) gave a yield of 400 bushels per acre, "the tubers all so large that no sorting or eulling was neeessary." The new Money Maker, it is elaimed, is the "most produetive potato in America." It is a late sort, "absolutely blight, drought and rot proof." See Fig. 30.

This firm offers small colleetions of what it deems the most valuable new kinds. For instanee, one pound eaeh of Peerless Jr., Carman Nos. 1 and 3, for 60 eents. Again, one pound eaeh of the following (five pounds in all) is offered for $1, viz., Honeoye Rose, Rose No. 9, Peerless Jr., Money Maker and Carman No. 1. These colleetions give all, who so desire, an opportunity to test the new kinds at a moderate eost. The standard varieties are offered in the same way. For instanee, a colleetion of one pound eaeh of 10 different kinds is offered for $1. Attention is also ealled to the new variety of oats named Jobes' Mortgage Lifter, weighing 50 pounds to the bushel, and to the Mammoth Yellow Flint eorn.

W. F. ALLEN JR., Salisbury, Md.—A descriptive catalogue of strawberries and of strawberries only—69 varieties in all. It seems to us that the deseriptions are as trustworthy as any we have ever seen, and that, regardless of his own stock, Mr. Allen strives to help the would-be purehaser to the best seleetion possible, instead of muddling him with indiscriminate praise of all. The Glen Mary, of whieh we gave a report last season, is given the plaee of honor as to size. The past season, he pieked on a quarter of an aere, 320 quarts at a single pieking, and over 3,000 quarts during the entire season. The Enormous, Mr. Allen does not hesitate to recommend as one of the best berries ever put on the market. It yielded at the rate of 1,000 quarts per aere at a single pieking, on soil of but moderate fertility. The Brandywine, first deseribed by THE R. N.-Y., is regarded as a variety without a defeet. Rio is praised, as we were the first to deseribe it, as one of the best of the first earlies. Timbrell is unqualifiedly eondemned. THE R. N.-Y. was also the first to deseribe this to its readers, as among the best varieties for home use that has ever been originated — a differenee of opinion in whieh many join against THE R. N.-Y.

ALFRED BRIDGEMAN, 37 East 19th St., New York.—Seventy-seeond annual eatalogue of farm and garden seeds of all kinds. It is notable for its plain, large print, its simple illustrations, and utter absenee of anything sensational. Besides the lists of farm, garden and flower seeds, the eatalogue offers grape vines, small fruits, hardy shrubs and vines.

C. N. FLANSBURGH, Leslie, Mieh.—A pamphlet of the leading kinds of strawberries and several of the newer raspberries, Gault, Miller Red, Conrath and Kansas. The priees for strawberry plants range from 20 to 50 cents per dozen and from 35 cents to $1 per 100.

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Largest growers of POTATOES for Seed in America. The "Rural New-Yorker" gives Salzer's Early Wisconsin a yield of 736 bushels per acre. Prices dirt cheap. Our great Seed Book, 148 pages and sample 14-Day Radish for 6c. postage. JOHN A. SALZER SEED CO., LaCrosse, Wis.

SEED POTATOES AND SMALL FRUITS. Some Wonderful Varieties. Fortunes in them! Send postal for FREE Catalogue NOW. D. H. GOBLE, Greenfield, Ind.

Carman No. 1 Potatoes—(Thorburn Seed). $1 per bushel of 60 pounds; 150 pounds to the barrel. Orders booked now Shipments made at any designated dates. J M. MEREDITH, Calcium P. O., Berks Co., Pa.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

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SEED POTATOES.
Catalogue FREE. | Prices Reduced to suit the times. | AGENTS WANTED.
HOOKER, GROVER & CO., Nurserymen and Seedsmen, Rochester. N. Y.

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are always the best—100 varieties. EARLY MICHIGAN and CARMAN No. 3, two best varieties. Fifty-one barrels of above varieties, free. Hammond's Corrosive Compound will prevent potato scab. Choice sorts, $1.50 per barrel. Catalogue and new book, Potato Culture in a Nutshell, both free. Read them before ordering or planting seeds. Address HARRY N. HAMMOND, Seedsman, Decatur, Mich.

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Took First Premium last fall at Ills., Wis. and Mich. State Fairs. A tremendous stock. A good year to obtain Choice Seed of Improved Varieties. Prices Low, for this reason most people will not plant many potatoes. Now is the time for you to plant. Illustrated catalogue of field and garden seeds Free. L. L. OLDS, Clinton, Rock Co., Wis.

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Millions of them, best varieties; also Trees, Farm Seed, Potatoes, Etc. Catalogue Free.
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50 CENTS WORTH OF SEEDS FOR 10c.
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Ask for them—get them, plant them. They are the standard seeds everywhere; sown by the largest planters in the world. Whether you plant 50 square feet of ground or 50 acres, you should have Ferry's Seed Annual for '96. The most valuable book for farmers and gardeners ever given away. Mailed free.
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Maule's Seeds
LEAD ALL.
If you wish to purchase the coming spring, Garden, Field or Flower Seeds, Small Fruits, Fruit Trees, Flowering Plants, Bulbs, etc., etc., and wish the most complete American Seed Catalogue, you should send your address to
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The "Mortgage Lifter" is very early. Stiff, strong straw, very hardy and healthy. Protracted droughts, heavy rains, hot winds and raw, freezing weather do not affect its growth. **3,520 pounds** to the acre, or 110 bushels by weight, is not too large a crop to expect.

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are always THE BEST. Grown from pedigree seed in the new lands of the cold North-East, they yield Earliest and largest crops in every climate.
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produce earlier vegetables than any other on earth.
OUR NEW ILLUSTRATED CATALOGUE MAILED FREE. Address
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A FLOWER GARDEN FOR 25c.
Our bargain collection of 10 pkts. of **Choice Flowers** contains: Pansy Large German; Cosmos Giant Perfection; Candytuft Empress; Calliopsis Gold Wave; Petunia best mixed; Sweet Peas Eckford's Large Flowering; Marigold Legion of Honor; Mignonette Machet; Phlox Grandiflora; Zinnia Giant Mammoth. This fine collection contains many novelties, for only 25 cts. in stamps or silver, worth three times the price. Our Handsome GARDEN ANNUAL, FREE. Write for it.
COLE'S SEED STORE, - PELLA, IOWA.

SEED POTATOES FOR SALE.
Nineteen leading varieties, including Carman No. 1 and 3, Sir William, Great Divide, World's Fair, Irish Cobbler, New Queen, Vick's Early Pride, etc. If with the times you would keep pace, order your seeds from Mace. Illustrated catalogue free.
GEO. W. MACE, Greenville, Ohio.

600 BUSHELS PER ACRE EASY
WITH OUR "VINELESS" GOLD COIN PROLIFIC SWEET POTATOS
IMMENSE YIELDERS. QUALITY SUPERB. Earliest Sweet Potato on earth. Easiest cultivated. Highest endorsement by best agriculturists in America. Thoroughly tested. Millions will want them. If you are after a MONEY MAKER you must have them. POTATOES, not vines are what pay. Saves ground, saves time in digging. BETTER KEEPERS and just what has been wanted for the LAST FIFTY YEARS. Have MORE MERIT than any novelty ever offered. Don't wait, but send two-cent stamp at once for catalogue that tells all about them; also our "BEN HUR" Irish Potato. Entire stock of both owned exclusively by ourselves. OUR SEED CATALOGUE this year is A WONDER, so many GOOD THINGS and prices low. It is sure to interest you. Address,
THE HUNTINGTON SEED Co. INDIANAPOLIS IND.

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But You Must Plant the Right Seed.
My new Seed Book tells all about the best kinds of Tomatoes and much else of interest in the Seed Line. Most attractive and instructive buyers catalogue ever published, illustrating these Tomatoes, free to all intending purchasers. Address at once. P.O. Box 545
H. W. BUCKBEE,
Rockford Seed Farms, ROCKFORD, ILL.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

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HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, FEBRUARY 1, 1896.

THE Business Hen has laid nearly 100 new subscribers since our offer was printed. The Nursery Book is nursing subscribers every day, and the New Potato Culture is building up our list on the trench system. That's right. Keep it up. Here are the books:

	Cloth.	Price.
The Nursery Book	"	$1.00
First Lessons in Agriculture	"	1.00
American Grape Training	"	.75
The New Potato Culture	"	.75
The Business Hen	"	.75

Send us a new subscription (not your own), and we will send your choice of these books prepaid.

⊙

WE will gladly give any scientist all the space he needs to explain why "muscle-makers," "fat-formers" and "pure fat," used to describe the nutritive principles in animal foods, are not just as scientific as, and a good deal more expressive than, "protein," "nitrogen-free-extract" or "carbohydrates" and "fat." THE R. N.-Y. thinks that it would be an advantage to use the simpler terms. If we are wrong, we wish to know why.

⊙

IN a "Hen Ration Suggested," page 66, onions are recommended as a green feed for hens. These are healthful, and are excellent as a preventive of gapes in young chickens. But how many will it do to feed to laying hens? It is well known that the flavor of eggs is influenced by the feed, especially if large quantities of any strong flavored feed are consumed. This being the case, just how many onions is it safe to feed?

⊙

THE Connecticut State Grange suggests a committee composed of President Koons of the Agricultural College, Dr. E. H. Jenkins of the Experiment Station and T. S. Gold of the Board of Agriculture, to arrange a short course in agricultural science for use in public schools. This is to be presented to the Connecticut State Board of Education with the request that it be used in schools of country towns, and also in Normal schools for teachers who expect to teach in country districts. This is the most business-like move in the matter of agricultural education of which we have yet heard. The men on this committee are well qualified to prepare these text books, and Connecticut is a good State to start such a reform.

⊙

LAST summer, THE R. N.-Y. told of a new method of freezing milk for transportation. This method is largely used for meats, poultry, etc., which, when kept under the right conditions and at the proper temperature, may be preserved perfectly for many months, and safely transported for thousands of miles. Heretofore, it has been considered that eggs must be kept at a temperature above the freezing point. On account of their structure and the changes that occur in freezing, ordinary eggs in their natural state cannot be preserved in this way. But the New York Produce Review tells of a method that has been practiced to a limited extent by some of the Western cold storage houses during the past two years. In selecting their stock for cold storage, all the cracked eggs were broken out into square tins holding about 40 pounds each. The whites and yolks were all mixed together thoroughly, and then frozen hard. Some of the large baking establishments are now using eggs so put away early last summer. When needed for use, they are thawed out by placing the cans in water, and the result is a thick, pasty mass, lacking some of the qualities of fresh eggs, but said to be be sweet and free from all bad flavors, superior for all baking purposes where yolks and whites are mixed together, to ordinary cold storage eggs of the same age. One consideration in using this stock, is its comparative cheapness; it is made from cracked eggs which are usually rated at half price in the markets. This method might be adopted to preserve eggs for family use by any one having an icehouse, so that the stock can be kept constantly frozen. It should be packed in tin cases, not so large that it can not be quickly thawed when desired for use. This method is well worth testing by any one having the proper facilities, and might be the means of materially reducing the summer surplus.

⊙

GOVERNOR GRIGGS of New Jersey, in his inaugural address, called attention to the wonderful growth of electric railroads. Enough of these roads have been built to convince the public that, while they afford convenience of travel, they are not an unmixed blessing. Unless it be handled with the utmost care, this electric force is a dangerous thing, and the State may well provide legal safeguards to protect life and property. Governor Griggs suggests that, hereafter, these electric roads should not be permitted to run on the country highways. They should either run at the side, or entirely off the limits of the road. That is just as it should be. The country road belongs to the farmer. It is his track for freight or for travel. It is a mistake to permit an electric railroad company to tear it up, or appropriate the best part of it for tracks. We have seen several excellent roads ruined in this way. We hope that, in New Jersey, at least, the legislature will put a stop to this misuse of country roads.

⊙

THE Black-Top Spanish Merino Sheep Breeders, at their recent meeting, passed resolutions asserting that since the passage of the Wilson tariff bill, 17,000,000 pounds of shoddy and other substitutes for wool, have been brought into this country from abroad. This, it is claimed, takes the place of 53,800,000 pounds of fleece wool, or the product of more than 8,000,000 average sheep. A large part of this fraudulent product finds its way to the market in the form of goods marked "pure wool"—thus not only injuring the business of the wool grower, but deceiving the public. As remedies, these breeders recommend and demand: 1. That laws be passed requiring that all adulterated goods be so marked as to show the actual per cent of fleece wool contained in them. 2. A tariff of not less than two cents a pound should be imposed on all shoddy material brought into this country. Bills covering these points will doubtless be introduced in Congress. It is certain that this practice of selling "shoddy" for pure wool goods, is one of the most dangerous frauds of the day in its effect on the business interests of farmers.

⊙

THE R. N.-Y. has before called attention to some of the outrageous and utterly indefensible provisions of the game laws of New York State. These were all made over last year, and we were led to expect something creditable to the law-making powers, and satisfactory in securing the protection sought. But, judging from these, the makers would much better have been at home sawing wood than trying to make laws for the people of the great Empire State. They wouldn't be in a position to do so much harm, and might do some good. The New York Society for the Protection (?) of Game held its annual meeting at a swell hotel in this city the other day, gave a big dinner, and discussed the present game laws with the "numerous loopholes through which dealers and trappers are enabled to crawl." Amendments were discussed, and will be presented to the legislature. But the menu of these protectors (?) contained game which is out of season according to the very laws they themselves were instrumental in securing. There's consistency for you! In some parts of the State, protected deer have done great damage to the farmers' crops; but the sufferers do not dare to shoot the deer, or even to set the dogs on them to frighten them away, for this is contrary to law. The law is oppressive and unjust to the farmers, and is solely in the interest of millionaire pot hunters. Isn't it about time the farmers took a hand? What are the Grange, Alliance and other farmers' organizations doing?

⊙

AT the meeting of the New York State Agricultural Society last week, the matter of selecting a satisfactory man to head the State Department of Agriculture, came up for informal discussion. A committee was appointed to wait on Governor Morton and impress on him the fact that this strong society desires for Agricultural Commissioner a man outside of the political machine, and thoroughly in touch with the agricultural interests of this great State. This committee had no particular candidate in mind, but simply represented the principle that this office must not be lowered to the plane of common party politics. We have heard a number of people express the fear that Governor Morton will appoint a certain candidate whose chief qualifications are that he is backed by strong political leaders, and who may be expected to make the Department even more of a political junk shop than it is now. THE R. N.-Y. sees no reason for this fear in view of Governor Morton's knowledge of the situation. He knows that the intelligent and influential farmers of the State are thoroughly in earnest in their demand that this department shall be headed by a clean and practical agriculturist. He knows something of the disappointment that will be manifested if the candidate hinted at is appointed. The Governor is himself personally interested in farming, and on his own farm are presented several difficult and interesting problems that will demand the best help of agricultural science for their solution. Some of these very problems are confronting the humblest farmers in the State, and the Governor, like other intelligent men, knows that the Department of Agriculture should be conducted by men who will make it their business to throw light on these perplexing questions. In view of these facts, THE R. N.-Y. has no fear that Governor Morton will appoint the wrong man. We confidently expect that the next Commissioner of Agriculture will be selected, not for his politics, but for his patriotism to the cause of agriculture.

⊙

BREVITIES.

"You raise mushrooms," said Farmer B,
"And raise them at loss, I see."
"You're wrong," said Farmer C; "I fear,
I never had a mushroom here."
"See that old cow?" said Farmer B—
"That poor, old scrub of low degree?
That's your mushroom! All winter long
She's bellowed out her hungry song
Of grain and grooming long denied.
See how her bones stick through her hide!
No overcoat but plastered dung.
The frost has nipped her with its tongue.
No mush of meal for her is found.
Her grain a kick, her thanks a pound;
And thus you're raising mushrooms—how?
There's *room* for *mush* inside that cow!

SHIP the scrub sheep.

THE farmer is a manufacturer.

FARMERS as breeders—page 67.

BETTER straightforward than crooked backward!

WHY not swap the old horse off for eggs—page 73?

DON'T write about wrongs except to try and right them.

THE most civilizing vehicle on wheels is a baby carriage.

WHY don't you set out some sweeter fruit in that cross patch

OUT HOLLERED and out-dollared!—the farmer who deals with a faklr.

DANGEROUS! An experiment planned and twisted to support a theory.

THE *coughy* habit is often prevented by sound rubbers and a sound rubbing.

IT'S a wise man who can run the night fire better than his wife thinks she can.

THE rats will tremble when they read the broadside that is fired at them on page 79.

WHEN does a rat become a cat? When one hunts the meat and the other meets the hunt.

TRY to sharpen your dull times by holding your *knows* to the grindstone of science and experience.

A COMBINATION of caustic potash and rat's tongue, page 79, results in a fugitive rat. *Cause? Stick* potash!

BETTER plan *now* to celebrate 1896 with a good carrot crop. How the stock would enjoy carrots now—if they had them.

IN remembering the suffering Armenians, don't forget the "mean 'uns" on this side of the water. "Talk turkey" to them.

WITH sugar at $40 per ton, it takes 750,000 pounds to pay the salary of the Governor of Barbadoes—and the inhabitants have no voice in his selection!

REPRESENTATIVES of various farmers' organizations met at Albany last week and formed the New York Farmers' Congress—the object being to unite action and concentrate effort.

WHEN we give the address of an experiment station, and say that a certain bulletin is worth sending for, we mean just what we say. Don't send to us for the bulletin—send to the station, and mention THE R. N.-Y.

HALF A MILLION! What? Cows required to make as many pounds of butter as the "oleo" men sell of their stuff each year. Most of this "oleo" is palmed off as butter. No wonder the cow staggers with such a load as that to carry.

J. H. HALE says that the *greenest* manuring he ever did was to buy stable manure in New York that cost him $15 a cord on the home farm! That was when he thought he could not duplicate stable manure with clover and chemicals.

MOST of you have heard us talk of Mr. A. Johnson, the "One-horse Jersey Farmer." He has 18 acres and sells eggs, strawberries, potatoes, cabbage and hay. In the bad year of 1895, he sold $2,710 worth of produce—low prices and all.

IN France, it is said, small, portable stills are sent around from farm to farm to make liquor or alcohol from fruits, potatoes or other products. The tendency of the French law is to encourage such farm distillation, as it provides revenue and saves waste.

SOME one has designed a little device for irrigating single plants or garden beds. It is like a big funnel which tapers down to a small spout. The tube is pushed down into the soil near the plant and the body filled with water, liquid manure or whatever is to be used. This slowly soaks into the soil and gives a sub-irrigation so that the plants are watered without baking the surface.

All Sorts.

A Bone Cutter Pays.—In The R. N.-Y. of January 10, F. G., Stuart, Mont., says that it is time to call a halt in the green-bone cutter business. I have always been able to get all the green bones I needed at one-half cent per pound. I use a Mann No. 8 bone cutter, and think that it has added a big profit to my egg account. At first, I ran it by hand. On this size, there are two cranks; but I found out very soon that to cut 100 pounds of green bone, required about as much labor as to cut a cord of wood ready for the stove. We now run it with a little four-horse power engine, and all that is necessary is to hold the feed handle and stand back and smile while steam power does the rest. I can fill up the hopper while the machine is in motion, so that no time is lost. I can get several barrels of bone every few days and use considerable scrap with the bone. For this I pay one cent per pound. I formerly got scrap for one-half cent per pound, but some parties bid them up.

When I first got the cutter, I made a bargain with the leading butcher of our town for the year around, to take all the scrap and as much of the bone as I needed. I have never worked up a whole carcass in the cutter, but can see no reason why it could not be done. The animal should be cut in quarters and hung up where it will freeze, and then it will cut up very easily. I have tried cutting up lungs and chunks of raw meat when frozen. As to the price of a carcass here, I am certain that I could get all the horses for nothing; that is, horses that their owners wanted killed. R. S. K.

Kelly Point, Pa.

Success With Sublimate Solution.—Having noticed frequently in the columns of The R. N.-Y. the varying results from the use of the sublimate solution treatment for potato scab, I give my experience in using it last year. In 1894 I planted a barrel of fine quality Carman No. 1, and on account of the rainy season which continued daily from May 10 to June 12, was obliged to plant on clover sod which had been prepared for corn, heavily fertilized with fresh stable manure, from which I harvested 270 bushels per acre, all more or less scabbed, some of them very badly. Out of this stock, I sorted two barrels of tubers so completely covered with scab that no eyes were visible. These were treated last spring at planting, in the following manner: Four ounces of corrosive sublimate were dissolved in 30 gallons of water. One half of the solution was put in a barrel and the latter filled with the diseased potatoes, which were left in the solution 90 minutes. The solution was then drawn off from a plug at the bottom of the barrel and put in another barrel filled with the rest of the potatoes, to which was added sufficient of the unused solution to cover the potatoes, and these were allowed to stand as before. After treatment, the tubers were spread on the floor to dry preparatory to cutting.

This seed was planted in the same field alongside of selected seed of the same stock and variety not treated. From the treated tubers, I have harvested perfectly smooth stock, first-class in all respects, and of a much better quality than that raised from the seed not treated. The conditions of cultivation, soil, etc., being the same, is conclusive to me of the value of sublimate solution for the cure of scab. E. S. C.

Newark, N. J.

Likes "Corn Hay."—I am much interested in the discussion about shredded fodder, having used a husker and shredder for four seasons, and I would hardly have my corn husked and the stalks bound in bundles in the old-fashioned way if it were done for nothing. It is necessary to have the stalks dry, that is, free from rain, dew or frost, in storing the shredded fodder, to prevent molding. If some juice remain in them, some dry straw or hay mixed with them helps very much. Then, in mowing, avoid treading on them. We use a steel barley fork, and fill the back end of the mow first, and as the fodder takes only about one-third as much room as the whole stalks do, we have no difficulty about that. Stock eat it much closer than whole stalks, and what they leave makes good bedding.

J. M. Corwin, of Seneca County, says: "It is generally conceded that the men required to run the machine, can husk more corn the old way." I wish to dispute that statement. Last year, I had 10 acres of heavy corn, drilled, estimated to yield 100 bushels of ears per acre. Seven men with the machine husked it in three days, cribbed the corn, and put the stalks in the barns, moving three times. In estimating the cost of husking by machine, I think that only two men are really to be counted—the man who feeds and the engineer; the others are drawing stalks and cribbing corn. We think 300 bushels a fair day's work with seven men all told. The use of the husking machine is increasing in this vicinity, and I know of no one that is not well pleased with it. A neighbor and myself own ours, and do not husk for others; but one was brought here late in the fall, and had plenty of work to do. W. H. O.

Clyde, N. Y.

Potatoes at Twenty-eight Inches.—The R. N.-Y. of January 18 says:

In his account of growing straw potatoes, Mr. Miller speaks of making the rows three feet two inches apart. In soils where the vines grow 5½ feet long, as his did, this may be a good distance. But we are inclined to believe that, on drier soils, closer planting would be preferable. What is the best distance anyway—all things considered?

I can answer the question from my standpoint, which is that of a gardener near Louisville, where the land is worth from $200 to $800 an acre, and is as rich as first-class stable manure can make it. Of course I aim to get as many potatoes as possible to the acre, and they must be large and early, to yield a profit. For me, close planting gives the best results. I always plant 10 inches in the row, and 28 inches (2⅓ feet) between the rows—just wide enough for the cultivator to do good work once in the row. My neighbors, one and all, have found these distances to be the best. We plant early—generally by April 1—and by July 4 have dug and sold our entire first crop. The yield in a poor season is sometimes as low as 70 barrels (200 bushels) to the acre; but in a good season, it often reaches 100 and sometimes 135 barrels.

Years ago, when I began gardening, we planted three feet or more between rows and 15 to 18 inches in the row; but that was when we used old potatoes as seed. They sent up shoots for every eye, and produced so many potatoes to the hill that all but two or three were likely to be small unless plenty of room were given. The discovery of second-crop seed, which sends up only one shoot to the piece, and produces from three to seven tubers to the hill, enabled us to plant much closer and still get practically all marketable potatoes. Having our crop off the ground early in July, we are able to put in our second crop in time to get a good, if not a full, growth before frost. For seed purposes a full growth is not admissible. Thus we get the fullest returns from our ground, and the manure we put on it, and potatoes yield us more money than anything else we can plant. Even if I were a farmer and had abundance of land, I would still plant as I do now. It is idle to plant potatoes in ground that has not been made rich with manure, clover or commercial fertilizers; and if the ground is rich enough for one crop, my experience is that it is rich enough for two crops the same season. The maximum yield comes for me as the result of close planting, and there is no sense in wasting ground even on a big farm.

We grow only the early varieties, such as New Queen, Thorburn, Puritan and Early Hebron. Late kinds, no doubt, need more room; but they cannot be grown here as a paying second crop, and they never do well as a first crop, because the scorching hot weather we generally have in July cooks the vines.

Louisville, Ky. J. C. P.

BUSINESS BITS.

Those who are interested in hen foods, will do well to write the York Chemical Works, York, Pa., for price list of their bone meal and other forms of hen food.

A dumping cart is one of the handy implements that few farmers would do without after having once used them. These carts may be had with narrow or wide tires; but get the wide tires by all means. Hobson & Co., 4 Stone Street, New York, are the manufacturers.

The farmers of this country are not the only ones who appreciate a Handy wagon. The Farmers' Handy Wagon Co., Saginaw, Mich., a few days ago, sent a car-load to the West Indies. The sale was made, the firm writes us, through their advertisement in The R. N.-Y.

A 160-page book that tells about the leading breeds of fowls, ducks, geese and turkeys, about feeding, killing and dressing for market, and about diseases, is sent by the Reliable Incubator and Brooder Co., Quincy, Ill., for 10 cents. It also tells all about artificial incubation and brooding, and is packed full of information that every business poultry raiser should possess.

Ex-President Harrison is now writing a series of articles for the Ladies' Home Journal, Philadelphia, Pa., that should be read by every one of the 70,000,000 people in the United States, or at least, that portion of them who are old enough to read. We recommend them especially to young men and women, who should be familiar with the principles on which this great and free government of ours is founded.

Curing Sour Soils.—Since the articles under this heading appeared, many farmers have tested their soils and found that they need an application of lime. Where can we get the lime? That is the question asked by many farmers, especially in the West. We have lately heard of a ground shell marl which appears to afford an excellent sonree of lime. This marl is dug out of a swamp, thoroughly dried and heated, and ground to a fine powder. It is very soluble, and, being finely powdered, may be easily drilled or broadcasted. Wherever lime is needed, this ground shell marl will be very sure to benefit the soil. It is sold by the Sandusky Mining and Milling Co., Sandusky, O., and we advise farmers who need lime to correspond with this firm.

Tobacco.

No crop varies more in quality according to grade of fertilizers used than tobacco. Potash is its most important requirement, producing a large yield of finest grade leaf. Use only fertilizers containing at least **10% actual**

Potash (K_2O)

in form of **sulphate.** To insure a clean burning leaf, avoid fertilizers containing chlorine.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

Bowker's Fertilizers.
SOLUBLE — ACTIVE — SURE.
BOWKER FERTILIZER CO.,
BOSTON & NEW YORK.

Waste on the Farm.

Around the farm there is at least *a ton or two* of materials, such as **Ashes, Hen Droppings, Wood's Earth, Marl** and other things, which, if mixed with

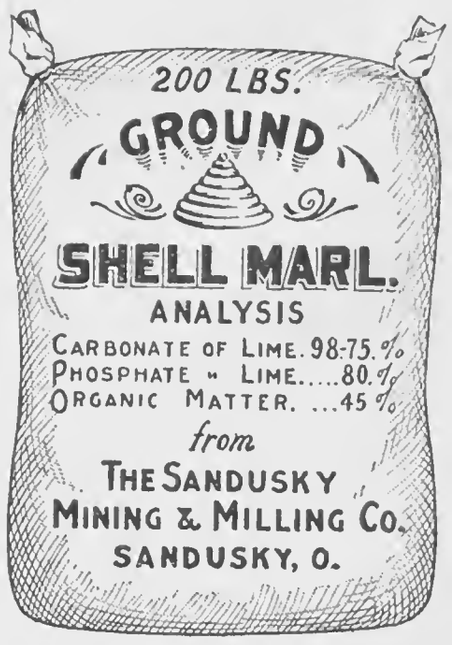
Powell's Prepared Chemicals,

make fertilizers rich in Ammonia, Potash and Phosphoric Acid, which will be quick acting, producing large crops and at the same time permanently improve the soil. *A fertilizer made in this way is certain, but costs very little*—only about **$12 per ton.**

Many thousand farmers have saved fully half their fertilizer bills by the use of **Powell's Prepared Chemicals.** Circular giving instructions for mixing, with testimonials from every section sent free.

POWELL FERTILIZER & CHEMICAL CO., Baltimore, Md.

Nature's Soil Tonic.



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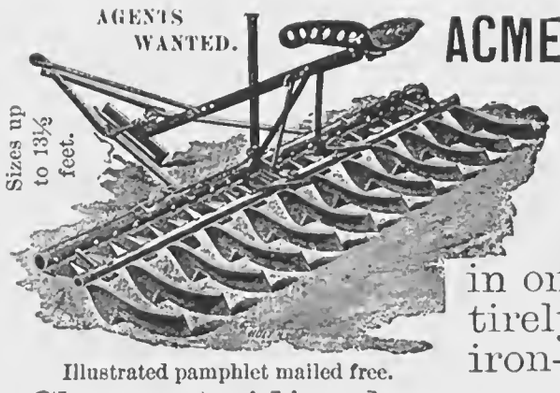

Illustrated pamphlet mailed free.

ACME PULVERIZING HARROW, CLOD CRUSHER AND LEVELER.

Adapted to all soils and all work. Crushes, cuts, lifts, pulverizes, turns and levels the soil in one operation. Made entirely of *cast steel* and wrought iron—*practically indestructible.*

Cheapest riding harrow on earth. $8.00 and up.

SENT ON TRIAL To be returned at my expense if not satisfactory.

N.B.—I deliver free on board at distributing points.

DUANE H. NASH, Sole M'f'r, Millington, New Jersey, and Chicago, Ill.

PLEASE MENTION THIS PAPER.

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

"JUST as sure as the children of the farmers are educated in the same way that their grandfathers were, they are handicapped for life," said Mr. Newton last week. Are we all ready to agree with him? He is right, whether we believe him or not.

*

WHEN the baby begins to eat, what is the first solid food given him? Mashed potatoes, in nine cases out of ten. Potatoes are not easily digested, and are not good food for babies, the doctors say. Why not be as scientific in compounding baby's new bill of fare as in mixing a ration for the calves? There is no immediate profit in baby's daily gain, to be sure; but in the future, good health will be of more value to him than a bank account, if he cannot have both.

*

ONE HUNDRED or more women are in barber shops in Chicago alone, it is said. They are sought for their steady nerves and light touch, unimpaired by nicotine or liquor. If women win on their good reputation, they must be careful to avoid the bad habits that have relegated some of the masculine workers to second choice. There are other things besides whisky and tobacco that are hindrances to business success, feminine faults which are to be guarded against quite as much as these others. We must bear in mind that the differences between men and women are not all to the credit of the latter.

*

THE evolution of the shirt waist illustrates well the final outcome of any masculine phase of dress which woman may adopt. It started out as an almost exact copy of the masculine garment, stiff bosom and all. Witness the display in the shop windows which prophesies what the coming summer girl will disport herself in. All embroidery and soft blouse fronts; some are made of all-over embroidery, with only this bit of masculinity, stiff collars and cuffs. The collars and cuffs are white, usually, but sometimes pink, blue, or some other color which happens to be the prevailing tone in the checks or stripes of the material. One would have to go back a good many generations of collars and cuffs in order to find whether their origin was really masculine. There is certainly a daintiness in the immaculate freshness of collars and cuffs; and they vouch for the freshness of the whole garment when my lady wears them, for they are not detachable in the fashionable shirt waist.

A WORK-SAVING KITCHEN.

ONE THAT HAS BEEN TRIED.

WE women folks all know that we "housekeep" chiefly in our kitchens. Work that is handicapped by needless, wearisome difficulties and inconveniences, is hard work, and has no savor of pleasure in it.

Fig. 31 tells its own story quite plainly, but a little explanation may not be out of order. It has four full-length windows and an outside door, and has an abundance of sunshine which, in summer, is tempered by awnings. It is neither too large nor too small, but middle-sized. The diningroom door is close by the sink and the china closet, as well-ordered diningroom doors should be. The pantry, too, is near at hand, opening into both kitchen and diningroom, and containing a generous complement of shelves, a dumb waiter and, at A and B, two cabinets for flour barrels — the pastry flour and the bread flour.

Just after dinner at dishwashing time, is the time of times to try the housewife's soul. Let us see whether, after all, 'tis so dreadful in this especial kitchen. There are no disheartening, weary trips to take, back and forth, back and forth, over needless distances, or up and down cellar stairs with the butter and milk and meat. So much is gained, then! If we have taken care to fill the big hot-water tank on the range, and to have plenty of glass towels and plate towels in the drawers under one of the sink shelves, then we are ready to go to work comfortably. It is but a step around the corner to pile up the soiled dishes on the right-hand shelf by the sink, and but a few more steps to the dumb waiter, in the pantry, to set away the food that must be kept cool. The napkins, sugar-bowl, salts, etc., can be set in their resting places on the china closet shelves in a trice.

The china closet has doors on either side, and the drawers beneath its shelves pull either way—into diningroom or kitchen. As fast as the dishes are wiped, they are set into the china closet without an extra step. A few minutes, later on, spent in rearranging them a little, from the diningroom side, will keep them always in "apple-pie order." Think of the steps you *didn't* take!—the tiresome "fetching and carrying" through rooms and over thresholds, to and fro. In this dishwashing, only a few steps were needful to carry out the soiled dishes, and none at all to return the clean ones.

The range and table, too, are not far away, and so convenient to each other that half the fuss and bother of "dishing up" the dinner is done away with. And the range is close to the laundry, so that, on ironing day, it will be but a step or two to carry the flatirons, or, on washing day (if there are no hot-water pipes) to carry water. The shelves on either side of the set tubs will be useful in many ways, as one can soon see for herself by using them.

The table, across the room, between windows, may be used to iron upon if one does not use the cover of the set tubs, though that is rather more convenient, perhaps. There are plenty of places to set chairs, and be sure that a rocking chair be among them always, to "drop down" into while the sponge cake is baking or the teakettle coming to a boil. Plants upon the window shelves cozify the kitchen; they have a special predilection for the steamy kitchen atmosphere, and grow twice as well in it.

I would suggest that the kitchen sink be porcelain and open underneath, and that there be drawers running down under the shelves on both sides of it. Then, too, to avoid the endless vexation of sweeping under the stove, let it be

General Harrison's National Articles

"This Country of Ours"

For the first time in our history an ex-President of the United States takes up the pen to write a successive series of magazine articles. In them he crystallizes a lifetime of study and observation of our country.

Begun in the Christmas (December) number of

The Ladies' Home Journal

SEND ONE DOLLAR FOR A YEAR'S SUBSCRIPTION

Wanted—A First-class Man or Woman

To look after our subscribers, secure renewals and new names. The coming season will be the greatest in the history of THE LADIES' HOME JOURNAL. Profitable employment offered. Write for particulars.

The Curtis Publishing Company, Philadelphia

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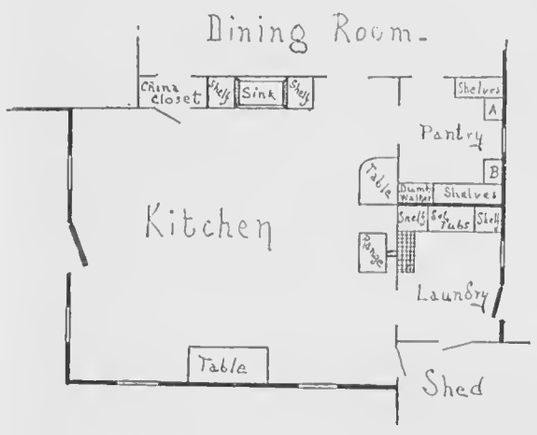
boxed in underneath, and set, legless, upon the foundation thus made. That comfort will very speedily recommend itself. ANNIE HAMILTON DONNELL.

SHALL WOMEN PROPOSE?

SUPPOSE we stop a minute and ask, "Do men propose?" Some of us, like those to whom our editor referred, will admit sadly, or, if we belong to the "new woman" type, congratulate ourselves that they do not. But seriously, look back on your own experience, if you have any, or recall some of the *true* love stories that have been told to you, and tell us whether you find anything that compares with the way it is done on paper. What is the important, the real question that agitates the minds and hearts of those who contemplate a life union? To men and women who are true, is it not to discover whether there be mutual affection? Being assured of this, plans are made according to circumstances.

Now what may a woman do to bring about the desired result? She should simply be sweet and natural, kind to



PLAN OF KITCHEN. FIG. 31.

all, but especially to the one who has won her heart. Doubtless you know girls who have caused themselves and their friends great unhappiness, by pretending not to care, when they do care very much. We need never be ashamed of loving any one; it is only hatred that should be concealed and overcome. There is nothing to be gained by a proposal from a woman, unless she be willing to accept the hand without the heart. Love will find expression, and if your friend remains too long silent, you may safely assume, either that it is your own fault, or that he has nothing to express. P. S.

ODDS AND ENDS.

OPENING OF A NIGHT-BLOOMING CEREUS.—Just as twilight was creeping over the earth, the large, pearly-pink bud began to unfold. Slowly, slowly the delicate petals unclose, and soon the many-armed stigma is seen. Wider still, and the silken stamens, clustered together like a skein of ivory-white sewing silk, with their anthers like little, pale yellow heads lifted up at the ends, are seen. Now a faint, soft perfume fills the air! Languorous, mysterious, penetrating and subtle, the very climax and witchery of fragrance! Silently the white wonder unfurls itself until it hangs the perfect flower upon its serpentine stalk; looking as though a zephyr might crush it, or the candle light melt it like frost. Weird, unearthly, the very spirit of the dusky night beyond the window pane! To-morrow it will hang limp and inert on its drooping stalk, as mysterious in its fading as in its blooming.

LINDA WILTON MCNEIL.

USES OF YAWNING.—According to a celebrated Belgian physician, yawning is an exceedingly healthful function, generally, says Popular Science News, besides having a very salutary effect in complaints of the pharynx and eustachian tubes. According to the results of late investigations, yawning is the most natural form of respiratory exercise, bringing into action all the respiratory muscles of the chest and neck. It is recommended that every person should have a good yawn, with stretching of the limbs, morning and evening, for the purpose of ventilating the lungs and tonifying the muscles of respiration. An eminent authority claims that this form of gymnastics has a remarkable effect in relieving throat and ear troubles, and says that patients suffering from disorders of the throat have derived great benefit from it. He makes his patients yawn either by suggestion, imitation or by a series of full breaths with the lips partly closed. The yawning is repeated six or eight times, and should be followed by swallowing. By this means the air and mucus in the eustachian tubes are aspirated.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

CRUMBS FROM DIFFERENT TABLES.

Be to every man just,—and to woman
Be gentle and tender and true;
For thine own do thy best, but for no man
Do less than a brother should do.
—*Samuel Waddington.*

....RAM'S HORN: "A self-made man generally spoils his boy in trying to make him like himself."

....THE OUTLOOK: "Society is crowded with half-equipped workers, with men and women who are honest and earnest, and not incapable, but who are not up to the level of the very best work."

....W. D. HOWELLS IN THE FORUM: "At the end of our own war, when the slave's dream of freedom came true, he believed that the gift of liberty would be followed with the gift of 40 acres and a mule to every head of a family. When his fond delusion became known to the nation which had broken the chains of the oppressed and bidden them go free and see what they could do to keep from starving, a roar of derision went up from all the millions of American humorists. We thought it much less comical to give our acres, not by forties, but by millions, to certain railroad companies."

Miscellaneous Advertising.

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Quickens
The Appetite
Makes the
Weak Strong.

AYER'S
THE ONLY GOLD MEDAL
Sarsaparilla
Has Cured
Others
And Will Cure You.

Ayer's Cherry Pectoral for Coughs.

ASK YOUR DEALER FOR
W. L. DOUGLAS
$3. SHOE BEST IN THE WORLD.

If you pay $4 to $6 for shoes, examine the W. L. Douglas Shoe, and see what a good shoe you can buy for $3.

OVER 100 STYLES AND WIDTHS,

CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

A THOUGHT THAT KILLED A MAN!

He thought that he could trifle with disease. He was run down in health, felt tired and worn out, complained of dizziness, biliousness, backaches and headaches. His liver and kidneys were out of order. He thought to get well by dosing himself with cheap pills. And then came the ending. He fell a victim to Bright's disease! The money he ought to have invested in a safe, reliable remedy went for a tombstone. The thought that killed this man

HAS KILLED OTHERS.

Statistics show that 90 per cent of the deaths from Pneumonia, Bright's disease and similar complaints are caused from derangements of the liver and kidneys. These great organs keep the blood pure and in healthful motion. When they get out of order the blood becomes poisoned the circulation impeded, and the whole system speedily breaks down. It is

A DANGEROUS IDEA

to imagine that pills can strike at the root of these diseases. It has been thoroughly proved that such remedies are worse than useless. There is only one remedy which can always be depended upon. This remedy alone can act on the liver and kidneys when they are out of order, clear out the system and build up the health. The name of this remedy is Warner's Safe Cure. It is the only standard remedy in the world for kidney and liver complaints. It is the only remedy which physicians universally prescribe. It is the only remedy that is backed by the testimony of thousands whom it has relieved and cured.

There is nothing else that can take its place.

MAGIC LANTERNS
And STEREOPTICONS, all prices. Views illustrating every subject for PUBLIC EXHIBITIONS, etc.
☞ *A profitable business for a man with a small capital.* Also Lanterns for Home Amusement. 265 page Catalogue, *free*.
McALLISTER, Mfg. Optician, 49 Nassau St., N. Y.

CLOTHES WASHED
BY THE WESTERN WASHER
☞ Are always clean and white. 300,000 of them in use is convincing proof of their popularity. Sold under a guarantee to please. Agents Wanted. Write for catalogue and prices, and mention this paper. HORTON MFG. CO. Ft. Wayne, Ind.

THE NEW BECKER WASHER.
A Fair Trial will convince the most skeptical of its superiority over all other washing machines. Thousands in use. *Agents Wanted.* Circulars Free. Made by
N. G. BAUGHMAN, York, Pa.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

STOCK AND TIMBER FARM.
835 ACRES! Excellent character of land, abundantly watered. Several hundred acres of fine hard wood timber, 400 acres cleared. On three public roads Three miles from railroad. Write for *free* Catalogue.
R. B. CHAFFIN & CO., Inc., Richmond, Va.

For Sale—Truck Farm in Beautiful Virginia, comprising 81 acres, good house, barn, stable, well, stream of water; one-quarter mile from station; photographs. EDW. BOOTH, Spring Grove, Va

FOR SALE—Glass garden; five houses with five acres of ground. Two miles from center of town. Established business. Receipts from one house last year over $500. No competitor for winter crops. A good thing. Reasons for selling, going to quit business. Address H. W. LEE, Box 167, Alexandria, Ind.

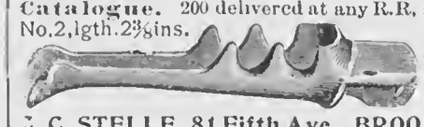
WANTED—In the Adirondacks, a thorough man and wife to grow berries and poultry by the year or on shares. D. R. BYRAM, P. O. Tupper Lake, N. Y.

POST'S Improved Eureka Sap Spouts

GIVE More Sap every day for More Days and make More Money for you than any other, and there is a scientific reason for it, explained in our Free Catalogue. 200 delivered at any R.R. station.

The Air Trap does it.

No. 1. Length 2¾ ins. The *genuine* has [signature] on the box.



No. 2, lgth. 2⅜ ins.

No. 1, $2.50 per 100; No. 2, $2.35 per 100. Samples 10c.

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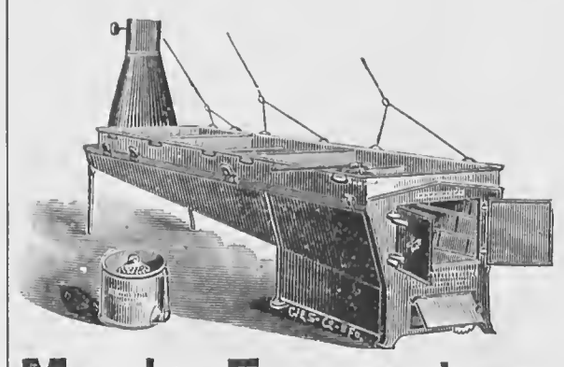
GEO. J. RECORD'S
DOUBLE-TIN SAP SPOUTS

THE BEST AND CHEAPEST. Over 6,000,000 in use. Ask your dealer or write for FREE sample.

RECORD MANUFACTURING CO.,
111 Main Street, Conneaut, Ohio.
Manufacturers of Spouts, Butter Pails, Cans, Etc.

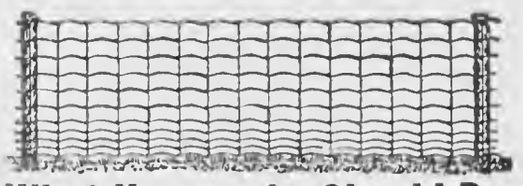


Maple Evaporators.
MOST DURABLE, MOST ECONOMICAL, CHEAPEST. Manufactured by
McLANE & SCHANCK, Linesville, Pa.

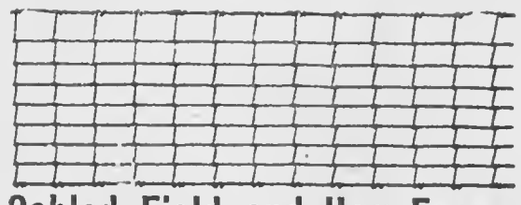
Cider Machinery.—Send for catalogue to Boomer & Boschert Press Co., 118 West Water St., Syracuse, N.Y.

The Farmers' Choice IS THE SYKES Improved Iron and Steel ROOFING.
For all classes of buildings, easily applied, cheaper than shingles, will last a lifetime, and is absolutely fire and lightning proof. Reduces your insurance and is the best roof manufactured. Write for our handsome catalogue and mention this paper.
SYKES IRON & STEEL ROOFING CO.,
Chicago, Ill., or Niles, Ohio.

QUARTER OF CENTURY OLD.
FAY'S MANILLA ROOFING.
CHEAP STRONG WATER PROOF, Not affected by gases.
No RUST nor RATTLE. *Outlasts tin or iron.*
A Durable Substitute for Plaster on walls.
Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c.
The FAY MANILLA ROOFING CO., CAMDEN, N.J.



What Venezuela Should Do.
"Lay low" until the boundary line is established, then put up a "Page," the only reliable "Bull" proof fence.
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



Cabled Field and Hog Fence,
24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.

FENCE MACHINES STRETCHERS, RATCHETS, ETC. FREE CATALOGUE
SUPERIOR MFG. CO. MARTINSVILLE, O.

SHORT stories again this week—shorter than ever. Here are the names of the prize winners in the last contest:

	Number.
1. W. S. Moore, New York	139¾
2. F. H. Johnson, Massachusetts	67
3. W. J. Bills, New York	50
4. F. H. Frink, New York	42
5. E. G. Packard, Delaware	37
6. F. W. Heyer, New Jersey	30
7. Monroe Morse, Massachusetts	29
8. A. H. Root, New York	23

The prizes, as you will remember, were **CASH** as follows: *$75, $50, $40, $30, $25, $15, $10, $5.* Checks for these sums have been sent to these gentlemen, and we don't believe that such pieces of paper will check their work in the present contest a bit. In addition to these prize winners, 13 men, or more properly speaking, 11 men and two women, secured 20 or 22 subscriptions and, therefore, earned $5 in cash apiece. One man secured 19½ names and we threw in the other half. We are glad to see the women folks doing so well.

Now space is short, and the advertisements are long, so we have few words left. On February 8, 17 cash prizes aggregating $175, will be awarded. Are you working for one of these prizes, or are you merely *thinking* about it? There's a question for you to take right home and adopt.

□ Another thing—remember those five books that are given for new subscriptions (not your own). Have you earned one yet? Why not? In conclusion, we wish to say that the present subscription season is very satisfactory to us. It comes out better than we expected, and we have no fault to find. We'll tell you all about it later—just now the business is not to talk about it, but to work for another new name.

Here's *just one* letter for you this week. May be it will encourage you to get *just one* new name:

I recently had the pleasure of sending you two new subscriptions. Here is what one of them says: "I have received two numbers of THE R. N.-Y., and have already more than got a dollar's worth of information, and have 50 more papers yet to come. I thank you for showing me the paper." H. S. C.

Belding, Mich.

Why can't *you* earn the thanks of one of your friends in like manner?

Here are the names of the dollar prize winners:

Jan. 20.—F. W. Wetherby, Franklin Co., O.
21.—R. R. Hunter, Wentworth Co., Ont.
22.—Geo. H. Pearson, Fairfield Co., Conn.
23.—S. F. Johnson, Miami Co., O.
24.—A. C. Snook, Sussex Co., N. J.
25.—R. R. Gage, Hamilton Co., Ont.

CROP AND MARKET NOTES.

Dried fruit prices are low.

The green fruit trade is extremely dull.

A few more German potatoes have arrived.

The first Havana onions of the season have arrived.

California oranges are being shipped to Florida. What next?

Hothouse tomatoes have been selling for 15 cents per pound.

Maple sugar is scarce, and prices range from 12 to 12½ cents per pound.

The price of mushrooms this week, 30 to 35 cents per pound, is not very encouraging to the growers.

Farmers in the producing districts are reported to be crowding the potatoes into market, although prices are very low.

The butter market in this city has been knocked flat. Twice as much has been received as there has been a demand for, consequently sales are slow (especially of poor grades), and prices are low. Elgin and other extras have sold down to 20 cents, and many of the low grades haven't sold at all. The duller the market, the slower are sales of poor grades.

The 21st annual meeting of the Ayrshire Breeders' Association will be held in the United States Hotel, Boston, Mass., Wednesday, February 12, at 2 o'clock P. M., to hear reports of secretary, treasurer and committee, and for the election of officers. An address will be given by Prof. H. W. Conn; subject, "Bacteria, the Dairyman's Friends and Foes." All interested in the breeding of Ayrshire cattle are invited to attend this meeting. C. M. Winslow, secretary, Brandon, Vt.

PENNSYLVANIA HORTICULTURAL ASSOCIATION.—An enthusiastic meeting of the Pennsylvania Horticultural Association was held in West Chester, January 14 and 15. United States Pomologist Heiges, H. C. Van Deman, and Prof. L. H. Bailey dispensed much valuable information. Good tillage was emphasized, and it would appear that its value is appreciated by many of the Pennsylvania fruit growers; but as a means of conserving moisture and liberating plant food, frequent and shallow cultivation is so potent as to bear frequent mention. The advantages of intelligent spraying were set forth and "Pruning for the Sprayer" was a topic full of suggestion. If the audience was a type of Pennsylvania fruit growers, late red apples are decidedly the favorite crop. Peaches and berries were inquired after, and some of the more enterprising discern the remarkable adaptability of nuts to the numerous hillsides; exhibits of chestnuts proved the industry already a reality. Many of the carnation growers so numerous and successful in Chester County, proved themselves willing to uphold their department of horticulture. F. M. B.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

little germs

Cause consumption. Cod-liver oil will not kill them. No remedy at present known to the doctors will do it. The germs float in the air, everywhere, and we cannot keep from breathing them into our lungs. We need fear nothing, however, if we are in good health. But when the body is weak, and the throat and lungs congested from coughs and colds, the germs may gain foothold. To prevent their doing it we must relieve the conditions.

Scott's Emulsion, with hypophosphites, will restore the strength, increase the weight, heal the inflamed membranes and prevent more serious trouble. It is an easy remedy which acts promptly and relieves quickly.

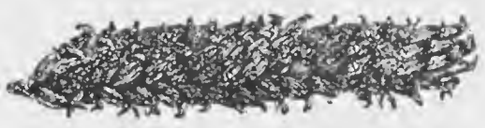
50 cents and $1.00

SCOTT & BOWNE, Chemists, New York.

GRASS IS KING

We are the only seedsmen making the growing of farm seeds, grasses and clovers a great specialty. Our Extra Grass and Clover Mixtures last a lifetime without renewal. Prices dirt cheap. Mammoth catalogue and 10 pkgs. Grains and Grasses free for but 10c. postage. Catalogue alone 5c.
JOHN A. SALZER SEED CO., La Crosse, Wis.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.



SUCCESS BARLEY—A new club of Beardless Barley Hull remalus tight. Al for brewing and yield. Write to headquarters for Seed. Send 2-cent stamp for sample, circular and prices.
L. J. WEAVER, McClure, Henry Co., Ohio.

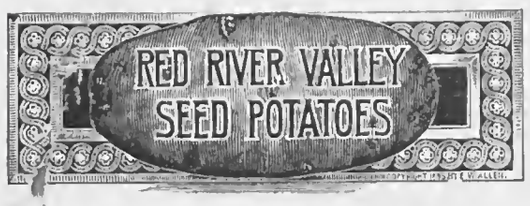
Belleville Straw Potatoes.

Superior for Seed.

Carman No. 3 (Thorburn Stock).....$6 25 per barrel
Carman No. 1 (Thorburn Stock)..... 4 00 per barrel
Livingston's Banner..... 4 25 per barrel
Write for prices by the bushel.
D. F. MILLER, Box 836, Belleville, Ill.

IT'S A GREAT POTATO

That outyields the Sir William, Carman No. 1, Rural No. 2, American Wonder, and half a hundred others. Wise's Seedling did it at the Ohio Experiment Station. All the above varieties and many others for sale at popular prices. Lincoln Oats and White Cap Corn. Send your own and neighbors' names for free catalogue. J. M. FLUKE, Box 32, Nankin, O.



Choice Standard and New varieties grown and stored in the Cold Northwest. Send for handsome Illustrated Catalogue, containing article describing method of raising and handling. Small shipments at car-load freight rates. Samples free.
E. W. ALLEN, Wolverton, Wilkin County, Minn

HIGH CLASS SEEDS.

Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

A Fruit Grower should never set a plant until he has read R. M. Kellogg's book, entitled

GREAT CROPS OF SMALL FRUITS AND HOW TO GROW THEM.—It has worked a revolution in small fruit growing. No other book ever published contains so much practical information. New ideas. New methods, less work, double the fruit. SENT FREE on receipt of postal card address.

R. M. KELLOGG, Ionia, Mich.

TRIUMPH The only Yellow Freestone PEACH Ripening with Amsden.

The Latest and Largest Yellow Freestone PEACH, **EMPEROR**

MERCER { The only Sure-Bearing, Non-Rotting CHERRY.

For full descriptions send for Catalogue (free.) We will send our Beautifully Illus. Catalogue with the Colored Plates of the 3 Wonderful New Fruits, and 1 Emperor Peach Just Budded by mail, postpaid, for 10c. JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

BUY FRESH WESTERN SEEDS from KANSAS SEED HOUSE F. BARTELDES & CO., Lawrence, Kas.

Grass, Field, Garden, Tree and Flower-seeds, all especially grown and selected for Western soil and climate. Alfalfa, Kaffircorn and other forage plants for dry climate a specialty. Our elegant 1896 catalogue is ready and will be mailed Free on application. Send for one now

SPRAY WITH THE EMPIRE KING

Our catalogue will tell you why it is the best. Send 2c. for postage and the catalogue is free.
FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

SPRAY PUMPS

21 STYLES. BEST and CHEAPEST.

Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address
WM. STAHL, QUINCY, ILL.

MILLIONS OF DOLLARS SAVED ANNUALLY by FRUIT GROWERS using Deming SPRAYING Outfits

Recommended by leading Horticulturists. 32 page illustrated catalogue and treatise FREE
The Deming Co., Mfgrs., Salem, Ohio.
Henion & Hubbell, Gen'l West. Ag'ts, Chicago.

THOMPSON'S GRASS SEEDER

Sows all varieties Clover, Timothy, Alfalfa, Red Top, Flax, and ALL KINDS OF GRASS SEEDS.

Sows any Quantity Evenly, Accurately

HOPPER for OATS—WHEAT.

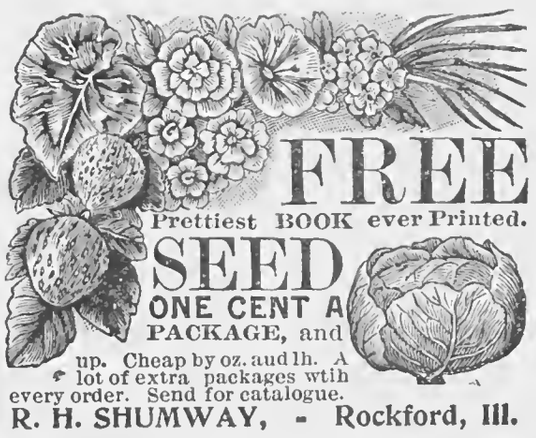
20 to 40 Acres a day. In wet, dry and windy weather. Weight, 40 lbs.

Send for Catalogue.
O. E. Thompson & Sons,
17 River St., Ypsilanti, Mich.

THE LIGHTNING SEED SOWER!

Guaranteed to Sow from 50 to 80 Acres per Day (either Horseback or Foot), of Clover, Timothy, Millet, Flax, and all Seeds of same nature.

Will be sent to any Postoffice on receipt of $1.50. If not satisfactory, money refunded.
Circulars Free. Agents Wanted.
FRANZEN & BUSS, GOLDEN, ILL.
REFERENCE: GOLDEN BANK.



Leggett's Paris Green or Dry Powder Gun Distributes any dry powder. Thousands in use.

For Potato Field, Vineyard or Orchard.

Over one acre potatoes treated per hour, two rows at a time. One pound of Paris-green to the acre; no water or plaster used. One grower writes: "Your Dry Powder Gun takes less Green with half the labor that any other greener takes. It is what every potato grower wants, even if he only plants one acre. I have 40 acres and I think I have saved in labor $50 by using the gun instead of the old way." Circulars furnished showing how to do it.

LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Pittsburgh, Pa.

Agents Wanted.

ECLIPSE A WINNER

At a joint meeting of W. Mich. and Michigan State Hort. Society, at Grand Rapids, we sold

28 Eclipse Spray Pumps.

At noon other makers cut prices 25 per cent, and took just one order. Merit wins sure.
SEND FOR CATALOGUE.
MORRILL & MORLEY, Benton Harbor, Mich.

THE PEPPLER **SPRAYER**
SIX-ROW

For Trees, Potatoes and Vineyards.

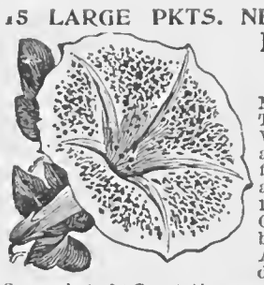
HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.

POSITIVELY WARRANTED **THE BEST ON EARTH.**

Catalogue free. Address
THOMAS PEPPLER,
P. O. Box 35. Hightstown, N. J.

15 LARGE PKTS. NEW FLOWER SEEDS FOR ONLY 15 CENTS

To pay postage and packing.



1 pkt New Japanese Imperial Morning Glory (as shown in cut). This grand new variety is truly Wonderful; flowers very large, all colors, red, green, marble fringed, white spotted with blue, and all of incomparable beauty. 1 pkt Mammoth Pansy, 1 pkt Cosmos, 1 pkt Crimson Eye Hibiscus, 1 pkt Chinese Pink, 1 pkt Aster, 1 pkt Gaillardia, 1 pkt Godetia, 1 pkt Larkspur, 1 pkt Giant Coxcomb, 1 pkt Sweet Alyssum, 1 pkt Candytuft, 1 pkt Mignonette, 1 pkt Phlox, 1 pkt Sweet Pea. 15 large packets choice vegetable seeds, all different kinds 15 cts. 15 bulbs New Gladiolus 15 cts. We will send the three collections for **Only 35 Cents.** Remember we refund your money if not as represented.
J. ROSCOE FULLER & CO., Floral Park, N. Y.

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	19	@—
Seconds to firsts	14	@18
Elgin and other Western, extras	20	@—
Western, firsts	18	@19
Western, seconds	16	@17
Western, thirds	15	@—
Western, June, extra	18	@18½
Western, June, seconds to firsts	14	@17
State dairy, half tubs, fresh, extras	19	@—
Firsts	16	@17
Seconds	14	@15
Dairies, firkins and tubs, extras	18	@—
Dairies, firkins and tubs, firsts	16	@17
Firkins, extras	17	@18
Firkins, seconds to firsts	14	@17
Welsh tubs, extras	18	@19
Welsh tubs, firsts	16	@17
Welsh tubs, seconds	14	@15
Tubs, thirds	12	@13
Western imitation creamery, firsts	16	@17
Seconds	13	@14
Western dairy, firsts	15	@16
Seconds	13	@13½
Thirds	11	@12
Factory, Fresh, small tubs, extras	15	@15½
Fresh, small tubs, firsts	14	@14½
Fresh, large tubs, firsts	12	@13
Fresh, large tubs, seconds	11	@12½
Fourths to thirds	9	@10½
Old Western factory or dairy	8	@10½
Rolls, fresh, fine	14	@—
Rolls, fresh, common to good	9	@13

EGGS.

New-laid, fancy (nearby)	18 @	19
N. Y. State, country marks, fresh gath'd	17 @	17½
Pennsylvania, country marks, new laid	17½@	18
State and Penn., fair to good	17 @	17½
Western, fresh collections, fancy	17 @	—
Western, fresh collections, fair to good	16½@	—
Southern, fresh collections	16½@	—
Western, refriger., short holdings, choice	15 @	15½
Western, refriger., September, packed	14 @	15
Western, refriger., defective, per case	2 50 @3	75
Western limed, prime to fancy, per doz	14 @	—

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	7 @	7¼
Choice, 1895, per lb	6¼@	6½
Prime, 1895, per lb	5⅞@	6
Common to good, per lb	4 @	5½
N. C., sundried, 1895, sliced, fancy	3 @	3½
Southern, sundried, common to choice	2 @	2¾
State, sundried, quarters, bbls	3½@	4
Western, sundried, quarters, bbl	3 @	3¾
South-West'n, sundried, quarters, bbl	3 @	3½
Southern, sundried, quarters, bbl	2½@	3
Southern, sundried, quarters, bags	2¼@	2¾
Chopped, 1895, per lb	2 @	—
Cores and skins, 1894, per lb	1¼@	1½
Peaches, Sundried, 1895, peeled, per lb	5 @	7
Cherries, 1895, per lb	8 @	10
Blackberries, 1895, per lb	3½@	3¾
Raspberries, evaporated, 1891, per lb	19 @	—
Sundried, 1895, per lb	17½@	—
Huckleberries, 1895, per lb	6 @	6¼

FRUITS—GREEN

Apples, Northern, fancy, selected, per bbl	2 50@3	50
Fameuse, per bbl	2 50@3	75
Ben Davis, per bbl	2 25@3	25
Jonathan, per bbl	2 00@3	00
King of Tompkins, per bbl	2 00@3	25
Baldwin, per bbl	2 25@3	00
Greening, per bbl	1 75@2	50
Winesap, per bbl	2 50@3	50
York Imperial, Va., per bbl	2 50@3	25
Spitzenberg, per bbl	1 75@2	50
Northern Spy, per bbl	2 25@3	00
Common, per bbl	75@1	50
Grapes, State, Catawba, per 5-lb basket	6@	10
Cranberries, Cape Cod, extra sorts, per bbl	—@	—
Fancy, per bbl	9 50@10	00
Prime, per bbl	8 00@9	00
Soft, per bbl	5 00@7	00
Soft, per crate	2 00@3	00
Jersey, per crate	1 75@2	25
Jersey, per bbl	6 00@7	00
Oranges, Fla., per box	3 00@5	00
Grape Fruit, Fla., per box	8 00@10	00
Tangerines, Fla., per box	10 00@14	00
Mandarins, Fla., per box	8 00@10	00
Strawberries, Fla., fancy, per quart	—@	—
Fair to good, per quart	60@	75

FURS AND SKINS.

No. 1 Quality.	North'n and Eastern.			Southern and Southwestern.		
Black bear	18 00	@	30 00	10 00	@	25 00
Cubs and yearlings	5 00	@	15 00	4 00	@	10 00
Otter	6 00	@	10 00	5 00	@	7 00
Beaver, large	6 00	@	7 00	5 00	@	6 00
Medium	4 00	@	5 00	3 00	@	4 00
Small	2 00	@	3 00	1 50	@	2 50
Silver fox	25 00	@	100 00	—	@	—
Cross fox	3 00	@	8 00	—	@	—
Red fox	1 25	@	1 50	1 10	@	1 25
Gray fox	45	@	65	40	@	55
Wolf	1 50	@	2 00	1 00	@	1 50
Prairie	60	@	80	45	@	65
Wolverine	3 00	@	4 00	—	@	—
Lynx	1 50	@	2 00	—	@	—
Wild cat	45	@	65	25	@	45
House cat, black	20	@	30	15	@	25
Colored	5	@	10	4	@	8
Marten, dark	3 00	@	8 00	—	@	—
Pale	1 50	@	2 25	—	@	—
Skunk, black	1 00	@	1 10	80	@	90
Half-striped	60	@	65	50	@	55
Striped	30	@	35	25	@	30
White	10	@	20	10	@	15
Raccoon	50	@	75	40	@	50
Opossum	15	@	20	10	@	18
Mink	85	@	1 40	60	@	1 00
Muskrat, fall	6	@	9	6	@	8
Winter	9	@	12	8	@	11

HAY AND STRAW.

Hay, No. 1	90@	—
No. 2	80@	85
No. 3	70@	75
Clover, mixed	70@	75
Clover	60@	65
Salt	40@	50
Straw, long rye	70@	85
Short rye	50@	60
Oat	45@	50
Wheat	45@	—

MEATS—DRESSED.

Veals, country dressed, prime	9 @	—
Fair to good, per lb	8 @	8½
Com. to med., per lb	6½@	7½
Buttermilks, per lb	— @	—
Small, per lb	4 @	5
Barnyards, per lb	3½@	4½
Spring lambs, each	4 00 @7	00
Roasting pigs, 10 to 25 lbs. each, per lb	8 @	12
Pork, country dressed, 40 to 60 lbs., per lb	6¼@	6½
60 to 80 lbs, per lb	6 @	6¼
80 to 120 lbs., per lb	5½@	6
120 to 180 lbs., per lb	5 @	5½
200 lbs and up, per lb	4½@	5
Rough, per lb	3 @	4
Tenderloins, per lb	15 @	16

For full information about the best Circular-saw Machines, Tread-powers, Lever-powers, Dog-powers, Steam Engines, Threshers, Clover-hullers, Feed-mills and Land-rollers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, showing "Why Ensilage Pays," send for **Ensilage Catalogue.**
Address, **MINARD HARDER,** Cobleskill, N. Y.

GRAIN.

Wheat	58	@69
Rye	45	@—
Barley	38	@45
Buckwheat, silver	38	@39½
Buckwheat, Japan	—	@—
Corn	33	@36
Oats	22	@28

GRASS SEED.

Clover, per 100 lb	6 50@	7 75
Timothy	3 50@	4 75

POTATOES.

Bermuda, No. 1, per bbl	4 00@5	00
No. 2, per bbl	2 00@2	50
Houlton Rose, per d. b. bbl	1 50@1	75
Maine Rose, per d. h. bbl	1 50@1	62
State Rose, per d. h. bbl	1 25@1	50
Maine Hebron, per sack	1 25@	—
Long Island, in bulk, per bbl	85@1	00
State Rose and Hebron, per 180 lbs	75@1	00
Burbank, etc., per 180 lbs	65@	85
Jersey, in bulk, per 180 bbl	65@	80
State and Jersey, per sack	70@	80
Common, per sack	50@	60
Sweets, Vineland, fancy, per bbl	4 00@4	75
South Jersey, per double-head bbl	3 25@3	75
Jorsey common, per barrel	2 00@3	00

POULTRY—LIVE.

Fowls, local, per lb	8	@	9
Western, per lb	8	@	8½
Southern, per lb	8	@	—
Chickens, per lb	7	@	8
Roosters, old, per lb	5	@	5½
Turkeys, mixed, per lb	8	@	8½
Ducks, local, per pair	70	@	90
Western, per pair	70	@	80
Southern, per pair	60	@	65
Geese, local, per pair	1 25	@1	62
Western, per pair	1 25	@1	50
Southern, per pair	1 12	@1	25
Pigeons, old, per pair	25	@	30
Young, per pair	20	@	25

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	—
Medium sizes, per lb	16	@	17
Small and slips, per lb	13	@	15
Western, large, per lb	15	@	16
Western, small and slips, per lb	11	@	13
Chickens, Phila., large, per lb	14	@	15
Phila., mixed weights, per lb	10	@	12
Jersey, per lb	10	@	12
State and Penn., choice, per lb	9½	@	10½
Western, choice, per lb	8	@	9
Western, fair to good, per lb	7	@	7½
Chickens & fowls, mixed, West'n, choice	9	@	9½
Fair to good, per lb	7	@	8
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	9	@	—
Western, choice, per lb	8	@	9
Western, fair to good	7	@	7½
Western, inferior	5	@	—
Old cocks, per lb	5	@	6
Ducks, Maryland, choice, per lb	15	@	16
State and Penn, choice, per lb	15	@	16
Western, choice, per lb	14	@	15
Western, fair to good, per lb	10	@	12
Western, inferior, per lb	6	@	7
Geese, Maryland, choice, per lb	10	@	11
Fair to good	8	@	9
Western, good to prime	8	@	9
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	2 75	@3	00
Mixed lots, per doz	2 25	@2	50
Dark and poor, per doz	1 75	@2	00
Turkeys, dry-picked, choice young hens	13	@	—
Mixed young hens and young toms	12	@	12½
Choice young toms	12	@	—
Fair to good	9	@	11
Old toms	10	@	—

VEGETABLES.

Beets, New Orleans, per 100 bunches	5 00@		—
Florida, per crate	1 75@2		00
Brussels sprouts, per quart	4@		10
Cabbage, Long Island, per 100	3 00@5		00
State, per 100	2 00@4		00
Foreign, per 100	5 50@6		00
Carrots, washed, per bbl	75@1		00
Unwashed, per bbl	50@		75
Cauliflower, L. I and Jersey, per bbl	—@		—
Celery, State & West'n, fancy, large, per doz	60@		75
State & West'n, average, prime, per doz	25@		50
State & West'n, small, per doz	10@		20
Jersey, large, per doz roots	25@		50
Jersey, small, per doz roots	10@		20
Jersey and L. I., per dozen flat bunches	1 00@1		50
California, per doz	25@1		00
Cucumbers, Fla., per crate	—@		—
Hothouse, per doz	75@1		50
Egg plant, Florida, per bbl	4 00@7		00
Green peas, Florida, per crate	1 00@4		00
Horseradish, per lb	4@		5
Kale, per bbl	90@1		00
Lettuce, New Orleans, per bbl	—@		—
Florida, per half bbl basket	1 00@2		50
Boston, hothouse, per doz	50@1		00
Bermuda, per crate	75@1		25
Onions, Orange County, red, per bbl	75@		90
Orange County, yellow, per bbl	1 25@1		50
Eastern, white, per bbl	1 50@2		00
Eastern, red, per bbl	90@1		00
Eastern, yellow, per bbl	1 25@1		75
State and Western, yellow, per d. h. bbl	1 00@1		25
Bermuda, per crate	1 75@		—
Peppers, green, Fla., per crate	1 00@2		00
Radishes, hothouse, per 100 bunches	2 00@3		00
Norfolk, per 100 bunches	—@		—
Spinach, per bbl	2 00@4		00
Squash, Marrow, per bbl	50@		60
Hubbard, per bbl	60@		75
Florida, per crate	50@		75
String beans, Florida, per crate	1 00@3		50
Tomatoes, Fla., per carrier	1 50@2		50
Per crate	1 00@2		00
Key West, per carrier	1 00@2		25
Key West, per peck box	25@		40
Turnips, Jersey, Russia, per bbl	60@		75
Canada Russia, per bbl	75@		80
Watercress, per 100 bunches	75@1		50

AGRICULTURAL CHEMICALS.

These are quotations for large lots:

Ground bone, fine average, per ton	22 00	@23	00
Kainit, per 2,000 lbs	8 00	@ 9	55
Kieserct, future shipment	7 00	@ 7	25
Mur. potash, 80 p. c.	1 78	@ 1	83
Nitrate of soda, per 100 lbs	1 70	@ 1	80
Double manure salt (48@49 per cent, less than 2½ per cent chlorine)	1 12	@ 1	17
High grade manure salt (90@98 p. c. sulphate potash)	2 08	@ 2	17
Manure salt, in bulk, 24@36 p. c. per unit, O. P., per 100 lbs	37	@	38
Bone black, spent, per 2,000 lbs	17 00	@18	00
Ammon. superphos., high grade	25 00	@26	00
Dried blood, West'n, h. g. fine ground	1 52½@	1	57½
Low grade, fine ground	1 50	@ 1	52½
Tankage, per ton	19 00	@19	50
Azotine	1 52½@	1	55
Fish scrap, wet (at factory), f. o. b	9 00	@ 9	50
Dry (at factory), f. o. b	19 00	@19	50
Sulp. ammo., for gas, per 100 lbs	2 50	@ 2	55
For bone, per 100 lbs	2 40	@ 2	45
S. C., phos. rock, ground, per 2,000 lbs	5 00	@ 5	25
Undried, f. o. b., Ashley River, per 2,240 lbs	3 00	@	—
Dried	3 25	@ 3	50

WOOL.

XX and above, Ohio	18	@19
X, Ohio	17	@18
Other grades	20	@22
Washed combing and delaine	18	@22
Unwashed combing	17	@20
Texas, medium to choice	11	@13
Fine and medium, fall clipped, Texas	9	@10
California	9	@13½
Oregon	12	@13½
Territory	9	@15

MILK AND CREAM.

The total daily supply has been 19,965 cans of milk, 191 cans of condensed milk and 343 cans of cream. The average price paid for the surplus on the plat forms has been $1.55 a can of 40 quarts.

"BROWN'S BRONCHIAL TROCHES" are the simplest, quickest and most effectual remedy for Bronchitis, Asthma and Throat Diseases.—*Adv.*

HARTSHORN'S SELF-ACTING SHADE ROLLERS
NOTICE NAME THUS *Stewart Hartshorn* ON LABEL AND GET THE GENUINE HARTSHORN

$5 Hand Bone, Shell, and Corn Mills for Poultrymen. Daisy Bone Cutter. Power Mills. Circular and testimonials Free.
WILSON BROS., Easton, Pa.

THE "SUCCESS"
Combination Plow and Potato Digger
FIRST CLASS {STEEL PLOW / STEEL DIGGER} In One
Patent Applied For.

Send for Circulars giving full description and price of this remarkable Tool.
Worth double the price for either purpose.....
Greatest Money Saver of the age.
D. Y. Hallock & Son, Box 805, York, Pa.

A SPRAYER $2.50
Express Prepaid.
FREE catalogue and hints on spraying.
THE COMET
All Brass are best; sells on sight. Sprays from bucket or barrel, 50 feet. You want it for your orchard, vines, and plants. I want agents. Write today.
H. B. RUSLER. Johnstown, Ohio, U. S. A.

THE COLUMBIAN RASPBERRY
is extremely hardy and vigorous, resists drought, has no suckers, as it propagates from the tips only. Largest in size; best for canning, as it retains its form, size, color and flavor. It adheres firmly to the stem, does not crumble in picking, is a good shipper and wonderfully prolific. 8,000 quarts to the acre.
Price, 50 cents each; $2.50 per half dozen; $5 per dozen. CAUTION: Buy only of responsible, well-known dealers, or of the originator. Illustrated circular sent free on application.
J. T. THOMPSON, Onelda, N. Y.

TREES GROW WHILE YOU SLEEP,
before you know it your reward comes in fruit & shade. Begin NOW by writing for our low prices.
Flower City Nursery Co., 27 Crescent Ave.,
ROCHESTER, N. Y.
☞ Remember we pay the freight.

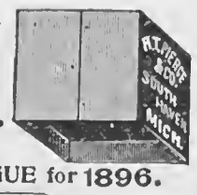
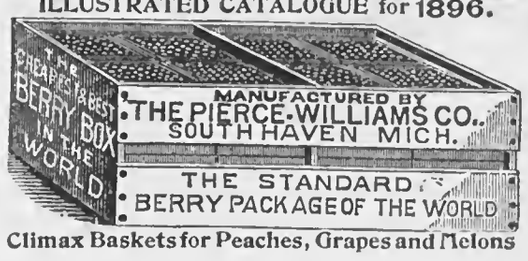
POTATO SIR WILLIAM THE NEW HANDSOME RECORD BREAKER.
Fifteen pounds Seed, planted May 2, 1895, two-eye pieces, 15 inches apart in drill, with field care only, and no fertilizer, produced 18½ bushels marketable, and 34 pounds unmarketable size tubers. Size of plot, 1,380 square feet; average yield per acre, 597 bushels, of which 97 per cent were marketable. Does this interest you? If so, write for prices.
R. D. BURR, Gloversville, N. Y.

Carman No. 1 Potatoes.
$3 per barrel. Barrel lots only.
T. GREINER, La Salle, N. Y.

Thoroughbred Jersey Cattle.
Breeder of Thoroughbred Jersey Cattle, of the St. Lambert and Stoke Pogis 3rd families; and owner of the celebrated herd that produced 367 pounds of butter per cow. Calves, Yearlings, Two-year-olds and Full Aged Cattle for Sale. *Visitors Made Welcome.* CLOVER LAWN STOCK FARM, MYRON REIGHTMYER, Prop., West Richmondville, Scho. Co., N. Y.

For Sale—Splendid Farm, 105 acres. Eight-room House, Outbuildings. Best situation; lake front. Suit Dairy, Stock, Fruits. Truck. Snap bargain. $7,000. Easy terms. Owner in Scotland. Particulars, CAPT. ZIMMERMAN, Inverness, Florida.

Working Adhesive Soil.—There are some soils which are so adhesive as to be plowed and harrowed with difficulty. The steel plows may turn over the land, but the common harrows are powerless to break up the turned soil. The "ACME" Pulverizing Harrow, Clod Crusher and Leveler, on the other hand, does this work of reducing such soil to good tilth in the most perfect manner. The sloping, crushing teeth and the smoothing bar, press down the furrow slices; the sharp, sloping steel coulters, cut up and turn over the earth and reduce it to a loose condition. No matter how adhesive the soil is, this implement soon fits it for the seed and insures a good crop. See advertisement on page 73.

BERRY BOXES.

Send Postal for new 32-page ILLUSTRATED CATALOGUE for 1896.


Climax Baskets for Peaches, Grapes and Melons

WILLIS SAP SPOUT.
Will not break. Send for circular.
In one piece with hook. Handsomely made from tinned malleable iron. Far superior to all others. Full line of other Maple Sugar Goods.
CHARLES MILLAR & SON, UTICA, N.Y.

Buy our "ECLIPSE ROOFING PAINT" and "ECLIPSE" PAINTED STEEL
ROOFING
Absolutely guaranteed for five years. Write
CURTIS STEEL ROOFING COMPANY,
57 SIGLER STREET, NILES, O.

SAWS {ANY WOOD. IN ANY POSITION ON ANY GROUND. ANYWHERE.}
1 Man with a Felding Sawing Machine **Beats** 2 Men with a Cross-Cut Saw.
5 to 9 Cords Daily is the Usual Average for one Man.
This cut shows this wonderful machine in three positions, sawing a tree down, sawing a log and folded to carry home. Ten years experience has made wonderful improvements. Our machines for 1896 saw faster and run easier and will last longer than ever. Adjusted in one minute to suit the 12 year old boy or 7 foot giant. Saws in 9 positions, timber 4 in. to 5½ ft. through. Write today for Free Catalogue with testimonial letters (unsolicited) from every state, and almost every county. Every Machine Fully Guaranteed. First Order Secures Agency.

FOLDING SAWING MACHINE CO., 67-69 S. Clinton St., Chicago.

CREAMERY OUTFIT FOR SALE. First-class. Cheap. Almost new. Address MEHOOPANY CREAMERY CO., Limited, North Mehoopany, Pa.

PALMER & FROST,
Successors to
G. S. PALMER and PALMER, RIVENBURG & CO.,
Established 1869.
POULTRY AND CALVES A SPECIALTY
Also Butter, Eggs, Apples, Potatoes and Oranges.
166 Reade Street, New York.
Reference: Irving National Bank.

LOOK before you ship your Butter, Eggs, Poultry, Game and Nuts. We can get you highest market prices for fine goods. Choice Creamery Butter, Fancy Leghorn Eggs, Dressed Poultry and Game a specialty. Shipping cards and stencils on application to
GARNER & CO., 32 Little 12th St., New York,
Reference: Gansevoort Bank, New York.

WILLIAM H. COHEN & CO.,
COMMISSION MERCHANTS.
Our Specialties are
Game, Furs, Ginseng, Poultry, Calves, Hothouse Lamb and Mushrooms.
229 and 231 Washington Street, New York.
Also Packers of First-class Canned Goods.

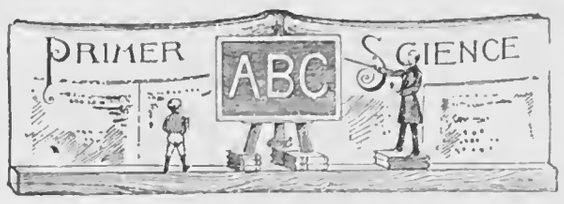
Established 1875.
GEO. P. HAMMOND & CO.,
Commission Merchants and Dealers in all kinds of COUNTRY PRODUCE, Butter, Eggs, Cheese, Poultry. *Foreign and Domestic Fruits.* Consignments solicited. 34 & 36 Little 12th St., New York.

E. H. PECK (Successor) M. N. Edwards & Co. (Est. 1861)
Commission Merchants,
CALVES. POULTRY, GAME, Etc.
No. 193 DUANE STREET, NEW YORK.
Liberal advances by arrangement. Sales and checks mailed daily.
References: Irving Nat'l Bank and THE R. N.-Y.

Dressed Calves, *Butter. Eggs, POULTRY,*
ON COMMISSION.
Best Salesman in New York.
I. T. HUNTER, 174 Chambers St., New York.

SOMERS, BROTHER & CO.
ESTABLISHED IN 1876.
Fruits and Produce
Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.
Market Reports, Special References, Stencils, etc., furnished free on application.
611 Liberty St., Pittsburgh, Pa.
☞ Inquiries and Correspondence Invited.

Shippers and Producers
of Fruit, Vegetables, and all kinds of Produce, desiring a good market to ship to, will do well to correspond with G. G. WETTERAU, General Commission Merchant, Hazleton, Pa.



FEEDING A HEN.

PART IV.

By way of illustration, and in order to get our figuring stated, let us take that daily ration given by Mr. Mapes on page 838 of last year's volume. Here it is:

MORNING FEED.—Four pounds of wheat bran, one pound of corn meal, one pound of ground oats, one pound of malt sprouts, one pound of Bowker's animal meal, 2¼ pounds of pot cheese.

NOON FEED.—Four pounds of oats.

EVENING FEED.—Ten pounds of whole corn.

That is the daily ration for 120 hens—24¼ pounds, or 388 ounces, which gives a trifle less than 3¼ ounces for each hen. Now the first thing that strikes you is, that it will not do to say that 3¼ ounces of *any* food will sustain a hen. There is a good deal of difference between 3¼ ounces of pumpkin, and the same weight of solid meat. You feed one man on a pound of pumpkin pie, and another man on a pound of meat and bread, and the pie-fed man will feel an "aching void" that will warn him to avoid a wrestle with the other man. So you see that we must have something besides the mere weights of these foods if we desire to compare them fairly. We must find how much actual *nourishment* the hens find in the ration, and to do this, we must see how much of each—muscle-makers, fat-formers and pure fat—these foods contain. This is where the value of analyses comes in, for they give us the basis for making a fair comparison. Here are fair average analyses of a number of foods often given to poultry;

POUNDS IN 100.

	Muscle-makers.	Fat-formers.	Pure fat.
Curd	20	5½	51
Animal meal	42	0	12
Corn meal	7¼	63½	3½
Bran	11¾	44¾	2½
Oats	8½	46	4
Malt sprouts	18½	37½	1¾
Clover	7¾	40¼	1½
Cut Bone	22		16½
Potatoes	2	22	1-5

These figures are close enough for figuring. They are not carried out to decimal fractions. The curd represents the pot-cheese which Mr. Mapes obtains from skim-milk.

Now let's see what the morning mess figures out:

MORNING MESS.

	Muscle-makers.	Fat-formers.	Pure fat.
4 pounds of bran	.468	1.76	.08
1 pound of corn meal	.07	.63	.035
1 pound of ground oats	.085	.46	.04
1 pound of malt sprouts	.185	.37	.017
1 pound of animal meal	.420	..	.12
2¼ pounds of pot-cheese	.48	.12	.01
Total	1.708	3.54	.302

Or, in other words, the 120 hens had for their breakfast 1.71 pound of muscle-makers, 3.54 pounds of fat-formers, and .3 pound of pure fat. To put it in another way, this represented 5.55 pounds or about 89 ounces of actual food for the 120 hens.

The dinner of four pounds of oats represents .34 pound of muscle-makers, 1.84 pound of fat-formers, and .16 pound of pure fat, making 2.34 pounds, or about 38 ounces in all.

The supper of 10 pounds of whole corn represents .84 pound of muscle-makers, 6 pounds of fat-formers and .48 pound of pure fat, making 7.32 pounds or 117 ounces all told. That is a fair analysis for whole corn which differs considerably as to variety.

Now let us see what we can make of the whole day's feeding:

	Muscle-makers.	Fat-formers.	Pure fat.	Total ounces.	Ratio.
Breakfast	1.71	3.54	.30	89	1:2⅔
Dinner	.34	1.84	.16	38	1:6½
Supper	.84	6.	.48	117	1:8¼
Total	2.89	11.38	.94	244	1:4¾

You understand that the pure fat in foods is considered 2½ times as valuable as the fat-formers. The latter make the former. So, in estimating the ratio of muscle-makers to fat-formers, we multiply the pure fat by 2½, add to the total fat-formers, and divide by the total muscle-makers to get the proportion. A glance at this table shows that each hen has a little over two ounces of *actual food* per day—though she eats, supposing she gets an equal share, 3¼ ounces of material to obtain the two ounces of actual nutriment. You will notice how the breakfast differs from the supper. Next week we shall try to sift out some of the reasons why these meals are divided up as they are. We think that it will pay you to pick apart a ration or two for yourself, and see what you are feeding your hens.

Live Stock Matters.

THE CHESHIRE SWINE BREEDERS.

The Cheshire Swine Breeders' Association held their 12th annual meeting at Cornell University, January 8 and 9. Prof. Roberts, in welcoming the breeders, said, "If all the breeders' associations would combine and hold their annual meeting the same week—at the same place, the various breeders could get acquainted, compare notes, secure reduced railroad rates, and, as a unit, secure favorable rates and rules for transporting and exhibiting stock at fairs." This is an important matter, and New York should follow the example of Ohio and other States.

Mr. Button advocated the breeding off of some of the nose and leg; he would do it by a careful selection of parents. Others objected to this course, thinking that the body would be also shortened, and that the resulting fineness would bring, as in some of the other breeds, barrenness and weak bones. A muscular sow is best for a breeder. C. R. White said, "Pigs are ruined by improper feeding before birth. The sow is poor at service, and no bone and muscle-forming food is given. This lack affects the offspring which are weak and poor. The corn diet produces fever, a craving for salt, nervous excitement, and pig eating. Too long periods between feedings and indigestion produce a humping of the back. Exposure to wet, and cold, and ill health, cause long hair, which is a sure indication of something wrong."

An ideal ration suggested by Mr. Mandeville is a mixture of two bushels of oats and one of peas, fed whole with beets. The cost of grinding is saved, and the whole is well chewed. Another ration is wheat middlings and milk.

Prof. Roberts: "Keep the body cool—full of water. With dry food, the muscles are unyielding, feverish, and health is affected."

Prof Wing: "A certain amount of warmth must be maintained in the system. The warmer the quarters, the more vegetables may be fed profitably. Under proper conditions, almost an exclusive vegetable ration may be used with safety."

Prof. James Law, among other notes, gave the following list of causes for humpbacked pigs:

1. Distortion of the spine causing hunchback, is a fault of development before birth, and may be charged on a faulty nutrition of the bones, or in other cases compression of the body of the pig while still soft and yielding. 2. Hnmpback may result after birth from the imperfect nutrition of the bones in the condition known as rickets. This may depend on an inherited fault in assimilation, further fostered by unwholesome conditions of life, dark, damp, confined pens, lack of sunshine and exercise, soured or otherwise decomposed food, insufficient food, etc. 3. Humping of the back usually occurs in rheumatism, usually caused in its turn by cold, damp, and other unwholesome conditions. 4. The humping up of the back further occurs in all painful diseases of the abdomen, in inflammation of the stomach, bowels, liver, or kidneys, in hog cholera with severe abdominal localization, in tuberculosis of the abdomen, in trichinous infection, and in inflammation of the feet. The first two of these states, it will be observed, consist in direct and permanent distortion of the backbone, a counterpart of hunchback in man. The last two are mere rigid arching of the back, and tend to disappear with the subsidence of the disease which caused them.

Andrew Baker: "Feed pregnant animals and gain four weeks extra growth

(*Continued on next page.*)

Miscellaneous Advertising.

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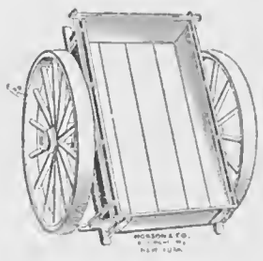
Geo A Macbeth Co

Pittsburgh Pa



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Catalogue free If your dealer does not handle our goods, we will on application name bottom prices.

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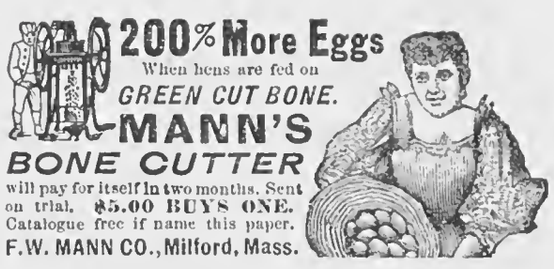

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will pay for itself in two months. Sent on trial. $5.00 BUYS ONE. Catalogue free if name this paper.

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Crush cob and grind all kinds of grain. Have conical shaped grinders. *An entire departure* from all other mills.

Lightest running, strongest and **handiest** made. **Three sizes:** 2 to 6, 6 to 8 and 8 to 12 h. p., and one style for windwheel use.

☞ *I also make SWEEP MILLS that crush ear corn and grind all small grains, FINE.*

F. N. BOWSHER, South Bend, Ind.

This is the Deduct freight from price of mill.

QUAKER CITY GRINDING MILL

For CORN and COBS, FEED, and TABLE MEAL. Improved for 1896. Send for all mills advertised. Keep the best—return all others.

A.W. STRAUB & CO. Philada., Pa., and 41 S. Jefferson St., Chicago, Ill.

The nervous system is weakened by the

Neuralgia Torture.

Every nerve is strengthened in the cure of it by

SAINT JACOBS OIL TRY IT

Leather gets

hard and brittle—use Vacuum Leather Oil. Get a can at a harness- or shoe-store, 25c a half-pint to $1.25 a gallon; book "How to Take Care of Leather," and swob, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

Sold only in cans, to make sure of fair dealing everywhere—handy cans. Best oil for farm machinery also. If you can't find it, write to VACUUM OIL COMPANY, Rochester, N. Y.

Why Pay Retail Price

When you can buy a custom handmade oak leather **Harness** direct from the mfrs. at wholesale price. Send 2c. stamp for illustrated Catalogue, giving full description.

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SHOEMAKER'S POULTRY ALMANAC FOR 1896.

Its a beauty, larger and better than ever, nearly 100 pages 8x10 on best book paper. Fully illustrated with finest engravings of special design. A veritable Encyclopedia of Chicken information. Sent postpaid for only 15 cents. Address,

C. C. SHOEMAKER, Box 73, Freeport, Ill, U. S. A.

P. S.—Incubators and Brooders. Hot water, pipe system, the best in the world, a fine 32 page Catalogue free.

NEW CATALOGUE FOR 1896

Printed in colors that are correct. Best and finest illustrated Poultry Catalogue ever printed. Send for it and be convinced. It tells how to make poultry pay, how to build poultry houses, gives remedies for diseases, also latest prices for fowls and eggs. If interested in poultry this book is what you want. Sent post paid for 15 cents.

The J. W. Miller Co. Box 114, Freeport, Ill.

NEW MAMMOTH

Poultry Guide for 1896 Finest book ever published, contains nearly 100 pages, all printed in colors, plans for best poultry houses, sure remedies and recipes for all diseases, and how to make poultry and gardening pay. Sent post paid for 15c.

John Bauscher, Jr., box 66 Freeport, Ill.

GREIDER'S NEW CATALOGUE

FOR 1896. Finer and larger than ever, the finest engravings of poultry, with descriptions of each variety, best plans for poultry houses, how to raise broilers, caring of fowls, remedies for all diseases, best lice destroyer, prices of eggs and stock from high scoring birds, send 10 cents for this noted book which will be deducted from first order.

Address, B. H. GREIDER, FLORIN, PA., U. S. A.

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40 Standard Breeds Illustrated & fully described in my new Poultry Book. Reliable information for poultrymen & intending buyers. Good stock Ducks & Geese; also Shetland Ponies. Send 6c in stamps

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BEE KEEPERS SEND FOR Sample copy of CLEANINGS IN BEE CULTURE. A Handsomely Illustrated Magazine, and Catalog. of BEE SUPPLIES FREE. THE A. I. ROOT CO., Medina, O.

Horses, Cattle, Sheep and Swine.

Geo. W. Curtis, M. S. A. Origin, History, Improvement, Description, Characteristics, Merits, Objections, Adaptability South, etc., of each of the Different Breeds, with Hints on Selection, Care and Management. Methods of practical breeders of the United States and Canada. Superbly illustrated. About 100 full page cuts. Cloth, $2.

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LIVE STOCK MATTERS.

(CONTINUED.)

of the young before they are born. Fat covers many defects, and in the case of ignorant judges, one is compelled to ruin an animal to be able to win first prize at the fairs. The best is supposed to be at the fair and the beginner buys his start at a long price while there. When he gets the pampered animal home, it 'goes to pieces', and he is disgusted with the breed. The second object of showing stock, i. e., advertising, is defeated, and future sales cut short. For future profit, show stock on their merits, use no deception, and work for better judges. The short-course students can be instructed in judging, and should make good ones."

It was stated that potatoes are worth 10 cents per bushel to feed. They are much better if steamed. Dr. Smeade said that he sold $1,308 worth of pork grown on potatoes and $50 worth of grain.

Pigs are best weaned by feeding wheat at three weeks, adding milk until they come to suckle but little. Then take the sow from the pigs, and they, being accustomed to the pen, do not fret.

Mr. Doolittle said that a well-bred hog will produce more lard per 100 pounds of fat than a scrub, which gives muscle and scraps. A round animal is not as profitable as a deep one for good cuts. Avoid a heavy head, thick rind, big leg, and breed one which gives the most high-priced meats. Have hogs that have no wrinkles and that have lean meat among the fat.

Prof. Wing, with his stereopticon gave an interesting lecture, and explained some problems in line breeding. Some of the notable examples of great animals have been produced by this system. A study of the subject would be a profitable winter evenings' occupation.

This association is in a flourishing condition, and Vol. III. of the herd book is being published. The officers for the following year are: President, C. E. Chapman; Vice-President, R. D. Button; Secretary, H. J. Brown, Harford, N. Y.

DEATH TO THE RATS.

If F. W. H. will get two good cats and a thoroughbred Fox terrier, his rats will find it to their interest to move. If he take good care of his cats and dog, they will take care of the rats and mice. I speak from experience. R. N. RANDALL.

On page 19, F. W. H. wishes information as to how to get rid of rats. There is just one way, and that is to keep plenty of cats, and let them have free access to all the rat runs. Take good care of the cats. Feed them well on almost any food but meat; the rats will supply that. Potatoes are not good food for cats. Don't shut them out on very cold nights. S. K. M.

In years past, when we have been troubled with rats, the discovery was made that our stock of cats was either very much reduced, or lacking entirely. And then, again, when we were blessed with an entire absence of the objectionable rodents—as is the case at present—we find that the cats have full possession. But don't expect such a favorable state of affairs if dogs are allowed to torment and drive the cats off from the premises! Feed the cats milk. I. D. C.

New York.

I used to have a barnful of rats, but since I keep from four to six cats which are fed in the barn all the time, I have had no rats for five years past, and I think that if F. W. H. would try the same plan, he would succeed in ridding his farm of the pests. I know from personal experience that good cats will do the work, as my neighbors, who are down on cats are overrun with rats. But F. W. H. must keep his cats in the barn, for house cats seldom amount to anything. Above all, do not feed them too much meat, but skim-milk. It will not cost as much to keep a good cat, as a poor one. F. E. S.

In the spring of 1888, I moved on a farm which had poor buildings; the barn is a "flat bottom," as we call them here, to distinguish them from bank barns. The flat barns form the best of rat harbors, especially when they become old and rickety. This barn was literally alive with the rodents, and not only the barn but the house, and other outbuildings. As I did not like living with rats very well, I concluded to try to free the premises, if possible, from them. The granary was their rendezvous at night. I soon discovered that there were plenty of holes in the granary where they could go in and out. I shut all the holes but one, that I could find. In the evening after dark, I would go quietly to the barn and close the hole in the granary which I had left for an entrance for them. Then with a lantern in one hand, and a good club in the other, I would proceed to give them their medicine. It was a long time before I succeeded in finding all the places of egress, but I generally could kill three or four before they could get out, and if I could succeed in catching any alive (which I frequently did), I would daub them all over with pine tar, and then let them go again, so that they could tell their more fortunate comrades of their fate. I generally would go to the barn two and three times during the night. It was not long before my rats concluded to move to more comfortable quarters. I haven't seen a rat on the premises for six or seven years, and if they ever come back again, I shall give them the same treatment that I gave them before. S. B. F.

Blake, O.

Take good, hard potash, pulverize it coarsely, put it into the mouths of the holes, and spread it so that a rat will be obliged to step on it. The atmosphere will dissolve the potash, and it then becomes very sticky. If a rat steps on it, it will stick to his feet, and to clean it, he will put his foot into his mouth; as soon as he has done this, he will wish that he hadn't, and will soon make tracks for cleaner places. I have had occasion to use the above several times during the past 30 years, and have never known it to fail when properly done. I have had the greatest difficulty under straw stacks, when straw was loose, and the holes large. Make the holes smaller, and if they dig around them, then try again. J. W. G.

Clay Center, Kan.

A CONSTANT COUGH WITH FAILING STRENGTH, and Wasting of Flesh, are symptoms denoting Pulmonary organs more or less seriously affected. You will find a safe remedy for all Lung or Throat-ails in Dr. D. Jayne's Expectorant.—*Adv.*

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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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We wish to remind you of the importance of using liberally

OUR LINSEED OIL MEAL.

Never before has linseed oil meal been anything like as low in price as now, and as prevailing prices are not remunerative to the manufacturer, feeders can readily reason that prices must soon be higher.

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THOUSANDS CURED—BOOK FREE.

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CAKED UDDER AND GARGET

is positively cured by the use of SCOTT'S ARABIAN PASTE. GUARANTEED. Will not scatter or reduce the flow of milk. Sent by mail on receipt of price. ½ lb., 50c.; 1 lb., $1.00. SCOTT'S ARABIAN PASTE CO., ROCHESTER, N. Y.

Ground Bone, Shells, Charcoal and Limestone Grit and **Poultry Supplies.** Send for circular. Manufactured by J. H. SLACK, Bloomsbury, N. J.

GRANULATED BONE FOR POULTRY.

Bone Meal, Crushed Oyster Shells, Calcite, Crushed Flint, Ground Beef Scraps. *Send for Price List.*

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From our factories in each of the above cities. Our **O. K. FOOD** is still the leading brand, fresh made, dry and right. If your grain dealer does not keep it, send to the factory nearest you. **CUT GREEN BONE** a specialty. Send for catalogue to

C. A. BARTLETT, Worcester, Mass.

Thoroughbred Live Stock.

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WILLS A. SEWARD, 207 Broadway, N. Y. City.

Notice: THE R. N.-Y. approves this new departure.

If One Keeps One Hen,

It will be a source of satisfaction to him to feed it with Bowker's Animal Meal. It is as good for small flocks as for larger ones, and the larger ones are steady consumers of this Animal Meal. It furnishes the animal food which is required for the economical production of eggs in quantity. Eggs cannot be made from nothing. Feed Bowker's Animal Meal.

It makes hens lay;
It makes chickens grow.
Enough for 10 hens 3 months, $1.
Four times as much for $2.25.
Our little book, "The Egg," free.

The BOWKER COMPANY,
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CRUSHED OYSTER Shells for Poultry. 100-lb. bag, 60 cents; five, $2.50; ten, $4.50. Per ton, $8. E. N. LEETE, Leete's Island, Conn.

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BROODERS, VEGETABLE and CLOVER CUTTERS.

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A complete line of poultry supplies at *lowest prices.* Green cut bone will **MAKE HENS LAY** in Winter and produce fertile eggs for hatching. Send 4c. for catalog and valuable information on poultry raising.

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Simple, Perfect, Self-Regulating. Thousands in successful operation. Guaranteed to hatch a larger percentage of fertile eggs at less cost than any other Hatcher. Lowest priced first-class Hatcher made. GEO. H. STAHL, 114 to 122 S. 6th St., Quincy, Ill.

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Hatches Chickens by Steam. Absolutely **self-regulating.** The simplest, most reliable, and cheapest first-class Hatcher in the market. Circulars free.

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PROFITS IN POULTRY

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Best in the world, hot water, pipe system. Will hatch chicks when others fail. Catalogue Free. Shoemaker Incubator Co., Freeport, Ill. U. S. A.

EGGS for hatching from High Grade Rose Comb White Leghorns, Rose Comb Brown Leghorns and Single Comb Brown Leghorns and Black Minorcas. Great Layers; 15 Eggs, $1; 26, $1.50. A few cockerels for sale. Send for circular, free. OTTAQUECHEE POULTRY YARDS, North Hartland, Vt.

The "Lakeside" Herd.

CLOTHILDE H. H. B. 1308.

Milk record 26,021 pounds 2 ounces in a year. Butter record, 28 pounds 2½ ounces in a week.

We have 100 of this cow's descendants for sale. If this is the class of cattle you want, write to

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HIGH-CLASS

Registered Jersey Cattle.

ROBT. F. SHANNON, Pittsburgh, Pa.

HARRY REEDER & CO. Breeders & shippers of imported stock, cattle, sheep, pigs, poultry, house and hunting dogs. Illustrated catalog free. THORNDALE, Chester Co., Pa

A WORD to the WISE is sufficient. Orders booked for pigs from spring litters. Quality the BEST.

WILLSWOOD HERD

Recorded Berkshire Swine.

WILLS A. SEWARD, Budd's Lake, N. J.

MILL FARM HERD OF

CHESHIRES!

Always ahead. Nearly all the 1st premiums at Chicago in 1893 and more than half at New York State Fair in 1894 and 1895. *Low prices. Correspondence solicited.*

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SWEEPING REDUCTION to suit hard times, and reduce large stock of choice animals. *You run no risk* sending order, as I am *the only* breeder guaranteeing satisfaction, and agreeing to refund money and pay freight *both ways* on any stock rejected. *You* are to be the judges. My swine are the old "True Type," having broad, dished face, lop ear, straight hair and back, good body, bone and ham, and are *growthy*, but not coarse.

G. R. FOULKE, Bala Farm, West Chester, Pa.

NOW READY. The finest Chester Whites I ever bred, 2 to 6 months old, at reduced prices, in keeping with the times. Breeding stock all reg. in Nat'l Chester White Record. Write your wants and I will quote you prices of individual pigs. Also two litters of Scotch Collie Pups. EDW'D WALTER, Eureka Stock Farm, W. Chester, Pa.

SIR FRANCIS 2969.

CHESHIRES FROM SUNNYSIDE STOCK FARM.—Show Record for 1895. On exhibition at five leading Fairs in N. Y. State. Showed in 32 Classes: won 26 First and five Second Prizes. Stock of all ages for sale.

D. A. WATROUS, Ouaquaga, Broome Co., N. Y.

CHESHIRES PURE AND CHOICE. ED. S. HILL, Peruville, N. Y.

Reg. Poland-Chinas

Berkshires and Cheste Whites. Choice large strains, 8-week pigs not akin. Boars and Sows all ages. Hard time prices.

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HERE is the place } To buy Poland-China Hogs Poultry and Seeds.
WE are the firm That always please.

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REQUA BROS. Highland Mills, N. Y., Breeders of Belgian Hares. Breeders, $5 pair; Guinea Pigs, $2 pair. Bantams, Buff Cochin and Game at rock prices. Two-cent stamp for circular. ORANGE COUNTY HARE AND POULTRY FARM.

TURKEYS—Mammoth White and Bronze Toulouse Geese, White Guineas. The leading varieties of poultry. Choice young Turkeys, B. and W. P. Rock, W. Wyandotte and Br. Leghorn Cockerels to spare. Circular free.

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WILD TURKEYS for sale $4 ₱ pair

Address W. W. BENDER, Tub, Pa.

Buy Eggs and Breeding Stock

OF THE KNOB MOUNTAIN POULTRY FARM

Bred for laying qualities and hardihood. All profitable varieties. M. SAGER, ORANGEVILLE, PA.

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BLACKBREASTED RED,
BLACK JERSEY,
WHALEBACK.

For description and prices, address

W. C. OAKES, Daggett, Mich.

SEND STAMP for Illustrated Catalogue of BROOKSIDE POULTRY FARM, Columbus, N. J.

ELLIOT'S PARCHMENT BUTTER PAPER. HALF A REAM. **FREE**

To dairymen or others who will use it, we will send half a ream, 8x11, free, if they will forward 30 cents to pay postage. Why not try the Best Butter Wrapper?

A. G. ELLIOT & CO., Paper Manufacturers, Philadelphia, Pa.

FROM A VERMONT FRUIT FARM.

I note what you say in January number of Green's Fruit Grower about my fruit trees having come from a Rochester nursery, which is correct, but I would like to add a word more. For many years I bought nursery stock for my own planting of traveling tree agents, who were selling for the best nurseries. I paid for plum, pear and cherry trees from $1 to $2 each. My large orders led a certain nurseryman to think that I would make a good tree agent, for some eight or nine years ago he sent me a canvasser's outfit and offered me a salary or 60 per cent for selling and delivering fruit stock for him. This set me to thinking that if they could pay 60 per cent for selling and delivering their stock, it could not cost much at first hands. So I sat down and wrote to Charles A. Green for his wholesale catalogue, which came in due season, and after a careful perusal of it I felt like the boy who wanted to hire some one to kick him. I found that I could buy of Green's nursery for about 25 cents what I had been paying $1 for. But I had my doubts about this cheap stock being good. However, the next spring I risked a small order and was agreeably surprised, for I found it the best stock I had ever had from any nursery at any price. I took much pains to show this stock to my neighbors, and the next spring many of them put their orders with mine, and got their stock as cheap as I did. Thus year after year since then my orders for stock of Green's Nursery Company have increased, until now it takes several large boxes to hold it. I am no "tree agent" and do not go out soliciting orders. The orders come to me. I have found the stock first-class, and so far as it has fruited, it is always true to name, and I found G. N. Co., always square and honorable in all their dealings.

The company of whom I used to buy sent an agent here some years ago, and after spending several days and being met at every door with the remark, "Oh, no. We don't want anything from you: we give our orders to Mr. Halladay." he wrote his firm that there was no need of staying here any longer. Their reply was that "there must be a stop put to that at once, to stay here four weeks and thoroughly canvass the town." Well, the agent stayed, and when he got through he came to me and showed me his order, which amounted to less than $8. A gentleman drove up to my door last winter. He sat down and eyed me for some time. Well, says he, "I have driven 10 miles to see you. I am selling (or trying to sell) fruit stock for ——— Nursery Company. I have just started for them, and nearly every house I called at I was told that 'we order all our stock through Mr. Halladay.' I have come 10 miles to see what kind of stock you can sell at such prices." I took the agent to my orchard and showed him the stock I had growing (all from Green's Nursery Company) and he declared that it was the best he had ever seen, and that he would go home and give up trying to sell at the prices he had been trying to get. Most agents tell their customers not to deal with me or Green, but for all this my orders to Green's Nursery Company each year are more than four times that of all the tree agents who come to this town. I have as fine an orchard of young trees as can be found in this State, and every tree was bought of Green's Nursery Company, Rochester, N. Y.—A. A. Halladay, Vermont.

Note: Our readers will remember that THE RURAL NEW-YORKER published on its first page a photographic cut of Mr. Halladay's fruit farm and home, with a long article describing his methods of culture, and relating the story of his success. This article was published in the November 30, (1895) issue.—C. A. Green Rochester, N. Y.

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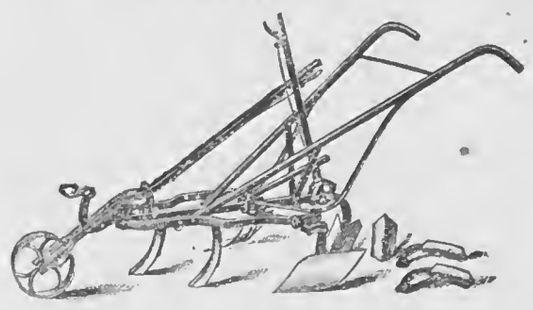

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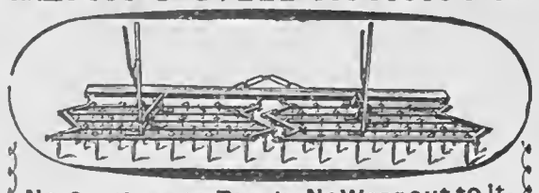

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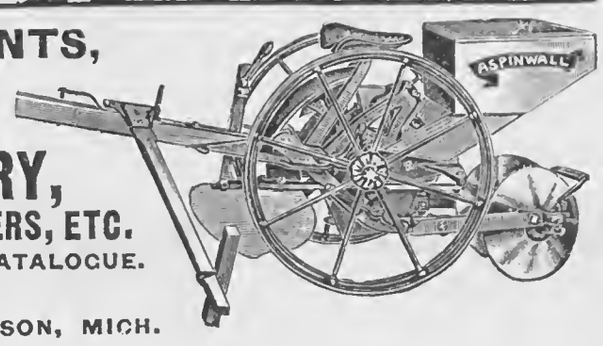

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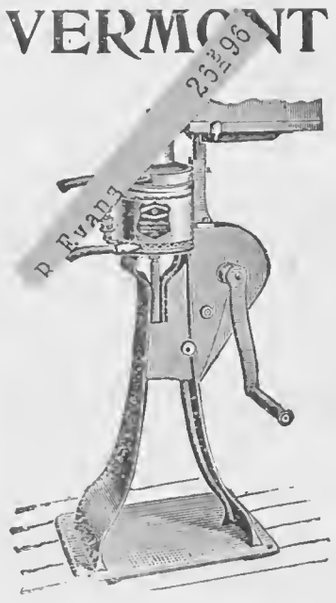
VERMONT IS O. K., as usual.



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A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO., N.Y.

VOL. LV. No. 2402. NEW YORK, FEBRUARY 8, 1896. $1.00 PER YEAR.

STEAM SUGAR MAKING IN OHIO.

THE NEW WAY OF EVAPORATING SAP.

Saves Fuel, Time, Labor and Water.

The most advanced step yet taken in the reduction of the sap of the maple tree to syrup and sugar, is by the use of steam. There is scarcely a farm in Geauga County, the best maple sugar producing county in the world, but has its sugar camp, and in nearly all of them, the most approved of modern appliances are used. Only a few producers, however, have "turned on the steam" to aid them, but enough have tried it to carry it out of the experimental stage, and prove beyond a venture that it is the most rapid and economical method yet tried.

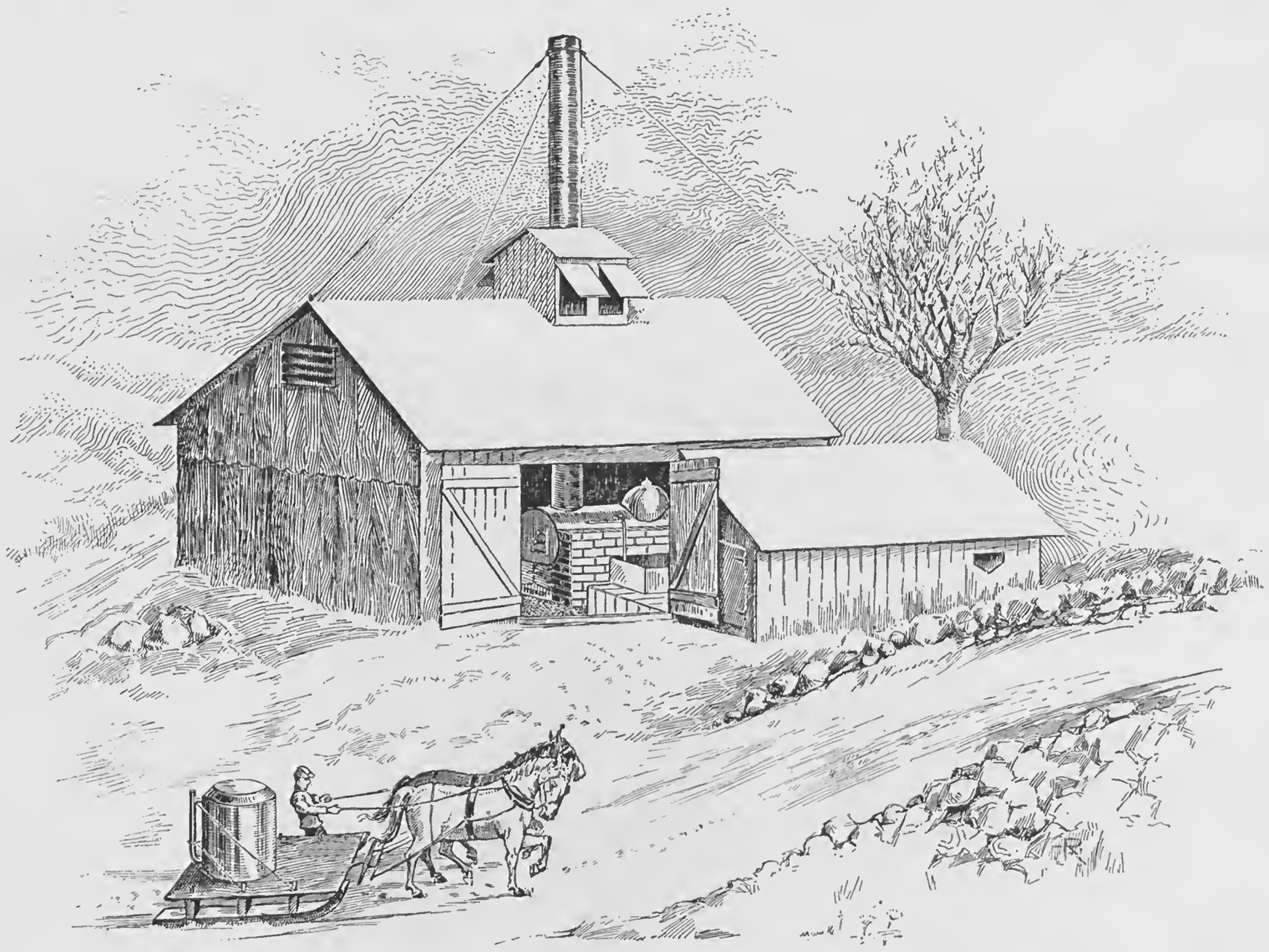
An opportunity occurred recently for me to inspect one of the most complete and perfectly arranged steam sugar plants to be found in this county, where every farmer is a sugarmaker. Mr. K. W. Henry of Bainbridge, is owner of the plant and also of a fine farm that is conducted on the same advanced ideas of management and cultivation that he carries into his sugar-making processes. In response to some inquiries about making sugar by steam, Mr. Henry said:

"I have made sugar for nearly 40 years, and during that time have passed through nearly all the successive steps that have been taken in the manufacture of maple syrup and sugar. I have a camp of 1,200 thrifty, vigorous trees, and until I got my present apparatus for boiling, I felt, all the time, as though I were wasting much valuable time and fuel. Three years ago, feeling certain, from a careful investigation, that steam was the most successful servant to employ, I made the change from the common pans and heater that I was then using, to the boiler and pans necessary for the using of steam. This change involved an outlay of just about $200. I purchased a boiler 44 inches by 16 feet—called a forty-horse power. I built up one of my old pans so that it had a depth of 18 inches. My pans are now four feet in width by 16 feet in length, and this gives me a boiling surface of 64 square feet. The steam passes directly from the boiler through common steam pipes to the front end of the pans (Fig. 32), and from there wends its serpentine course through many coils along the bottom of the pans to the rear end, where just before it exhausts, it rises to a heater, in which all the cold sap is heated previous to its being admitted into the boiling pans, thus saving considerable heat."

"What steam pressure is necessary to do your work?" I asked.

"I keep the pressure at about 60 pounds, and begin boiling when it is 40 pounds. In just three minutes from the time steam is turned on, the sap is boiling. It immediately rises in a clear, sparkling foam to the top of the pans, and stays like that constantly—a bubbling, seething mass, almost as white as the foam on a pail of milk."

Rapidity of evaporation is the point of all points to be reached, where it can be done without too great an outlay of fuel. It is a matter of considerable difficulty to ascertain accurately just how many barrels per hour one is boiling away with the fire arch and its pans or evaporator, after all is well heated up and boiling well. With this steam heat, where the boiling point remains so regular and constant, I thought that this would not be a difficult matter to find out.



SUGAR MAKING BY STEAM! A MODERN SUGAR CAMP IN OHIO. FIG. 32.

Upon this point of rapid evaporation Mr. Henry said:

"To make the matter clear by comparison, let me tell you what a gentleman told me about his new evaporator. He came from quite a distance to see me boil by steam. He said that he was using a new 5 x 20 foot evaporator, and could boil away only five barrels per hour, counting the time from starting the fire, to the finishing up—both very slow processes with an evaporator. I can, with less than two-thirds of the boiling surface that this gentleman has, boil away eight barrels per hour, including both start and finish, which is not so slow a process, and while everything is booming along, I can evaporate 10 barrels per hour. This I have done many times in the presence of witnesses, as I have a great many visitors at my camp."

HOW THE WORK IS DONE.—"I keep two men with two teams gathering sap every day we boil, and the difficulty that I always experienced when using my arch and pans. I find exactly reversed now. Then it was always a matter of great difficulty to boil away the sap fast enough to keep the gatherers from overflowing the receiving tanks. Now I have to wait at the start till a good and sufficient supply is assured, before I venture to turn on the steam. Often when there is only a small amount of sap in the buckets, and the work of gathering is necessarily slow, I do not start the fire under the boiler till after dinner; then I can "boom" it along to a finish without stopping to wait for the sap to come in.

"One great advantage about this method, is that there is no more night work about my sugar camp. I am willing, however, to forego all the poetry and romance connected with that part of sugar making, and in place of it take a good night's rest. I gather as much as 80 barrels a day when there is a good run of sap, and we never have to work at the camp any later than 8 or 9 o'clock in the evening to have that amount of sap all reduced to nearly as many gallons of the most delicious compound ever distilled from Nature's sources.

"We syrup off at frequent intervals during the day, usually taking off about two large pailfuls at a time. Our buckets are all fitted with covers, so that nothing but sap gets into them—not even a ray of sunlight is admitted to begin the chemical process of souring. The buckets are all scalded at the opening of the season, and thoroughly washed at the tree once or twice during the season. This all operates to make a finer grade of sugar and syrup, and of better quality also. On this point of quality and clearness, Dr. W. I. Chamberlain of the Ohio Farmer remarked while sampling some, 'You would better not try to make it any whiter, as the public might suspect that its purity was due to granulated sugar.'

"The essential points to be observed in the manufacture of a fine, white quality of syrup and sugar, are frequent gathering, careful straining, and rapid evaporation. When these points are carefully observed, any good sugarmaker can make a quality of syrup as clear as honey, but having a fine, rich, golden tint. When made like that, it is the finest tasting sweet that Mother Nature ever mixed."

THE ADVANTAGE OF THE STEAM METHOD.—"If the making of sugar by steam is so superior to all other methods, why do not more farmers use it?" I asked.

"In the first place, nearly every farmer is already

supplied with quite valuable apparatus that he cannot afford to throw aside, or sell at a sacrifice; and in the next place, not all camps are conveniently situated near an adequate supply of water."

"How much water does it take?"

"I found out once, at the cost of a good deal of labor, just how much water is required. The sugar season of 1895 was the driest one I ever knew, and one morning when we had 60 barrels of sap on hand, we found that our supply pond was empty, and we were compelled to haul from a pond situated at quite a little distance from our camp, just about the same amount of water as we had sap to boil. But when I get my boiler fitted with a hot-water inspirator, instead of a cold water injector, and use the condensed, exhaust steam, that difficulty will not be likely to occur again. Besides, there will then be a great saving in both fuel and water, as the boiler will then receive its supply at a temperature of 90 or 100 degrees instead of 40 or 45 degrees."

"How much is the saving in fuel by using steam?"

"I know to a certainty that I now use only about one-half the amount of fuel that I formerly did. My fuel is nearly all old rails, tree tops, and refuse wood generally. This is all stored away in the sugar-house when it is dry in the fall. I purchase a small amount of coal to mix with it under the boiler, as I find that it gives a much steadier fire, and adds considerable intensity to the heat. Thus you see that there is a great saving in two important factors in this business—time and fuel—and this, of course, has a very salutary effect on the profits."

"Tell us something about the profits."

"The profits in the maple sugar business are variable. Prices have been much reduced along with all other farm products. But taking every thing into consideration, I regard the sugar-making season the most profitable time of the year on my farm. The sugar season of 1895 was the poorest one, in Ohio, that has ever been known, I think. But a little more than half of the usual amount was made. My sales for that season foot up to just about $300. From this sum must be deducted the pay for two hired men, the cost of packages, the cost of fuel—which is little but the work, except for a small amount of coal—and the depreciation of fixtures. These are not all determinate quantities, but may be roughly bunched together and estimated at $80. That is about the way I figure out last year's accounts. This, you see, would leave me a net profit of $220. Some years past, the profits have been much greater than that. I do not figure my own work into the expense account at all. My family and I do not consider that we are working at a fixed salary, but take the profits, whatever they are, as the measure of our services."

"Have you any advice to give those who might wish to embark in the business of sugar-making by steam?"

"Experience is a great teacher, and my experience would lead me to say: Be sure your water supply is constant and adequate; get a boiler a little larger than your need seems to require, as there must be a large capacity for reserve steam; remember that steam is drawn off in this way much faster than would be required for an engine that corresponded to the size of the boiler. It is not necessary to hire an engineer. But little expert knowledge is necessary, as there is no engine to look to. Understand the injector, or better yet, the inspirator, keep the boiler properly filled, and watch the indicator. One man does all this, and all the syruping off, and firing, and the multitude of other things, necessary to be done at my camp."

Fig. 32 shows a view of Mr. Henry's sugar house, from a sketch made on the spot. But little of the interior, of course, could be shown. Immediately in front of the boiler, a large amount of fuel is stored. The boiler, boiling pans and heater, occupy the most of the remaining room in the main building. The shed attached contains the receiving vats for the sap. An elevated driveway was built up by the shed, so that the sap could proceed by gravitation alone, its downward, sinuous journey to be transformed by superheated energy from cool, clear sap, to the transparent, delicious maple syrup.

Mr. Henry's syrup and sugar are all taken by private customers, some of whom are situated at points as wide apart as Boston and San Francisco. By marketing his products in this way, his profits are considerably in excess of what they would be if he sold to the wholesale buyers, as nearly all of the farmers do. It is evident that he has solved the problem of rapid evaporation combined with a minimum amount of fuel.

A. R. PHILLIPS.

PAYING AND NON-PAYING "TINKERING."

In a recent R. N.-Y. I was accused of advising "unprofitable tinkering" on the farm. The question that has since been agitating my mind is, What is "unprofitable tinkering"? I am acquainted with the owner of a 120-acre farm who says that he despises "tinkering," and so he spends about two-thirds of every day in winter, sitting in stores and standing on street corners. In summer he plows, plants, cultivates and harvests, doing each job with a rush, and as soon as it is done, he is off to town to sit on boxes and listen to other loafers tell how the Government should be run. I have known him not less than 25 years, and his financial condition has remained stationary all that time. His buildings and fences are in a state of chronic dilapidation, and always have been. A few months ago he remarked: "I'm getting pretty blamed tired of farming, and I'm going to quit it. Haven't made anything at it for years, so what's the use of working?" Ever since I've known him, he has "despised tinkering," and as soon as he had finished the farm work on hand, he dropped everything and went to town.

THE SWILL BARROW ON ITS JOURNEY. Fig. 33.

UNLOADING THE SWILL BARROW. Fig. 34.

In another direction, lives a young fellow who is farming 80 acres of land, and he seems always to be busy. When he goes to town, he transacts his business and returns home. He doesn't move very fast, but usually he is moving, and doing something. A few days ago he said, "I don't much like going to town; it takes up so much time, and I don't go any oftener than necessary. You see, I don't drive very fast, and while I'm on the road, there's nothing a fellow can do but look at what others are doing!"

When at home, he is almost constantly at work when the weather will permit, and more than half the time he is merely "tinkering." But some way he seems to make this tinkering quite remunerative. Everything about house, yards and farm looks neat and tidy, and he raises good crops. He keeps two good cows and makes them pay him well for the food and care they get. He raises a number of hogs every year, and is quite "lucky" with them. He also raises quite a lot of very fine fowls, and they seem to do unusually well under his care. He never fails to have a good garden, and it is well kept—clear of weeds and trash, and the vegetables are first-class. He is making some money, adding a little to his surplus every year, and he is not tired of farming. In fact, he said quite recently that he would not swap his job for any that he knew of. He is not regarded as a great man, a brilliant genius or anything of that sort; but rather, as an easy-going, quiet, lucky sort of a fellow who seems to have a knack of doing things just about the right time to make them come out in great shape.

How much of this "luck" and "knack" do my critics think is due to tinkering? I can tell them. All of it. Unremunerative tinkering on the farm is sitting with the heels on the stove and spitting tobacco juice into the coal hod; gathering wormy apples and making them into cider to ruin the stomach with; raising scrub horses, cattle, sheep, hogs or fowls; growing half a crop on land that will grow a full one if scientifically farmed; rubbing rust off a plowshare with a brick; hacking out weeds with a dull, rusty hoe, and half a hundred other things that may be named.

Paying tinkering is growing a full supply of fruit for the family and saving about $100 a year. Raising a full supply of first-class vegetables and thereby saving another hundred. Feeding and watering all stock at the right time, and scientifically. Selecting the best for seed and carefully preserving it. Cleaning, greasing and housing tools when brought in, and doing the thousand and one things that need to be done just when they should be done. All such tinkering requires time, but I think that it is time profitably spent. As I have said before, it is not what a man earns, but what he saves that makes him rich, and there is more to be saved by skillful tinkering on the farm than anywhere else that I know of. I have seen men who despise tinkering make considerable money farming; but some way, it seemed to get away from them about as fast as they made it. I have seen others who were quite expert at looking after the odds and ends, and who never made any great lump sums; but some way they held on to what they did make, or at least, it staid with them, and when old age came on, they were in very comfortable circumstances, which is a great thing.

FRED GRUNDY.

A HANDY SWILL BARROW.

We have had a good deal to say about the back yard and the back door. Oftimes the biggest nuisance about the back door is the swill barrel. It is a breeder of disease and slovenliness. Why? Chiefly because it is stationary and hard to get away. If it were on wheels or fixed so that it might be easily moved, it never would get into such a state. It doesn't look so bad at this season, perhaps, but when summer comes, it will be worse than ever. Now, if ever, is the time to put wheels on the swill barrel. How? Mr. F. Q. White of Westchester County, N. Y., tells how he did it. If you can beat his way, we will give you the space to do it in:

Last winter, readers of The R. N.-Y. discussed the best method of handling the skim-milk and waste from the kitchen and dairy. Being much interested in the subject, and having solved the problem on our own farm, I wrote The R. N.-Y. that I would send a description of the swill barrow we used on "Fernwood Farm." Figs. 33 and 34 give a very fair idea of what it is, and how to make it. All that is needed is an old wheelbarrow wheel, two sticks for handles, a mackerel barrel, and four short strips for braces used as shown in the picture. Fig. 33 shows a man just

starting for the orchard where the pigs are running, with a barrel of swill, and Fig. 34 shows the pigs being fed. Any one studying the cuts can see how perfect the method is—so easily made and so handy to use. The expense is nearly nothing.

Our barrel has been in use for several years, and is much the worse for wear, but we still use it every day, going from the dairyroom with the skim-milk to the kitchen shed, where the swill tub is emptied in, and the barrelful is wheeled into the barn to the pig pen. In the summer, when the pigs are shut in the orchard, the barrel stands near the kitchen door behind some shrubbery, and is wheeled off to the pigs three times a day with their rations.

RECUPERATIVE FORCES IN THE SOIL. VII.

Tillage unquestionably tends to make the plant food of the soil more available; but in this respect, there are great differences, as has long been recognized. Plowing is an art, and may be made a science; yet even then, like other sciences, it cannot exceed its conditions, or its implements. A plow, before it can be satisfactory, must be so constructed as not to be doing harm along with the good; and this every plow does when it hardens the bottom of the furrow.

In all soils, there is more or less a difference between the surface layer and what lies beneath it; and it is a fact that the ordinary methods of tillage tend to add to that difference. Especially do they tend to compress the subsoil in such a way as both to prevent the descent of rain water, and the ascent of soil water; in each case obstructing what we should wish to promote—the free circulation of moisture in both directions. This is, perhaps, the greatest defect of the ordinary methods of tillage. It has long been understood by skillful gardeners, who, in preparing ground for their purposes, insist on spading the soil at least two "spits" deep. The results of this practice are somewhat obscured in this case by the profuse manuring which gardeners practice at the same time; but in all clay or heavy loam soils, no one can make use of it, even aside from manuring, without noting a great improvement in crop, more notable in the second and following years than in the first. The ordinary farmer thinks that he cannot afford to do this in his field work; and in our American farming, as yet, he is probably correct. But it is well for him to understand and appreciate correct principles, even while his situation is such as to hinder their application. The Western farmer has already, in many cases, reached the point where he can appreciate the value of manures; and his time will come when, like the farmers of longer-cropped fields, he feels that something must be done other than has been done to "make farming pay."

Our plows need improvement in the direction above indicated; and the first attempt toward realization is to be seen, I think, in what is called the "Cutaway" harrows which are now coming so generally into use, at least, here in New England. These implements, made larger and stronger, and drawn by proportionally stronger teams, must, I think, become the plows of the future. Before they can be used, we must have the rocks and stones out. But we ought to have them out anyway; and it is my opinion, in my own case, that it is better—decidedly better—to turn our rocky lands into pastures, and put the money hitherto spent upon them into efforts for the better cultivation of smaller areas.

The pioneer plan of skinning the land was excusable for our pioneer forefathers, who had both rocks and stumps to battle with, and very poor markets (if any) for their products. But times have changed, and men must change with them. A great revolution is silently going on in American farming. The consuming public call more and more for the best class of farm products, and less and less for the inferior classes—which, in some cases, are already supplanted by fraudulent imitations that could hardly continue to exist in competition with genuine goods of a high class. It has been shown, for instance, that when the very best of imitations are accepted by expert judges, it is only in the very lowest class that they are placed. Such an event must, therefore, be counted as a triumph for the genuine product. Yet every farmer of intelligence must soon be aware that the time is almost past for "fairly good" products. Nothing but the best has any money in it for honest producers.

T. H. HOSKINS.

DOES THE HEN CONTROL HER EGG?

Can She Stop Laying at Will?

THE QUESTION.

Most of us have noticed that, when a flock of hens are moved from one house to another, or startled, or subjected to prolonged nervous excitement, the production of eggs is affected, though the feed, water and care may remain the same. Now what causes this singular thing? Is the act of egg-laying in hens in any degree voluntary? In other words, can a hen refrain from laying at will? If so, for what length of time can she prevent the formation of an egg? If you can give us any theory, opinion or fact bearing on this point, we shall be obliged to you.

THE ANSWERS.

Some Results of Experiments.

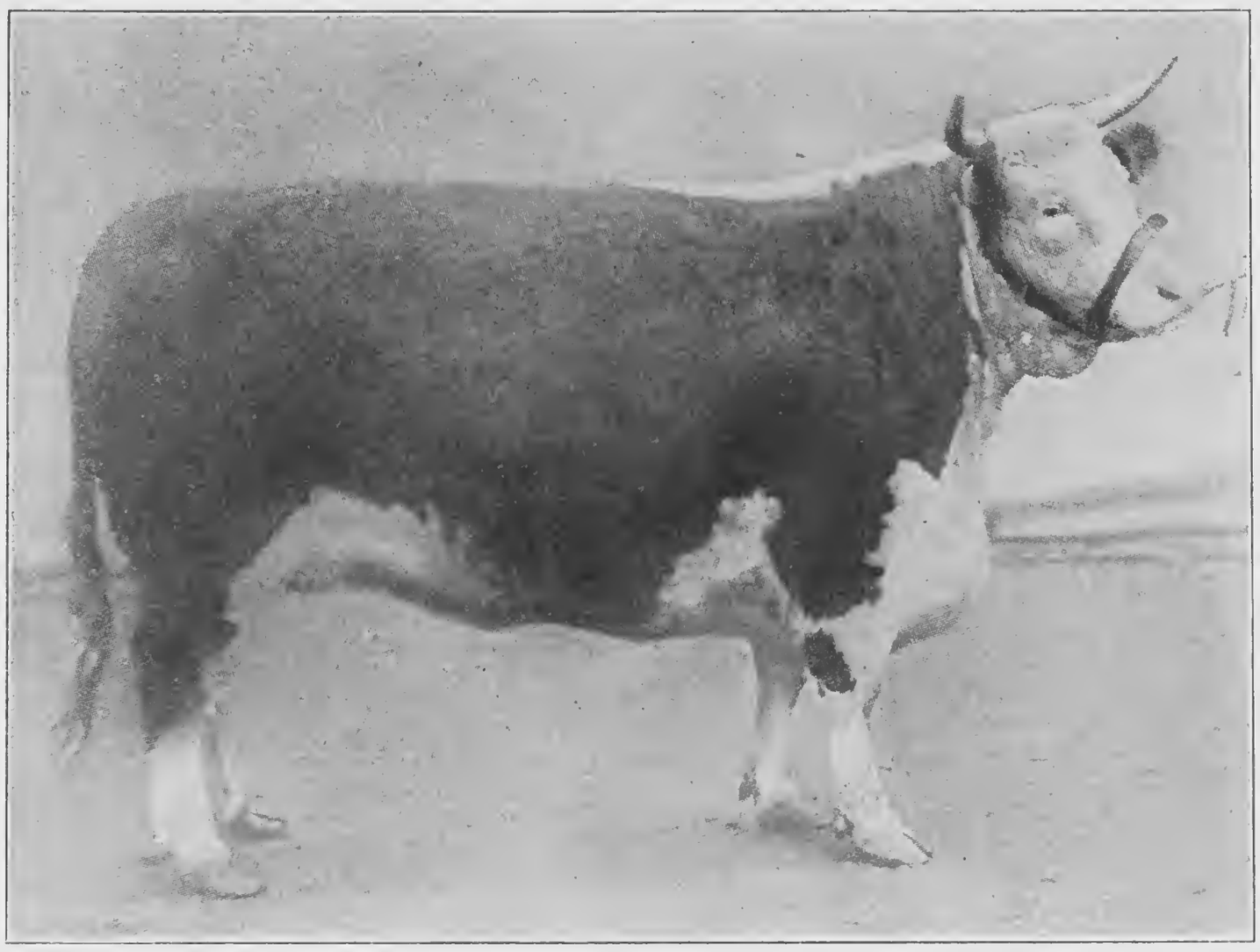
A hen can postpone laying a fully formed egg for one or two days, but whether, when an egg is retained longer than this, it is altogether voluntary, I cannot say. I do not know whether the hen "can prevent the formation of an egg" at will or not, but believe that, when development is delayed, it is from outside causes. An injury which will prevent the exclusion of an egg, will not always prevent the formation of others. I once took 18 eggs, complete except the shells, and of nearly full size, from a hen which had become egg-bound through the breaking of the shell of an egg. The enormously enlarged oviduct had not prevented, and, apparently not delayed the almost complete formation of these eggs, and the partial development of many more. Moving of the hens, or considerable disturbance, is not always followed by diminished egg yield, but it seems to be generally the case. Some breeders postpone the laying season of pullets intended for exhibition or breeding, by moving them occasionally; but this seems to have less effect upon old hens. Moderate disturbance or excitement seems sometimes to act as a needed nervous stimulant, and often proves of immediate and permanent benefit; but a reaction follows severe excitement, as it does the effect of strong stimulants.

We know how important it is to have quiet surroundings about calving, foaling or farrowing time. In many instances where daily egg production has been observed, it has, during the first laying season, diminished after handling the birds. With some of these same fowls during the second year, however, there has been no such falling off in the egg yield, and even a slight increase on an average. These pullets and hens were handled at intervals of about four weeks to get their weights, and, although they were moved as carefully and quietly as possible, being weighed many times at night, there was considerable excitement. On an average of 74 times with pullets, the egg yield during the three days immediately following the handling, was about 87 per cent of what it was during the three days immediately before. During the five days immediately after handling, the egg yield was about 91 per cent of what it had been for the five days before. Of eight pens of pullets giving the above averages, each of seven followed the general rule, and one pen on an average of 11 observations laid the same before and after weighing. This pen was like three others that all followed the rule. On an average of 37 times with older fowls, the egg production for the five days after weighing was 106 per cent of what it had been for the preceding five days. For the three days after weighing, it was 98 per cent of what it had been for the preceding three days. The effect of handling appeared the same with Leghorns, which never seemed to get "tame," as with Cochins, which always seemed "tame." Similar results came from Minorcas, Brahmas and Games.

New York Ex. Station. WM. P. WHEELER.

When Are Eggs Withheld?

It is true that, when a hen is changed from one location to another, she sometimes ceases to lay, but it is only temporary. There seems to be an instinct of self-preservation prompting her first to secure a safe place of deposit before laying again. Birds which build nests, cease laying if their nests are destroyed. Whether it is a voluntary act, by will, or a check to reproduction through natural agencies, due to fear and excitement until the danger is passed, is unknown; but the withholding of eggs under certain circumstances, has occurred under my observation frequently, much depending, however, on the stage of progress of the embryo eggs. Then, again, there are periods when the hen cannot control the conditions, especially when the eggs are in an advanced stage, as she will drop them at night while sitting on the roost. Frequently, when a hen is changed to another location, she refuses to eat until reconciled to her new surroundings, the number of eggs being lessened correspondingly. P. H. JACOBS



AN ENGLISH PRIZE WINNING HEREFORD HEIFER. FIG. 35. SEE PAGE 89.

Some Experience from Henry Hales.

I think that the feelings and surroundings have much to do with the egg production of hens. I have always noticed that, where hens are kept in dirty, uncomfortable houses, the owners often complain of their not laying. Some eggs, no doubt, must be laid by every hen, even though under uncongenial circumstances; but I think that to get hens to be good layers no matter what the breed, their accommodations should be the most comfortable. No doubt a hen can refrain from laying in a great measure, and I think the length of time would be in a degree, dependent upon circumstances and the time of year. I can give some experience as to the effect of shifting the hens. When removed from one place to another, if the hen is laying, one or two eggs, seldom more than one, will be so far advanced in the oviduct, that it cannot be withheld. After laying this one, or at the most, two, she will then stop laying till she has become accustomed to her environments. Should this be in the spring, she will do so quicker than at any other time of year. The length of time according to my observations, is from one to two weeks as near as I can remember. Should hens be traveling in coops, laying is deferred for weeks; this I have known from importing them.

A Batch of Comments.

I do not think that a hen can refrain from laying at will. How does fright cause spasms in some persons, or make others sick abed with nervous prostration? Why does a change make some people homesick and good for nothing? SAMUEL CUSHMAN.

That hens will stop laying when frightened or moved, or their nervous systems are disturbed, is an assured fact. I cannot say that I know what causes it, but will give my opinion. It is that it takes some of the ingredients necessary to complete the egg, to

build up the nervous system, thus leaving the egg uncompleted; or that it weakens the nerves of the ovaries and oviduct, making them inactive, leaving no power to exclude the egg. JAMES H. SEELY.

I do not think that the hen has any desire or will to control the egg production, but simply that change of quarters, of feed, or agitating her in any way, or worrying her will affect her egg production just as the same causes will affect the milk production in a sensitive, nervous cow. JAMES RANKIN.

It seems that hens, to do their best, must be thoroughly accustomed to their quarters, and be contented. A flock can be kept from laying almost entirely, by changing from place to place. A hen that is laying regularly, if moved, will drop an egg or two, or may be three or four, then stop for a longer or shorter time, or until she gets accustomed to the place. For best results, I would advise keeping in the same quarters, feeding and caring for them regularly, and above all avoiding having them frightened in any way. I would never allow a dog in the poultry yard. D. A. MOUNT.

New Jersey.

WHAT THEY SAY.

"STRAW POTATOES" AGAIN.—In order that the article on straw potatoes may not be misleading, I wish to make a correction. I would not consider the river bottoms suitable to grow straw potatoes. We live on the uplands, and consider the highest and driest acres on each farm as the most suitable for growing potatoes in this way; also an early potato grown under straw will mature fully two weeks later than under cultivation. Thousands of acres of early potatoes are grown in the American bottom; growers are very cautious to rush them into the market before our straw potatoes come in. They are also cautious to get our seed (never planting their own) and not always trusting the dealer, but often buy them in the field before they are dug. I would advise the readers of THE R. N.-Y. to grow a few in this way, and try them as part of their seed at least, and should everything be as favorable as it is here, they will not regret it. D. F. M.

Belleville, Ill.

TO KILL A YOUNG HORN.—D. M. S., page 30, inquires about killing horns on calves, and is advised to use caustic potash; but unless he knows how, he may find himself owning a calf with one horn off and one horn on. The calf should be treated when four or five days old, or as soon as the horns can be felt. A dish of water, a pair of scissors (blunt-pointed preferred) and a piece of paper to hold the potash while using, are needed. Let the calf be thrown, and the assistant get astride of it. Clip the hair from around the horn for a space the size of a silver quarter. Wrap a piece of paper around one end of a stick of the caustic potash to protect the fingers. Wet the horn and rub on the potash until it has a slightly raw look and feeling. Rub the potash thoroughly over the whole space clipped, for if one spot be left, a horn will grow, though a deformed one. If properly done, one application is enough. Five cents' worth of caustic potash is enough for three or four calves. Keep it in a small bottle tightly corked. T. L. B.

Hamilton, N. Y.

WHOLE CORN AND POTATOES.—I send you some figures comparing whole corn with raw potatoes as a milk producer. The figures given are the average of seven days' feeding of each:

	Pounds milk.
55 pounds potatoes and 6 ears corn gave	15.94
60 pounds potatoes and no corn gave	15.86
38 pounds potatoes and 12 ears corn gave	14.15
60 pounds potatoes and 4 ears corn gave	15.38
46 pounds mangels and 8 ears corn gave	14.21

The cow got very little rough fodder. I gave two cows a small armful of corn fodder every day, and they had the run of a four-acre hay stubble picked nearly clean. This may seem like a good many potatoes for one cow, but they did not hurt her, and she ate them greedily. However, I began feeding in small quantities, gradually increasing. As the yield diminished so rapidly when I cut off part of the potatoes, I dared not try corn alone, for fear of a milk famine at our house. I am only a "one-cow man." Being unground, much of the corn, of course, was undigested. I admit that this was not a balanced ration, for as soon as I finished gathering corn, the bill of fare and results read as follows:

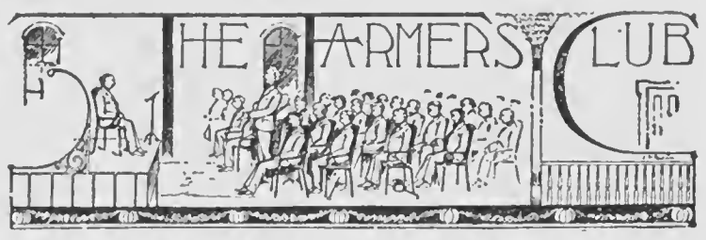
Potatoes, 26 pounds.
Stalk field (unlimited fodder).
Milk, 18.27 pounds.

an increase of over two pounds. G. H. J.

Missouri.

DOG, SHEEP AND RIFLE.—I read often in THE R. N.-Y. of the trouble that the sheep men have with dogs. As I live within a mile of a good-sized town, and have kept more or less sheep for 10 years without losing but one by dogs, I give my method. When I first got my sheep, I also bought a good 40-calibre rifle, and every time I saw a dog on my place, I tried to see how close I could come to his heels without hitting him. I followed that up for three or four years, and by that time, the dogs seemed to know that it was a bad place for dogs. If a dog did not learn after being shot at two or three times, I shot to kill, and used him under the grape vines. One year I did not see a dog on the place for more than six months. I never had any trouble with the owners of town dogs, as I gave them to understand that I would not shoot any dog that did not bother my sheep, and nights I always keep them shut up, so that if they wished they could turn them loose without any danger from me. There must be close to 50 hunting dogs within a mile of me, but to my knowledge, the only dogs that ever have bothered any, were part bull dogs and little black and tans. H. P. D.

Warwick, N. Y.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Best Vines for a Piazza.

F. C. S., Elizabeth, N. J.—1. Our house faces the south, and has an L-shaped piazza on the south and east. What ornamental vines would you recommend for shade? The piazza roof is about 15 feet from the ground. I would like them to run to the piazza roof on the east side, and on the front to the eaves of the house—about 25 or 30 feet. We formerly had Virginia Creeper, but it became so unsightly that we cut it down and tried Variegated hop on the recommendation of THE R. N.-Y.; but it does not answer at all. What do you think of Akebia quinata? What about the different varieties of clematis? Which variety of the clematis grows the tallest? The catalogues differ on this point. Whatever kind of vine you recommend, give the distance apart to plant so as to secure the desired shade, as I may not know the spreading qualities of those. 2. All things considered, what is the best wrinkled pea for quality and quantity, that can be grown without brushing for the kitchen garden?

ANS.—1. For variety's sake, we would suggest Akebia quinata, the Dutchman's Pipe (Aristolochia sipho), one of the very best for shade; the Climbing hydrangea, which will stand dense shade; Actinidia arguta, the rankest-growing vine we have ever had experience with, and Hall's honeysuckle. The wistarias are fine for their grand racemes of flowers, but not so good for shade. Jackmanii, Henryi and Lawsoniana are the best of the clematises of which we know. The clematises may be planted rather close together—two feet apart. The others may be planted five feet apart, and cut back as needed. 2. We really know of no better pea than the Improved Stratagem—a selection of the old Stratagem. Among the dwarfs, Nott's Excelsior is the best.

What Improvement in Gladioli?

G. R. W., Lyndon, Ky.—1. Some time ago, I saw the statement that there had been no improvement in the newer gladioli over the older varieties. I have grown thousands of seedlings of late, and as fine, I believe, as do other disinterested parties who are capable of judging, as the sun ever shone upon. I would be pleased to have you name 10 or 12 of the best old kinds, as I wish to grow some for comparison. I mention some old ones that I have, that are not comparable: Napoleon III., Mad Monneret, Ceres and Reine Blanche. 2. Have the gladiolus and the montbretia ever been successfully crossed? 3. Will the palm P. daetylifera make a good house plant?

ANS.—1. THE R. N.-Y. has taken a lively interest in the gladiolus for 25 years. The first dozen we imported cost us $23. Really, some of those rank among the best of to-day; notably Shakspeare, Eugene Scribe, Lord Byron and Addison. To these may be added, Meyerbeer, Napoleon III., Mary Stuart and Le Poussin. We have tried the of late, much-lauded "Childsii" varieties, and have nothing to say in their favor. The so-called black, blue and brown colors are myths. The racemes are long and the flowers far apart. 2. No, we do not think the Montbretia and gladiolus have ever been crossed. Four years ago, we made a persistent effort to do it, but seeds did not form. 3. Yes.

Prune Growing at the South.

W. A. L., Orange, Mass.—Can good prunes be grown in northern Georgia and North Carolina? If not, why not? Is not the climate of those States quite similar to that on the Pacific coast?

ANS.—Every experiment in growing prunes in the localities referred to, has so far as I have been enabled to ascertain, resulted in failure. An occasional crop of fruit has been produced in some sections, but only a few specimens to a tree. The causes of failure are mainly climatic, as trees which have been carefully sprayed for the prevention of Black-knot and insect injuries, have never produced enough fruit to warrant their cultivation. This refers to every variety tested. The climate of northern Georgia and North Carolina may, in a few localities, be somewhat similar to some of the higher sections of the Pacific coast, but there are local influences in the latter which do not exist here, and thus prevent the successful cultivation of plum trees for the purpose of manufacturing prunes. P. J. BERCKMANS.

How Much Wood on a Peach Bud?

I. M., Danbury, Conn.—The budding of the peach was well set forth recently. Should the wood be taken out of the eye of the bud before setting? I have done it, but with not very good success. I would like to know which is best.

ANS.—No, buds with the small portion of wood left in will "take" and grow just as well as if the bit of wood is removed.

Pears Grafted on Quince.

W. M. E., Albany, N. Y.—I would like to be advised what to do with 300 quince trees just beginning bearing, the fruit ripening too late for this section. Would it be profitable to graft pears, or an earlier quince?

ANS.—Having had no experience in grafting the quince, I consulted a nurseryman about the matter. He thinks it very doubtful whether grafting would prove successful. W. M. E. might experiment on a few trees the coming season, by inserting a few pear buds, and watch the result. He does not say what variety of quince he has, but I presume that it is the Champion. They are somewhat of the nature of a winter apple, and will generally soften and color if kept till December. If he can ripen them, their lateness will be a blessing instead of a calamity, for the price is always better late in the season. E. C. G.

Best of the Carman Potatoes.

A. D. F., Indianola, Ia.—I wish to select one potato for general field culture from the Carmans. Which of them is the greatest yielder? Which one is largest in size? Which is the best quality? I wish but one, and from the reports, am at a loss to know which is best.

ANS.—The quality varies greatly with the soil and season. THE R. N.-Y. No. 2 is rarely as good as the others. Sometimes the No. 1 is better than the No. 3; sometimes the reverse. Both are excellent in quality. We believe that, generally, the No. 3 will outyield the others.

How The R. N.-Y. Grows Corn.

H. B. R., Woodstock, Tenn.—What is THE R. N.-Y.'s method of cultivating corn?

ANS.—Plow in spring as early as possible—a sod field preferred if one is after a large yield. Harrow until the surface is as fine as need be. We sow fertilizer (high grade complete) before the last harrowing. When we raised our great yield, we sowed fertilizer on one field twice, on another thrice—say 500 pounds at first, 250 when knee high and 250 before the last cultivation. The seed is drilled in, the drills four feet apart, the kernels about 14 inches apart. It is well to plant thicker than this, and to leave the plants 14 inches apart after the first hoeing. The first cultivation may be rather deep, subsequent ones merely mellowing the surface. Hilling up is avoided. Our best yields have come from the Chester County Mammoth.

Two Southern Fertilizers Compared.

J. F. J., Kinterbish, Ala.—I send the analysis of two brands of fertilizers. Which do you think is the cheaper and better, No. 1 or No. 2?

ANALYSIS OF NO. 1.

	Per cent.
Water-soluble phosphoric acid	11½
Citrate-soluble phosphoric acid	2
Insoluble phosphoric acid	2
Total available phosphoric acid	13½

ANALYSIS OF NO. 2.

Moisture	20.97
Nitrogen	.81
Phosphoric acid, soluble	..
Phosphoric acid, insoluble	2.94
Phosphoric acid, reverted	2.04
Potash	.38

No. 1 can be bought for about $17 per ton. Nitrogen can be supplied in the form of cotton-seed meal for $17.50 per ton. No. 2 can be composted for about $10 per ton.

ANS.—Let us see what these fertilizers contain to the ton:

No. 1.	Pounds.	No. 2.	Pounds.
Available phosphoric acid	270	Nitrogen	16
		Potash	7
		Phosphoric acid	40

In No. 1 at $17, the phosphoric acid costs 6½ cents a pound. Counting the nitrogen and potash in No. 2 at the average trade prices, the 40 pounds of phosphoric acid will cost over $7, or more than 17½ cents a pound. It is folly to use No. 2 at a cost of $10. A mixture of 1,200 pounds of No. 1 and 800 pounds cotton-seed meal would make a fair fertilizer. Or if you can use 1,000 pounds of No. 1, 600 pounds of cotton-seed meal and add separately 400 pounds of cotton-hull ashes, you would have a still better combination.

A Fortune in Cheap Fertilizer.

P. A. C., Cherokee, Tex.—I can get all the hard-wood ashes I wish from a gin within one mile of my farm. I can get all the sheep manure I wish by going five miles; the manure has been lying exposed four years. Would it pay to haul the ashes and manure, or either, as they would cost only the hauling? If so, would you recommend one part ashes and one part manure for corn, or in what proportion? Would the ashes do to put on my peach orchard?

ANS.—This is a wonderful chance to obtain cheap fertility. The ashes are especially valuable, and we would haul all we could get of them. The sheep manure and ashes will give excellent results on corn. On sod, we would use equal parts by bulk. On bare ground, we would use twice as much of the sheep

manure. No need to mix them. You might harrow or plow in the sheep manure, and scatter the ashes over the rows to be worked in by the cultivator. The ashes are just the thing for the peach orchards.

Best Celery and Cabbage.

E. G. S., Manchester, N. Y.—1. What are the best kinds of celery to grow for market—late winter and early? Is the Giant Pascal good for winter? 2. What is the best cabbage to grow for shipping to the New York market? Is the Red Drumhead good? Would it pay to grow the Danish cabbage?

ANS.—1. The best early celeries are the White and Pink Plume. Of the later kinds, we would choose, for *market*, Golden Self-blanching. But it is of inferior quality. The best keeping kinds are Giant Paseal and Schumacher. 2. We would choose for early, Early Jersey Wakefield. For later, Improved Early Summer and All-Seasons; for latest, Large Late Drumhead. The best early red is the Red Winnigstadt and for later Red Stonehead.

What Cold Kills an Egg?

G. W. P., York, Neb.—How cold may an egg become before it is injured for hatching?

ANS.—An egg does not freeze until exposed to a temperature of about 25 degrees, which is lower than for water; but there is more or less expansion of its particles when it gets down to 32 degrees, as it is composed mostly of water. The reason that it does not freeze at 32 degrees, is that its water is a solution of salts. An egg will hatch if exposed to a temperature of 34 degrees, but should the temperature be lower, it becomes a risk.

Using Bran for Manure.

R. T., Goshen, Ind.—F. W. Sempers, in his treatise on manures, says that bran contains: Nitrogen, 2.88 per cent; potash, 1.62 per cent; and phosphoric acid, 2.87 per cent. We can buy bran here at $10 per ton. At this rate, would not this be one of the cheapest sources of obtaining nitrogen and phosphoric acid? We can get unleached wood ashes for almost nothing to furnish potash. Are the nitrogen and phosphoric acid in readily available forms as contained in bran, or what preliminary preparation should it undergo before applying to the soil for use in vegetable growing? Our soil is a dark, sandy loam, naturally well underdrained.

ANS.—That is a fair statement of the composition of bran. Its manurial value is estimated at from $11 to $13 per ton. Before giving a decided answer, we would want to know the price of blood and bone from the western slaughter-houses. Possibly nitrogen and phosphoric acid would be cheaper in the blood and bone. Bran has been used as a fertilizer, though we are always sorry to see it done, as by so doing, the farmer loses all its *feeding* value. At $10 a ton, though, it is a cheap fertilizer, and used in connection with good ashes will produce crops. The clear bran is not so available for plant food, as manure. We would prefer to compost it with manure or muck—keep it reasonably moist and ferment it before using.

What Sort of Lime to Use.

J. L. S., Hooker, Ind.—I have read the articles on treatment of sour soils, and notice that some claim that wood ashes have sufficient lime to cure the sourness in soils. I think that I saw a statement by T. B. Terry, that if land plaster (sulphate of lime) is sprinkled on the manure, sufficient lime for all practical purposes will be applied. Are these things true? And would not the application of phosphate of lime answer just as well—some of the South Carolina, Tennessee, or Florida rock, or some preparation of it? If it will not answer to cure the sourness of soil, why not?

ANS.—This is the very point we have tried to make as to the different combinations of lime and the difference between lime as plant food and as a "sweetener," or neutralizing agent. The wood ashes contain lime in the form of a carbonate or caustic lime. When used in sufficient quantities, the ashes *will* cure a sour soil. The great value of land plaster is not so much the effect of the lime it contains, as its power to fix or retain the ammonia in the manure. When plaster or sulphate of lime is put in the manure, it "breaks up"—that is, the sulphur separates from the lime, and unites with the ammonia, thus putting it into a form that will be retained. That is the chief reason for using plaster. As a rule we do not use enough of it to correct the acid condition of the soil, for the use of plain, air-slaked lime for that purpose would be cheaper.

Sandstone for a Stable Floor.

C. E. B., Crossville, Tenn.—I am building a small barn. For a foundation, I have a solid, smooth sandstone, which underlies the entire site at a depth of from one to two feet. Will this stone make a good floor for horses and cattle to stand on? I intend, some time in the near future, to put a silo in the barn; will the stone make a good floor for that also? Or does a silo need to be underdrained? The stone is a soft sandstone of unknown thickness, but I suppose it to be from six inches to two feet thick, judging from the stone that crops out on other parts of the farm.

ANS.—The stone will not make a good floor for animals to stand upon, unless it be kept heavily bedded. Usually the precautions will not be taken to keep the floor covered with dry litter; therefore, it is advisable to lay 2x4-inch scantling flatwise on the stone, fill the interstices between them with a cheap mortar composed of one part of water lime which can be purchased at about $1 per barrel, and six to eight parts of sand. This, in time, will become very dry and fairly hard, and will arrest the passage of the cold and moisture. Upon these "ribs" of 2x4, and on the mortar, lay the planks. Wherever the animals do not stand, in the alleys, etc., the stone floor would be admirable, were it not for the power that cold surfaces have of condensing the moisture in the warmer air which is above them. If some chaff or dry sawdust to the depth of one-fourth inch or less, can be kept scattered over the stone alleys, the stables will be entirely comfortable. This natural sandstone bottom will be most excellent for the floor of a silo.

I. P. ROBERTS.

A Question of Cream in Milk.

F. H. L., Northampton, Mass.—What is the matter with my milk or cows? I have been selling milk to one man for 20 years or more, and have had no complaint until now. To-day he came to me and said, "I can't take your milk any longer unless it is better. There is not any cream on it! Why," said he, "I run 8½ quarts through a separator, and there was only one-half pint of cream." My cows are common ones with some Holstein blood and a little Jersey. I feed, in the morning, right after milking one bushel of ensilage, with a small handful of salt scattered over it, and also four quarts of bran, one pint of cotton-seed meal, 1½ quart of corn-and-cob meal. I water in the middle of the forenoon, and then feed corn fodder cut about one foot long. We milk right after dinner, and then give ensilage, salt and grain the same as in the morning. About 3:30 P. M., we water, and then feed corn stalks again. They get no hay, and salt twice a day. My ensilage is Evergreen sweet corn, and it was put in when the ears were in the milk. We do not warm the water for the cows, but it is just as it comes from the spring. Our cows never leave the stable all winter, for the water runs into the stable.

ANS.—The difficulty seems to be a question of fact between F. H. L. and the milkman, that should be settled by simply testing the milk in question. Further, the *amount* of cream delivered from the cream spout of a separator, is entirely independent of the richness of the milk in fat. It is wholly controlled by the rate at which the milk flows into the bowl, and the speed at which the bowl revolves. It is entirely possible to run rich milk through a separator so that nothing will run from the cream spout, and equally possible to run water through a separator so that a large part of it will escape by the cream spout. I would expect fairly good results from the way in which the cows were fed and treated.

H. H. WING.

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These six and the 120-page Book for cost of book.... **14c.**

We're in CHICAGO and NEW YORK—can't miss us. Send today seven 2-cent stamps and ask for the "FLOWER GIRL COLLECTION" and the book. Mention THE R. N.-Y.

NEW SWEET PEA "AMERICA"..15 cts. New White, with wide carmine blotch ...Splendid for Bouquets...

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One packet RED Hubbard Squash, rare and valuable, FREE, with every order, if you mention this paper. Our 116 page catalogue for 1896 (a mirror of American Horticulture) free with every order.

We have had little experience with the White or Silver fir of Colorado—Abies concolor—but that little experience, together with what we have heard, leads us to commend it to all of our northern friends who purpose planting evergreens next spring. We have had it only five years. The growth while young is slow, but it seems exceedingly hardy. In fact, we doubt whether there is a hardier fir, unless it may be the Siberian fir, Abies Siberica, which, however, is far less desirable. The Silver fir is fitly so called. Its leaves are as silvery as those of the Blue spruce, fine specimens of which, selected as to color, we regard as standing foremost, if not first, among the spruces.

If we could get the Concolor fir and the Blue spruce, we would never think of planting either the Norway spruce or Balsam fir.....

Our one tree of the Siberian fir is about 18 years old. It has never been harmed in the least by the cold of winter or the heat of summer. It is now about 10 feet high, and of a narrow pyramidal shape. The color of the leaves is a rather dull green.....

We may now give our readers further information as to the Chinese gourd fruit, Benincasa cerifera or Cassabanana. Our single specimen, about a foot long and four inches in diameter—we are writing from memory—was kept until January 1. This fruit is a fine keeper. It was peeled, cut up in angular pieces an inch long by three-fourths of an inch in diameter, and to every pound of fruit was added a pound of sugar. Water was added, and the whole boiled and placed in glass jars.

We have now a rich preserve, the flavor of which it is hard to describe, because really different from that of any other preserve we have ever eaten. We would say that it is an agreeable blending of the muskmelon and a pineapple.....

There is a question whether this fruit, which resembles, as we have said, a big Bologna sausage, with a deep red, smooth skin like that of an egg plant fruit, is the same as that which Prof. Bailey tells us about, under the same name, in Bulletin 67 of 1894. He says that "the fruit is round or oblong, and the exterior greenish and hairy, and covered with a film of white wax-like substance." That answers for a description of the Zit-Kwa or Benincasa cerifera, in so far as we could judge it, from the tornado-stricken vines and fruit we raised last summer. Evidently, however, the Benincasa sent to us by J. L. Normand, of Marksville, La., is quite different. There wasn't a hair upon the surface; no "film of white wax-like substance." Mr. Normand says that his Benincasa came from the East Indies—not from China.....

The Rev. Dr. Garlick of Ashland P. O., Va., writes us as follows:

Last spring, I bought two large plants of the greatly praised new rose Crimson Rambler from a first-class house. I planted one by a porch, and the other in what I thought a good place on the lawn. Both are alive, but I don't think that either has grown an inch. I asked a florist in Richmond about it, and he told me that complaints of the same sort were common. Have you had any experience with it? I am considering whether I shall bother any more with it. I have Jacqueminot and English Moss roses that grew six feet last year. From my experience, Crimson Rambler isn't worth its room.

We would advise our respected friend not to conclude without further trial that this beautiful rose is not worth its room. Several of our own plants behaved much as did those of Dr. Garlick. The others made a rapid, vigorous growth of several feet. Just why the plants should behave so differently, we may not say. Let us hear from others who have the Crimson Rambler.....

Dr. Garlick says that last season was the driest of any in 40 years in his part of Virginia. He planted a few each of Carman No. 1 and No. 3 potatoes, and they surpassed largely any others in yield. We are glad to know this, as it is one of the few reports that we have received from the South.....

The R. N.-Y. contends that the so-called Golden Self-blanching celeries are far inferior in quality to the white or pink varieties. We shall be glad to hear what our celery-growing friends have to say about it.....

Well, next summer we shall know just about how much Saghalin may be worth as a fodder plant; and we shall further know, through The R. N.-Y.'s trials, if through no other source, what may be the comparative value as between Saghalin, Polygonum cuspidatum, and P. amplexicaule.....

(*Continued on next page.*)

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A wonderful combination, a tremendous novelty, found only in Salzer's Golden Pumpkin Watermelon. It's marvelous. We paid $300 for one melon! You will want it, everybody wants it. 5 kernels 10 cents, 25 kernels 40 cents. 35 packages earliest vegetable seeds $1. Our new creations in oats yielding 209 bushels, barley 116 bushels, potatoes 1,200 bushels per acre! Where will it end?

If you will cut this out and send with 12 cents postage to John A. Salzer Seed Co., La Crosse, Wis., you will get free a package of above Salzer's Golden Pumpkin Watermelon seed and our 148 page seed catalogue free. Catalogue alone five cents for mailing.

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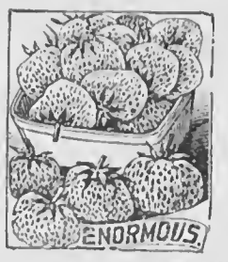

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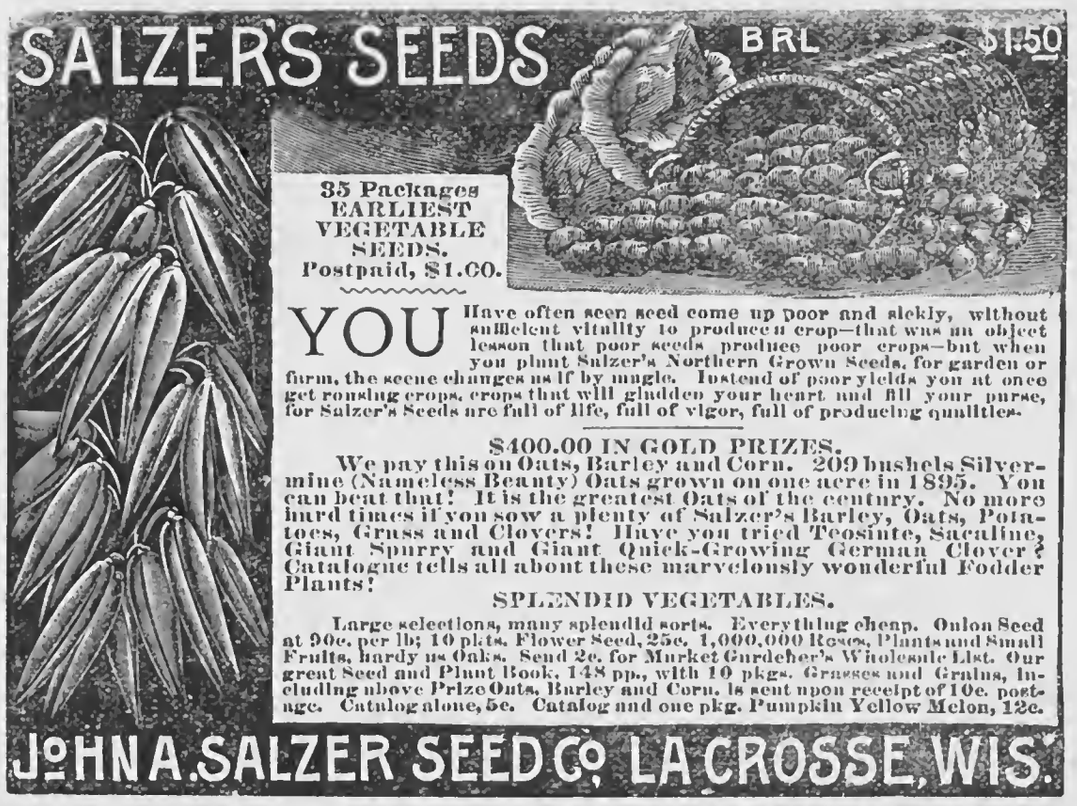

RURALISMS—Continued.

Mr. T. Greiner now regards the Carman No. 1 as the best intermediate potato in existence—and Mr. Greiner is an excellent authority.....

A New and Novel Grape.—Some years ago, D. S. Marvin, of Watertown, N. Y., set out a Brighton layer from a dry bowlder clay knoll, among Delawares, where the soil was made moister by wash water and slops. This vine no longer bears Brighton grapes; the fruit is red, ripening a week later than Brighton; the skin is thicker, and these grapes now keep as well as Catawbas, not deteriorating after picking, like Brighton, but remaining firm with much sprightliness and substance. There is no very marked change in the vine; still, the leaf is stronger and thicker, and the notches upon the edges less coarse. Ameliorating the conditions, and surrounding the vine with Delawares, where its stigmas become fertilized with Delaware pollen, seems to have caused the vine to sport, and markedly improved its fruit. Has any other vineyardist ever observed such a sport? There seems to be no mention of such an occurrence in our grape literature.

But novel as these facts seem, Mr. Marvin tells a more wonderful story. He had a hybrid seedling gladiolus flower last summer with 13 petals. The spike carried 18 flowers; some of the flowers had six petals, the normal number, some eight, some 10, and the seventh flower 13. Some of the buds were double, that is, two flowers growing side by side. Mr. Marvin is wondering how he can perpetuate these novelties. He has saved seed from several of the flowers, and laid away the bulb very carefully; but his experience goes to show that these sports seldom repeat themselves. Still, the air and soil at Watertown seem capable of almost any product. He has no doubts about the new grape repeating itself, for the fruit has not changed in five years. But a 13-petaled gladiolus beats the world's record.....

We continue to receive many inquiries as to Kaffir corn which, with many other varieties of Sorghum vulgare, was tried in rather poor soil at the Rural Grounds 10 years ago. It differs mainly from all other kinds tried, in that the grain matures earlier, in that it does not sucker, and in having the panicle of grain upright instead of more or less drooping as in some other varieties. The panicle terminates the stalk just as does the tassel of the corn plant. We were told that if this grain panicle were cut just as it matures, other panicles would grow from the axils of the top leaves. These secondary panicles failed to appear. The plant, for fodder purposes, is far inferior to the corn plant, because it grows only about five or six feet high, and produces fewer leaves.

It is now claimed that Kaffir corn will stand the severest droughts as well as excessive rainfalls and produce grain all the way from 50 to 75 bushels per acre; that this grain is relished by horses, cattle, hogs, and poultry; that cows give more milk and richer milk when fed on it than when fed on bran or hay; that it produces bread about as dark as Graham and better in quality. Much of the same claims were made for other kinds of Sorghum vulgare 12 to 15 years ago. They were called by many names—durra, doura, chicken corn, African and Indian millet, etc. The farm press talked a deal about them and illustrations of the leading kinds were printed in The R. N.-Y. of December 27, 1879, and several other farm papers. But many trials in various parts of the country did not serve to impress farmers that these douras were possessed of enough value to take the place of corn, so that little was said about them for a few years prior to the general introduction of the Kaffir, which, chiefly as we fancy, on account of its ripening its grain much earlier, has received wider attention. Seeds are offered, either of the white or red Kaffir, for about seven cents a pound.....

Working New Land.—One of the difficulties in working new land is the vigorous growth of weeds which spring up. To prevent this, two or three plowings and several harrowings are required, which few farmers have time to give. But this work may be done with the "ACME" Pulverizing Harrow, Clod Crusher and Leveler, in the best manner in one-fourth or fifth of the time required by the plow and common harrow. This implement, furnished with its cutting and curved coulters, loosens up the earth, cuts up the matted surface and reduces it to a fine tilth; at the same time, destroying the shallow roots which would otherwise grow and give trouble. This implement also serves to cover the seed on such land in the most perfect manner. See ad. on page 89.—*Adv.*

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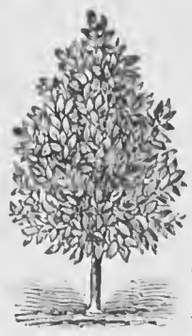

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Full supply Flower and Vegetable Seeds, Plants, Bulbs, etc. Elegant 168 page catalogue free. Send for it before buying. Everything mail size postpaid. Larger by express or freight. Safe arrival and satisfaction guaranteed. We occupy 1½ miles on the bank of Lake Erie. No hardier, healthier trees are grown on the continent. Why not procure the best direct from the grower and avoid all commissions. It will save you money.

42nd YEAR. 1000 ACRES. 29 GREENHOUSES.
THE STORRS & HARRISON CO., Painesville, O. Box 216

FRUIT Trees and Small Fruits. We have a large and full assortment of all leading varieties of Peach, Apple, Pear, Plum, Cherry, etc. Largest stock of small fruits in the United States. Estimates given on large lots at reduced rates. Send for our illustrated catalogue and save money.
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TRIUMPH The only Yellow Freestone PEACH Ripening with Amsden.

The Latest and Largest Yellow Freestone PEACH, **EMPEROR**

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For full descriptions send for Catalogue (10c.) We will send our *Beautifully Illus.* Catalogue with the Col'd Plates of the 3 Wonderful New Fruits, and 1 Emperor Peach Tree And by mail, postpaid, for 10c. JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

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Grass, Field, Garden, Tree and Flower-seeds, all especially grown and selected for Western soil and climate. Alfalfa, Kaffircorn and other forage plants for dry climate a specialty. Our elegant 1896 catalogue is ready and will be mailed **Free** on application. Send for one now

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are always THE BEST. Grown from pedigree seed in the new lands of the cold North-East, they yield Earliest and largest crops in every climate.
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produce earlier vegetables than any other on earth.
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This seal placed on a package of seed is not merely a name placed there to attract attention, but signifies to any grower who has ever tried our seeds, that they are all we claim, not a miscellaneous, haphazard selection that may be sold at a low price, but a selection made by a Market Gardener for the Market Gardeners, and first tested at our ARLINGTON FARMS.

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THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

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Corner Chambers and Pearl Streets, New York.

SATURDAY, FEBRUARY 8, 1896.

IT is reported that sales of seed potatoes to the South are far ahead of anything ever known before. Southern planters appear to have taken advantage of the low price of good seed, and are stocking up heavily all ready for an increased planting. This crop will reach the northern market in June and July, and from present appearances, will come with a rush.

⊙

THE Connecticut Sheep Breeders' Association will pay $10 for every dog caught killing sheep, or for every dog against which mutton murder can be proved. THE R. N.-Y. hopes that this sort of warfare will be more effective than the old plan of paying for sheep that were killed by dogs. Stories are told of smart Yankees who bought old sheep in order that they might thus sell them to the town as dog food.

⊙

THERE seems no limit to the devices of swindlers. A man has been traveling through parts of Illinois and Wisconsin selling memberships in the National Butter and Cheesemakers' Association. Of course, he's a fraud. Why will people be so foolish as to patronize utter strangers who tell a plausible story, and pay them good money? An old proverb tells of a class of persons who are soon parted from their money.

⊙

THAT boy, page 89, tells a hen story that will cause many a man to rub his head and look ruefully out at the hen jail politely named "house." The boy's showing is a good one. He has learned one valuable thing, and that is to kill the surplus roosters as soon as they indicate their sex. That's right. The surplus rooster causes a deficit in the poultry business. If you could pick him out at 10 days old, it would be cheaper to kill him and throw him away than to feed him to full size. That boy does well to end the days of the surplus rooster.

⊙

IN the report of the meeting of the Cheshire Swine Breeders last week, it was stated that Prof. Roberts urged the various stock-breeding associations of the State to combine and hold their meetings together—at the same date and place. This would bring a great many breeders together, where they could form new acquaintances and have a much better opportunity for learning what is going on among stockmen. Reduced railroad rates could be secured, and there are many other advantages that the single association cannot secure. The Ohio breeders have made a great success of this joint gathering, and New York might well do the same.

⊙

THE R. N.-Y. has repeatedly called attention to the virtues of vaseline and bicarbonate of soda when used in the nose and throat. Continued use of this treatment will relieve many mild cases of catarrh, and often prevent a "cold" if used in time. Dr. Bulkley, in the Medical Record, recommends the use of bicarbonate of soda as an internal remedy when threatened with a common cold. When the first symptoms of shivering, sneezing, etc., begin, he gives 20 to 30-grain doses of the soda in water—three doses, half an hour apart. Then, after an hour, another one is given. After waiting several hours, if it seems necessary, the doses are repeated. In this way, taken in the earliest stages of the trouble, he has been very successful in treating colds. The philosophy of the treatment is that an acid condition of the system is developed which irritates the terminal endings of nerves and skin, and renders them more susceptible to colds. Relieve this acid condition, and the normal condition returns, and the danger of contracting a cold is lessened. Some people seem peculiarly susceptible to colds—no matter how much care they take of their clothing and habits. It might pay them to try this soda treatment: certainly it can do no harm. In any event, we would use bicarbonate of soda every morning as a snuff, and keep the nose well smeared with vaseline.

⊙

A GENIUS in New York State, who has been married 43 years, figures out that during that time his wife has put into the kitchen stove, 1,260 cords of wood, and the stove is still in use The husband modestly admits that he has cut all this wood, just as a good husband should. The wood would make a pile four feet high and 1¾ mile long. Think of that, ye husbands who don't furnish a good wood pile for your patient wives! Think of a woman putting 1,260 cords of wood into one stove, a stick at a time. That speaks volumes for that woman. If she hadn't been careful and painstaking, she would have smashed that stove long ago. Wonder if the husband is using the same implements he had in use 43 years ago!

⊙

IT is hard to kill the Creamery Shark. The Western firm that earned the title failed, and for a time little was heard about the fraudulent methods that gave them their blackened reputation. Now we learn of a smaller concern in New York State that has picked up one of the old Creamery Shark's scalawag agents, and is sending him out on his old-time tricks. It is the same old game of trying to locate creameries by bluff and bribery. They "influence" a few "leading citizens" and then try to make the farmers pay twice what the building and fixtures are worth. This Creamery Shark thought that he was so small that we could not see him. We have an eye on him, however, and may have a hand on him later.

⊙

WHITTIER has sung the joys of being Snow Bound, but more practical men tell in prose how to get country roads *un*bound of snow. In Vermont, they have about as much snow as anywhere in the country, and this is the way they keep the roads clear:

When Whittier was a boy, yokes of oxen dragged a sled through the drifts, as you may read in Snow Bound. Now, from one to three pairs of horses draw a roller over the roads. Different sections of country have different methods; but in northern Vermont, the roller is used without other tools, except that drifts are shoveled out so that the horses can get through. The rollers are made of two-inch plank, are in two sections, each section being usually five feet long, with a space of a foot between them. On the main roads, rollers 10 or 12 feet in diameter are used. They weigh a ton and a half. It may be imagined what a fine road they make. On the back and hilly roads, smaller ones are used, and answer the purpose well. I do not know of any objection to them. I think that everybody likes their work. Teams can turn out anywhere without trouble, and in the spring, wagons can go on the packed snow when it gets dirty and worn through in spots. I have seen a harrow used on a back road, but never in connection with a roller. J. W. NEWTON.

They are keen men, these Vermont Yankees, and dislike to waste force.

⊙

WE are glad to see that the women in many country neighborhoods are demanding a place for one of their sex on the local school board. In New England, and especially where the Grange is strong, this feeling is quite pronounced. As one woman said at the Connecticut State Grange, "The trouble with most of our local school boards is that they have been *fathered* to death. They need more *mother* in them!" That is the point exactly. The mothers always have most to do with the education of the children. In every school district are to be found one or more women who have taught school, and who are well qualified to look after the school's interest. In some school districts, the election of school officers is regarded as a sort of joke, and the last man to get married, or the latest comer to the neighborhood, is generally selected. What a mistake that is while bright and earnest women are to be found who would take a real interest in the school, and raise it to a higher grade. By all means let us have more "mother" in our school boards.

⊙

WHAT a wonderful personage "They Say" is! How often we hear the most absurd and ridiculous statements credited to "They Say!" Perhaps if we demanded good, reliable authority for all such stories, their number would grow beautifully less. On page 95 a correspondent says that the authority in question furnished the information that a sow would not have live pigs after being on the cars for a considerable time. At the fall fairs all over the country, we find plenty of sows heavy with pig, which are exhibited at fair after fair, in many different States, are carried hundreds of miles on the cars, and are loaded and unloaded many times. Not only this, but pigs are often farrowed at these fairs, and we have seen many fine litters under these circumstances. Of course, the sows are carefully handled, and there is, probably, no particular advantage in transporting them in this way. Yet this is a good example of the correctness of "They Say's" statements. And there are hundreds of cases where great harm is done; unsuspecting persons are deceived, reputations are besmirched, much suffering and sorrow are occasioned, and all on the flimsy say so of this contemptible "They Say!" Let's demand better authority before we accept any story, no matter how plausible!

⊙

EVERY year enforces more strongly the fact that fresh goods are wanted by consumers. On the last day of January, limed and refrigerator or cold-storage eggs were selling at wholesale for an average price of about 10 cents per dozen. This is due, of course, to the large supply and comparatively low prices of fresh eggs. Just three years ago, when the winter was cold and fresh eggs very scarce, these held eggs were selling for 25 to 26 cents. Held dairy butter is selling, too, for as low as 10 to 12 cents per pound, and receivers are in despair to know what to do with it. Much that is said to be fresh made isn't any better than the held stock. Evidently there is some winter dairying that doesn't prove profitable, and liming or refrigerating eggs doesn't always insure satisfactory returns.

⊙

BREVITIES.

"That man's a fool!" said Farmer Brown, as he drove slowly
home from town,
Where at the Institute he sat, and listened closer than a cat,
To thoughts he never dreamed before—that rubbed his methods
raw and sore.
"The man's a fool!" and yet he took, around his farm a keener
look
Than was his custom—there they were—the cattle with their
crumpled fur,
The squealing swine, the windy crack, the hens that drooped
beside the stack
With less of eggs than exercise—the farm spread out before his
eyes
With not a blade of clover there, to "suck the niter from the air!
"The man's a fool!" was all he said—yet there were microbes in
his head.
The microbes of a better farm with fewer scrubs to breed their
harm.
And they were put there by that "fool"—these microbes—every
one a tool,
A haunting thought which, with its stings, would stir him up to
higher things.
Talk earnest words, ye learned men, be not discouraged, now
and then.
On some waste place you'll drop your seed and prove a very
friend in need.

A FIVE-TOED hen is V toed.

IF you must kick—kick yourself.

A CHRYSANTHEMUM is a wry flower.

THERE'S no principle to excessive interest.

DON'T tempt a rat by building holes for him.

A COAT of manure will match the good corn harvest.

IT doesn't pay to select fertilizers by the stench system.

MANY a man has been raised to greatness by woman power.

No man can follow exactly in another's tracks and be successful.

BETTER broadcast a strawberry fertilizer *before* the plants start to grow.

THE smallest fit of temper you can show will be too large for your family.

THE young man who knows only the *spending* value of money, is only *waste* high.

WHAT scrub is nearer Godliness than the thoroughbred? The scrub that cleans.

"BREAD cast on the waters" always comes back unless you sink it by begrudging the gift!

BETTER buy the boy one tool at a time and show him how to use it before getting a full set.

HENRY HALES says that a dirty henhouse is enough to make a hen stop laying. We don't blame her a bit.

Now, boys, we have some articles on simple, civil engineering coming that will be worth a little fortune to you.

READ Mr. Miller's caution about "straw potatoes," page 84. Don't plant potatoes under straw on low ground.

WOULD putting more mother into the schools make them more vinegary? We know an old bachelor who says, YES!

DON'T you wish you lived in Texas, with such a fertilizer mine as that man (page 84) has in free ashes and sheep manure?

A BILL before the New York Legislature provides for factory inspection of all butcher shops or places where provisions are sold!

THE Michigan Agricultural College will issue a weekly paper—object, to keep the college before the public and interest the students in journalism.

FROM the best we can learn, we would say that farm institutes in the East are barely holding their own in interest, while those in the West are gaining. What's the matter?

OUR poultry experts are not very anxious to put themselves on record in regard to that egg-laying question—page 83. We still want to know *how* the hen "holds up" her eggs.

THOUSANDS and thousands of bushels of potatoes are being fed to stock this winter. Tons of beef will be made from them. In *theory* there won't be much need of potatoes with that roast beef!

AT many farmers' gatherings this winter, a portion of the session is set apart for a woman's meeting, which is conducted by women exclusively, and which is given up to the discussion of topics of special interest to women. A good idea.

IT used to be said that the wastes in slaughterhouses are so well utilized that everything is saved but the squeal of the pigs. A showman has now utilized that in a phonograph which he turns loose in a show of the inside of a packing house.

WISCONSIN now has a fertilizer law compelling manufacturers to mark all brands of fertilizers, selling for $10 or more per ton, with a plain analysis. The experiment station is to analyze samples, and strict penalties are imposed. It will surprise many to learn that a State so far west as Wisconsin needs a fertilizer law; but the need of it is well shown by Prof. W. A. Henry in a recent bulletin. He says:

Small as is the fertilizer trade in Wisconsin at the present time, it is known to this station that a car-load of so-called commercial fertilizers was sold in the city of Madison some time since, at the price of good material, to a dealer who, after contracting for the goods, had them analyzed only to find out that the car-load of stuff on which a heavy freight bill had been paid, contained not even so much fertilizing elements as the same weight of soil from a common field.

The fact is that the fertilizer trade has always given rogues a chance to sell counterfeit goods for real money. A bad smell in a fertilizer is the cheapest thing that can be put in it, while lots of farmers accept it as sure evidence of value. The chemist, backed by a strict fertilizer law, will soon show the fraud in a bad smell.

⊙

LAST week, we mentioned the New York Farmers' Congress which was organized at Albany by delegates from several farmers' organizations. It was stated that the idea of this congress was first suggested at Atlanta during the meeting of the National Farmers' Congress. The plan is to bring representatives of farm organizations together once a year to talk matters over, formulate their wants and grievances, and give the public an idea of their strength and influence. Of course, at such a meeting, all sorts of theories and plans are discussed, but in its resolutions, the Congress gave the following statement of its principles:

1. The jury system to determine questions of opening or closing highways.
2. Opposition to the single tax on land values.
3. One of the railroad commissioners of New York State should be a practical farmer.
4. Opposition to new officials and to any increase of official salaries. Such salaries are too high now.
5. Approval of any economical plan of road improvement, but opposition to heavy taxes to build a few "speedways." Build the "cross-roads" first.
6. If the present tariff is to be changed, put back the McKinley bill.

Briefly stated, that is what the resolutions mean. Such matters as reduction in railroad rates, taxation of personal property, and "more money in circulation," were discussed, but not directly acted on by the Congress. The question of good roads was well discussed, in fact, more was said on this subject than on any other. The majority appeared to favor the cash system of working roads rather than the labor system—with the work to be done at a fair price by farmers themselves. The Congress favors a State law providing for wide tires on wagons not compulsory until 1900, with a standard for width to which wagon makers can conform. It also suggests that stone for roads should be crushed at State prisons by convicts. Many of these suggestions are excellent, and will, undoubtedly, result in good. If this Congress can be kept out of the hands of mere politicians, it will be a good thing for the farmers of New York State.

DO HENS PAY?

A BOY SAYS, YES!

I have answered this question to my entire satisfaction, in the past two years. Late in the spring of 1894, when I was 10 years old, I bought from my father four sitting hens and 52 eggs, paying $1.60 for them. I afterwards sold the hens for $1.15. Out of the 52 eggs, 31 chicks were hatched; one, a very weak one, was the only chick lost. This left me 30, of which 16 were roosters, leaving 14 pullets. Twelve were mostly Leghorn, and the other two Barred Plymouth Rocks. They laid 1,681 eggs, or an average of over 120 eggs to a fowl. The average price per dozen was about 10½ cents, therefore the eggs brought $14.32. One of my sitting hens laid 22 cents' worth of eggs before I sold her. The roosters brought $3.06; they did not pay for their feed, and this year I shall kill all roosters (except a few for breeding purposes), as soon as they can be distinguished.

My hens laid twice as many eggs per fowl, as my father's did. He thought that they would pay well another year, so he bought the flock for $5. I would not have sold them if I had not had some young, purebred fowls, and did not wish to mix them. The feed cost just $15. The young chicks were fed bread and skim-milk for the first two weeks of their lives; after that, mostly wheat. For about two months, I fed them three times a day, afterwards but twice. I bought most of my feed from my father at the market price. In winter, for a morning mash, I fed boiled cull potatoes, mashed and mixed with bran and clover chaff. When good potatoes are worth 10 cents a bushel, the culls make a very cheap feed. They were given cabbage to pick at, fresh water was kept by them all the time, and they were liberally supplied with oyster shells, and I never had a soft-shelled egg. Lime in some form must be given. I kept a strict account of every penny, and so know just what they cost me. This is the way it stands:

DR.		CR.	
Sitting hens and eggs	$1.60	Eggs	$14.32
Feed	15.00	Eggs	.22
		Roosters	3.06
Total	$16.60	Hens (after they had sat)	1.15
Profit	7.15	Old hens	5.00
	$23.75	Total	$23.75

Though $7.15 may seem but a small profit to some, for 1¼ year's care, it must be remembered that it was only an experiment to see whether it paid, and that I had but 14 hens. I now have about 25, and am planning to enlarge my flock to about 100. Any boy can make enough out of a small flock of hens to keep him in pocket money. I think that if farmers let their sons raise chickens or berries, and let them have what they make, they would stay on the farm more. It teaches a boy to keep accounts, and helps him to learn the value of money, two things which must, some time, be learned. My house was an unused one, battened and fixed up so as to be warm and comfortable. The only loss I had after the chicks were grown, was of my rooster, who froze his comb and wattles so badly that he never recovered. I was fortunate in not having any of the numerous chicken diseases, lice, etc., and in not losing any chicks by skunks, minks, or other animals. The book, "The Business Hen," has helped me in many ways, as I was a beginner, and knew nothing about poultry raising.

Yates County, N. Y. H. W. GILLETT.

A TON OF BEEF ON FOOT.

The breeding of beef cattle is receiving more attention, and the business is recovering from the depression of a few years back. There has been less decline in the prices of prime beef cattle than in the prices of many other farm products. At present prices of corn and other cattle foods, there ought to be big money in breeding them in this country, especially in the West. Most important is the securing of the breed best suited to the location, and which will make the best returns for the feed consumed. The Hereford is an excellent animal for beef, besides being fairly good for milk. It is said to be one of the best breeds for working cattle. The breed is of English origin. It is not a solid color, but head and feet are white with some other variable markings. The hair is long and curly, and the Herefords endure cold and exposure better than some of the shorter haired breeds. This is not saying, however, that they will not appreciate and repay good care and shelter. Lovers of some other breeds claim that the Herefords are heavy at the neck where the cheaper, coarser cuts are obtained; but some of the animals do not show this, and it can probably be overcome entirely by proper selection and breeding. Our illustration on page 83 is reproduced from the Mark Lane Express, and is from a photograph of the best Hereford at the Smithfield Show, the greatest English exhibition. She was five weeks less than three years old, and weighed 1,876 pounds. This shows an average gain from birth of about 1¾ pound per day, not a bad showing. The Hereford has proved an excellent breed for crossing on common stock, and an infusion of this blood might be a help to the credit side of the ledger of many a beef breeder.

BUSINESS BITS.

A NEW YORK farmer wants to engage a farm hand, married preferred. The right man can own a small farm in a few years. Address Owner, care THE R. N.-Y.

CAN you write well? If not, do the best you can on a postal card, and ask G. Bixler, Wooster, O., to send sample of penmanship and particulars in regard to his system.

POTATO planting time will soon be here. The Improved Robbins planter has several valuable features found in no other planter. Ask the Bateman Mfg. Co., Grenloch, N. J., for catalogue No. 2. They are the "Iron Age" people.

IF the farmer has a grinding mill, he needs one that will do a variety of work. The Nordyke & Marmon Co., Indianapolis, Ind., make one that will grind corn-and-cob meal, buckwheat, Graham flour, or fine meal. They'll send a "Book on Mills" which will interest you.

THERE are many incubators, some of them good—others not. The Improved Victor is manufactured by Geo. Ertel & Co., Quincy, Ill., and they challenge inspection and comparison with any other incubator made. They will send circulars free, or 80-page book for four cents.

A NEW YORK CITY paper recently offered a choice of 10 bicycles as prizes, leaving the winners to choose any one of 10 makes. Every one of the winners chose a Columbia. This is a very good illustration of the popularity and merits of the Columbia. Pope Mfg. Co., Hartford, Conn., are the manufacturers.

IT will soon be time to tap the trees. Maple sugar is scarce in market. The best brings the best prices. To make the best, you need the best tools, from start to finish. The G. H. Grimm Mfg. Co., Hudson, O., have them—spouts, buckets with covers, tanks, evaporators, and everything needed. Write for their illustrated circular

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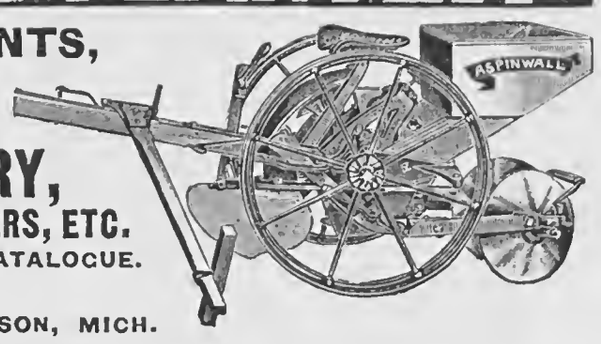

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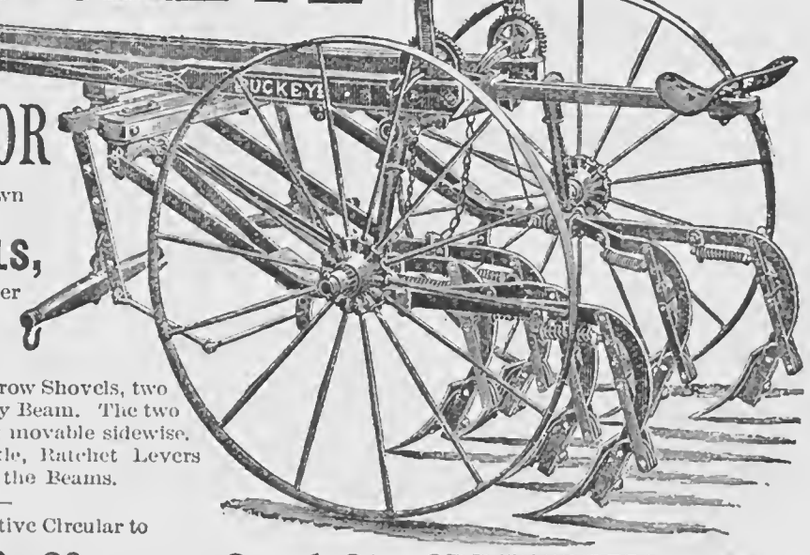

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but it is furnished either with SPRING or

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WOMAN AND THE HOME

Homes make the Nation

MISS PHILBROOK, whose plucky perseverance gained her admittance to the New Jersey bar after the Supreme Court had denied her the privilege of being examined for admission because there was no precedent for admitting women, is practicing her profession and incidentally establishing precedents along the pathway hitherto untrodden by women. The other day, she appealed to the judge, before whom she was to plead a case, to be allowed to retain her hat in court. It is against the rules of court etiquette. The judge was liberal enough to allow her request, as the rules were made for men.

*

THE temperance people are waking up, at least their opposers are just beginning to realize that they have awakened, and great is the howl they raise. Since 1884. New York has had a law requiring instruction as to the effects of alcohol and narcotics in all schools receiving support by the State. For 10 years, this law stood with no penalty attached, and was almost entirely ignored. In 1894, a committee including representatives from the churches, W. C. T. U., Y. M. C. A., King's Daughters, etc., began agitating the question of enforcing the law, and to this end an amendment was prepared and passed the Legislature last year. New York City schools are already running under the new régime, as a failure to comply with the law meant a loss of $700,000. The amended law will be very effective as long as it stands. The instruction begins in the primary department before the children can read. This is, perhaps, the most valuable feature of the law. There is small chance for inaction or incompetency under the law. It enacts in its 20th section that "no teacher shall be licensed who has not passed a satisfactory examination in the subject and the best methods of teaching it," and that "no State school money shall be paid for the benefit of any district, city, normal or other school until the officer and board having jurisdiction and supervision of such school have filed an affidavit that he has made thorough investigation as to the facts, and that to the best of his knowledge the provisions of the act have been faithfully complied with during the preceding school year." Physiology and hygiene form a part of the course prescribed, and knowledge of these will make the temperance instruction more emphatic than it could be when taught to those ignorant of the laws of health.

NEW COATS FROM OLD.

MADGE, the eldest daughter, is 14. She has just begun to go to the village school, and she has discovered that her coat, that was well enough for district school wear, shows off illy enough among her new mates.

Coats suitable for school wear are cheap, indeed, this winter; but even the $3 which would, in many instances, buy a pretty fair one, cannot be coaxed out of the purse remaining lean through potatoes and oats being but 20 cents or less a bushel.

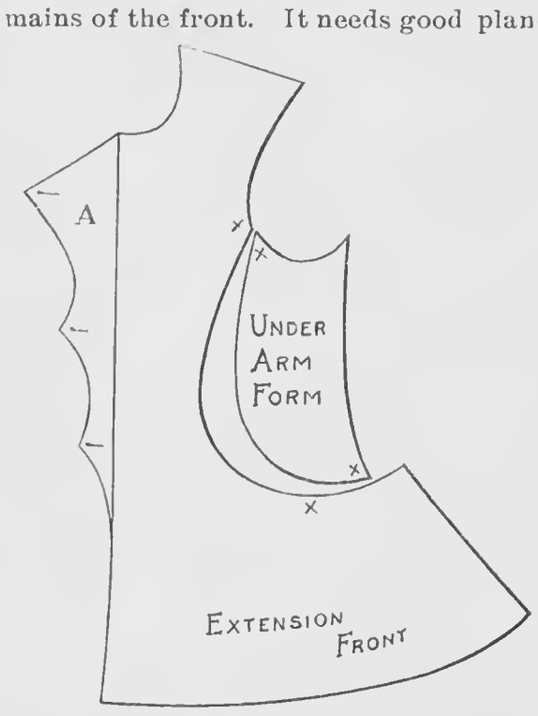
But perhaps father, or the big brother, has an overcoat of nice material that may be turned. And some of the styles are kind, though they do not look to be so.

A cape made in gored sections, may be gotten from almost any good, old garment. The "melon" sleeve, too, though ugly in itself, is the newest thing for the winter, and it lends itself kindly to old gores and fair-sized pieces.

However, I wish especially to make note of a new style pattern—Fig. 36—for Madge's benefit, and I know that the proposed garment can be made a stylish success, because I have seen it done.

The especial value of the pattern under consideration lies in the cut of the front to the coat. This is both novel and pretty, and it preserves the full, ripple effect belonging to everything as yet. But it allows the front of a coat, nearly half long, to be cut from the fronts of an overcoat, in such a way that the pocket slashes do not interfere. In case the section does not quite fit between these slashes, a tiny fold or two in the bottom will draw the pattern into a different position, so that it may avoid them, and the ripple will be only slightly less. There is no dart in the front, which, at the bottom, extends to join the back.

The under-arm form, as will be seen from the cut, needs only a small piece. This and the side-back form can be cut from the back of the overcoat (after the coat backs are cut) and from what remains of the front. It needs good plan-



A NEW COAT FROM AN OLD ONE. FIG. 36

ning to get a full-sized coat; but for a half-grown girl like Madge it should be done quite easily.

A very pretty, fair-sized sleeve, though not one of the largest, may be made from the coat sleeve by putting a gore on the under-arm piece at the top to widen it a little, and laying the bottom in shallow, lengthwise plaits for about four to six inches from the wrist. These plaits are stitched to place, and form a cuff, giving one of the novel trimming effects of the winter, and also one of the prettiest.

The collar and an added fancy piece, A, making the front double-breasted, may be made of contrasting material, if so desired. All the seams in the model are double stitched; or they may be strapped, with braid, or with bias pieces of the material, if it is firm and close.

It is desirable, however, to take pains that the stitching or strapping shall be done with loose tension, that it may not draw the seams, as this would spoil the fit, which, when well done, is unusually pretty.

The back is cut exactly like any ordinary ripple back, rather wide at the waist line; the side-back forms also follow the regular cut, except in being shortened to fit *above* the extension front.

Of course, it is not expected that a novice can cut a coat, with the above directions as a sole guide. But one who is used to making over can remodel an ordinary coat pattern that fits well into the shape given, in order thus to get it out of the ill-shaped overcoat fronts more readily. MYRA V. NORYS.

WOMAN'S EXCUSE FOR BEING.

WHAT SHE IS CONSEQUENTLY ENTITLED TO.

PROFESSOR ALBERT says, "Since the origin of mankind, woman has had only one legitimate purpose, namely, to bring children into the world, to nurse them and to care for them, and that hence this must be the purpose, and the sole purpose, for which women were created." Is it in harmony with this that the Austrian imperial government denies, "with brutal emphasis," a plea for the higher education of woman? If so, when did a more short-sighted policy ever obtain? Suppose that some illustrious authority were to prove that the only legitimate obligation of men is to become professors, or diplomats, or emperors; would not the nation absolutely converted to the notion at once set about founding more colleges, mapping out courses of study and travel, and doing its best to equip rising masculinity for its great and ultimate destiny? It being the supreme calling for women to be mothers, is it not the least a nation can do for its daughters to fit them for the best motherhood?

To compare the mother's calling to that of the soldier or the artisan, would be to belittle its significance. To make good soldiers, good health and obedience are needed. Where is not good health the prime essential? The plow horse and the President both need it. A mother must rule herself well; beyond that, obedience, except to God's will, is scarcely prerequisite. It may be an un-

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Clean it with Gold Dust Washing Powder. This great preparation cuts the grease quickly, cleans the soot from the burner, makes the metal parts bright and polishes the chimney like crystal. This is only one of the many specific uses to which

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Days with nothing special to do. It is easy enough to make them profitable.

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need cost no more than ugliness. The most beautiful

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at half what you'd expect they'd cost. Samples and book on home decoration FREE. Describe rooms and state price you want to pay. Paper hanger's outfit complete, $1.00.
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and the best cure for slow, laborious, unhealthy scribbling, is 100 Doses of "Bixler's Physical Training in Penmanship" Most Rapid, Healthful and Progressive Method in the world. Beautiful Diploma, with corporate seal, granted. Special $13.50 Outfit for $1, and money back if wanted. Good now—may not be 30 days hence.

Valuable samples, late commendations and full particulars free. G. BIXLER, Wooster, Ohio.

"DO IT YOURSELF!"

Pat. Oct. 8, '95.

With Root's Home Rep'ng Outfits for half-soling and rep'ng Boots, Shoes, Rubbers Harness, Tinware, etc. No. 1, 40 items, $3; No. 2, 32 items, $2. Send for FREE catalog describing these and "Root's Simplicity Process" for home rep'ng. Carpenters' and Blacksmiths' tools, etc. Agents wanted. THE ROOT BROS. CO. Box F, Plymouth, O

warranted conclusion, but something in the words quoted, leads one to suspect that, if amplified, the professor would further urge that to man has been given all needed wisdom, an obedient wife being the only supplement his omniscience requires for the construction of a model home, a theory not unknown even in America. But, with all deference to those wiser than we, any of us who has seen a home ruled by the husband alone, will be fain to urge that there are times, very many of them, when the judgment of a bright and loving woman will avert more harm than even the most dictatorial masculine arbiter can cause to threaten.

Homemaking and childbearing being woman's highest calling, are they of such inferior moment that any equipment, or no equipment at all, is good enough? Where is the man who would as lief have been born of a mindless peasant woman as of the best type of womanhood?

If his Majesty, of Austria, could but visit one of our public libraries, and, going to the shelves devoted to biography, read what is there testified concerning mothers, would he continue to think well of his country's decision concerning woman, and what she may, and may not do? PRUDENCE T. PRIMROSE.

FRESH AIR AND EXERCISE.

MANY people do not seem to realize that persistent and industrious breathing, making a business of it, so to speak, for a few minutes every day, will do more toward clearing out the system than half of the drugs and nostrums that doctors are fond of prescribing, and that druggists love to compound, says the New York Ledger. This, with the exercise that one is likely to get in going and coming from the daily task, may, if carefully attended to, furnish the means for the consumption of the waste matter of the system, thereby giving the vital organs the strength and freedom to perform their several offices in the most acceptable manner.

A child who had been an invalid from her cradle was restored to health by a little swing put up in her room. Her feet, ankles and legs were too weak to bear her weight. There was no development of the muscles, and the conditions were such that entire helplessness seemed to stare her in the face. This swing was so arranged that by a very little effort, she could push herself into motion. The idea was novel and pleased her greatly. At first she could move but a little way, but she soon became so interested in this amusement that she exerted all of her strength to move her weak and almost useless feet. Day after day she tried very hard, having heard some one say that she would never be able to swing any distance. She therefore made up her mind, with the persistence that frequently accompanies such temperaments, that she would not stop until she could touch her toes to the ceiling. Hour after hour she worked, accomplishing but little at a time, until almost before her family were aware the color came into her face, her muscles began to develop, appetite increased, the circulation was restored, and the nerves became steady, She now walks about the world an extremely comfortable, well-developed and healthy young woman, a monument to the wit and wisdom of some persons who made up their minds that it was possible to amuse people into health and bring about normal conditions.

It is stated by an eminent physician that, if every child had a swing in its playroom, so arranged that it could, by pushing with its feet, get itself in motion, it would develop muscle, strength and symmetry in less time and in a more agreeable fashion than could be secured in any other way. Care must always be taken to fasten the child so that it is impossible for it to fall, and to let it hold on by the ropes, thus exercising its arms, neck and shoulders, and the pushing with the feet will do the rest. When this child's treatment was going on, it was warmly dressed, as though for outdoor exercise, and the windows thrown wide open in the severest weather.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

SENSE AND SENTIMENT.

There is many a rest in the road of life,
If we would only stop to take it;
And many a tone from the better land,
If the querulous heart would wake it!
—*Mrs. M. A. Kidder.*

....RAM'S HORN: "If you want your boy to stay on the farm, don't make him work with the dullest hoe."

....FELIX ADLER: "Marriage is, or ought to be, a treaty of peace between two sovereigns, man and woman."

....PHILLIPS BROOKS: "Set yourself earnestly to see what you were made to do, and then set yourself earnestly to do it."

....LEND A HAND: "The theological student does not fight for his education as the law student and the medical student fight for theirs, and many poor men drift in because they can so easily make their way."

....HARPER'S BAZAR: "Many a woman who thinks during her married life that she has all the rights she wants, takes a very different view of the matter when she is left a widow, when she finds her little property unfairly taxed because she has no vote, when she learns that for precisely the same labor as a man she receives but half the pay."

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Coughs and
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Cured by Taking
AYER'S Cherry Pectoral
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At World's Fair.
Use Ayer's Hair Vigor for Color.

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CURES
Colds, Coughs and Chest Pains, Nervous, Muscular and Neuralgiac Pains, Stomach, Kidney and Liver Trouble, Dyspepsia, Malaria, Rheumatism, Gout and Inflammation. Price, 25 cents each; 5 sent for $1.00. At all Druggists.
GIVEN AWAY.
Dr. Scott's Electric Insoles. For a limited period we will give to every one who sends us $1 for four of our Plasters, a pair of Dr. Scott's Celebrated Electric Insoles (Price, 50c.), which will positively keep the feet warm and dry. Send for our circulars, giving information concerning all our goods. This offer is made for a short time only; do not delay; send at once; you may never have the chance again. *Agents wanted*
NO COLD FEET
Pall Mall Electric Ass'n, Room 12, 846 Broadway, N.Y.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

WINTRY WEATHER WEAKENS
the system, lowers the vitality and decreases the power of resistance against colds and chills. Many people are feeling weak and shivery just now. They complain of cold hands and feet. Their blood doesn't circulate properly; the raw, bleak air seems to go right through them. Others feel worn out and lack vigor. They are bilious, nervous, have backaches, headaches, and a pale, sallow complexion. All these symptoms indicate that the liver and kidneys are out of order. Feeble circulation of the blood shows that the system is in a very low condition. People who feel like this, are facing some dangers they little suspect.
LOOK OUT
for pneumonia, influenza or some other dangerous complaint when you are in this state!
If you have any of these symptoms and are not feeling so well as you ought to feel, do not wait until you are laid up with a serious illness. Act at once. Take something that will build up the system, put the blood in healthful motion and act on the liver and kidneys. Prevention is better than cure.
There is only one way to get well. There is only one remedy that can make you well. The remedy you need is Warner's Safe Cure which is recommended and prescribed by physicians throughout the world. This great remedy contains the vital principle essential to the maintenance of health and strength. It increases the muscular energy, fortifies the system and builds up every part of the body. It has never been equaled as a cure for liver and kidney complaint, bladder trouble or Bright's disease. It is the great standard remedy, the best remedy, the most reliable remedy known to medical science. Every one who has ever tried it, believes in it.
If your health needs attention, do not experiment with inferior remedies. It is cheaper and wiser to take a remedy that has earned a world-wide reputation, which has stood the test of years, and has proved, in millions of cases, that it can always be depended upon to relieve and cure.

CLOTHES WASHED BY THE WESTERN WASHER
Are always clean and white. 300,000 of them in use is convincing proof of their popularity. Sold under a guarantee to please. Agents Wanted. Write for catalogue and prices, and mention this paper. HORTON MFG. CO. Ft. Wayne, Ind.

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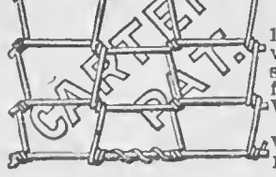

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Bouton Reversible Sap Pail Cover
keeps sap clean and sweet, and nothing is better,

more economical and durable for boiling down to syrup than the
CHAMPION EVAPORATOR
WRITE FOR 1896 CATALOGUES.
THE G. H. GRIMM MFG. CO., Hudson, O.; or Montreal, P.Q.

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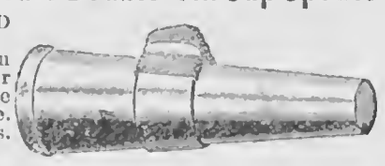
THE BEST AND CHEAPEST. Over 6,000,000 in use. Ask your dealer or write for FREE sample. Mfrs. of Spouts, Butter Pails, Cans, Etc.

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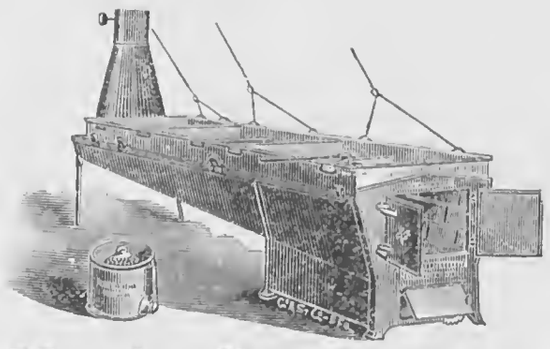
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MOST DURABLE, MOST ECONOMICAL, CHEAPEST. Manufactured by
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WILLIS SAP SPOUT.
Will not break. Send for circular.
In one piece with hook. Handsomely made from tinned malleable iron. Far superior to all others. Full line of other Maple Sugar Goods.
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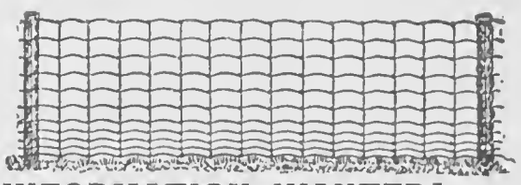
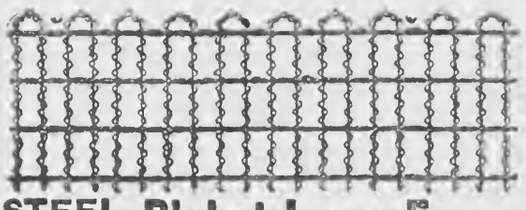

INFORMATION WANTED!
Anyone having knowledge of a general purpose wire fence, "just as good as the Page," will confer a favor by sending us full particulars. No hearsay evidence wanted, only actual tests count.
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.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Steel Posts, Steel Rails and Steel Gates; Steel Tree Flower and Tomato Guards; Cabled Field and Hog Fence, 24 to 58 in. high; Poultry, Garden and Rabbit Fence; Steel Wire Fence Board, etc. Catalogue free.
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The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from **14 to 22c. a Rod.** Illustrated Catalogue Free.
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TEST TRIAL FOR 30 DAYS IN YOUR OWN HOME. NO MONEY REQUIRED
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SURPRISE.

Our only text this week is the following note :

Will you please see whether you have not made a mistake. I received a check for $5, and do not think that I am entitled to it. Please look it up; I want nothing unless earned. G. H. PEARSON.
Connecticut.

No, Mr. Pearson, there is no mistake about it. You sent 20 names, and that entitled you to $5 in addition to the commission which you saved, and the dollar you earned by having the largest club one day. Maybe you are surprised—but it's all right, and we are satisfied.

As it looks now, there will be 17 greatly surprised men when the present contest ends, February 8. The clubs are now so small that you can hardly see them. You have the chance of the winter now to make some money. *Remember, $175 will be paid to the persons sending the largest 17 clubs.* There will be some big surprises when this contest ends. Where are you. We don't hear your voice. Maybe times are so good with you that you don't need any money. We'd like to see such times. Last warning, now! Two days' work may win! Start!!

CROP AND MARKET NOTES.

Choice cauliflower is selling well.

Choice onions are plentiful, and sales are slow.

Frogs' legs are quoted at 40 to 50 cents per pound.

Potatoes continue in extreme supply, and prices are low.

Large turkeys are no longer wanted; small ones are in demand.

The cheese market is quiet, and prices remain about the same.

The poultry market is quiet at slightly higher prices in some lines.

Sweet potatoes are scarce, but the high prices asked limit the demand.

The American Cranberry Growers' Association met in Trenton, N. J., January 28.

The choicest hops, crop of 1895, are worth but nine cents per pound in this market.

A large part of the tomatoes arriving are of poor quality, and sell for low prices.

Parsley from Bermuda has been selling for $2 to $2.25 per case—an extremely high price.

Grapes are selling for last fall's prices. Catawbas are the only domestic varieties now in market.

Dressed calves have been in light supply, and prices have been extreme for those of good quality.

The thirty-third sale of California wine at auction was recently held in this city, and higher prices were obtained.

Large numbers of bob veals are being seized by the Health Board. They should not be shipped under three weeks of age.

Most of the Florida strawberries are of poor quality. Arrivals are not large, and fancy would command extreme prices.

The hop situation in England and Germany is reported to be about as bad as in this country, with few fields being plowed up.

Reports from Norfolk are to the effect that shipments of spinach will be light in the near future, and prices are likely to be considerably higher.

Something over 600 packages of fancy frozen chickens were recently purchased in the West for the Liverpool market, and were shipped from this port the past week.

Many send in small-sized lambs several months old, and expect them to sell for hothouse-lamb prices. Such deception doesn't pay. Hothouse lambs must be young and quickly grown.

The Connecticut Pomological Society will hold a two-day's meeting in Hartford, February 25 and 26. Besides the leading fruit growers in Connecticut, there are to be speakers of national reputation. Reduced railroad rates will be arranged for, and a large attendance is expected. Programme and full particulars may be had from George S. Butler, secretary, Cromwell.

Republican Nat. Convention at St. Louis in June

"The Big Four Route" which is the Western connection of the New York Central, Boston & Albany and Lake Shore Railroads, is the through line to St. Louis from all Eastern cities. The "Southwestern Limited" is a solid train from New York, Boston, and Buffalo daily, with through Wagner Sleeping Cars from these cities to St. Louis. Elegant Dining Car service is provided throughout and the equipment is unexcelled. For full particulars write C. S. Blackman, General Eastern Agent, 40 Exchange Street, Buffalo, N. Y.—*Adv.*

CONDENSED CORRESPONDENCE.

CARMAN No. 1 POTATO.—I raised 52 pounds from the little Carman No. 1 potato sent me last spring, It had 11 eyes, and I planted 11 hills on good, stony soil. It had only common care. F. M. A.
Steuben County, N. Y.

ARKANSAS CRIMSON CLOVER.—I sowed eight pounds of Crimson clover seed on one-half acre of land, September 5, 1894. On May 4, 1895, I cut it; it averaged 14 inches high, and yielded 1½ ton of hay. A small piece which I left, grew to a height of 26 inches. H. G.
Fort Smith.

"BROWN'S BRONCHIAL TROCHES" are unrivaled for relieving Coughs, Hoarseness, and all Throat Troubles. Sold only in boxes.—*Adv.*

For Sale—Truck Farm in Beautiful Virginia. comprising 81 acres, good house, barn, stable, well, stream of water; one-quarter mile from station; photographs. EDW. BOOTH. Spring Grove, Va

For Sale—Splendid Farm, 105 acres. Eight-room House, Outbuildings. Best situation; lake front. Suit Dairy, Stock, Fruits. Truck. Snap bargain. $7,000. Easy terms. Owner in Scotland. Particulars, CAPT. ZIMMERMAN, Inverness, Florida.

For Sale. Delaware Farm, 100 acres rich land, near Dover. Beautiful home; new house; nine rooms; good outbuildings. 1,100 fruit trees, all kinds. Running water. Possession. Price, $4,000; $600 cash. Balance as long as interest paid. Cheap. Bargain. FARMER, L. B. 281, Dover, Del.

FRUIT GROWING. Nut, berry, vegetable and grain culture. thoroughly understood by young man desiring a situation as foreman. F. M. B., RURAL NEW-YORKER.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

SEED POTATOES AND SMALL FRUITS. Some Wonderful Varieties. Fortunes in them! Send postal for FREE Catalogue NOW. D. H. GOBLE Greenfield, Ind.

Seed Potatoes. ED S HILL, PERUVILLE, TOMPKINS CO., N. Y.

Carman No. 1 Potatoes—(Thorburn Seed). $1 per bushel of 60 pounds; 150 pounds to the barrel. Orders booked now Shipments made at any designated dates.
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Carman No. 1 Potatoes.
$3 per barrel. Barrel lots only.
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For Sale. Potatoes Rural New-Yorker No. 2 and Troy Seedlings, firsts. 50c.; seconds 40c. per bushel. Address J. H. KENYON, 125 E. Brighton Avenue, Syracuse, N. Y.

CARMAN No. 1.
A fine stock of this most desirable potato. Circulars free. Dr. JABEZ FISHER, Fitchburg, Mass.

Seed Potatoes. Carman No. 1, $3 per barrel; Carman No. 3, $5 per barrel; Rural New-Yorker No. 2, $1.50 per barrel; Green Mountain, $1.50 per barrel. The above prices include f. o. b. boat or railroad at Northport, properly packed. EDWARD PIDGEON, Northport, L. I.

NORTHERN GROWN SEED POTATOES
It will mean money in your pocket to send address at once for my free descriptive catalogue of 60 choice and low-priced varieties. Buy direct and save money. Keep this address.
ARTHUR G. ALDRIDGE, Fishers, Ontario Co., N. Y.

$1 INVESTED NOW IN ROSE STANDISH POTATOES MEANS **$50** worth of seed to sell your neighbors next season. One eye has produced 27 tubers, weighing 13½ pounds. Four first prizes awarded for quality. Agents wanted. Three pounds $1, prepaid. C. H. BREWSTER, Originator, South Hingham, Mass.

Seed Potatoes. The great Carman No. 1 and No. 3 and Sir William, warranted pure and true to name. Prices, Carman No. 1, $1 per bushel; No. 3, $2 per bushel; Sir William, 85c. per bushel. $2.25 barrel. Also, Black Langshan and Buff Leghorn fowls. Eggs. $1.50 per 13, $2.25 per 26.
BEAN & WILLIAMS, Cochranton, Pa.

Send for our 1896 Catalogue of Northern Grown
SEED POTATOES.
Catalogue FREE. | Prices Reduced to suit the times. | AGENTS WANTED.
HOOKER, GROVER & CO., Nurserymen and Seedsmen, Rochester, N. Y.

POTATOES. New, standard and pedigree varieties; guaranteed pure and true to name. Orphan, Delaware, New Queen, R. N.-Y., N. Y. Gem, Early Rose. $1.20 bbl. (165 lbs. potatoes). Banks and other *ref.* in *free Descriptive Price List* (over 30 varieties). Grown especially for seed from best selected stock. R. H. BROWN & CO., P. O. Miller Corners, Ontario County, N. Y.

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Horse Shoe Farm Illustrated Catalogue sent. Potatoes, Swine, Poultry, Plants. Practical Pointers to Secure Success. Cheaply grown stock enables us to **defy competition**; 19 years in business. "Hints" for 2-cent stamp. C. E. CHAPMAN, Peruville, N. Y.

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Carman No. 3 (Thorburn Stock).....$6 25 per barrel
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Wholesale and Retail Dealers in
High-Class Seeds,
BRIDGEPORT, CONN.
Everybody having use for Farm, Garden or Flower Seeds, Plants or Bulbs, should read our New Illustrated Catalogue for 1896. Don't buy till you see it. *Send for a Copy; Mailed FREE*, to any address.

Catalogue of pedigreed farm and garden seeds, poultry and swine, containing true descriptions of all leading potatoes, oats, corn, etc. Prices are right. It is modest and attractive in appearance. Truthful in description; has no exaggerated statements or illustrations. You want it; we want you to have it. It is free for the asking.
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CARL S. HOPKINS, Seedsman, Brattleboro, Vt.

Carman Seed Potatoes
Carman No. 3, $4; Carman No. 1, $2.75; Burpee's Great Divide, $2; Dutton, Orpban, Maggie Murphy, American Wonder Freeman Sir William, Irish Daisy, $1.50; New Queen, Early Rose, Maine, Hebron, Sunrise, Puritan, $1.25; Rural New-Yorker No. 2, Green Mountain, Monroe Seedling, $1 per barrel. Any other varieties you may want, write, and I will give you prices. Mixed barrels at the same price. Lincoln Oats, 45 cents per bushel; Wayne County Mint Roots, 10 cents per pound. Terms cash, f. o. b.
C. E. KELLEY, Newark, N. Y.

HAMMOND'S NEW LAND **SEED POTATOES**
are always the best—100 varieties. EARLY MICHIGAN and CARMAN No. 3, two best varieties. Fifty-one barrels of above varieties, free. Hammond's Corrosive Compound will prevent potato scab. Choice sorts, $1.50 per barrel. Catalogue and new book, Potato Culture in a Nutshell, both free. Read them before ordering or planting seeds. Address
HARRY N. HAMMOND, Seedsman, Decatur, Mich.

Choice Standard and New varieties grown and stored in the Cold Northwest. Send for handsome Illustrated Catalogue, containing article describing method of raising and handling. Small shipments at car-load freight rates. Samples free.
E. W. ALLEN, Wolverton, Wilkin County, Minn

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If you want Fruit Trees, Roses, Shrubs, etc., drop us a postal card (do it now) and we will send you free our 1896 catalogue. It's full of the choicest kinds.
GLOBE NURSERY COMPANY, Rochester, N. Y.

The Alice Grape. The hardiest and best keeping grape ever offered. Ripens with Concord. Keeps all winter; splendid quality, very productive. Catalogue with full description free. F. E. Young, Nurseryman, Rochester, N.Y.

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Money Will Buy
unmixed, true to name, carefully packed to go any distance, and reach you in growing condition,
I Want Your Order,
and I'll make it to your interest to buy of me.
My new "Plant and Seed Hustler," for 1896 is full of reliable, up to date information about berries, berry growing, and the best varieties, new and old. Also about CRIMSON CLOVER, SEED CORN, COW PEAS, WINTER OATS, etc., and is worth a dollar to any farmer or gardener, but will be sent free to all who write for it and mention THE R. N.-Y.
E. G. PACKARD, Seed Grower, Dover, Del.

PLANT BOXES $2.25 PER 1000.
For HOT-BED USE
4-inch cube, 4½-inch cube, or 5-inch cube.
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Write for price list. Address
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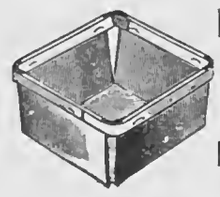

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Pastenra Medicine Co., Chittenango, N. Y.

Send for description of the famous O.I.C. hogs two of which weighed 2806 lbs. Sold 1597 in 1895, for breeders.
First applicant from each locality secures a pair ON TIME and an agency.
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ASTHMA
If You Suffer you cannot afford to remain in ignorance of the success which is being attained and what it means for you. *Full information free.*
Address, **DR. HAYES, Buffalo, N. Y.**

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	19	@	—
Seconds to firsts	14	@	18
Elgin and other Western, extras	20	@	21
Western, firsts	18	@	19½
Western, seconds	16	@	17
Western, thirds	15	@	—
Western, June, extra	18½	@	19
Western, June, seconds to firsts	14	@	17
State dairy, half tubs, fresh, extras	19	@	—
Firsts	16	@	17
Seconds	13	@	15
Dairies, firkins and tubs, extras	17½	@	18
Dairies, firkins and tubs, firsts	16	@	17
Firkins, extras	17	@	17½
Firkins, seconds to firsts	13	@	17
Welsh tubs, extras	18	@	19
Welsh tubs, firsts	16	@	17
Welsh tubs, seconds	13	@	15
Tubs, thirds	11	@	12
Western imitation creamery, firsts	15	@	17
Seconds	13	@	14
Western dairy, firsts	14	@	15
Seconds	12½	@	13
Thirds	11	@	12
Factory, Fresh, small tubs, extras	14½	@	—
Fresh, small tubs, firsts	13	@	13½
Fresh, large tubs, firsts	12	@	13
Fresh, large tubs, seconds	11	@	12½
Fourths to thirds	9	@	10½
Old Western factory or dairy	8	@	10½
Rolls, fresh, fine	13	@	13½
Rolls, fresh, common to good	9	@	12

EGGS.

New-laid, fancy (nearby)	16½	@	17
N. Y. State, country marks, fresh gath'd.	15½	@	16
Pennsylvania, country marks, new laid.	15½	@	16
State and Penn., fair to good	15	@	15½
Western, fresh collections, fancy	15	@	—
Western, fresh collections, fair to good.	14	@	14½
Southern, fresh collections	14½	@	—
Western, refriger., short holdings, choice	10	@	11
Western, refriger., September, packed	10	@	11
Western, refriger., defective, per case	2 00	@	3 50
Western limed, prime to fancy, per doz	9	@	11

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	7	@	—
Choice, 1895, per lb	6¼	@	6½
Prime, 1895, per lb	5⅞	@	6
Common to good, per lb	4	@	5½
N. C., sundried, 1895, sliced, fancy	3	@	3½
Southern, sundried, common to choice	2	@	2¾
State, sundried, quarters, bbls	3½	@	4
Western, sundried, quarters, bbl	3	@	3¾
South-West'n, sundried, quarters, bbl	3	@	3½
Southern, sundried, quarters, bbl	2½	@	3
Southern, sundried, quarters, bags	2¼	@	2¾
Chopped, 1895, per lb	2	@	—
Cores and skins, 1894, per lb	1½	@	1¾
Peaches, Sundried, 1895, peeled, per lb	5	@	7
Cherries, 1895, per lb	8	@	10
Blackberries, 1895, per lb	4	@	—
Raspberries, evaporated, 1894, per lb	19	@	—
Sundried, 1895, per lb	17½	@	—
Huckleberries, 1895, per lb	6	@	—

FRUITS—GREEN

Apples, Northern, fancy, winter, per bbl	2 50	@	3 50
Winesap, Va., per bbl	2 50	@	3 75
York Imperial, Va., per bbl	2 50	@	3 50
Other Va., red	1 50	@	2 50
Baldwin, per bbl	2 25	@	3 00
Spy, per bbl	2 25	@	3 25
Greening, per bbl	1 75	@	2 50
Ben Davis, per bbl	2 25	@	3 25
Poor to fair, per bbl	1 00	@	1 50
Grapes, State, Catawba, per 5-lb basket	6	@	10
Oranges, Fla., per box	3 00	@	5 00
Grape Fruit, Fla., per box	10 00	@	—
Strawberries, Fla., fancy, per quart	—	@	—
Poor to good, per quart	30	@	50

MEATS—DRESSED.

Veals, country dressed, prime	10	@	10½
Fair to good, per lb	9	@	9½
Com. to med., per lb	7	@	8½
Small, per lb	4	@	6
Barnyards, per lb	4	@	5
Spring lambs, each	2 00	@	7 00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	7
60 to 80 lbs, per lb	6	@	6½
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4½	@	5
Rough, per lb	3	@	4
Tenderloins, per lb	16	@	18

POTATOES.

Bermuda, No. 1, per bbl	4 00	@	5 00
No. 2, per bbl	2 00	@	2 50
Houlton Rose, per d. h. bbl	1 50	@	1 75
Maine Rose, per d. h. bbl	1 50	@	1 62
State Rose, per d. h. bbl	1 25	@	1 50
Maine Hebron, per sack	1 05	@	1 10
Long Island, in bulk, per bbl	85	@	1 00
State Rose and Hebron, per 180 lbs	85	@	1 10
Burbank, etc., per 180 lbs	65	@	85
Jersey, in bulk, per 180 bbl	65	@	80
State and Jersey, per sack	70	@	80
Common, per sack	50	@	65
Sweets, Vineland, fancy, per bbl	4 00	@	4 50
South Jersey, per double-head bbl	3 00	@	3 50
Jersey common, per barrel	2 00	@	2 50

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	19
Medium sizes, per lb	16	@	17
Small and slips, per lb	13	@	15
Western, large, per lb	15	@	16
Western, small and slips, per lb	11	@	13
Chickens, Phila., large, per lb	14	@	15
Phila., mixed weights, per lb	10	@	12
Jersey, per lb	10	@	12
State and Penn., choice, per lb	9½	@	10½
Western, choice, per lb	9	@	9½
Western, fair to good, per lb	7	@	9
Chickens & fowls, mixed, West'n, choice.	9	@	9½
Fair to good, per lb	7	@	9
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	9	@	9½
Western, choice, per lb	8	@	9
Western, fair to good	7	@	7½
Western, inferior	5	@	—
Old cocks, per lb	5	@	6
Ducks, Maryland, choice, per lb	15	@	16
State and Penn, choice, per lb	15	@	16
Western, choice, per lb	14	@	15
Western, fair to good, per lb	10	@	12
Western, inferior, per lb	6	@	7
Geese, Maryland, choice, per lb	10	@	11
Fair to good	8	@	9
Western, good to prime	8	@	9
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	2 75	@	3 00
Mixed lots, per doz	2 25	@	2 50
Dark and poor, per doz	1 75	@	2 00
Turkeys, dry-picked, choice young hens.	13	@	14
Mixed young hens and young toms	13	@	13½
Choice young toms	13	@	—
Fair to good	10	@	12½
Old toms	10	@	—

VEGETABLES.

Beets, New Orleans, per 100 bunches	4 00	@	5 00
Florida, per crate	1 75	@	2 25
Brussels sprouts, per quart	4	@	10
Cabbage, domestic, per 100	2 50	@	5 00
Foreign, per 100	5 00	@	5 50
Carrots, washed, per bbl	75	@	1 00
Unwashed, per bbl	75	@	90
Cauliflower, Fla., per half bbl	2 00	@	2 50
Celery, State & West'n, fancy, large, per doz.	50	@	65
State & West'n, average, prime, per doz.	25	@	40
State & West'n, small, per doz	10	@	20
Jersey and L. I., per dozen flat bunches	1 00	@	1 25
California, per doz	25	@	75
Cucumbers, hothouse, per doz	75	@	1 50
Egg plant, Florida, per bbl	4 00	@	8 00
Horseradish, per lb	4	@	5
Kale, per bbl	90	@	1 00
Lettuce, Florida, per half bbl basket	1 00	@	3 00
Boston, hothouse, per doz	50	@	1 25
Bermuda, per crate	75	@	1 25
Onions, Orange County, red, per bbl	75	@	90
Orange County, yellow, per bbl	1 25	@	1 37
Eastern, white, per bbl	1 50	@	2 00
Eastern, red, per bbl	90	@	1 00
Eastern, yellow, per bbl	1 25	@	1 50
State and Western, yellow, per d. h. bbl.	1 00	@	1 25
Bermuda, per crate	1 75	@	—
Peppers, green, Fla., per crate	1 00	@	2 00
Radishes, hothouse, per 100 bunches	2 00	@	3 00
Spinach, per bbl	2 00	@	4 00
Squash, Marrow, per bbl	50	@	60
Hubbard, per bbl	60	@	75
Florida, per crate	50	@	75
String beans, Florida, per crate	50	@	5 00
Tomatoes, Fla., per carrier	1 00	@	2 00
Per crate	1 00	@	1 75
Key West, per carrier	75	@	1 50
Key West, per peck box	25	@	35
Turnips, Jersey, Russia, per bbl	60	@	75
Canada Russia, per bbl	75	@	80
Watercress, per 100 bunches	75	@	1 50

MILK AND CREAM.

The total daily supply has been 20,273 cans of milk, 200 cans of condensed milk and 361 cans of cream. The average price paid for the surplus on the platforms has been $1.55 a can of 40 quarts.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

that boy!

A little lad, all fun!
A little chap, all coat!
A round cipher — not knowing whether the stroke will go up and make him six, or down, and make him nine!

It's growing time with him. He is burning up fat. This fat must be in as constant supply as the air he breathes.

It has got to come from somewhere. If it does not come from his food, it must come from fat stored up in his body. He steals it and you say, "He's getting thin—he's growing so fast."

Scott's Emulsion will take that boy, set his digestion at work, and rebuild that body. His food may not make him fat—Scott's Emulsion.

SCOTT & BOWNE, Chemists, New York. 50c. and $1.00

Plant YOUR POTATOES WITH THE IMPROVED-ROBBINS

then your seed will lie in loose soil—not packed. Your fertilizer will be thoroughly mixed with the soil. Your seed will not be bruised or punctured.

Send for catalogue No. 3.

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("*The Iron Age*" people.) GRENLOCH, N. J.

Corn

is a vigorous feeder and responds well to liberal fertilization. On corn lands the yield increases and the soil improves if properly treated with fertilizers containing not under **7% actual**

Potash.

A trial of this plan costs but little and is sure to lead to profitable culture.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

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SOLUBLE — ACTIVE — SURE.
BOWKER FERTILIZER CO., BOSTON & NEW YORK.

Leggett's Fungiroid and Paris-Green

COMPOUND, half and half in one-pound boxes. Prevents blight and kills insects in one operation.
APPLY DRY IN LEGGETT'S GUN.

One grower writes:

"Your Compound worked to a charm, killed potato bugs and stopped blight. One of my potato plots was attacked by grasshoppers in such numbers as to threaten its entire destruction. I went over the patch with the Compound and in 24 hours very few live grasshoppers could be found. Was also bothered with flea beetles, but one application of Compound was sufficient. I never saw another flea and they had been very plentiful. Used the Champion Gun and believe it more than saved its cost on the one plot of potatoes." Circulars furnished showing how to do it. LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Pittsburgh, Pa.

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Will Produce
PERFECT FRUIT.
We tell you all about spraying and care of fruit in our 32-pg. illustrated book—free. Our Pumps and Nozzles win highest honors in every test.
The Deming Co. Salem O.
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SPRAY PUMPS

EXPRESS PAID.
Satisfaction Guaranteed or Money Refunded. Endorsed by Leading Entomologists. 60,000 in use. We are U. S. Headquarters for Spray Pumps, and Insecticides. Catalogue, Spray Calendar, and full Treatise on Spraying, FREE.
$17. SPRAYING OUTFIT $5.50
EXPRESS PAID, FOR
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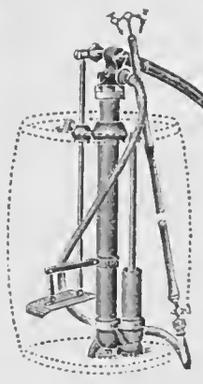

RICH NEIGHBORHOOD,

Pennsylvania, spring '95, buy more than a dozen Spray Pumps. One man buys

"THE ECLIPSE"

now same men write for price on six or more "ECLIPSE." Going to throw out all others. We've got 'em.

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THE GENUINE
BUCKEYE FORCE PUMP.

A CHILD CAN USE THEM.

Has no equal. Works easy and throws a constant stream. Never freezes in winter. Over 300,000 in use and giving universal satisfaction. Send for circulars and prices, giving depth of well. *Beware of Imitations.*

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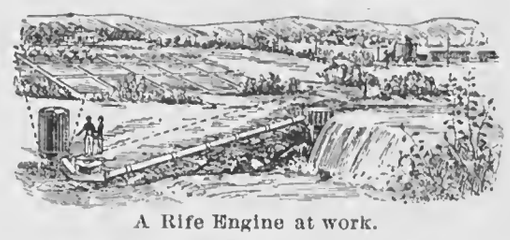
Also Manufacturers of the **Iron Turbine and Columbia Steel Wind Engines, Steel Derricks, Power Mills, Lift Pumps, Tank and Spray Pumps, Buckeye Lawn Mowers, Iron Fencing, Fire Escapes, etc.**

Cheap Water Supply

BY AUTOMATIC ENGINES.



A Rife Engine at work.

Cost GUARANTEED Less than an average of One Dollar a Year.

The only practical economical method of elevating water for Small Towns, Railroad Tanks, Irrigation, Colleges, Country Residences, etc. Highest Efficiency, Constant Action; Never Stops.

Send your conditions of Spring, Stream or Flowing Well for our guaranteed estimate. Catalogue free.

RIFE ENGINE CO., 126 Liberty Street, New York.

I X L THEM ALL.

QUALITY TELLS
THE BEST
STEEL MILL.

STRONGEST STEEL TOWER. No long story here. Send for catalogue and prices.
PHELPS & BIGELOW WIND MILL CO.,
Kalamazoo, Michigan.

THE KIND YOU WANT

There are no better
Drilling Machines
than ours For gas, oil and water Go down from 10 to 2500 feet 9 sizes. Send for catalogue and prices of machines, tools, supplies, etc. Free.
Star Drilling Machine Co. Akron, O.

HEADQUARTERS FOR
DUMPING
Horse Carts
Wide and narrow tires. Steel axles. Low rates of freight from our works, Tatamy, Pa., to all points
HOBSON & CO.,
No. 4 Stone St., New York.

Farmer's Handy Wagon

A "NEW IDEA" farm wagons, 30 in. high, 6-in. tire, recommended by the Agricultural Colleges and Farmers in every State in the Union. We wish agents, and will give special introductory prices in new territory. Other farm implements are used only in one kind of work and in one crop during the year, but our *Handy Wagon* saves you money and labor every day. Good on sidehill or flats. It is handy, cheap, durable, and leaves no tracks in the fields. Beautiful Catalog free. Costs nothing to investigate, and will interest every farmer

Metal Wheels for your old Wagons.

Farmer's Handy Wagon Co., Saginaw, Mich.

THE POUNDER HARROW
50000 Farmers say their BEST in use. PRICE RIGHT, cat'lg Free. Freight paid.
G. H. POUNDER
No 22 St. Atkinson, Wis. WRITE
Leads all at WORK

THE LIGHTNING SEED SOWER!

Guaranteed to Sow from 50 to 80 Acres per Day (either Horseback or Foot), of Clover, Timothy, Millet, Flax, and all Seeds of same nature.

Will be sent to any Postoffice on receipt of $1.50. If not satisfactory, money refunded.
Circulars Free. Agents Wanted.
FRANZEN & BUSS,
GOLDEN, ILL.
REFERENCE: GOLDEN BANK.

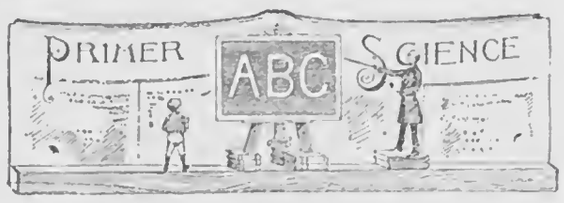
CHALLENGE FEED MILL.

For full information about the best Feed-mills, Horse powers, Threshers, Clover-hullers, Fanning-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address,
MINARD HARDER, Cobleskill, N. Y.

SPRAY WITH THE EMPIRE KING

Our catalogue will tell you why it is the best. Send 2c. for postage and the catalogue is free.
FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

Cider Machinery.—Send for catalogue to Boomer & Boschert Press Co., 118 West Water St., Syracuse, N.Y.



FEEDING A HEN.

PART V.

Last week we tried to pick the Mapes hen ration apart, and see how it balanced. This figuring is excellent practice, and it will pay any poultryman to follow it out whenever he can get exact weights to go by. One trouble is that too many farmers feed by *measure*—without ever weighing a ration. Now here is a report of a ration that will be hard to pick apart:

I am keeping about 100 hens, and think it best in our climate to keep them confined for two months. I have finished off one end of my barn into two apartments, each about 8x20 feet, so they have considerable room. I give them five quarts each of oats and buckwheat early in the morning; then after an hour, a thick mash of boiled potatoes and bran or meal, and at night five quarts of corn. During the day I generally feed them two cabbages, which I slice up somewhat with a knife, and hang up within six inches of the ground. I eut meat scraps and pieces of bone and feed them: I generally get my meat here for nothing. This year one of my sows, being rather too fat and clumsy, killed her litter of pigs when they were from one to three weeks old, and I eut them up, bone and all, and the hens ate them greedily. I have no floor in my henhouse, but litter lightly with fine straw for convenienee in cleaning. The ground is not packed underneath, but was worked up finely in the summer, and makes a fine dusting place for the hens; it seems to me that this is better than a floor. I give, for drink, skim-milk slightly warmed, and for grit, grounnd oyster shells. L. K.

Augusta, Wis

Now with those foods, a man could make up a ration with almost any proportion to it. It depends largely on the amount of *meat* that is fed. The meat being the richest in muscle-makers, of course, will quickly determine the proportion of the ration. Our impression is that, if we could obtain the exact weights, we would find that this ration averages about one part muscle-makers to five parts fat-formers. This is a little wider than the Mapes ration, and the amount fed per hen will also be greater. This ration is, probably, the cheapest that can be found in that part of the West. Mr. Mapes, you will remember, built his ration up as he did, because he was able to buy pot cheese and malt sprouts at a low figure.

In fact, we wish to keep on repeating that the chief value of this knowledge of analyses of foods, is the fact that we are able to pick them apart and learn where to buy muscle-makers for the least money. That is the great object in preparing our *economical* poultry ration, because the foods rich in muscle-makers are usually highest in price. The fact is that, in almost every neighborhood, it is possible to pick some cheap food that will enable us to save money if we only know what there is in it. It may be cut bone or cheap meat or pot cheese or fish or something that is considered a waste because its true feeding value has not been found out. Many a farmer has gone on for years paying high prices for nitrogen in manures and fertilizers, without realizing that clover and cow peas would find that nitrogen for him. In just the same way, you will find some poultrymen who are buying high-priced grain to make up a hen ration, while the butcher is throwing away bones and meat scraps that could be used to provide muscle-makers that would save that grain. Therefore we advise every poultryman to acquire the habit of figuring out these rations. Compare foods and combinations of foods, and see where you can save money in trying, or wherein some other ration differs from yours.

Do we give that Mapes ration as a model? No, but it is a good one to start figuring on. It may be best for that place, but our opinion is that, for the younger hens, we would feed more meat or cheese so as to narrow the ration down to one to four, or even lower. We would also change the method of feeding if possible, and avoid giving the warm mash so early in the morning. We will give some reasons for these changes next week, when we can have space to tell it all at one time.

Of course, the question of producing the cheapest possible egg, is only one side of it. Undoubtedly, the flavor and color of an egg are controlled, more or less, by the food which the hen eats. Throwing out several foods which are known to be objectionable, the average poultryman will try to make up a cheap ration from the foods at hand.

You will notice that Mr. Mapes strongly urges the use of meat in some form, both as a stimulant for egg production, and as a matter of health. Next week we expect to tell about a flock that is kept on grain and grass only—not divided into small flocks, but kept all together. This will make an interesting story, and will make us all very careful about laying down any exact rules to govern poultry keepers.

Live Stock Matters.

THE BEST HOG TO FATTEN.

The most profitable hog to fatten here is obtained, by mating a finely bred, quick-maturing male with a coarse, vigorous sow. This practice is not followed by our best hog raisers, for the reason that we would have to buy all of our breeding stock. As it is, we buy only the males. It is not true that the practices which must be followed by the average farmer in raising hogs for general market, would cause any breed to run out. Our best hog growers have held to one breed for the past 18 years and our hogs are rather better than ever before. O. E. FRENCH.

Iowa.

Thoroughbreds after one gets started are the most profitable for fattening. Select that hog that experience has shown, where pork raising is made a business, will produce the most pork from a bushel of corn. We would always select vigorous males and females as well. We believe that the Poland-China possesses the vigor, productiveness and fattening tendency (they are always pork) more than any other breed. It is true that the practice of the average farmer will cause any breed to run out. To apply the remedy, draw frequently new blood from the best breeders in the country. We know that it pays us, and think that it will pay any one to do it. We breed purebred Poland-Chinas, drawing our blood from some of the best herds in Ohio, Illinois, Michigan and Kansas. F. H. GATES & SONS.

New York.

FORKFULS OF FACTS.

FREE-MARTIN HEIFERS.—Will a twin heifer breed? Its mate was a male.

St. Catherine, Ont. A. D. B.

R. N.-Y.—Such heifers are called free-martins. As a rule, they do not breed, though we have been told of instances where they have done so.

HAY ONCE A DAY.—I have never, for the past eight years, fed my cows but twice a day—grain while being milked, and hay immediately after. I use nothing but the best grain and solid clover hay. The first of the winter, I decided to try the cows on one feed of hay a day (about 12 or 15 pounds), and two feeds of grain. To my utter astonishment, they gained on their milk and are holding on like good ones. One of them I have been milking two years, and all over one. Now I am kicking myself for all the hay I have wasted. G. W. S.

Wollaston, Mass.

MAN *vs.* HORSE.—Does the man who feeds his stock but twice a day, limit himself and family to two meals a day? If not, why not? If such a system of feeding is good and even fattening for a horse, it ought to be excellent for man, his organization and that of a horse being somewhat similar. Then according to the theory, if all the families in the United States would rigidly confine themselves to two meals a day, chewing

(Continued on next page.)

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(*Hand & Power.*)

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Severe or Easy.

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Poultry Guide for 1896 Finest book ever published, contains nearly 100 pages, all printed in colors, plans for best poultry houses, sure remedies and recipes for all diseases, and how to make poultry and gardening pay. Sent post paid for 15c.

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The greatest horse remedy in the world. Not simply guaranteed to cure in the advertisement, but backed by a standing offer of **$100 Reward** for every failure. If it won't cure your horse of Colic, Curbs, Splints, Contracted and Knotted Cords, Shoe Boils, when first started, and Callous of all kinds, you will receive the above reward. Used and indorsed by Adams Express Company. Sample free for three two-cent stamps to pay postage.

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Address Dr. S. A. TUTTLE, 27 Beverley St. BOSTON, MASS.

LIVE STOCK MATTERS.

(CONTINUED.)

their food as faithfully as a horse does, and allowing no nibbling between meals, except to growing children, at the end of a year's time, there would not be a dyspeptic from the Atlantic to the Pacific; and doctors would have to turn farmers in order to make a living. J. S.

St. Andrew's Bay, Fla.

WHAT HENS NEED.—I have a flock of 50 hens, and a good tight two-story henhouse warmed by a stove on cold days. I find by observation and experience that three things are necessary to get eggs in winter; all this vast amount of talk and comment may be summed up in a very few words: First, a fairly warm house; second, freedom from lice or odor; third and most important, plenty of highly nitrogenous food. We get eggs in winter if we feed meat—no meat, no eggs; any other nitrogenous food, I suppose, would do just as well. I like Mr. Mapes's pot-cheese. M. B. S.

Centreville, N. Y.

BOLTON GRAY POULTRY.—Twenty years ago, when I was a resident of New York State, where I was born and reared, there was a brood of hens called Bolton Grays. Do you know whether such a breed of hens is still in existence? If so, where can I get them pure? S. W. H.

Ohio.

R. N.-Y.—The Silver Penciled Hamburg of to-day, is the "Bolton Gray" of old, improved (?) by having been bred to feather and points by our fanciers. How they compare in egg yield, I do not know. The Hamburgs are all good layers, of rather small eggs, however. The advertisements of breeders can be found in THE R. N.-Y. B. H.

FEED BONE MEAL.—We have no trouble in this county in stopping cows from eating the barnyard fences, shingles from the barn, old boots, etc. We simply feed them bone meal. Such cows usually are found on rocky pastures, where the phosphoric acid has been taken out by the continued selling of milk or butter. W. B. K.

Bowdoinham, Me.

Feed wood ashes along with the salt to cattle and hogs. The wood ashes also prevent young cattle taking the "black leg." I think that green-wood ashes are the best. I have seen men make a fire of brush in the pasture where calves were grazing, and they would lick up the coal and ashes clean. S. L.

Virginia.

A HORSE FOR HENS.—I have had experience with feeding fresh beef bones from the markets, and with whole carcasses. I use a Webster & Hannum No. 12 green bone mill, and last winter depended on fresh beef bones from the markets, for which I paid 2½ cents per pound. There were so many here that have bone mills that it was impossible to get what meat and bones I needed, but this fall I laid in a supply of old horses, and as they have kept frozen, I have had no trouble to get plenty of meat. As to grinding up whole carcasses, one must take care and keep the mill where it will not get frosty, as the castings break easily when frosty. I do not grind the leg bones below the knees, or hock joints, but have had no trouble in working up the rest of the carcass when the meat is frozen, for I find that the bones of a horse have a thin shell with abundance of marrow and, therefore, work up quite easily. But the knives must be kept sharp. The meat grinds fine when frozen, but when fresh the big cords will clog and bunch up and come from the machine in big pieces which the hens cannot swallow. This difficulty, of course, will not be met with when grinding trimmed bones from the butchers.

This winter I am feeding my hens green bone and meat at noon every day, and give them what they will eat up clean in about 15 minutes. If they leave any, it is taken away. I give them a warm mash mornings, and a ration of corn, oats, buckwheat, sunflower seeds and wheat, keep apples before them all the time and get as many eggs as in summer.

I also keep a fire in my henhouse and would like to know why so many people are against artificial heat in a henhouse. I have kept a fire in mine the past two years, and do not know what a sick fowl is. I try to keep the temperature at 50 degrees, and the hens appreciate the warmth by keeping me well supplied with eggs. G. J. F.

Waterville, N. Y.

SAFE RAILROADING FOR PIGS.—Through a friend, I got a fine, thoroughbred Poland-China sow from Nebraska, one of his finest breeding sows. In the field with her, was a young imported boar—too young for service, he thought; but he was surprised to find that she was served, and as the time for farrowing would be in mid-winter, he would have no use for the pigs. It was said that a sow would not have live pigs after being on the cars for so long a distance, but I took my chances. I got her here November 1. Just before Christmas, she had eight pigs—one dead—as fine a lot as I ever saw, and they are, at this writing, a third larger than other common pigs of the same age. These will furnish new blood not akin to anything in this locality. G. L. A. Q

Olean, N. Y.

LEATHER CHEWERS AND CATS.—In answer to J. R. E., page 19, kerosene oil, rubbed on the hitching strap and reins, will cure the chewing habit in nine cases out of ten, and capsicum (red pepper) will cure the tenth case. The above is just as reliable to prevent gnawing the manger or pulling a blanket. A. A. H.

Kensington, Conn.

I have had two bad cases of leather chewers, one a three-year-old that chewed up two half-inch ropes and two strong hitching straps. I found a sure cure in both cases by soaking the straps in coal oil. I keep them soaked for three or four weeks, or until the animal is cured.

Youngstown, O. F. E. S.

To cure the leather-chewing habit in horses, smear a piece of leather strap with grease in which asafetida has been mixed. Nail it in front of the manger within easy reach, and let the horse try this for a "chew." The habit will be cured in short meter. At least, I have never known it to fail.

I kill rats with cats and poison. They used to trouble me greatly, but I took a cat in the granary once, and she killed nine in less than five minutes. I keep four cats. In places inaccessible to cats, I use "Rough on Rats." The omnifarious rodents die or run away, and leave no bad odor behind. I have not seen any, or the effects of any, for years. C. A. W.

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GUARANTEED. Will not scatter or reduce the flow of milk. Sent by mail on receipt of price. ½ lb., 50c.; 1 lb., $1.00. SCOTT'S ARABIAN PASTE CO., ROCHESTER, N. Y.

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THOUSANDS CURED—BOOK FREE.
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ANIMAL MEAL
Makes hens lay.
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BOOK ABOUT IT FREE.

GRANULATED BONE FOR POULTRY.
Bone Meal, Crushed Oyster Shells, Calcite, Crushed Flint, Ground Beef Scraps. *Send for Price List.*
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Ground Bone, Shells, Charcoal and Limestone Grit and Poultry Supplies. Send for circular. Manufactured by J. H. SLACK, Bloomsbury, N. J.

CRUSHED OYSTER Shells for Poultry. 100-lb. bag, 60 cents; five, $2.50; ten, $4.50. Per ton, $8. E. N. LEETE, Leete's Island, Conn.

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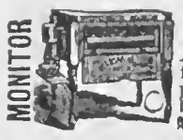

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Berkshires and Chester Whites. Choice large strains, 8-week pigs not akin. Boars and Sows all ages. Hard time prices.
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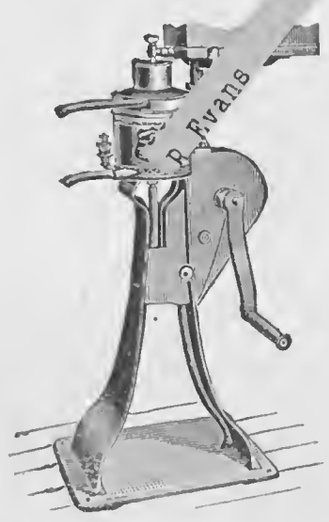

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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REVOLUTIONARY POULTRY KEEPING.

HENS ON GRAIN AND PASTURE.

One Big Flock Instead of Several Small Ones.

Like Mr. Collingwood, I have no desire to parade my private affairs; but I would like to show R. N.-Y. readers how I have managed to make an honest dollar with my hens. I began keeping fowls about 15 years ago, and there has not been a year since in which they have not paid something. There has been considerable work connected with the business, for I housed, yarded and fed the fowls as generally recommended by the poultry papers. Three years ago I determined to find out whether it were possible to keep fowls successfully in moderately large numbers, fed on dry grain, with no soft food or meat. Of course I knew that such an undertaking was not orthodox; but I concluded to ignore the established rules of poultry culture, and conduct the business according to my own ideas.

Experience had taught me that the largest number of eggs did not always represent the largest profit. Hens fed on beefsteak at 30 cents a pound, might produce a large number of eggs, but at a loss. It doesn't require a great intellect to see that there is just as much profit in producing eggs at a cost of 10 cents a dozen and selling them for 20, as there is in producing them at a cost of 20 cents and selling them for 40. Much has been written about the advantage of producing eggs in winter, when the price is high. It should be borne in mind that the cost of producing eggs in winter is greater than it is in summer. Hens that are forced during cold weather will, no doubt, lay more eggs for a while than those not forced; but such forcing is, in my opinion, dangerous to their health, and I am convinced that they will not keep up the supply of eggs during the year.

Here I will point out a common error of belief. Eggs do not bring the highest prices, on an average, in cold weather. In January, eggs generally sell at wholesale in the local markets here for about 32 cents a dozen. In February, the price rapidly declines, and in March it is about as low as at any time during the year—15 or 16 cents. In June, the price begins to rise and during July, August, September and October, the eggs bring from 25 to 30 cents a dozen. There are two reasons why eggs bring good prices from July to October. One is that there is a greater demand for eggs in those months on account of the large number used by summer hotels and ice cream makers, and the other is that the hens that were laying so well in January are now on a vacation. Hens that were not forced during the winter, and now have access to a large grass run, are in condition to lay well during the latter half of the year.

I asked Professor Whitcher of New Hampshire, what should be added to June pasture grass to make it a perfect food for cows giving milk. He replied, "Nothing; it is a perfect food itself." If grass is a perfect milk-producing food for a cow, why, thought I, would it not be a good egg-producing food for a hen! The professor had told me that an egg is composed of much the same elements as milk. I had never heard that it was necessary to feed meat to cows in order to have them produce milk, and I did not believe it necessary for hens, notwithstanding one writer on poultry had declared that it was impossible for hens to lay if not fed meat. I decided to feed the hens dry grain in winter, and dry grain and grass in summer. They were given a small feed of mash occasionally for a change; but the great bulk of their food was whole wheat, fed dry. For variety, about one-fourth the dry grain was corn or oats. In winter, the hens were obliged to scratch for their living, which was very beneficial, the exercise keeping them in health and out of mischief.

But how about keeping 200 hens in one flock? This was the most radical departure contemplated; but I determined to make it. If 200 hens in one flock could be kept in health, I believed that they could be cared for at one-fourth the expense that they could be in flocks of 25, and experience has proved it to be a fact. I partitioned off one end of the barn, giving the 200 hens a room 27 x 45 feet, or about seven feet to a hen. On mild days, they had access to the barn cellar which was 30 x 100 feet, and open to the south. Pains were taken to provide grain that was sound and sweet, and water that was clean and fresh. The floor under the roosts was kept covered with sand, and the droppings raked out every day. A wire netting fence was built to inclose five acres of grass land, which was used for a pasture for the hens, about 300 chickens, a cow, and a horse. Under such conditions, I believed that the hens would keep in health, and lay a goodly number of eggs, and they did.

AN OLD TIMER. THE WAY THEY BUILT LOG HOUSES IN PUTNAM COUNTY, N. Y. FIG. 37.

December 31, last, I closed my second year's account with the hens, and here are some of the figures. The hens were grade Brown Leghorns of my own raising. Not one ounce of meat or bone was fed them during the year, and no milk except to the chickens. There were not bugs enough in the pasture to give them one apiece each week. Number of eggs laid: January, 490; February, 1206; March, 2,327; April, 3,134; May, 3,399; June, 3,363; July, 3,354; August, 3,023; September, 3,068; October, 2,081; November, 1,316; December, 496. Total, 27,257. Not a very large average, it is true; but they were produced at small expense. Cash received for eggs and chickens, $680.22. Paid for grain and sundries, $332.15. Counting the droppings as pay for the interest on the investment, I have a balance of $348.07 to pay for my time, which is $1.74 for each hen, for one year.

Amesbury, Mass. J. A. W.

R. N.-Y.—Readers are referred to "Primer Science," page 110, for some comments on this method of keeping poultry. We have no doubt that our poultry experts will fire away at this target. They will have a job to shoot that profit of $1.74 per hen out of sight, but very likely they will give us the other side in an interesting way. It is just such reports of practical results that give value to a discussion; but we must all understand that it takes years of hard study to grind good practice out of the best theory.

PLANTING FIVE-YEAR-OLD TREES.

I have an opportunity of buying some apple trees grown by a neighboring nurseryman, and of the desired varieties; but they will be five years old in the spring. They seem to be very vigorous, and mostly healthy, though some are affected with blight, while others immediately next to them show no signs of it. These trees show such a vigorous last year's growth, and have such a healthy appearance, that I feel tempted to set them out in considerable quantity, though I have read so much upon the advisability of putting out two and three-year-old trees. I have thought that, perhaps, the main reason for putting out young trees, is because of the impracticability of getting trees shipped from a distance with plenty of roots. Now, in getting these five-year-olds, I would be allowed to dig them myself, selecting only such as I wish, and would be able to secure trees with most of their roots. Large holes have already been blown out with dynamite, for the frost to work in during the winter, and I would take great care in setting them well. In this way, I would hope to get fruit a couple of years sooner than by setting young trees. Would I better reject these trees for younger ones, and are the healthy-looking trees probably affected by blight, which certainly shows all through the nursery, and among all of the varieties? A. M. T.

Colorado.

If A. M. T. will be as careful in moving the three-year-old trees as he expects to be with the five-year-olds, he will not lose two years in fruiting. I would prefer the three-year-olds clear of blight, as it is easier to prevent blight than to exterminate it after it has possession of the trees. H. M. ENGLE.

Pennsylvania.

If the trees are of desirable varieties, they can be profitably set in the orchard by taking great care in digging them, keeping the roots moist, setting them firmly, and cutting back about half of the last year's growth. Yet, if thrifty, two-year-old trees are set with the same care, in 10 years they will prove to be thriftier and more fruitful than the older trees, and involve far less expense on the start. Yet specimens of fruit will be picked from the older trees before the younger ones show a blossom. [PROF.] J. L. BUDD.

Iowa.

For myself, I would never plant a five-year-old apple tree. I would much prefer the one-year-old, as I believe that five years from planting, the one-year-old tree will be larger and better in every respect than the older one referred to. This on general principles. Now in regard to the trees in question, inasmuch as a portion of the trees in the block seem to be diseased, I would be inclined to look with more or less suspicion upon those that remain, although there is nothing to indicate that they may not be perfectly healthy. I would certainly buy two or three-year-old trees in preference if I could obtain them, even if five-year-old trees were given me outright.

New York. S. D. WILLARD.

Assuming that you know how to make the best possible use of the privilege of selecting, digging and handling the trees to be planted, this is certainly an important advantage; but, assuming as I do, that these large trees have been grown where they stand, for the entire five years, without root-pruning, it will doubtless prove impracticable, even with the utmost care, to dig them without the loss of a very large proportion of the small, fibrous feeding roots. A tree in such condition, even though planted in the best possible manner, especially in the dry climate of Colorado, will be more likely to fail than a younger and smaller one with a larger proportion of feeding roots saved in digging; while the younger tree will overcome the shock of removal so much more rapidly and certainly, that, very probably, the younger tree will come into successful bearing quite as early as, if not even earlier than, the older ones which perchance, may never fully overcome the severer shock due to its removal. If the sound trees only be selected, and all blighted twigs be cut away as they appear, there will, probably, be little ultimate difference between the older and the younger trees in this respect.

Michigan. T. T. LYON.

There is no other difficulty about the safe transplanting of healthy trees, five years old, than the amount of care and work and time which it requires. If well done, with the pruning also skillfully done, there will certainly be earlier fruitage. The previous preparation of roomy holes, or a wide bed of soil well mellowed by the dynamite and frost, is a great advantage. The trees should be dug as early in the spring as practicable, all the roots being followed up and got out without any fracturing; cut none off that will not be likely to heal over in one season—say, of the size of the little finger. The fibrous roots are of less importance, and are really better trimmed off within an inch or less of their issue. Ram the soil close and compactly into contact with all the roots, but leave the surface open. Prune the top so as to leave only a stem as high as wanted; or, besides the stem, only three or, at most, four branches to become the frame of the future top. It is best not to allow any central stem above these—it will only be in the way in gathering fruit and in pruning. Such trees will hardly need a stake, but a mulch over the roots during hot weather, and even a shading of the bark of the stem with straw or paper, tied on, is very beneficial. A good growth the first year, is decisive. The roots must not dry much in transit. W.

Pennsylvania.

Judging from my dearly-bought experience, I would not take those trees as a gift, on account of age and the blight with which they seem to be affected. Yet, by digging and planting them himself, and cutting the tops back severely, they might do very well. The blight on these trees might have been caused by a too rapid growth the past year, and might not occur again. Better by far plant trees not to exceed three years old from the graft, whose branches should also be cut back, but not so severely as recommended on the five-year-old trees. The advantage of getting apples a year or two sooner, is of small consideration compared to the risk he would take. The holes blown out by dynamite would do as well for the young as for the older trees. N. OHMER.

Ohio.

I have often transplanted trees older than those spoken of, and with entire success. Before digging, I remove all of the last or current year's growth of wood, except a few buds on each limb. Then I have the holes dug for the trees, wide and deep; more or less so, according to the size of each tree. In thus preparing the holes, one must be sure that they are made wide and deep enough, and to spare. For average five-year nursery trees, the holes should be 8 to 10 feet across, and two feet deep. Be patient and careful in the digging, using sharp and strong nursery spades, and loosening the earth around the cut roots as carefully as possible. The job is harder, of course, in proportion to the vigor of growth with each tree and patient skill tells greatly upon the final results. Take out enough soil so that the digger can easily get into the hole, and can use his spade freely all around. Be patient, careful, don't hurry. Have the spade ground, so that it will cut and not crush the ends of the roots.

RED CROSS CURRANT. FIG. 38.
See Catalogue Reviews. Page 102.

Dig deep enough and wide enough, and spare all needless injury to any and every root. Don't pull very hard, and especially don't "yank" on the roots. If they are yanked, they almost invariably tear out from the trunk, instead of breaking at the end. Three years ago, I had to transplant a four-years-planted tree that had been planted as a nursery tree three years old; it thus being seven years old from the original root graft. It had borne two or three fruits that year. It was taken up and carried two miles, re-set, and the next spring bloomed freely, but was not allowed to set any fruit. The next year it bloomed, and was allowed to bear one apple, which matured. Last year it bloomed full, made a free growth, and was allowed to mature half-a-dozen apples. There is no difficulty in any similar case in getting a similar result by the same means with any kind of deciduous tree, so far as my observation goes in the matter. T. H. HOSKINS.

Vermont.

TEN-DOLLAR LAND FOR FRUIT.—I can secure stump land, within two miles of the railroad station, in central Pennsylvania, for $5 per acre; grubbing costs $5. The land produced 21 bushels of rye as a first crop last summer. The land adjoining produces apples, cherries, quinces, peaches, and pears of fine quality. Will it pay to purchase this land and set trees for commercial purposes? The land is well drained, level, but will need fertilizing to produce yearly crops.

Lewisburg, Pa. G. G. G.

R. N.-Y.—There's a good chance for an argument.

THE CHEAPEST COW FOOD KNOWN.

ENSILAGE AND BRAN ALONE.

One year ago, THE R. N.-Y. gave an account of the dairy of George N. Glass of Washington County, Pa. Mr. Glass keeps Holstein cows and sends milk to Pittsburgh. That is, he did, but now he expects to start a local milk route. The unusual thing about Mr. Glass's dairy was that he fed his cows nothing but ensilage or pasture grass and bran. No hay whatever is fed. When this article was printed, some of our learned dairymen were asked for an opinion as to the wisdom of leaving all the hay out of a cow's ration. They argued against it, giving various reasons. After another year of such feeding, THE R. N.-Y. asked Mr. Glass to give a further account of his herd. His reply follows, and we think that it will greatly interest dairymen. Mr. Glass gives the cows all the ensilage they will eat, and one quart of bran for each quart of their milk.

Has No Use for Hay.

A year ago, I advocated the feeding of ensilage and bran only, and THE R. N.-Y. seems to think that it is a feed somewhat remarkable for simplicity. That is just what I think, and that is one of the main reasons why I adopted it. I am asked the following questions:

"Do you still feed the same?"

Yes, I still feed ensilage and bran, and those only, as I have no reason to wish to change because the feed is simple, and this is no small item when one must depend on hired help exclusively to attend the dairy. Beyond this, it is a safe feed, as we feed all the ensilage that they will eat, and there is little danger of bran hurting cows if they do get more than the regular amount.

"What has been the result of such feeding?"

I have been now in the business seven years; the first two years, I fed ensilage, hay and bran, but I dropped the hay and for the past 5 years, I have fed only ensilage and bran, unless I ran short of ensilage in the spring, and then I had to substitute hay. I have enough ensilage this year to feed to May 1, and have some left over for the summer when the grass gets short. As to results, there have been none except at the milk pail. I have some of the cows that I had when I started; some of them are 13 years old, have eaten this feed for seven years, and they are as healthy and are doing as well as they were at first, notwithstanding that they eat nothing else but this, and are not out of the stable for six months of the year.

"Do you think that these two feeds give your cows all they need?"

I will say that I don't know, but I do know that it is all they get from me, and they do good work as the result. They would eat some hay if they got it, but not much. Only about one ton of hay grew to the acre here last year, and about 15 tons of corn; the acre of corn will keep a cow seven or eight months, and the ton of hay is worth $17. The hay wouldn't do any harm, but it won't pay.

"Do they seem to thrive on it?"

They do. These are two of the most healthful feeds of which I know; the bowels are kept in normal condition, the cattle will shed their hair two months earlier than if fed on dry feed, will milk more regularly, and are not so liable to go off their feed.

"Have your sales been equal, the past year, to those of the previous year?"

No, my sales were not quite so good. Last year was the worst to produce milk in the summer, that I have ever experienced; we had really no grass the after part of the summer. My shipments for the year have been 22,240 gallons and I received for it $2,747.07. About 500 gallons of surplus were made into butter, and 500 fed to calves. I had 25 cows last year in place of 23 the previous year, which would make the average somewhat lower. GEO. N. GLASS.

GIVE THE SEEDS A FAIR CHANCE!

HOW THEY GET OFF THE TRACK.

The directions given by Jos. Meehan about seed sowing, in a recent R. N.-Y., are worthy of attention by all readers. The points given may be observed with profit when sowing vegetable seeds in house or greenhouse. In this connection, I give a few points gained by experience. I well remember when a boy (at least a smaller boy than now), watching the irregular "uprising" of tomato plants which were always in the south windows, in February or March of every year. Generally, about a dozen would boldly appear and reach a height of an inch before others came struggling along; these, in turn, to be followed, a week or so later, by the "main crop." The latter were generally pretty much exhausted by the heavy lifting which they had done, and after looking up at their tall neighbors awhile, usually died of sheer discouragement. I used to figure much on the "why"

of this, and after much actual practice in this line, have arrived at the following conclusions: The soil used in covering was probably lumpy, too heavy, and without doubt, was scattered over the seeds none too carefully, by hand, that is, crumbled on with the fingers, covering the seeds unevenly. The watering also served to cover still deeper, many of the seeds.

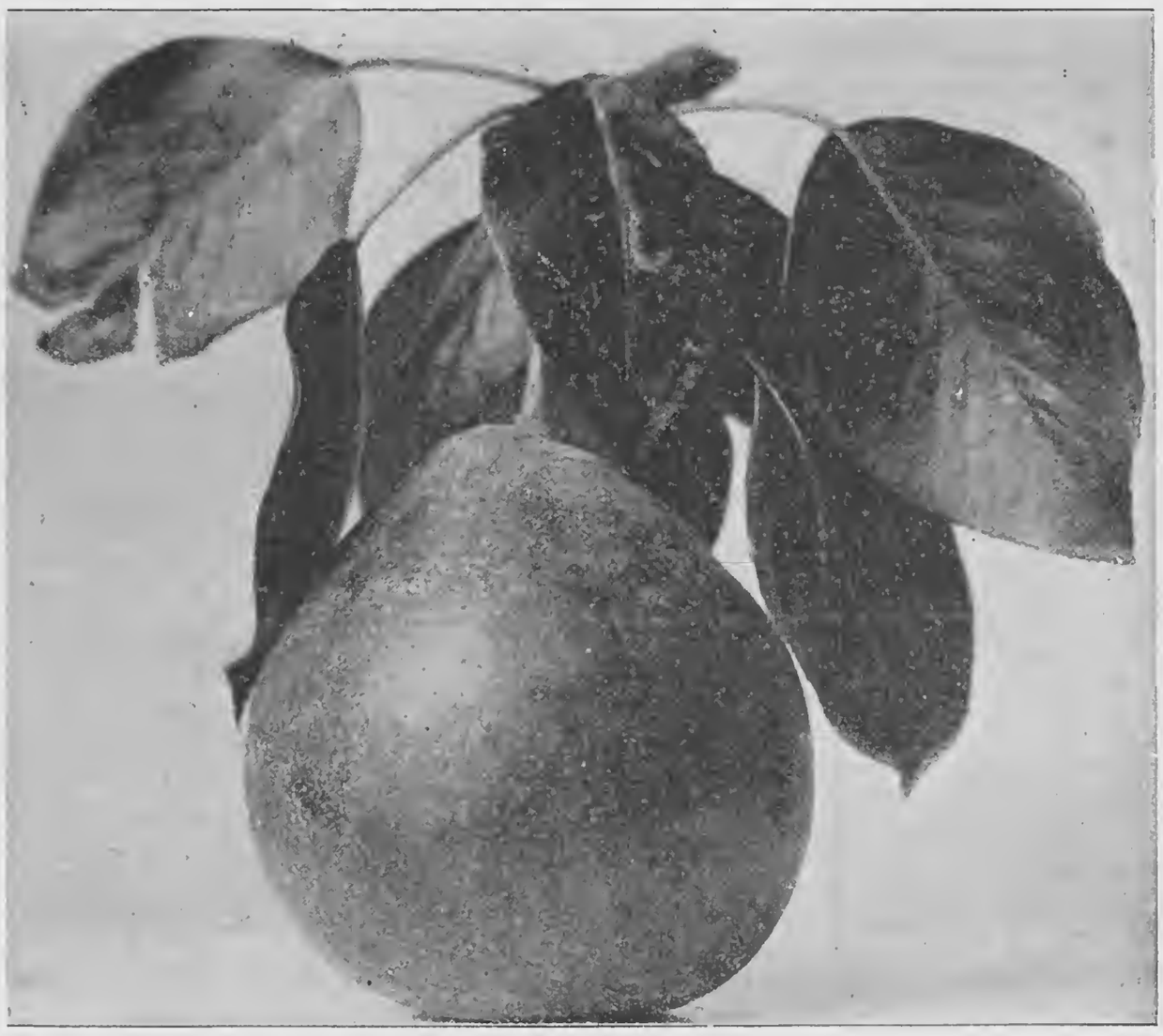
In contrast to this, is a box of seedlings even in height, and in a couple of weeks entirely covering the ground. An excellent way to cover small seeds evenly is to sift very light soil over them through a fine sieve, holding it high enough above the seed box so that the seeds may be observed and gently tapping the sides of the sieve with the hand. There is more danger in too much than in too little covering in indoor seed-sowing. Another point of some importance is to press the soil firmly down about the edges of the seed box, before sowing. Dry soil occupies more space than wet soil, and if this be not done, the contraction of the soil after watering, will leave a large space between soil and box.

Next to sowing, the most difficult operation is watering. The ordinary living room, and in fact, many greenhouses, answer very well as drying ovens, but very poorly for seed germination. While Mr. Meehan's plan of not watering at all is the very best, if it can be carried out, it is well to consider the next best plan. The finest rose sprinkler will undo all your careful work in seed sowing, and will prove a source of vexation at all times. Sub-irrigation completely fills the bill. After the seeds are covered, place the box in a pan or tub with an inch or two of water, and allow it to remain only until the moisture reaches the surface of the soil in one spot, which it will usually do in about 10 minutes. Remove the box and in less than an hour, the remaining portion of the surface will be moist. The entire mass of soil is now thoroughly soaked without having disturbed a single seed, and will not, under ordinary conditions, need watering again before the seedlings are transplanted.

The scheme is equally practicable for the transplanted seedlings. The soil does not become hard and baked on top, always remaining loose. This plan avoids the necessity of frequent watering. It will be necessary to construct the seed boxes with openings in the bottom, either small auger holes or cracks between the bottom slats. This is not a new, untried scheme, but is practiced exclusively in many large greenhouse establishments where hundreds of boxes are sowed every year. These trifling details may not appear as of much account to the farmer who has but a box or two of tomato or cabbage seeds to sow, but they very often express the difference between success and failure, and to the greenhouse man, are of the highest importance.

CRANEFIELD.

Experiment Station, Wisconsin.



THE KOONCE PEAR. ONE OF THE LATER NOVELTIES. FIG. 39.

See Catalogue Reviews. Page 102.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Some Remarks On Feeding Poultry.

C., Washington, Kan.—1. What is a good ration, by weight, to feed daily in winter, with a view to getting all the fertile eggs possible for broiler chicks, from 100 ordinary hens bought of farmers? How should it be fed? 2. For market eggs? Prices of feed are as follows: Potatoes, 25 cents; wheat, 50; oats, 15; corn 20, per bushel. Blood, $3.50; bone meal, $4; dry ground meat, $4; ment green bone, 50 cents; crystal grit, $1.50; flax seed, $1.50; oil meal, $2.50 per 100 pounds. How can I make charcoal from corn? Broken clam shells, crockery and glass are free. 3. I want to fatten these hens in July, and another 100 in February, and add 30 to 40 per cent in weight in 14 to 20 days. My idea is to place them in a warm, dark house and crowd to a finish. Will you give directions? 4. What green food shall I grow and how? What make of machine shall I use, and how prepare the feed and preserve it for summer and winter? 5. What part of the French method of cramming would it pay to adopt? 6. I am using White Wyandotte males; what breed would be better?

ANSWERED BY P. H. JACOBS.

1. As the hens will be purchased of farmers—no breed mentioned—they will consequently be of all ages, sizes and kinds, and as no two hens eat the same quantity, or are in the same condition, or prefer the same kind of foods, it is difficult to fix upon a quantity of food for 100 hens, especially for fertile eggs. No intelligent poultryman can, or attempts to, feed by weight as a fixed ration. A quart of corn for 10 hens, one day, is regarded as the quantity, but 10 hens may eat only a pint one day, and a quart the next. The proper way to feed is to weigh the food for a morning meal, let the hens eat all they desire, then weigh that left over. You will then know, by the difference in weight, how much they have eaten. Having learned how much they can eat, give them one-half the quantity they would eat if allowed, in the morning, and a full meal at night. A light morning meal will leave them somewhat hungry, and make them scratch. Two full meals will cause them to fatten, and the eggs will be few or will not hatch. 2. For market eggs, use the same method. Foods should vary. Give grain, cut bone, meat, clover, cabbage, etc. 3. To fatten, put them in a yard (close confinement in coops is a mistake) and feed heavily, all they will eat, three times a day. Give ground grain and also meat and clover (to promote health), adding a pint of linseed meal and a pound of crude tallow to every five pounds of ground grain. 4. Crimson clover, Red clover, cabbage. Details of how to grow them are given in THE R. N.-Y. frequently. They are cut fine and fed. In winter, the hay is so treated, also, but scalded. For cutting them, the Gem clover cutter, made by Wilson Brothers, Easton, Pa., is excellent. Green food for winter can be preserved with the silo. 5. It is too laborious a method, and is inapplicable in this country. It simply leads to indigestion and loss. 6. The selection is a good one.

How to Fleece Fleas of Life.

B. E. K., Washington, D. C.—I rented a place a short time ago, and after moving in, found it infested with fleas—outhouses and dwelling alike. The former occupant kept a number of cats and dogs, also did a good deal of butchering, and didn't keep the slaughterhouse and surroundings any too clean. During every warm spell, they become very friendly, and take a delight in making the acquaintance of members of the household—whether because we are new to them or not, I cannot say.

ANSWERED BY M. V. SLINGERLAND.

A few years ago, one of the laboratories at Cornell University, became badly infested with fleas introduced on an animal kept in captivity in a neighboring room. So thick did the annoying creatures get, that at one time it was feared the rooms could not be used for laboratory purposes. The professor in charge tried many different schemes to rid the place of the pest; he even went to the trouble to spray thoroughly every nook and cranny with kerosene oil; but the pests were soon as thick as ever. Finally, the following plan of warfare, which some writer had suggested, was inaugurated. A large quantity of sticky fly paper was purchased and generously distributed in the most frequently haunted portions of the rooms. Where the fleas were the thickest, a person would don rubber boots and walk between two rows of the fly paper, thus encouraging the fleas into activity, only to meet their death when they fell back on to the sticky paper. Then the novel scheme of hiring a colored gentleman to walk about the rooms with strips of the sticky paper fastened around his rubber boots was put into very successful operation. After the sticky fly paper had been in use for a few days, a decided lessening in the numbers of the fleas was noticeable. Of course, the paper did not have the attractive effect on the fleas that it does on the house fly where "a dozen flies come to the funeral of each one caught." But the fleas are so constantly on the jump, and the fly paper was so generously distributed, that they could not jump many times without landing on one of the papers. In short, this sticky fly paper proved a complete and lasting success. Use it unstintedly and, if possible, do something to keep the pests on the jump. Benzine or other substances will kill when they hit them, but they are not easily hit.

How to Fight the Tarnished Plant Bug.

P. H., Afton, Mo.—The Tarnished plant bug has done great damage to the berry crop in this neighborhood. I noticed the pest early in the spring, on my young quince trees, of which they ruined the young shoots. I sprayed them with strong Paris-green water, but without the least success. Soon after I noticed them in my berry patches. My strawberry crop was completely ruined by them, the blackberry and black raspberry crop over half. To destroy the pest, Prof. Slingerland recommends pyrethrum for strawberry beds, and kerosene emulsion for apple trees. Will the kerosene emulsion not answer for the different berry patches? What is the best way of fighting them in the different berry beds from early spring to the end of June?

ANS.—There is no denying the fact that the Tarnished plant bug is a tough customer to battle against. It is so extremely common, that hundreds can be swept from the grasses in almost any locality at any time of the year, and when one is killed a dozen may come to his funeral. It is so very active, and such an adept at hiding, that one can rarely get a good look at it. It did much damage by blighting peach and apple tips in several of our nurseries last year. In one case, thousands of them were captured by walking along rows of apple stocks and sweeping an insect net along the tips; it was found necessary to repeat the process every day for several days before there was an appreciable lessening of their numbers. A nurseryman in Virginia claims to check their onslaught by a kerosene emulsion spray, diluting the emulsion with about 10 parts of water. This would be much cheaper than pyrethrum, and I believe equally as effective. I see no reason why it could not be used on blackberry and raspberry bushes, and it doubtless can also be used on strawberry vines with equal efficiency. If the emulsion does not prove effective, I shall be at a loss to know what suggestion to make next. A better method is yet to be suggested. One of our correspondents used the emulsion diluted with 24 parts of water, and although it did not kill many of the bugs, it seemed to render the pear trees uninviting to the insects, and they remained away until all traces of the emulsion had disappeared. Give the emulsion a thorough trial; experiment on a few bushes until you get the dilution that will not injure the foliage.

M. V. S.

Bitter Milk From Jersey Cows.

R. E. L., Factoryville, Pa.—I have two purebred Jerseys whose milk lately has begun to be so bitter that it can hardly be used. It has churned nicely until the last three times, when it has foamed and frothed until a gallon of cream would make three churnfuls, and it has been impossible to get butter. I keep the milk from all contaminating substances, and in a reasonably cool milk-room. I feed my cows good, clean corn fodder cut, and bran and meal mixed. I did feed turnips, but thinking, perhaps, that was what caused the above results, I quit a week ago; but the milk still remains bitter and impossible to churn at any temperature whatever. What is the cause?

ANS.—Although the time that the cows have been in milk is not stated, I apprehend that the bitterness of the milk may be due to a peculiarity that sometimes occurs toward the close of the milking period, particularly when that comes in the winter on dry feed. Occasionally cows under such conditions give milk of a peculiar bitter flavor, for which, so far as I know, there is no assigned cause or remedy. In regard to the trouble in churning, the difficulty probably comes from the small size and hardness of the fat globules, coupled with an increased viscosity of the milk. Greater care should be taken in ripening the cream, and pains should be taken to secure a sharp development of lactic acid in a reasonable time. It may be that the "reasonably cool milk-room" is too cool. The cream should be kept at a uniform temperature as near 50 degrees as possible until

enough is secured for a churning. It should then be warmed up to about 75, or in extreme cases 80 degrees, and kept as nearly as possible at that temperature until it is sharply acid, which should be in about 24 hours. I think that if these directions are faithfully carried out, there will be no difficulty in churning at a temperature of from 58 to 62 degrees, according to the thickness of the cream. It is not likely that the foods used have any marked influence on the difficult churning. H. H. WING.

Cost of a Cement Floor.

L. D. P., Parish, N. Y.—What is the expense per foot, of a cement bottom for a carriage and horse barn? I am about to build one 50x28 feet, and would like to do away with cross sills and plank. Which is the most expensive—a cement bottom or joist and two-inch plank at $10 per 1,000? What material should I use for a cement floor?

ANS.—Stones, about six inches deep, should be placed over the entire surface for a foundation. It might cost from 10 to 20 cents a yard to draw and deposit them. About 300 cubic yards would be required. After the stones are leveled, spread gravel or a coarse sand over the surface then wet thoroughly and ram down with an ordinary street pounder. All this is to get the foundation so well settled into the soil that it will remain stationary. Mix fresh, water lime, one part, with five of sand. Pour over the surface and pound again. It will take about seven to eight barrels of water lime, and five times as much bulk of sand. Water lime is worth about $1 per barrel, and sand $1 a load in many places. Upon this, spread a coat of mortar three-fourths of an inch deep, composed of one part of Rosendale cement, to four parts of clean, sharp sand, or use Portland cement, which is usually better than the Rosendale, to the same amount of sand. This will require about 8 to 10 barrels of cement, and four times as much sand. Spread carefully in strips of about two feet at a time. Before the board upon which the operator naturally stands is removed (this being necessary to confine the mortar temporarily as the work proceeds), sift a little Portland cement over the top, from a pint to a quart, for a strip of two feet wide, more or less, and 28 feet long and trowel it in. This will take up the moisture and harden the surface. It will take at least three months for the mass to become thoroughly hard. If used too soon, it will be seriously injured. Not knowing the cost of labor or the prices of some of the materials, the cost of the completed work cannot be definitely stated. Twenty-eight hundred feet of pine flooring at $10 will cost $28. Three cross sills, 420 feet, at $8 will cost $3.36, and 1,667 feet of 2x10 joists at $8, will cost $13.34. A total cost of $45.70 besides nails and labor. I. P. R.

Value of Tobacco Stems.

J. R. S., Perrysville, Pa.—Are tobacco-leaf-stems worth hauling eight miles for the potash they contain, using them either for general crops or as a mulch in the berry garden and about young fruit trees?

ANS.—Yes, they are. Such stems are worth, on the average, about four times as much as stable manure. They are excellent for a mulch around fruits of all kinds or, in fact, wherever stable manure is needed.

Raising Plum Trees From Cuttings.

F. S. E., Columbia, Del.—How are plum trees raised from Marianna cuttings? When should cuttings be made? When should grafts be cut, and at what season should they be worked? Should cuttings and grafts be made from last season's wood?

ANS.—Cuttings of Marianna plum are made by cutting the last year's—that is, the young—wood, into lengths of from eight to ten inches, in the latter part of autumn, or during mild, open weather of winter. These may be planted in rows at once, or tied in small bundles of 50 to 100 cuttings each, and buried in the ground until early spring, and then set out. Scions for grafting should be cut during mild weather—any time in December, January or February—tied carefully with labels on each kind, when they can be packed away in moist sawdust or soil until needed for use. If for root-grafting, then use in February or March; if for outdoor grafting, the latter part of March and April. The cuttings of Marianna when used as above, if the season be favorable, and they are kept clean by frequent cultivation, will make stocks large enough for root-grafting the following winter; or if set out again in rows, may be budded in August or September following. J. W. KERR.

Maryland.

Rye as Manure for Potatoes.

W. B. B., Mancelona, Mich.—Will plowing under a crop of rye on a sandy loam soil, where 200 bushels of potatoes per acre were raised last season, add anything to benefit another crop of potatoes on the same ground next season? If so, in what respect, and will it help to prevent potatoes from scabbing?

ANS.—The benefit of green manuring with rye is not always credited to the proper cause. Our opinion is that it is due more to an improvement in the mechanical condition of the soil, than to the actual fertility that is added. The crop of rye, if well plowed under and the soil properly cultivated, may make the light soil hold moisture better, and thus give the potatoes a better chance to grow through dry seasons. The rye will not *add* anything of fertilizing value to the soil; but it will make the soil itself better able to give up its plant food to the crop, and possibly, put this plant food into a more available form. It will not prevent scabby potatoes. It is a good plan to keep all soil covered with a growing crop during the winter. Where Crimson clover will grow, it is a better crop than rye, because it adds some nitrogen to the soil.

Green Manure for Mulching.

H. C. Y., Des Moines, Iowa.—Can green horse manure be used with safety as a mulch around raspberries and blackberries on a clay soil?

ANS.—Yes, it may be used as a mulch with perfect safety. The greener manure is, the more water it will absorb, and the more heat will be generated in its decomposition, which is only another word for burning. Hence it is that green manure should not be placed in contact with or even in near proximity to, the roots of plants. When placed on the surface as a mulch, it really conserves moisture to the soil underneath while getting *its* moisture and oxygen from the air.

An Asparagus Bed Without Manure.

G. S. P., Winslow, Me.—Can an asparagus bed be safely set without the use of manure? If so, in what manner, and by the use of what fertilizers, how much and how applied? Yard manure can be used after the bed is started.

ANS.—Yes, there is nothing *unsafe* about it. Unless the soil is rich, the roots will grow less vigorously—that is all. As to fertilizers, we would use muriate of potash, or ashes if they may be bought at a low price, bone and nitrogen in some form, it matters little what, if soluble. As to the quantity, one may use all the way from 100 to 3,000 pounds per acre. It depends upon how much one cares to use and can afford to use. The fertilizer should be sown on the surface and cultivated in. It should not be permitted to come in actual contact with the roots.

When to Haul Out Manure.

E. E. T., Scott, Pa.—I have a 10-acre field that has a gradual slope to the north, enough to drain it quite well in an ordinary season. It has a clay soil with a hardpan subsoil within 16 to 18 inches of the surface. I wish to put on about 20 to 25 loads of cow manure (made from dairy cows that are being fed a balanced ration for all that is in them) to the acre, and plant to ensilage corn. Would you advise me to spread this manure now, in midwinter, on the sod, or wait and draw it out in the spring? We cannot draw it out every day; sometimes it lies a month, and then some of it is frozen very hard, and in spreading there are more or less frozen lumps. The manure has to lie out of doors, but not under the eaves. In plowing under manure on this kind of soil for corn, how deep would you advise plowing? I always follow corn with potatoes.

ANSWERED BY PROF. I. P. ROBERTS.

By all means, haul the manure during the winter at convenient times, and spread direct from the wagon or sleigh not more than 10 or 12 tons per acre. It is safer on the field than in the piles by the barn. Then, too, hauling at this season of the year, will not cut up the field, and when the spring work comes, this hard and disagreeable work will have been performed. As soon as the frost goes out of the lumps, spread carefully and distribute all of the manure as evenly as possible. Plow shallow, not to exceed six inches in depth. Leave the ground as loose as possible, that is, do not fit too much before planting, or this cold ground will become so compacted, lying to the north as it does, that it will not become warm enough early in the season for the corn plant. Just before the corn comes up, cultivate deep and thoroughly. The furrows or the mark made by the corn planter, if a Western one be used, will so guide the workman that no corn will be disturbed. As soon as cultivated, harrow thoroughly without reference to the rows. The corn might be planted two feet six inches or two feet eight inches in drills, using two or three times as much seed (not more) as is ordinarily planted per acre. As the season advances, shallow up the cultivators, and, if possible, change the large-toothed ones for those which have numerous small teeth, the object being to fine the land simply on the surface; and by so doing, heat and moisture will be retained. The potatoes are deeper feeders than corn, and if the ground could be plowed after the corn is removed, and subsoiled, not trench plowed, it would materially assist the land in drying out in the spring, and the potato roots to go deeper into the soil than they would if the ground were plowed shallow, thereby insuring a greater amount of moisture-storing capacity, and healthier potatoes than shallow plowing would produce.

What Will Kill Lice?

M. W. S., Pennsylvania.—What will kill cattle lice? I have tried kerosene emulsion, and sulphur and lard, but they do not seem to do any good. Will the same remedy kill hog lice?

ANS.—I know of no better method than the thorough and repeated use of kerosene emulsion. Many have reported good results from its use. You can spray it on to the cattle, but it should always be thoroughly rubbed in with the finger tips. It will kill only those lice that it hits, and probably will not kill the eggs. Thus another brood may hatch from the eggs a few days after the application, and another dose of the emulsion be necessary. The fact that one does not kill the eggs, and cannot hit every louse at a single application, explains many of the reported failures with the emulsion. No substance will annihilate the pest at a single application. If the emulsion be well emulsified, no dangerous results will occur from its use on the hide of cattle, hogs, or horses. It will kill all the hog lice it hits. Use it freely, rub it in well with the finger tips, and do not expect to exterminate the pest with one dose; repeat the application until the cattle show no more signs of annoyance from the insects. M. V. S.

When and How to Plant Pecans.

W. G. S., Mathews, Va.—I have some pecans I wish to plant, and would like to know when is the best time in this locality. How old should they be before they are ready to be transplanted?

ANS.—Pecans should be planted as soon as ripe, or placed in moist sand or soil until they are planted. Dried nuts of any kind will be slow to germinate, or will fail to germinate. The seedlings may be transplanted the next spring.

Big Tubs for Water Lilies.

J. M. M., Wellburn, Ont.—How deep and wide ought a tub to be, in which to grow one each of the following water lilies: Nelumbium speciosum, N. luteum, Nymphæa alba and N. flava? Would they thrive best in a shaded place, or exposed to the full heat and light of the sun? Would the water have to be changed frequently so as to keep it pure, or would they grow in stagnant water? Can they be propagated by division of the roots?

ANS.—Nelumbiums are large, strong-growing plants, requiring considerable space for their full development. While both species can be readily grown in tubs of less than three feet in diameter, it is not often that they can be induced to flower in such cramped quarters. N. speciosum is the larger plant of the two, and should have a tub or tank not much less than five feet across, and N. luteum a foot less. The vessels in either case need not be more than 2½ feet deep. Eighteen inches of rich sandy compost, of which one-third may be of fine old manure, should be placed in the tubs, the tubers planted, and two inches of clean sand spread over the soil. The tubs can then be filled with water, preferably from a pond or spring. It is often difficult to get tubs of sufficient size. Crockery tierces, sawed in half and made water-tight with a coating of Portland cement, have been successfully used, but they usually need a re-enforcement of strong iron hoops, and are never very durable. The two varieties of Nymphæas can be well grown in halves of ordinary molasses barrels (do not use barrels that have contained salt or oil), or any tub of similar capacity. Fill to a proportionate depth with the same compost as used for the Nelumbiums, and plant in the same manner. Place tubs containing all aquatic plants in the hottest and sunniest part of the yard. The hotter and drier the weather, the more the water lilies and lotuses will luxuriate, provided the soil be always covered with eight or ten inches of water. The water need seldom be entirely changed, but enough should be occasionally added in the morning to float off any scum that may form. Nelumbiums and all varieties of Nymphæas freely increase by division and tubers. Most varieties also seed freely. W. V. F.

Persimmons, Nuts and Roses in Delaware.

W. P. N., Stanton, Del.—1. What would be the best and quickest way to get the Japanese persimmon to grow here? 2. Could it be grafted on our wild persimmon tree? 3. Can the wild persimmon of the woods be transplanted near the house, and when would be the time to do it? 4. How could we get a tree of pecans and a tree of filberts to grow here? 5. Can Persian walnuts be grown from the seed only? 6. Would almonds grow here, or is the climate too cold? 7. We have a rose bush in the cemetery which is about 25 years old. When it was planted, it was called a Magnolia rose, but since, the graft must have died, for now the bloom is like a wild rose, only larger. Could it be grafted again, and when would be the right time to do it? When should the scions be taken, and how kept until needed?

ANS.—1. Purchase trees from a reliable nurseryman, of the desired varieties. Scions from such trees can then be grafted on seedlings or upon the wild trees. 2. Waxed cloth should be used when setting the scions in order to keep the settings and scions in contact until the union has taken place. The scions are more certain to grow when either crown or root-grafted. 3. Wild seedlings are not readily transplanted. Persimmon seeds, when planted in good soil, grow very readily, and the young trees make stocks that can be easily grafted with the Japanese varieties while in the nursery row. Such trees will grow very readily when transplanted, and soon produce fruit. 4. Either can be obtained from nearly all nurserymen. They can be grown from the nuts, but the seedlings cannot be relied upon to produce nuts like those planted. The filbert can be readily grown from cuttings. It usually grows in bush form, and varies in height from 5 to 20 feet. 5. The seedlings can be grafted by inserting the scions in the crown, or in the root below the surface of the soil, and banking the earth about the scion; otherwise it is difficult to get the scion to grow. 6. Yes, the hard-shell almond, which is of little value, grows readily wherever the peach thrives. The thin-shelled varieties require a

milder climate. 7. The rose bush could be grafted in the spring when it first starts into growth, or it could be budded as soon as the bark will peel easily. The scions should be secured while the wood is dormant, and kept moist and in a cool place until needed for use. The best plan would be to cut off the bush close to, or just below, the surface of the ground, and insert the scions, after which bank up the earth about the scions to prevent drying out. M. H. BECKWITH.

Delaware Experiment Station.

The Abundance Plum and Other Varieties.

J. B., Auburn, N. Y.—1. An agent called on me to sell me the Abundance plum tree. He had a R. N.-Y. recommendation which showed it to be a great bearer when but two and three years old. Will you give the results for the last year or two? I intend to set about two acres of peaches, pears and plums, with a row of raspberries between each two rows of fruit trees. 2. What kinds would you recommend for dark, loose soil, clay bottom?

ANS.—1. We cannot say too much in favor of the Abundance plum. It will often bear fruit the second year after being transplanted. It is a most abundant bearer of fruit of medium size, of fair quality and pretty appearance, being yellow when ripe with a crimson cheek. Above all, we prize its curculio-proof power. The plums, nearly all of them, bear the crescent mark of the insect, but the grub that hatches from the egg does no harm. 2. Elberta, Crosby, Oldmixon Free, Conkling, Early York, Foster. Pears: Clapp's Favorite, Bartlett, Angoulême, Bose, Louise Bonne, Seekel, Sheldon, Anjou. Raspberries: Loudon, Columbian, Thompson' Early, and Hilborn.

An Orchard in Sod.

R. M. P., Black, Pa.—Last spring, I set 75 apple trees in sod ground. After the hay was taken off last summer, I put a lot of coarse manure around each tree to hold the moisture, and by so doing only two trees died. I don't wish to have the ground plowed until the trees have made a good start. I would have to hire it done, and it would be almost impossible to get a man that would do the work without destroying half of the trees. I intend to dig up the sod for three feet around each tree, next spring, and would like to know how much unleached ashes to put around each. Would a peck be enough for young trees? Can all kinds of apples be grafted on the wild crab? Will the quince grow on wild crab? Can the quince be grafted on the thorn berry? I have an apricot budded on a peach, and it is growing. Do you think that it will bear?

ANS.—R. H. P. should have had his ground plowed and in friable condition before planting h s orchard. Sod is the least desirable condition of soil in which to start an orchard. His plan of mulching and digging around the trees is the next best thing he can do for a few years, but he should not defer too long to get the entire ground in good tillage. A peck of good, unleached ashes would be ample while the trees are small. Any kind of apple can be grafted on wild crab, but it is liable to become dwarfed on some stocks. Quince and thorn will not easily assimilate. Apricot will bear as well on peach as on any other stock. H. M. ENGLE.

A Case of "Croupous" Roup.

H. G. S., Yantic, Conn.—I have a flock of about 150 hens of all breeds, in a large and well-ventilated coop. I feed them three times a day—morning with bran wet up with water and milk, with a portion of Animal Meal, at noon with wheat, and at night with whole corn. Within the past two weeks, two of my hens have been taken sick with a disease that I don't understand. I can hear them breathe, all over the coop. It seems to be a filling of the throat, they cannot cackle when disturbed. I have killed one and examined it, but could find nothing in the throat or anything inside to make the noise.

ANS.—This difficulty is ably discussed by Mr. Mapes in his exeellent articles in THE R. N.-Y. It is probably a "croupous" roup, due to exposure at night to draughts from some source (perhaps from the ventilator), and over-fed fowls seem more subject to it than others. Relief is afforded by giving a teaspoonful of beaten raw egg, three times a day. A tablespoonful of chlorate of potash in the drinking water for all the fowls, should also be used. The homeopathic remedy—spongia—five drops of the mother tincture in a quart of soft water that has been boiled and cooled, is found excellent with some. P. H. JACOBS.

To Graft or to Grub Out.

G. M. H., North Ferrisburg, Vt.—What kind of apples would be best to graft on seedling trees, about 20 years old? Would it be better to grub out and replant?

ANS.—If the trees are thrifty, or can be made so in a year or two by fertilization and cultivation, it would generally be profitable to graft them to good varieties, not grafting more than one-third of each tree in one season. It might be better to be longer about it, as cutting back many branches in a season, will usually lead to the growth of many water sprouts. The trees should be watched, and these sprouts rubbed off before making any considerable growth. In all such work, care and good judgment count for much. I have seen a lot of such trees made into a handsome and productive orchard, in a few years; but it is far from being every man who has the skill and gumption to do it. T. H. H.

WHAT THEY SAY?

A GREAT JERSEY QUARTETTE.—In THE R. N.-Y. I note the heading, "Ten Cows; Two Tons of Butter. Strong Argument for the Jersey Cow," and beg leave to fall in line with "Four Cows; One Ton of Butter. Stronger Argument for the Jersey Cow." I inclose a similar record of four registered Jerseys of the Farview herd, for the year 1895:

	No. days milked.	No. pounds of milk given by each cow.	Equivalent of butter at rate of 16 lbs. milk to 1 lb. butter.
Rosallnd Lowndes 65640	335	9,512	594
Jeunie Warren 68743	365	7,443	465
Dora Lowndes 61135	305	8,313	519
Beautiful Belle Lowndes 103031	283	7,157	447
Totals		32,425	2,025

The actual sale of product from the above four cows has been:

Butter, 891 pounds at 25c. a pound	$222.75
Cream, 1,156 quarts at 20c. a quart	231 20
Milk, 1,981 quarts at 4c. a quart	79.24
Total cash receipts	$533.19

In my published report for the year 1893, the actual product per animal of the same herd was 397 pounds of butter. In 1894, the average was 441 pounds each. In this report, you will perceive that they have made an estimated average of 506 pounds each. H. A. S.

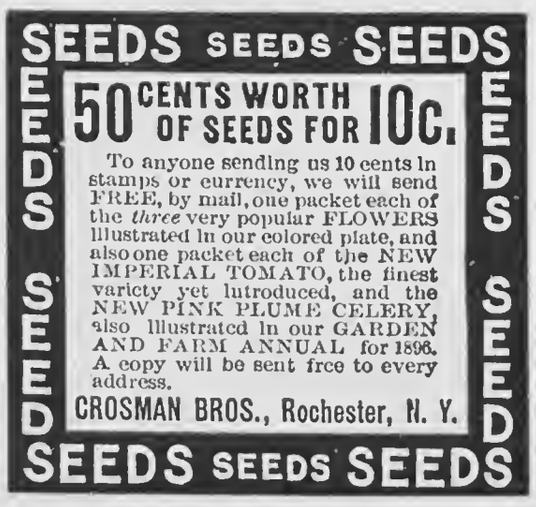
Hurstville, N. Y.

R. N.-Y.—Now we hope to learn how those cows were fed and cared for.

CHOOSE SUMMER VEGETABLES.—Garden and Forest a year ago contained a letter from a correspondent, the gist of which was that many vegetables were suitable for market gardeners because they were productive and pleasing to the eye, perhaps, but were not the very best for the family use where quality should be the first consideration. I made out this list of a few vegetables, and would be much pleased to have any of THE R. N.-Y readers improve upon it: Corn: Early Vermont, Perry's Hybrid and Country Gentleman. Cucumbers: Cool and Crisp, White Spine and Paris Pickling. Tomatoes: Early Minnesota and Stone. Lettuce: Boston Market and Trianon. Peas: American Wonder and Champion of England. Squash: Summer Crookneck and Faxon. Radishes: Long Scarlet Short-top, Scarlet Chartier, and White Tip. Beets: Dewing and Eclipse. C. B.

Hartford, Conn.

R. N.-Y.—Here is a good chance to revise the list before buying your seeds.



Before Buying Seed Potatoes

write to Edward F. Dibble Seed Co., Honeoye Falls, New York, and get prices. If you want from one to one hundred barrels you are sure to save money and secure the best seed potatoes in the world.

Remember, we are the largest growers of Farm Seeds in America, and that it is much safer to buy direct from the growers, getting seeds that are true to name. Dealers cannot be sure of the seeds they sell—growers can. Is it not a wise precaution, therefore, to buy of the grower? We can sell you all the standard kinds, such as

Houlton Rose	Rural Blush	White Star
State of Maine	American Giant	Irish Daisy
Freemans	Early Rose	Clay Rose

Rural New-Yorker No. 2, etc., etc.,

at prices so low they will astonish you. This is your opportunity to secure the best seeds grown for a "song" and a very little cash.

Dibble's "Blooded Seeds" make money for the farmers planting them. Let us at least send you our catalogue.

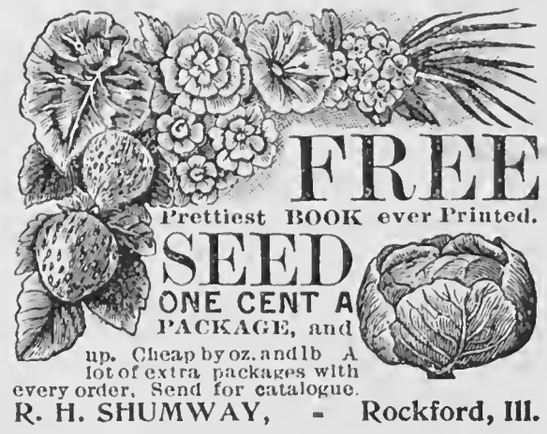
EDWARD F. DIBBLE SEED CO.,

Honeoye Falls, New York.

The Gault Raspberry

Fruit large, handsome and delicious; wonderfully prolific; vines hardy; very distinct; a perpetual bearer; the most valuable blackcap yet introduced. For genuine plants send to the originator. Illustrated circulars free.

W. C. GAULT, Box 75, Ruggles. Ashland County, Ohio.



15 LARGE PKTS. NEW FLOWER SEEDS FOR ONLY 15 CENTS

To pay postage and packing.

1 pkt New Japanese Imperial Morning Glory (as shown in cut). This grand new variety is truly Wonderful; flowers very large, all colors, red, green, marble fringed, white spotted with blue, and all of incomparable beauty. 1 pkt Mammoth Pansy, 1 pkt Cosmos, 1 pkt Crimson Eye Hibiscus, 1 pkt Chinese Pink, 1 pkt Aster, 1 pkt Gaillardia, 1 pkt Godetia, 1 pkt Larkspur, 1 pkt Giant Coxcomb, 1 pkt Sweet Alyssum, 1 pkt Candytuft, 1 pkt Mignonette, 1 pkt Phlox, 1 pkt Sweet Pea. 15 large packets choice vegetable seeds, all different kinds 15 cts. 15 bulbs New Gladiolus 15 cts. We will send the three collections for **Only 35 Cents.** Remember we refund your money if not as represented.

J. ROSCOE FULLER & CO., Floral Park, N. Y.

Catalogue Reviews

GREEN'S NURSERY COMPANY, Rochester, N. Y.—Green's Fruit Instructor—being an illustrated catalogue (90 pages) of all kinds of hardy fruits, and, also, as a secondary department, of ornamental shrubs and trees. The new Red Cross currant, which we have on trial, is one of the several valuable productions of Jacob Moore. He claims that it is superior in quality to any save the old White Dutch. He has seen the berries growing in such masses as to hide the branches. Compared with the Cherry currant, it yields twice or thrice as much fruit, and makes twice the growth. The fruit racemes are long; see Fig. 38. Mr. Green is the introducer of the London red raspberry which is now fully recognized as all that THE R. N.-Y. claimed for it, viz., in a word, the best variety in cultivation, all things considered. The catalogue is quite original in much of its matter, which is sprightly and entertaining.

JOSEPH H. BLACK, SON & Co., Hightstown, N. J.—An illustrated catalogue of small and large fruits, ornamental shrubs and trees. Three entirely new peaches are praised—and they seem to deserve it—as the best of their several classes. They are the Triumph, Emperor, and Orange Free. It is claimed that the Emperor is the finest late peach in existence, filling the vacancy between Beers' Smock and Billyeu's Late October. It is a seedling of Crawford Late resembling the parent in every way except as to its season of maturity. The Triumph is larger than the Alexander, a perfect freestone, a good shipper and superior in quality to anything ripening at about the same time, The Orange Free is said to be the finest of all peaches for the family garden. It ripens with Oldmixon; flesh yellow, skin yellow mottled with red, absolutely without fuzz. The pit is small and parts readily from the flesh. The quality is of the best. In fact, the firm regard it as a standard as to quality. A new departure is this: The offering of June budded peach trees, by mail postpaid, for 10 cents each, $1 per dozen, $3 per 100. These little trees are budded close to the ground, and may be sent by mail in perfect safety. The Koonce pear, of which we have heard a deal, but of which we know nothing from experience, is said to be a vigorous grower and a heavy annual bearer, entirely free of blight. The season is of the earliest, fruit of medium size (see Fig. 39), yellow and carmine. The quality is said to be "far ahead of any other early pear."

E. W. REID, Bridgeport, O.—An illustrated catalogue of 64 pages of "Everything for the Fruit Grower." The front cover shows the Lorenz peach in colors; the last page the Mercer cherry, the Timbrell strawberry, and the Eldorado blackberry. A third colored page shows the Keepsake gooseberry (an English variety that promises well here), the Brandywine strawberry (probably one of the best of later new kinds), London raspberry, Eureka blackcap, Burbank plum and Koonce pear. The Enormous strawberry, which will fruit the coming season at the Rural Grounds, is described as excellent in every way, and well named as to size. Lady Thompson is praised for its fine shipping qualities, long season of ripening, and endurance of drought. The Miller Red raspberry is described as "the firmest and best shipping berry in existence." Mr. Reid offers the Victoria grape, probably the best of the late Mr. Miner's introductions. This was first fruited, outside of Mr. Miner's collection, at the Rural Grounds some 15 years ago. We know of no hardier vine; no variety that, year after year, produces so much fruit. It ripens with Concord. The berries are white and less foxy than those of the Concord, though scarcely so good in quality otherwise. The lists of large fruits, including Japan plums and peaches, are well selected. The catalogue closes with lists of nuts, ornamental trees and shrubs.

JOHN A. SALZER SEED COMPANY, LaCrosse, Wis.—A profusely illustrated catalogue (150 pages) of about everything that a farmer or gardener is likely to need, with many small and large fruit specialties. Indeed, a good share of the remarkable varieties of seeds, plants, potatoes, forage crops, etc., offered in endless variety have "Salzer's" attached to them. For example, we have Salzer's Silver Mine oats, Salzer's White Bonanza oats, Salzer's Prolific Spring rye, Salzer's Marvel Spring wheat, Salzer's Giant spurry, Salzer's California millet, Giant Incarnat or German Mammoth clover, Alfalfa, Alsike, Golden Triumph corn, Whitecap yellow dent, Red Wine currant, Everbearing raspberry, Salzer's World Beater collection of potatoes, and scores of others quite too numerous even to mention. The catalogue gives a page to "Salzer's Great Annual Fodder Plant, Teosinte." As our readers should know, we gave this a trial some 15 years ago and again last year. Much that the catalogue says of it is true. It will bear more leaves to the acre than any other forage plant of which we know. The stalks, too, are smaller than those of any variety of corn. The plants may be cut off near the surface of the soil, and they will at once start a second growth. Horses and cattle relish both the leaves and stalks. But it bears no seed in this country, for which reason, we fancy, it has never become popular. The catalogue praises the "New Brazilian Flour corn" as a novelty that "produces 100 ears from one kernel." It says further that "the bread and biscuit produced from the flour are as palatable as from any flour known." We tried this some 12 years ago. Our recollection is that the main stalk bore from three to six small ears which needed the entire season

(*Continued on next page.*)

TRY SILVER KING, MR. FARMER.

With Oats at 209 bushels, Corn 240 bushels, Teosinte 100 tons, Potatoes 1,200 bushels and Silver King Barley 116 bushels per acre, Where will yields stop? We'll tell you this: The John A. Salzer Seed Co. are creating new cereals. Above yields are facts to-day and they say in 10 years their new varieties, now in progress, will surely increase above yield 50 per cent. If Salzer says so, it's so. That Silver King Barley is marvelous!

If you will cut this out and send it with 10 cents postage to the John A. Salzer Seed Co., La Crosse, Wis., you will receive their mammoth catalogue and 10 packages grasses and grains, including Silver King Barley.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Build Up

The system by purifying and enriching the blood, toning the stomach, and creating an appetite, if you would ward off fevers, colds and the grip. Take

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. $1.

Hood's Pills cure all Liver Ills and Sick Headache. 25 cents.

EVERGREENS.
Largest stock in America, including Colorado Blue Spruce and Douglas Spruce of Colorado.
Also *Ornamental, Shade and Forest Trees, Tree Seeds, Etc.*
R. DOUGLAS & SONS, Waukegan, Ill.

The Walter Pease Apple.
The finest fall dessert apple grown. See *Rural New Yorker* Nov. 23. Rich, tender, crisp. Catalogue with plate and description free. F. E. Young, Nurseryman, Rochester, N.Y.

Choice Peach Trees a specialty by the 100, or 1,000, or in car lots. Send for prices. R. S. JOHNSTON, Box 4, Stockley, Del.

Pear, Apple, Plum Cherry and Peach Trees
We have a large block growing on rented land. The lease expires this spring. The stock must be sold without regard to cost of raising. Have fixed the lowest prices ever quoted. THE TREES ARE FINE. This is, no doubt, the best opportunity offered planters during the past 25 years. WHITING NURSERY CO., Roxbury, Mass. Nurseries at Geneva, N. Y.

TREES GROW WHILE YOU SLEEP,
before you know it your reward comes in fruit & shade. Begin NOW by writing for our low prices.
Flower City Nursery Co., 27 Crescent Ave., ROCHESTER, N. Y.
Remember we pay the freight.

Reid's
LORENTZ PEACH. ELDORADO BLACKBERRY.
Write to Headquarters for free, handsome, Illustrated Catalogue of

Peach,	Strawberries,
Apple,	Raspberries,
Pear,	Wineberries,
Plum,	Blackberries,
Cherry,	Dewberries,
Quince,	Gooseberries,
Nectarines,	Grape Vines,
Nut Trees,	Ornamental
Shrubs,	Trees, etc.

All the new and leading varieties. Estimates given for large lots at reduced rates. Crates and Baskets.
REID'S NURSERIES, Bridgeport, O.
Fruits

BURPEE'S FARM ANNUAL for '96
"The Leading American Seed Catalogue."
A BOOK of 184 pages, more complete than ever before; —hundreds of illustrations, pictures painted from nature— It tells all about the BEST SEEDS that Grow, and rare Novelties that cannot be had elsewhere. Price ten cents (less than cost), but mailed FREE to all who intend to purchase SEEDS.
W. ATLEE BURPEE & CO., PHILADELPHIA, PA.

Our New 1896 Catalogue
of FRUIT TREES, PLANTS and VINES; COMPLETE LIST OF ORNAMENTAL STOCK—all hardy and reliable—mailed free.
T. J. DWYER, Orange County Nurseries, CORNWALL, N. Y.

TREES FRUIT AND ORNAMENTAL.
SMALL FRUITS, GRAPES, SHRUBS, ROSES, EVERGREENS, HARDY PLANTS,
Largest and choicest collections in America.
NEW CATALOGUE, beautifully illustrated, free to regular customers, to others 10c for postage.
ELLWANGER & BARRY, MOUNT HOPE NURSERIES, Rochester, N. Y.

Your Name AND ADDRESS
Plainly written on a postal card and addressed to W. F. ALLEN, JR., SALISBURY, MD., will bring you free of charge his 32-page Illustrated Strawberry Catalogue, containing several original wood engravings, and honest descriptions of over 60 varieties (largest and best Strawberry Catalogue published); also sample copy of *The Strawberry Culturist.*
SEND NOW! If you grow strawberries, you can't afford to be without it.

PEACH TREES
500,000 FOR SALE. CATALOG Free.
Succeed and Triumph, Earliest in America. Standard kinds delivered at your homes as follows: 2 for 25c, 5 for 50c, 12 for $1.00, 100 for $6.00.
JAPAN PLUMS,
PEARS, STRAWBERRIES, none excel us in quality or equal us in price. Everything guaranteed healthy.
ROGERS NURSERY CO., Moorestown, N. J. Box 100.

NEW STRAWBERRIES ORIOLE AND IDEAL.
Named by U. S. Pomologist. Also immense stock of all kinds of Berry Plants. Bottom prices. 14th Annual Catalogue free.
SLAYMAKER & SON, Dover, Del.

GREENVILLE.

STRAWBERRY PLANTS BY THE MILLION.
5 DOZEN PLANTS BY MAIL (assorted), $1.00.
Berlin (New), $1.00 Doz.; $3.00 per 100; $10.00 per 1000.
500,000 Asparagus Roots. 20,000 Apple Trees.
20,000 Peaches, Champion and Crosby.
By mail, 2 for 25 cts.; 5 for 50 cts.; 12 for $1.00; 100 for $6.00.
Send postal for 20-page catalogue. Free at once.
BERLIN NURSERIES, Berlin, Md.

CROSBY.

ECONOMY IS THE SECRET OF SUCCESSFUL COMPETITION.
Every successful Business Farmer has found it out. The popular prices of ROGERS' FRESH-DUG DANSVILLE TREES in our little book for business buyers is the result of being right here where the trees are grown; filling orders from the nursery row—no loss to us, no loss to you. Every dollar you save and still get the best trees that grow, is that much added to your bank account. Send for our little book. IT'S FREE. Compare the sizes and the prices, and you will find the truest economy in placing your order with
The Rogers' Nurseries, ISAAC C. ROGERS, Mgr., Dansville, N. Y.

TRIUMPH The only Yellow Freestone PEACH Ripening with Amsden.
The Latest and Largest Yellow Freestone PEACH, **EMPEROR**
MERCER The only Sure-Bearing, Non-Rotting CHERRY.
For full descriptions send for Catalogue (10c.) We will send our *Beautifully Illus. Catalogue* with the Col'd Plates of the 3 Wonderful New Fruits, and 1 Emperor Peach June Bud by mail, postpaid, for 10c. JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

A Fruit Grower should never set a plant until he has read R. M. Kellogg's book, entitled
GREAT CROPS OF SMALL FRUITS AND HOW TO GROW THEM.—It has worked a revolution in small fruit growing. No other book ever published contains so much practical information. New ideas. New methods, less work, double the fruit. SENT FREE on receipt of postal card address.
R. M. KELLOGG, Ionia, Mich.

250,000 Peach Trees

100,000 Plum, best European and Japan.
150,000 Pear, Standard and Dwarf.
75,000 Cherry, Morellos, Hearts, etc.
150,000 Apple, Quince, Apricot.
100,000 Nut Bearing Trees,
2,000,000 Small Fruits and Grapes.
750,000 Roses, Everblooming and Hardy.
1,000 Car Loads Ornamentals.
Full supply Flower and Vegetable Seeds, Plants, Bulbs, etc. Elegant 168 page catalogue free. Send for it before buying. Everything mail size postpaid. Larger by express or freight. Safe arrival and satisfaction guaranteed. We occupy 1½ miles on the bank of Lake Erie. No hardier, healthier trees are grown on the continent. Why not procure the best direct from the grower and avoid all commissions. It will save you money.
42nd YEAR. 1000 ACRES. 29 GREENHOUSES.
THE STORRS & HARRISON CO., Painesville, O. Box 216

CATALOGUE REVIEWS.

(CONTINUED.)

to ripen, and that the plants do not sucker much. The flour is certainly of excellent quality—better than that made from any other corn known to us. The variety—or species, perhaps—was advertised by Samuel Wilson, a seedsman of Pennsylvania from whom we obtained our seed. It was extensively tried in many parts of the country, and many favorable reports were printed. Still, we have heard little of it since.

IOWA SEED COMPANY, Des Moines, Ia.—A catalogue (105 pages) of seeds and plants. Colored pages show the Sunrise sweet corn, which is praised as of the first quality; Ideal Monster rhubarb, Rose Turnip radish, Wonderful Sugar watermelon, Iowa Goldmine yellow dent, Iowa Silvermine white dent corn, pansies, sweet peas, larkspurs, etc. There are 18 pages of specialties, among them the Lemon Blush tomato which originated at the Rural Grounds. We quote: "It was with little confidence that we gave this variety a place in our trial grounds, but we admit that we were greatly surprised. We pronounce it the nearest approach to a perfect tomato that has, as yet, been produced." And that is just THE R. N.-Y.'s opinion. Justice is done to the Ziz-zag sweet corn, which we have tried for several years. We commend a trial of it to every one of our readers. We know of no better medium-late variety. It is close to perfection in every way. The sum of $500 is offered for the best acre of field corn, the competitors having the choice among 23 varieties.

ROGERS'S NURSERIES, Dansville, N. Y.—This company have removed to Dansville from Moorestown, N. J., because most of their stock was grown more economically in the former place. It is a catalogue of fruits, large and small, and the claim is made, most emphatically, that the plants are healthy, well-rooted and true to name. The prices are certainly moderate. Two-year-old cherries are offered (page 16) five trees of any one kind for 50 cents; apples, clean and well-rooted, five trees for 50 cents; 25 trees, one to five kinds, $2.50; Japan plums, five trees, one kind, for 60 cents; and so with peaches and European plums. The Sneed peach seems to be attracting attention, being at least 10 days earlier than the Alexander, and of better quality. The new Angel pear is still regarded as the largest of all early pears, and the earliest large pear. The fruit is as large as the Bartlett, of a rich, yellow color, with a red cheek. Its showy appearance and earliness would insure it a ready sale. The quality is fair only, but fully as good as that of the Lawson. We have alluded to the Harris Hardy apricot before. Our excellent authority, Mr. S. D. Willard, of Geneva, N. Y., says that it is as "large as a peach and one of the best." It is claimed that it is the earliest of apricots.

JAMES VICK'S SONS, Rochester, N. Y.—One of the largest seed and plant catalogues published. It is 8x10 inches, and contains 112 pages full of illustrations, and six colored pages including the covers. Among the novelties we may notice the Rathbun blackberry which, it is said, suckers sparingly, and may be propagated by covering the tips of the canes with soil the same as blackcaps are propagated. It seems that the plant gives one strong central cane, and the laterals are pendulous. The berries are said to be large and of the first quality. Another pleasing novelty is the Bride of Niagara sweet pea, which bears double flowers; that is, many of them are double, The lower petals are white, while the upper ones (banners) are a dainty rose color. Instead of a single banner, some of the flowers have two or even three. Both single and double flowers are borne on the same plant or, perhaps, on the same stem. The White Ohio, a sport, it is said, of the Early Ohio, is said to be the earliest potato grown. Vick's Early Leader, it is claimed, is the earliest tomato known. The colored plate shows it to be of medium size and perfectly smooth.

T. J. DWYER, Cornwall, Orange County, N. Y.—A catalogue (50 pages) of small and large fruits, vegetable plants, shrubs and trees. Under "Family Lists," collections of small fruits are offered at reduced prices. For instance, in one collection, a dozen plants each of Marshall, Timbrell, Greenville, Orange County and Lovett strawberries are put up and sent by mail, postpaid, for $1. A dozen each of Shaffer, Souhegan, Gregg and Ohio raspberries for $1. One each of the following grape vines are offered postpaid for $1: Green Mountain, Brighton, Delaware, Niagara, Moore's Early and Worden, or 16 cents each. So, too, more varied lists of small fruits, peaches, plums, apples and pears are put up in collections to be forwarded by express for from $4 to $10. Mr. Dwyer thinks highly of the Columbian and London raspberries. We fancy that they are destined to be regarded as the very best red and dark red varieties that have as yet been introduced. That is, the London is better than the Cuthbert because the plant is hardier, the berry firmer; the Columbian better than the Shaffer, because the plant is hardier and more productive, and the berry clings more firmly to the stem. In a fly leaf, Mr. Dwyer illustrates and describes Richards's transplanting implements, now offered for the first. We have examined this ingenious contrivance, and it would seem that small fruits and ornamental plants may be transplanted by its use without disturbing the roots. By this method watering, it is claimed, is unnecessary.

Necessity for Perfect Working of the Soil.—Just as a mine of coal or iron is worked in every part and no part is left unexplored or stripped of its mineral, so the soil is to be worked in every portion. If any part is left unworked or unstirred, there it lies idle and unprofitable, for the atmosphere cannot penetrate it and perform its indispensable office of loosening the fertile elements for the use of the plants. It is one of the most important services of the "ACME" Pulverizing Harrow, Clod Crusher and Leveler, that every part of the soil is thoroughly broken, cut, sliced, turned and brought into the best condition for the seed. Not a portion can be missed, the whole surface and the whole depth worked is made fine and mellow and thoroughly mixed and the air can penetrate into every portion of it. See advertisement on page 108.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

ESTABLISHED 1822.

WE DOUBLE IT.

We will duplicate all **first premiums** offered in 1896 by any Horticultural or Agricultural Society in the United States, that may be secured with the produce of seeds or bulbs purchased of us. **We will pay** the amount on presentation of the certificate of the society's award accompanied by a statement that the seeds from which the prize winners were grown, were BRECK'S SEEDS.

(THE ABOVE OFFER IS COPYRIGHTED.)

We made this offer last year in the interest of growers, with the hearty endorsement of Horticultural and Agricultural Societies throughout the country. To show how it worked we select as an example H. P. West, of Fayetteville, Wis., to whom we have paid $90.50 being an amount equal to that awarded him for premiums on the produce of our seeds at the Wisconsin State Fair, Walworth Co., Wis., Agrl. Soc. Exhibit, Minn. State Fair and La Cross, Wis., Inter-State Fair.

Full particulars of this offer in our 1896 illustrated catalogue, 170 pages; mailed free. Replete with cultural directions, news about novelties, standard varieties of vegetable and flower seeds, and the most approved agricultural and horticultural implements.

"Everything for Farm, Garden and Lawn."

JOS. BRECK & SONS, Boston, Mass.

MY Catalogue of STRAWBERRY Plants 100 varieties. E. J. HULL, Olyphant, Pa. FREE

STRAWBERRIES.

Introducer of Satisfaction Strawberry, has Clyde, Wm. Belt, Marshall, Bisel, Brandywine, Eleanor, Mary, Staples, Brunette. Over 40 other best varieties. Large stock very fine plants. Descriptive Catalogue free. ENOS W. DUNHAM, Stevensville, Mich.

Save Money on Fruit Plants.

Strawberries *a specialty. 3 Farms. Immense stock. A No. 1 plants.* 50 best varieties strawberries *low.* Our '96 catalogue tells why I can sell such *choice stock so cheap.* Write now.

O. A. E. BALDWIN, V. St., Bridgman, Mich.

Plant the Best Currants

WHITE IMPERIAL excels all others in quality for a fine table currant.

PRESIDENT WILDER combines qualities that make it the most valuable market and table Red Currant that has been put upon the market. For prices apply to

S. D. WILLARD, Geneva, N. Y.

THE COLUMBIAN RASPBERRY

is extremely hardy and vigorous, resists drought, has no suckers, as it propagates from the tips only. Largest in size; best for canning, as it retains its form, size, color and flavor. It adheres firmly to the stem, does not crumble in picking, is a good shipper and wonderfully prolific. 8,000 quarts to the acre.

Price, 50 cents each; $2.50 per half dozen; $5 per dozen. CAUTION: Buy only of responsible, well-known dealers, or of the originator. Illustrated circular sent free on application.

J. T. THOMPSON, Originator, Oneida, N. Y.

GRAPE VINES SMALL FRUIT PLANTS.

You can get of us THE RURAL'S favorite grape, Nectar or Black Delaware. Catalogue Free.

EUGENE WILLETT & SON, North Collins, N. Y.

850,000 GRAPE VINES

100 Varieties. Also **Small Fruits, Trees, &c.** Best rooted stock. Genuine, cheap. 2 sample vines mailed for 10c. Descriptive price-list free. LEWIS ROESCH, Fredonia, N. Y.

GRAPE CULTURE.

With 35 years' experience in the vineyard, and 30 years as local dealer in vines, am confident it will pay you—if you have planted or intend to plant a few vines or a vineyard—to enclose 25 cents in stamps for my practical treatise on "Grape Culture," or $1 for 12 first-class vines, two each Niagara, Pocklington, Delaware, Brighton, Worden and Wilder—best White, Red and Black varieties—or choice of same with book free, or 20 Concords and book. Order now. Will mail book at once, vines in early spring, postpaid. Safe arrival in good condition guaranteed. Vines for vineyard planting a specialty. Price list free. J. H. TRYON, Willoughby, Ohio.

The **Alice Grape.** The hardiest and best keeping grape ever offered. Ripens with Concord. Keeps all winter; splendid quality, very productive. Catalogue with full description free. F. E. Young, Nurseryman, Rochester, N.Y.

ARLINGTON Tested Seeds

This seal, placed on a package of seed, signifies to seed wise people that the contents are fertile seeds of the choicest selection. That they have been selected by a market gardener for market gardeners, and carefully tested at ARLINGTON FARMS. That they are not only sure to grow wherever planted, but will produce just what is represented, whether vegetable or flower seeds. Our new book for 1896 is resplendent with correct photographs, showing where and how Arlington Seeds are grown. It has been compiled with special thought for the amateur gardener, and will prove an invaluable instructor to all who receive it. We send it free to all mentioning this paper.

W. W. RAWSON & CO., Boston, Mass.

DREER'S RELIABLE SEEDS PLANTS and BULBS

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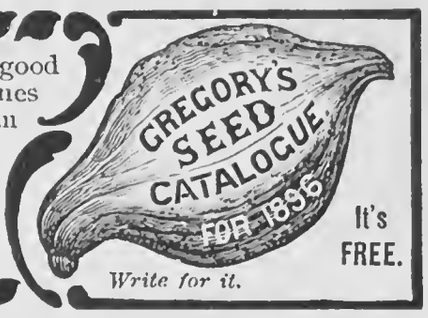

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Grass, Field, Garden, Tree and Flower-seeds, all especially grown and selected for Western soil and climate. Alfalfa, Kaffircorn and other forage plants for dry climate a specialty. Our elegant 1896 catalogue is ready and will be mailed **Free** on application. **Send for one now**

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FOR THE BEST ACRE OF CORN.

Competition Open to All.

Ask for our large 100-page catalogue, giving full particulars. Contains 400 illustrations, handsome colored plates, and it describes all the best kinds of farm seeds. Also all the best novelties and standard sorts of vegetables, flowers and fruits. Catalogues cost us seventeen cents each, but will be mailed **free if you mention this paper.** We handle 23 of the best varieties of field corn and all kinds of farm seeds, clover, grass seeds, potatoes, etc.

IOWA SILVER MINE CORN.

Novelty of 1896. The purest, handsomest most prolific and largest eared 100-day corn in existence. Most profitable and surest cropper. Best drouth resister, deep grained, small cob. These are big claims, but we can prove them. *Price, prepaid,* large sample, 10c; ear, 25c; or sufficient to plant one acre for $1.00. charges prepaid to any part of the U. S. If shipped by freight, per ½ peck, 65c; peck, $1.00; bushel, $3.00; 2 bushels for $5.00. **Try for the prizes** this year. There is no expense aside from cost of seed, and anyone buying ½ peck or more of any of our 23 varieties of seed corn can compete.

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HURRAH, FARMERS! SHOUT FOR JOY!

Fine, luxuriant pastures and rich meadows, producing tremendous hay yields (4 to 6 tons per acre), are now made possible on every soil, in every clime, by sowing our Extra Grass and Clover Mixtures. You won't need to wait a lifetime for a good start of grass, for we have grasses, which, if sown in April, will produce a rousing crop in July. Pamphlet on Grass Culture, etc., 2 cents postage.

WE PAY $400 IN GOLD PRIZES.

On oats, barley and corn! The biggest yield on Silvermine (Nameless Beauty) oats in 1895 was 209 bushels; the next 206 per acre. You can beat that in 1896 and win $200! Our new tested barley, oats, corn and potatoes will revolutionize farming! We are the largest growers of farm seeds in the world! Our seeds produce—as the editor of the Rural New-Yorker says—Salzer's Early Wisconsin potato yielded for me 736 bushels per acre. If an early sort yields 736 bushels, what will a late do! Potatoes only $1.50 per barrel!

EARLIEST VEGETABLES IN THE WORLD.

Splendid sorts, fine yields. Onion Seed only 90c. per lb. 35 pkgs. Earliest Vegetables, $1, postpaid. 10 pkgs. Flower Seeds, 25c. Everything at hard-times prices. Wholesale Market Gardener's List, 2c. Our great seed catalogue (148 big pages) and ten packages Grasses and Grains, including above Prize Oats, Barley and Corn, is mailed upon receipt of 10 cents in stamps, free. Catalogue and package Yellow-rind Water melon—the melon sensation, and the rarest of rare novelties, only 12 cents. Catalogue alone 5c. postage.

JOHN A. SALZER SEED CO, LA CROSSE, WIS.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, FEBRUARY 15, 1896.

THE poultry show in progress at Madison Square Garden, has brought together as fine a lot of fowls of all the leading breeds as one would wish to see. Next week, we shall give some notes on it, with special reference to the points that seem to recommend certain breeds as the ones for business fowls. Some comparatively new breeds seem to have strong points to recommend them in this direction.

⊙

RETAILERS object to the practice followed by some producers of fancy eggs, of stamping the name and date on each egg. They object to the name, because they are thus advertising another man to their own customers. This is reasonable. They object to the date because in case of a glut and slow sales, when it is necessary to keep the eggs several days, the eggs advertise their age to the buyers. Such a practice seems adapted only to a private or special market, where the eggs are delivered regularly and quickly.

⊙

FOR several years, the Board of Agriculture and the State Grange of New Jersey, have agitated the question of teaching the principles of agricultural science in country schools. In 1894, Prof. E. B. Voorhees of the experiment station, was asked to prepare a suitable text book for use in these schools. The book has been published, and the State Board of Education will be asked to help place it as a part of the rural school course. Thus New Jersey is ahead of Connecticut in this matter, though the latter State may start the actual work of teaching these studies first after all.

⊙

A NEW thing in farm gatherings will be an International Institute to be held at Watertown, Wis., March 13. This is to be a convention of institute workers, and it is expected that speakers from all over the United States and Canada will be present. This is a new thing, and it shows how these farmers' meetings are being organized and developed. The institutes have accomplished much good—more perhaps, by suggesting and inspiring than by actual teaching. Why are the western meetings more successful than those at the East? That's what we want to know. Is it the fault of the teachers, or of the pupils?

⊙

CONGRESSMAN LOUD, of California, has introduced a bill at Washington which changes the rates of postage on what is known as second-class mail matter. At present, the Government carries, at the rate of one cent a pound, a vast quantity of circulars made up to imitate newspapers, but really issued in the interest of some trade or business. By this means, a horde of cheap and often scandalous papers, are broadcasted over the land, injuring the business of reputable newspapers, and hurting the trade of legitimate business men. The Government loses nearly $1,000,000 each year in carrying this heavy mail at the cheap rate of one cent a pound. If this could be avoided, the Post Office Department would be about self-sustaining, and the Loud bill is designed to avoid this loss by taking out of this cheap postage privilege a class of matter that is not justly entitled to it. Should it pass, all "sample copies," reprints and circulars will cost for mailing one cent for four ounces—forming a class by themselves—distinct from the legitimate newspapers and magazines. This will be an excellent thing for such publications, for it will put them in a class apart from the cheap trash with which the country has been flooded. THE R. N.-Y. favors the Loud bill, and hopes that it will pass. We are willing to pay our own way, and do not ask special favors of the Government, or of any one else. At the same time, we object when special favors are given to others. That is just what happens when the law permits a mere advertising sheet to enjoy the benefits of second-class postage.

⊙

IT is stated that in Kansas, last year, there were grown 184,198 acres of Kaffir corn. This plant seems to be gaining in popularity throughout the southwestern part of the country, and seedsmen are attempting to "boom" it as a fodder crop suited to all parts of the United States. This is a mistake. Kaffir corn may excel in some parts of the West and South, but in other sections it will not begin to compare in value with the common Indian corn. Don't be carried away by wild statements regarding the great value of Kaffir corn. Buy a little seed and try it. That's well enough, but don't let any advertisement push you into planting a large acreage without trial.

⊙

We notice in many of the agricultural papers, the advertisement of a wonderful book, by Prof. A. Corbett, offering to tell how to make

$500 Profit From 12 Hens.

This is so far ahead of five-cent potatoes, that we determined to examine the book before advertising it. The copy sent us is a cheap little volume of 133 pages, of which nearly 50 are devoted to telling how valuable the other 80 are. It is a very commonplace treatise on incubation as it was practiced 25 years ago, evidently reprinted from old plates—on quite inferior paper. It is of no earthly use to a poultryman of today, and it is little short of a humbug to offer this book with its startling title for $1.

⊙

LAST fall, we started the potato growers going on the subject of the cost of an acre of potatoes. Some of them got it down so fine that their points pricked up our readers to a good discussion. Now the friends of the Jersey cow and the Leghorn hen are coming in with some remarkable figures and statements that bid fair to make as much talk as did Chapman's potato article. Here's a man who claims that four cows produced the fat needed to make over a ton of butter in one year. Here's another man who claims to have made his 200 hens lay 27,257 eggs at a cash cost of $332.15. That is almost as remarkable as five-cent potatoes! Can *anybody* do it? Not a bit of it. There are years of study and skill in that estimate that can't be figured at a cash valuation. You can *begin* to work up to that point—that's about all you can do now.

⊙

THE R. N.-Y. has urged that it is only fair that manufacturers of woolens who use shoddy should be required to affix a label upon their goods, showing the per cent of shoddy or other substitutes for wool used in their manufacture. We are glad to see that Ohio wool growers are working to secure the legislation needed to compel such labeling. The plan is to enlarge the duties of the Dairy and Food Commissioner so as to embrace this work. There is no reason why consumers of woolens should have shoddy thrust upon them, and the State can protect them in this matter just as efficiently as in the matter of foods subject to adulteration. The producer of wool and the would-be consumer are wronged by the fraudulent substitution of shoddy for wool. The manufacture of shoddy cloth is legitimate, but it should not be marketed upon the strength of its similarity to honest woolens. Labeling will cause it to be sold upon its merits.

⊙

SHIPPERS should stop sending dairy butter to this market, for a time, at least. It is now almost impossible to sell it. At this writing, best creamery is selling at 18 to 19 cents a pound, with a trifle more sometimes given for small lots of gilt edge. At these prices there is little chance for dairy butter. One reason why retailers prefer creamery is its general uniformity. This cannot be secured in dairy butter—it varies greatly in quality, in degree of saltness, in color, in size and in every conceivable way. It can be sold only to a poorer class of trade, and to this only because it is cheap. Small dairies should endeavor to secure private customers. The outlook for choice creamery butter is good, as there is some export demand; this is what cleaned up the market last fall, and made the December boom. At the latter time, however, prices went higher than circumstances would warrant, and the result was a drop of more than one-third. What we need is a good export market, and that is just what we would have if creameries would always furnish the same uniform grade of butter, packed in uniform packages, so that when a purchaser secured goods that suited him, he could always duplicate the purchase at any time.

FULL returns from the Department of Agriculture show that last year's potato crop covered 2,954,952 acres and aggregated 297,237,370 bushels. This was an increase of only seven per cent over the acreage of the previous year. The average yield of over 100 bushels per acre was the largest for 20 years. It is not likely, in our opinion, that we shall have so high an average yield for another 20 years. There is no use getting discouraged over potatoes unless they cost you more than the average price in the last five years. If they could be kept from one year to another, the whole aspect of the business would be changed—but that is not possible, and each year's crop must stand by itself.

⊙

APROPOS of building and loan associations, a gentleman connected with a large business firm of this city, tells us of an office boy who got $25 a month, who, a number of years ago, took 10 shares in one of these associations. This meant the payment of $10 each month out of his earnings, and $25 a month in the city, is not a munificent salary. But the boy managed to get his $10 together each month, though he sometimes had to go without his lunch, or deny himself in other ways to do so. But now he has the satisfaction of knowing that payments on his shares are nearly completed, and he will soon have $2,000 in a lump as a starter in business. This is one of the most valuable features of these associations—the teaching of habits of economy and thrift. It gives a young man a feeling of independence and manliness to know that he has property of this kind. Hundreds of young men—and many young women, too—who would probably let slip the most of their earnings were it not for this feeling of responsibility, will manage in some way to save the sum necessary to make the monthly payments, and in a few years the money that would otherwise have been frittered away in small sums, will amount to enough to give them a good start in business.

⊙

BREVITIES.

Come all ye thoughtful Western men, and listen to my song!
You've got to come to potash if you're hoping to prolong
The virtue of your clover fields—you'll find them turning sick,
Unless old Brother Potash comes a-turning up the wick,
That lets the little clover plant reach up into the air,
And catch the lazy nitrogen that's loafing 'round up there.
So keep your eyes wide open—look around you every day,
And when some foolish fellow undertakes to throw away
A bunch of unleached ashes—don't you sit there in a trance,
But hop like any jumping-jack and gather in the chance.
And tho' these be "gold standard" days, don't hesitate to pay
Good silver for the privilege of hauling them away.
Take our advice and do this thing without a bit of fear,
And coming generations, sir, will hold your memory dear.

"*Good roads by bad men!*"

THERE'S no alcohol in a level head.

READ the article on fleas—page 99.

DON'T let folks justly call you a dazey.

STERNLY dealt with—the punished baby.

THE man who knows it all is apt to *nose* it all, also.

WE want a white light turned on that grub question.

DOWN with shoddy when it masquerades as "pure wool!"

STANCHION, halter and chain are stockholders in the American barn.

WHICH does more damage on your farm, the pot hunter or the market hunter?

WE have a letter from the man who burned up his paper, which we expect to print ere long.

AN electric machine on the buzz-saw principle, for cutting ice, is reported from New England.

IN order to make some good fellows enthuse, you must promise an hour for to air up their views.

A LAW in Arizona prohibits the growing of sunflowers, while four States declare the Ox-eye daisy an outlaw.

YOUNG man, don't run away from the farm after a soft job till you see how many feathers Mrs. Hen can put in your cushion.

HERE'S a man who says his hen ration is "whole corn, cracked corn and corn meal." The ratio of that is about one egg to the peck of food!

CRIBBING or wind sucking is a disagreeable habit in a horse, but does it really injure him? How? Read what Dr. Kilborne says—page 110.

DON'T make the institute a high school—that is too high for the beginner. Otherwise, the beginner will be an ender so far as coming again is concerned.

IT is reported that the anthracite coal presidents have met and agreed upon rates for the next year that mean an increase in the price of coal. That's nice news for "hard times."

THEY do all they can to make the Western farmers' institutes popular. At one place in Michigan, the county clerk sent two couples into the institute to be married before the audience!

WE are told that in Holland the ewe is to take the place of the goat as a family milk producer. They are breeding ewes that yield considerable milk, and also shear a good fleece of wool, thus making the most economical animal a poor family can secure.

THE Government's call for a "popular loan" of $100,000,000 in gold, called out bids for $684,262,850. As a result, Uncle Sam will sell his $100 I. O. U. for about $111 against $104 when the bankers had all the chance. Now, then, who will explain *why* these bankers had it all?

THAT matter of feeding ensilage and bran, is up again What are the arguments against it? So far as theory goes, you can write a page against it, but Mr. Glass can put 22,240 gallons of milk from 25 healthy cows against that page and beat it. We know another man who feeds only ensilage and clover hay—but he doesn't get so much milk.

A GREAT deal has been said during the last year, concerning dwarf Essex rape as a food for sheep, cattle and swine; but little mention has been made of its use as a poultry food. Whenever large flocks of fowls are kept in confinement, it is not always easy to supply crisp, green food cheaply during the dry summer months, particularly during a somewhat protracted drought. On just such occasions as this, rape is especially valuable. If sown in the latter part of May, it will be ready to cut in August, and will produce a second crop for fall feeding with the following treatment: Sow the seeds in rows that are far enough apart to admit of horse cultivation. Keep the ground thoroughly cultivated whether there are weeds to kill or not. To make a quick growth of fresh, green leaves, these plants must have water, and thorough cultivation will supply this to a great extent, even in a protracted drought. The crop may be cut with a scythe or sickle at any time after it is a foot high. The size of the plants at any particular time will depend largely upon the soil and season. The first cutting should be made rather high, so that an inch or two of stalk will be left above the crown of the plant. Unless the conditions are extremely unfavorable, a second growth will rapidly take place. If sowed at the proper time, rape will furnish green food for fowls when clover is suffering from the drought and, perhaps, grasshoppers, and when mangels are not large enough to be fed economically.

⊙

COMPARATIVELY few people realize what the Federal government is doing in the way of free distribution of reading matter designed for farmers. The Agricultural Department has a regular Division of Publications, and in the recent report from its chief, we are told that in the year ending June 30, 1895, 254 publications were issued, with a total circulation of 4,100,660. These books required 800 tons of paper, or, put in another way, there were 420,000,000 printed pages, or 210,000,000,000 words. These publications are sent free to all. We believe that any man who is interested in farm life, will be well repaid by securing these publications and reading such as appear to touch some point of farming in which he is specially interested. Our advice to all readers would be to write to the Agricultural Department at Washington, and ask that their names be put on the mailing list, so that they may receive all the publications. Our opinion is that these public documents are of a decidedly higher grade than those of five or ten years ago. They are usually carefully edited, and there is a manifest effort to talk *soluble* science and use terms that common people can, at least, guess at. Once in a while some one turns himself loose among three-storied, technical words; but as a rule, the language of these pamphlets is easier to assimilate than the average experiment station bulletin.

⊙

IN trying to figure out the cheapest "balanced ration" by comparing analyses and prices, the feeder must always consider the taste and habits of the animal to be fed—be it hen, horse, hog, human, or cow. No animal will thrive on objectionable food. Its dinner must "taste good." We have had a striking illustration of this fact this winter in buying food for some poor people. Having had charge of the disbursement of a small charitable fund, we naturally tried to obtain the most food for a dollar. We found that, at present prices, the old-fashioned oat meal gave the greatest amount of nourishment for a given amount of money; yet it was not an economical food for some families. Some did not know how to cook it properly—and did not want to learn. Others found it mighty dry eating without milk and sugar or molasses, and with these "trimmings," it cost too much. For one family, a bag of rye flour was the cheapest food, a barrel of potatoes served another, and pork and beans another. One family took a barrel of stale bread from a baker, and softened it with water into toast or brewis, or with a bit of meat into a stew. The point was that by consulting the taste of the family, as well as the cost of the article, we made a dollar go further than it otherwise would. Of course, a hen or a cow would not show such strong likes or dislikes; but we must cater to their tastes, more or less. It is folly to try to force a hen or cow to eat objectionable food just because it is cheap. Some cows must be *coaxed* to eat ensilage, prickly comfrey or cotton-seed meal; but that is a very different thing from forcing them to it.

⊙

BUSINESS BITS.

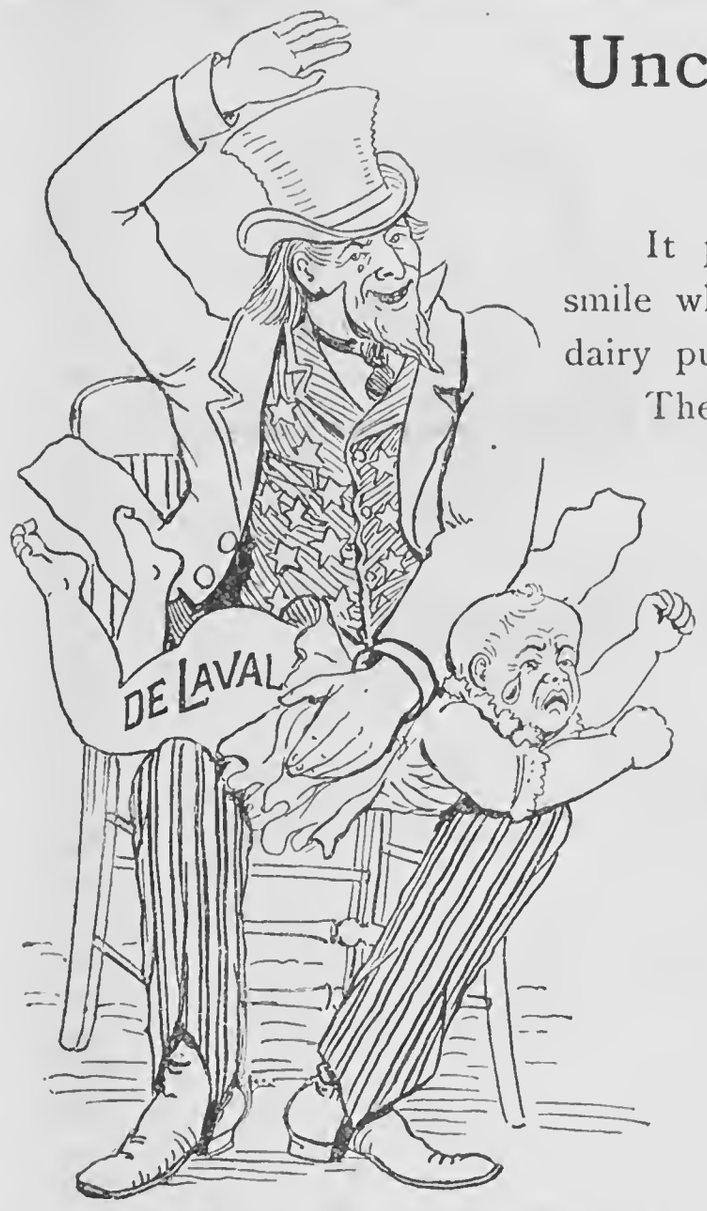
S. P. SHEPARD, Henrietta, O., tells all about his new oats on page 108.

MR. E. A. JONES, formerly superintendent of the New Jersey Experiment Station, advertises for a new engagement. His qualifications are of the best.

IF you are interested in chickens, the more you know about them the better. The Peerless Incubator and Brooder Company, 519 M Ohio Street, Quincy, Ill., have a catalogue of poultry supplies that gives lots of pointers. You may see just what you want in it. Why not send for it?

P. N. BOWSHER, South Bend, Ind., was awarded the gold medal on his "Combination" Feed Mill at the Atlanta Exposition. He also received a medal on the "Globe" Sweep Mill. These goods met with similar success at the World's Fair in Chicago. A catalogue will be mailed free if you write P. N. Bowsher, South Bend, Ind.

SINCE harrowing growing crops has become quite general, there is a demand for a harrow that will do the work more satisfactorily than any formerly in use. The Lean harrow seems to fill this demand. It is light and strong, and so adjusted that it covers uneven ground, and the teeth may be set slanted or straight by a lever while the team is in motion. The features of it will be more fully explained in catalogue, which will be sent on application, by the Roderick Lean Manufacturing Company Mansfield, O.



Uncle Samuel is Out Again with his Blandest Smile.

It pains him to punish the "Baby," but makes him smile when he realizes the great benefit that comes to the dairy public thereby.

The "Baby's" parents attempted to make the public believe that their "Baby" was the only baby that had a right to live, and advertised extensively pretending the United States Court had so decreed. But such were not the facts.

Uncle Samuel's Baby

is the healthiest, strongest, prettiest, and best behaved, and because of these qualities is most loved and sought after.

Read the statements of the "Baby's" parents, *"Important Decrees and Injunctions in Cream Separator Litigation,"* scattered broadcast to frighten people who prefer the United States on its merits.

Then read the statements below:

SAMUEL HOTCHKISS, the Inventor and Manufacturer of the Claimed Infringement, now uses the United States.

The De Laval Separator Company brought suit against me for manufacturing, using and selling the Omega Cream Separator, claiming it to be an infringement of their Alpha Separator patent. My attorneys assured me that such claims for infringement could not be sustained if contested, but the suit would be expensive, and as I had no money to waste on such a contest, I let the case go by default.

I am now using the **Improved United States Separator,** and all of my patrons using separators who came under the injunction of the Court restraining them from using the Hotchkiss Separator, have purchased and are using the Improved United States Separators with the greatest of satisfaction. We all consider them the best Separators ever put upon the market.

Downsville, Delaware County, N. Y., December 30, 1895. SAMUEL HOTCHKISS.

JOHN HOUSTON, the Enjoined User, Perfectly Satisfied of the Superiority of the United States.

Since the United States District Court issued an injunction forbidding me using the Hotchkiss Omega Cream Separator, I have purchased and am using the **Improved United States Cream Separator,** which I find very much superior to the Hotchkiss, and which is not equaled, in my opinion, by any Separator on the market. I have used the De Laval Separator for several months, and consider the United States far superior in every respect, and a perfect skimmer. JOHN HOUSTON.

Downsville, N. Y., December 30, 1895.

Statement of the LARGEST MERCHANT IN DOWNSVILLE.

The statements made by Samuel Hotchkiss and John Houston, in reference to the purchase and use of the **Improved United States Cream Separators,** are correct. The United States Cream Separators are now used by those formerly using the Hotchkiss Separators, and are giving better satisfaction than any separator on the market. I have not had one complaint, and have placed nearly 20 machines in 30 days. C. E. HULBERT.

Downsville, Delaware County, N. Y., December 30, 1895.

SEND FOR ILLUSTRATED CATALOGUES. **VERMONT FARM MACHINE COMPANY, Bellows Falls, Vt.**

CHEAP
ONION SEED

I will sell a strain of GLOBE DANVERS Onion Seed at

88cts. per lb.

postpaid by me. Discount on large quantities. This is American grown new seed.

My Seed Catalogue FREE.

JAMES J. H. GREGORY & SON, Marblehead, Mass.

The Most Artistic Effect In Sweet Peas

is obtained by having each color by itself in a separate vase. Try it. We offer one packet of each of these choicest sorts:

BLUSHING BEAUTY—clear day-break pink
BOREATTON—rich velvety maroon
EMILY HENDERSON—purest white
COUNTESS OF RADNOR—soft lavender
VENUS—a grand salmon buff

together with our

1896 Seed Catalogue,

which is handsomely illustrated by direct photographs, for **12 cents in stamps.**

1 oz. each of the above with Catalogue for 40 cents.
¼ lb. each of the above with Catalogue for $1.00.
Send now.

Johnson & Stokes,
217 and 219 Market Street, Philadelphia, Pa.

GARDENER'S SEED AND PLANT GUIDE from experience, tells about gardening for profit or pleasure and about The Flower and Vegetable Garden. Postpaid 5c. JNO. BAUSCHER, JR. Box 465 Freeport, Ill.

BERRY BOXES

Send Postal for new 32-page *Illustrated Catalogue for 1896.*

Climax Baskets for Peaches, Grapes and Melons

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

Some inquiries have come to us concerning the asbestos mats mentioned on page 26. Any hardware store should supply them. They are kept in the house-furnishing departments of the large dry goods stores, also, in New York.

*

"All the world loves a lover." But it is the ideal lover that we love, and the man who attempts to play the role of lover and falls short of our ideal, comes in for some very sharp and unloving criticism. Why not? Shall we give up our ideals when some one fails to live up to them?

*

We are pleased to see the sincerity with which our discussions are carried on. It is always encouraging to see people in earnest about anything. There is no profit in a flippant consideration of a serious question. By such treatment, a little wit may be evolved, but it is a cheap sort of wit.

*

A correspondent wishes to know why she cannot obtain clean, dried currants, the imported ones. In New York, they may be had at the same price asked for the uncleaned. They are a great improvement on the original mixture of sand and pebbles, and should be supplied to those who prefer them.

*

Again we have the advice of a man on the question of proposing. It is certainly a matter which concerns both sexes, and it is a serious matter, too, being the preliminary to that event in life which is more important than any other, to those immediately concerned, and affecting the welfare of the race, as well.

*

The National Domestic Science Association, recently organized, is working to secure the establishment of a bureau to investigate the adulteration of food products, and other matters relating to cooking, etc. Congress appropriates millions of dollars for investigating agricultural mechanics, but household art is neglected. A bill has been introduced by Senator Kyle to secure appropriations. If it still holds good that the way to a man's heart is through his stomach, surely such consideration as this movement purposes to give to the digestive apparatus, ought to persuade Congressmen to give their hearty support to the bill.

"WHOSE IS THE PRIVILEGE?"

"WHOSE Is the Privilege?" on page 43, by J. C. S., is good, and, as a whole, I admire it; yet from different experience and surroundings, others may, though not inclined to differ materially, give a different view of the subject under consideration. I, for one, have always believed that woman could, with propriety, "propose." In fact, if I may judge from bits of experience related now and then by some friend or relative, I believe that the majority of women do the proposing—at least, disposing. They often lead men to propose who have no intention of doing so. Sometimes it is well with them, and sometimes otherwise. However, I believe that every true woman has, or should have, that right, and ought to use it more often than she does. It is a delicate matter to handle, and gives room for tact and wisdom; otherwise, a bungling job is the result, and she is held in contempt. If a woman proposes because she simply needs or wants a husband, she is not true to the finer sensibilities of her sex. If to understand, or better to understand an intimate friend, she has a perfect right to do so.

A personal friend of mine, who is a great admirer of woman, making many friends, and not feeling at liberty to be more than a "brother," had the pleasant, painful experience of being proposed to by three different women; and but one other than myself was ever the wiser for it. Where is the woman who keeps the secret of a rejected lover? Was there ever one such? In this case, there was a neutrality existing between the parties that hearts less wise would have termed love. The woman, knowing his true worth, was at a loss how to consider for the future. In each case, time would have revealed the result, but woman is as impatient, sometimes, as man, and desires to know the end. He said, in speaking of the occurrence, "I felt a great kindness spring up in my heart for her. I explained the barriers between us—which neither of us could remove; gave my plans for the future, and other explanations that seemed proper at the time. I was truly fond of her as a friend, and admired her as a woman, one well worthy to assume the responsibilities of life with me, were it for the best. Our friendship never waned, and each was better for the understanding."

Sincerity is admired in both man and woman, and a trust of affection is a sacred thing. I believe that of the two, man is less liable to treat the subject lightly, or make it a public measure.

Girls, be wise, modest and self-reliant, and yours is the right, also, to propose, and still to be admired—though rejected—at least, not accepted. WENDELL WICKS.

HOW TO COOK A HUSBAND.

PERHAPS some of the brides are without this recipe! They should try it at once. It is old and reliable. A good many husbands are utterly spoiled by mismanagement. Some women go about as though their husbands were bladders, and so "blow them up." Others keep them constantly in hot water. Others, again, freeze them by their carelessness and indifference. Others "roast" them, while some keep them in a pickle all the time. It cannot be supposed that any husband will be tender and good, managed in this way; but he will be really delicious when properly treated.

In selecting your husband, you should not be guided by the silvery appearance, as in buying mackerel, neither by the golden tint, as if you wanted a salmon. Be sure to select him yourself, as tastes differ. Do not go to the market for him, as the best is always brought to your door, and even then, it is far better to have none unless you patiently learn how to cook him. A preserving kettle of the finest porcelain is the best; but if you have nothing but an earthenware pipkin, it will do with care.

See that the linen that you wrap him

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in is nicely washed and mended, with the required number of buttons and strings tightly sewed on. Tie him to the kettle with the strong silken eord called "comfort," as the one ealled "duty" is liable to be weak. They are likely to fly out of the kettle, and be burned and erusty on the edges, since, like erabs and lobsters, you must eook them while alive.

Make a elear, steady fire out of love, neatness and cheerfulness, and set him as near this as seems to agree with him. If he sputters and frizzes, do not be anxious; some husbands do this until they are quite done. Add a iittle sugar in the form eonfectioners eall kisses, but no vinegar or pepper on any account. A little spiee improves him, but must be used with judgment. Do not stick any sharp instrument into him to see whether he is beeoming tender. Stir him gently, watching the while lest he lie too flat and elose to the kettle, and so become useless.

You eannot fail to know when he is done. If thus treated you will find him very digestible, agreeing nicely with you and the ehildren, and he will keep as long as you wish, unless you beeome eareless and set him in too cool a plaee.

ODDS AND ENDS.

Bologna Sausage.—Use six pounds of lean beef, one pound of salt pork, three pounds of lean pork, one pound of beef suet, ehopped fine and mixed; add three ounees of salt, one teaspoonful Cayenne, one ounee white pepper, one teaspoonful of ground mace, and one large onion chopped fine. Mix thoroughly, fill into casings, and tie into lengths, or use strong linen bags. Make a brine from Liverpool salt, that will bear an egg. Put the sausage in and let it stand two weeks, turning, skimming and watching carefully every day. At the end of the first week, throw away the old and make a new brine. Smoke for one week. When smoked, rub them over with olive oil, and hang away in a eool, dark place. If to be kept for some time, sprinkle pepper over the outside. This is according to Mrs. Rorer.

Her Privileges.—The farmer's wife fills a station in life that is unique when compared with that of her sisters. The wife of the mechanic, miner, printer, and so on, scarcely, if at all, knows what the implements look like, with which the father of her ehildren earns their daily food. Much less does she know how the work is done. In the event of his death, in the majority of cases, she must make her livelihood in a manner entirely different from that of her husband. Not so with the farmer's wife. If she is at all a helpmate suitable for him, she will interest herself in his work and plans, his aehievements and difficulties, his failures and his suecesses. The ordinary implements and their uses are quite familiar to her, the more eomplicated machinery is far from a strange affair, and she knows how to direct the help in the event of her husband's sickness or absence from home. During the busy season, in spite of the many duties devolving upon her, she eatches a few minutes, perhaps while nursing the baby, to read The R. N.-Y., or other favorite paper. Some artiele, possibly overlooked by her husband, catches her attention, and she treasures it in her mind, unknowingly even, against the day of need. In this manner she often becomes a valuable mentor to her husband, pointing out an error, or direeting the proper course to be pursued. To the credit of the woman be it said, that the farmer's wife is often the better farmer of the two. Should he die, she is not compelled to ehange her life. She can direct the doing of what she cannot do herself

ANNIE C. SENGER.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PEN POTPOURRI.

Smile upon the troubled pilgrims
Whom you pass and meet;
Frowns are thorns, and smiles are blossoms,
Oft for weary feet.
Do not make the way seem harder
By a sullen face.
Smile a little, smile a little,
Brighten up the place.

—*Ella Wheeler Wilcox.*

....Harper's Bazar: "Sineerity in itself alone is no virtue. To be good and sineere is virtuous, not to be bad and sineere."

....Phillips Brooks: "Do not dare to live without some elear intention toward which your living shall be bent. Mean to be something with all your might."

....Starr Hoyt Nichols: "Sometimes men resent what they eall woman's invasion of their rights; but they do it foolishly and unthinkingly. No one ever takes a right from some one else without losing something himself."

....Dr. Parkhurst in Ladies' Home Journal: "Empty barns in October are the logieal sequence of empty furrows in spring. The young man may as well understand that there are no gratuities in this life, and that sueeess is never reaehed 'aeross lots.'"

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In writing to advertisers, please always mention The Rural New-Yorker.

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is Cod-liver Oil *without the fish-fat taste.* You get all the virtue of the oil. You skip nothing but the taste.

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None genuine unless name and price is stamped on the bottom.

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TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

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Disease is an effect, not a cause. Its origin is within; its manifestations without. Hence, to cure the disease the cause must be removed, and in no other way can a cure ever be effected. Warner's SAFE Cure is established on just this principle. It realizes that

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of all diseases arise from deranged Kidneys and Liver, and it strikes at once at the root of the difficulty. The elements of which it is composed act directly upon these great organs, both as a food and restorer, and, by placing them in a healthy condition, drive disease and pain from the system.

For the innumerable troubles caused by unhealthy Kidneys, Liver and Urinary Organs; for the distressing Disorders of Women; for all Nervous Affections, and physical derangements generally, this great remedy has no equal. Its past record is a guarantee of continued performance.

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350 ACRES. Lies well, some timber, large lot wood, good orchard, good buildings on good road, near Richmond, good neighborhood, good water. Will divide. Write for *free* Catalogue.

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$5 to $8 an Acre. **Bay Co. Land Office,**

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Offers for Sale 10,000 Acres Fine Farming Lands covered with maple, elm, ash, oak and basswood. 12 miles from Bay City, on good roads and in Bay Co., the garden of the State. Climate, soil and timber unsurpassed. Farmers and timbermen, write for maps.

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SYKES IRON & STEEL ROOFING CO., Chicago, Ill., or Niles, Ohio.

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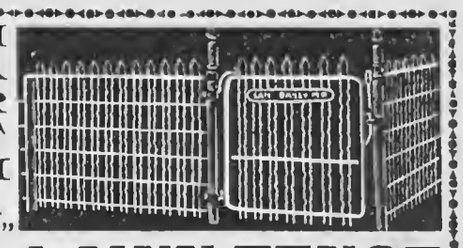

Has Steel Pickets and is cheaper, stronger and handsomer than either wood or iron. It protects and beautifies the lawn without obscuring it. Just the thing for Gardens, Parks, Cemeteries, Churches and Schools. You will surely want to know more about it. Better write for catalogue & prices. HARTMAN MFG. CO., Ellwood City, Pa.

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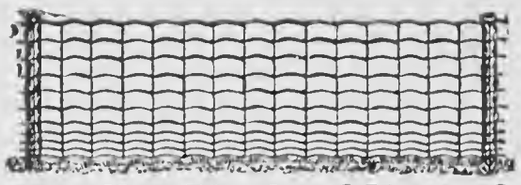

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And land? Then buy all kinds of wire fences offered, and give them a **fair test.** Such an object lesson will prove valuable for yourself, your neighbors, and the

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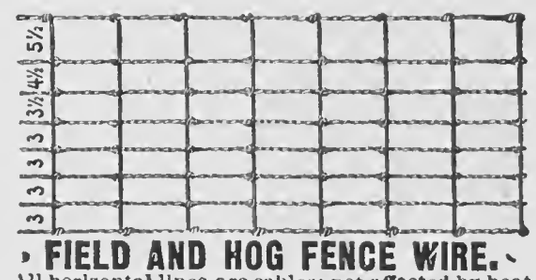

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All horizontal lines are cables; not affected by heat and cold; adjusts itself to hilly ground without buckling. Built for service and durability. Write for full information.

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PATENTED 1885. PATENTED 1894.

A LOCK that is a lock is found in the Cyclone fence. It is used to fasten our large crimped **steel pickets** to **cable laterals,** with absolutely no possibility of slipping in any direction. Samples for the asking.

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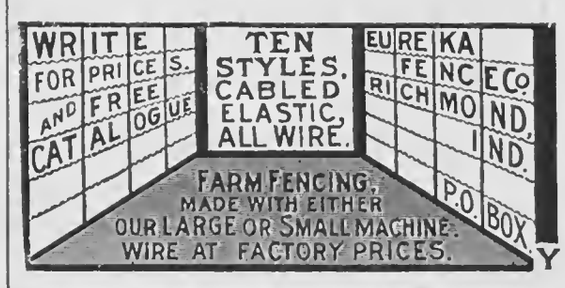

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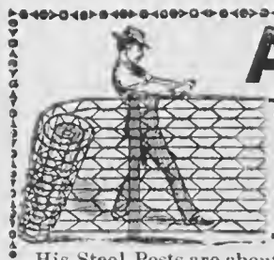

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His line of Wire and Iron Gates are unsurpassed.
His 1896 catalogue tells all about all of them.

W. J. ADAM, Joliet, Ills.

CROP AND MARKET NOTES.

Cranberries are in moderate supply and firm.

Carrots are somewhat scarce and the market firm.

Choice small turkeys are scarce and in good demand.

The tendency in the dry bean market is still downward.

Spring lambs are plentiful, and are moving rather slowly.

Capons sell for little more than large Philadelphia chickens.

Dressed calves have been somewhat scarce, and the market is firm.

Celery is plentiful, quality ordinary, sales slow, and prices not large.

Fancy red apples are in good demand and held firmly, at full prices.

Receipts of milk are increasing, and the price of the surplus is decreasing.

The cheese market is stronger, as stocks are not heavy, and the demand is fairly good.

Buckwheat honey is plentiful, and prices low. White clover is scarce, and prices are largely nominal.

The market is overstocked with yellow onions, and there seems to be little outlet at any reasonable price.

Florida strawberries are mostly of ordinary quality and sell slowly at rather low prices. Large, fine ones would sell quickly.

The Ohio State Horticultural Society will meet at Dayton, February 19-20, in the Old Guard Hall. W. W. Farnsworth, secretary, Waterville.

Evaporated and sun-dried apples are extremely dull, and prices are lower. Stocks of the best seem to be a little low, and such are a little firmer.

Receipts of eggs continue heavy, although the market is in slightly better condition. The beginning of Lent, now near at hand, will probably help the situation somewhat.

A shipment of two quarts of very ordinary strawberries arrived from Charleston on Wednesday. The crop is reported large and the outlook good, but no very important shipments will arrive for some time.

It is estimated that the apple crop of this country last year would load a train of cars reaching from San Francisco to New York, and would be sufficiently large to give a barrel to every man, woman and child in the country.

Receipts of Southern vegetables have not been large, but the quality is generally poor, and prices consequently low. The first shipments of cabbages have arrived, but the price realized was low, as stocks of old are too large, and prices too low.

New York has been visited by a hurricane this week which has completely demoralized business. Such a storm keeps buyers at home, and decreases the demand largely. It also delays shipments in transit, and interferes with the moving of the produce which has arrived. It will take several days for things to settle to their normal condition again.

The United States Consul at Frankfort-on-the-Main, reports that Germany offers a fine market for California dried fruits. Their use is steadily increasing at prices that cannot help but be remunerative. The Consul says of peaches and pears that there is a margin of 16 cents between the price the grower gets in California for each pound and the price he can obtain in Germany, thus giving him a chance for large profits by shipping his sun-dried product abroad. The cost of the fruit when landed at Hamburg or Bremen, freight and duty paid, would not exceed nine cents a pound exclusive of packing and handling.

Successful

growers of **fruits, berries,** and all kinds of **vegetables,** know that the largest yields and best quality are produced by the liberal use of fertilizers containing at least **10% of**

Actual Potash.

Without the liberal use of Potash on sandy soils, it is impossible to grow fruits, berries and vegetables of a quality that will command the best prices.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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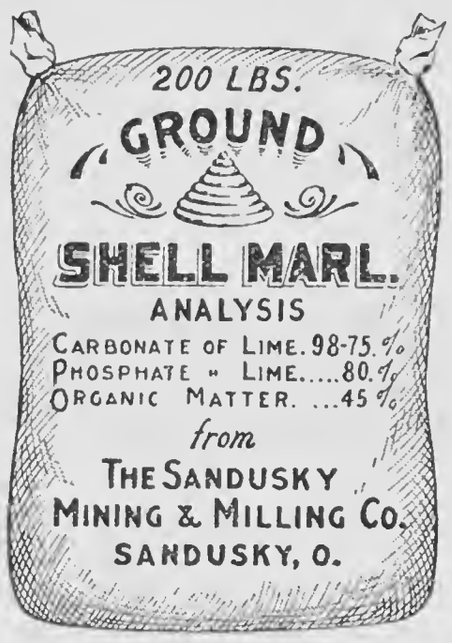

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Bowker's Fertilizers.

SOLUBLE — ACTIVE — SURE.

BOWKER FERTILIZER CO., BOSTON & NEW YORK.

DO YOU SEE THE POINT?

Sow Lincoln Oats and put 3½ Bushels into a Bag and Reap from 30 to 40 Bags per Acre.

I feel confident that no man who will sow from one to fifty acres of my *Lincoln Oats* will ever have reason to regret it. I have a report before me of one of the largest farmers in the country, who planted 50 bushels, and reports that the crop turned out *One Hundred bushels* to the *measured acre*, and weighed *47 pounds to the bushel*.

Further, that they would not sell a bushel at any price, as they wished to sow the whole crop next season.

It is the general verdict of one and all, that they have no equal.

My farmer friends want facts. I will present a few, briefly, as follows:

1st. The Lincoln oat has produced one-third more than any other variety grown in the same locality.

2d. They are very early. Sown with other varieties, they ripen from *six to ten days earlier*.

3d. They get the start of dry weather, on account of their earliness.

4th. They have thus far proven *entirely free from rust*.

5th. They stand up better than any other sort. No season could have afforded a better test in this respect than the one just past.

6th. They are the best for feeding, on account of their THIN HULL, HEAVY MEAT and SOFT NIB.

7th. They are the best for oat meal or grinding, for the same reasons.

8th. *No oat in existence will produce more on light land than the LINCOLN*, while on strong land *150 bushels is not uncommon*.

The seed I offer was grown expressly for me, under my own supervision, right here in Northern Ohio. As to the weight of my seed, you have but to glance at the above cut. It speaks for itself.

I could submit many fine testimonials, but space here is too expensive to admit of it.

Now, my farmer friends, *is it not economy to have the best?* Why, I know a number of farmers in this locality who raised LINCOLN oats last season and are selling them to their neighbors *for many times their feed value*. There is not a doubt that you can do the same. Most seedsmen have their seed oats *clipped* so as to make them weigh more. Mine are NOT clipped. They are just as they come from the machine, except that they have been recleaned. *My seed is PURE, grown from stock seed*, and don't need clipping to make them heavy. My prices are as follows:

Pint, postpaid, 15 cents; quart, 25 cents; four quarts, 70 cents. Express or freight: Peck, 40 cents; half bushel, 70 cents; bushel, $1; single bag 3 1-2 bushels, $3.30; five bushels, $4.50; 10 bushels, $8.50; 20 bushels or more, 80 cents per bushel. Good grain bags free with bushel or more.

All other sacks free. *To induce early orders*, and having confidence in RURAL NEW-YORKER readers, *I will book your orders amounting to $1 or more payable when you want oats shipped, until March 1. No orders to be countermanded.* Five per cent discount on all cash orders amounting to $1 or more, until March 1. No discount after March 1. No one should order less than one bag, such as is shown in cut—3½ bushels.

Order soon, to be sure of your seed. I have a nice lot of the oats but they will not last the season through. I do not ship C. O. D. It makes useless expense and is not necessary. I guarantee all kinds of seeds as represented. If you don't want oats you will want CORN or something else. Send money by bank draft, express order, registered letter, or *P. O. order on Birmingham*, Ohio. Do not send stamps if it can be helped.

THE RURAL *admits no frauds*. Let your orders come at once. First come, first served.

I also have the famous "BONANZA KING," "AMERICAN BANNER" and "BLACK RUSSIAN" oats.

Address S. P. SHEPARD, Seedsman, Henrietta, Ohio.

100,000 Gregg, Cuthbert and other Raspberry roots at $7.50 per M.

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By express, $2 for $1.
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1 Brighton	$0.25
1 Niagara	.15
1 Eaton	.35
1 Worden	.15
1 Diamond	.20
1 Catawba	.15
1 Geneva	.25
1 Delaware	.20
1 Moore's Early	.15
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Total	$2.00

By mail, $1.00 for 50 cents.

12 Miller Red Raspberry	$0.50
One detail drawing of my new Display Flat	.50
Total	$1.00

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12 North Star Currant, 1 yr.	$1.00
One detail drawing of my new Display Flat	.50
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6 Koonce Scions	$0.50
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6 Willard Plum	.25
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100 Collections.
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By express, $2.85 for $1.50.
TWO YEARS—FIVE TO SIX FEET.

1 Bartlett Pear	$0.30
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1 Nap. Big. Cherry	.25
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Total	$2.85

By mail, $1.12 for 50 cents.

3 Loudon Raspberry	$0.50
3 Enormous Strawberry	.12
One detail drawing of my new Display Flat	.50
Total	$1.12

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READY Millions of STRAWBERRY PLANTS: Oriole, Ideal, Giant, Tubbs, etc. Miller Red Raspberry; Ridgely Chestnut. Peach, Apple, Plum, Pear and Nut Trees. CHAS. WRIGHT, Seaford, Del.

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BRANDYWINE,

Marshall and Rio Strawberry,

and a choice selection of Raspberry Plants. Carman Nos. 1 and 3 seed potatoes. Descriptive price list free. Address

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W. N. SCARFF, New Carlisle, O.

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Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

Waste on the Farm.

Around the farm there is at least *a ton or two* of materials, such as **Ashes, Hen Droppings, Wood's Earth, Marl** and other things, which, if mixed with

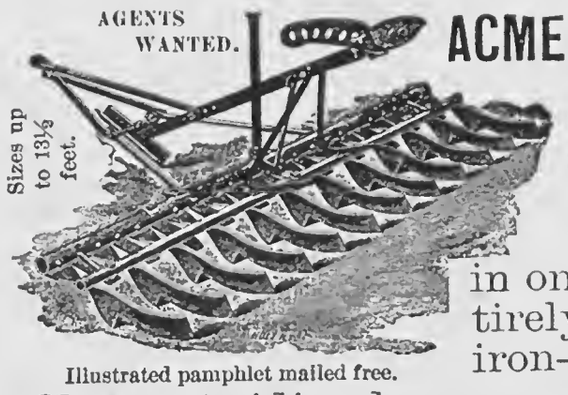
Powell's Prepared Chemicals,

make fertilizers rich in Ammonia, Potash and Phosphoric Acid, which will be quick acting, producing large crops and at the same time permanently improve the soil. *A fertilizer made in this way is certain, but costs very little*—only about **$12 per ton.**

Many thousand farmers have saved fully half their fertilizer bills by the use of **Powell's Prepared Chemicals.** Circular giving instructions for mixing, with testimonials from every section sent free.

POWELL FERTILIZER & CHEMICAL CO., Baltimore, Md.

AGENTS WANTED.



Illustrated pamphlet mailed free.

ACME PULVERIZING HARROW, CLOD CRUSHER AND LEVELER.

Adapted to all soils and all work. Crushes, cuts, lifts, pulverizes, turns and levels the soil in one operation. Made entirely of *cast steel* and wrought iron—*practically indestructible.*

Cheapest riding harrow on earth. $8.00 and up.

SENT ON TRIAL To be returned at my expense if not satisfactory.

N.B.—I deliver free on board at distributing points.

DUANE H. NASH, Sole M'f'r,
Millington, New Jersey, and Chicago, Ill.

PLEASE MENTION THIS PAPER.

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	19	@—
Seconds to firsts	14	@18
Elgin and other Western, extras	19	@—
Western, firsts	16	@18
Western, seconds	14	@15
Western, thirds	13	@—
Western, June, extra	16	@—
Western, June, seconds to firsts	12	@15
State dairy, half tubs, fresh, extras	17	@18
Firsts	14	@15
Seconds	12	@13
Dairies, firkins and tubs, extras	16	@—
Dairies, firkins and tubs, firsts	14	@15
Firkins, extras	16	@—
Firkins, seconds to firsts	14	@15
Welsh tubs, extras	16	@16½
Welsh tubs, firsts	14	@15
Welsh tubs, seconds	12	@13
Tubs, thirds	10	@11
Western imitation creamery, firsts	14	@15
Seconds	11½	@12½
Western dairy, firsts	13	@14
Seconds	11	@12
Thirds	10	@10½
Factory, Fresh, small tubs, extras	13	@—
Fresh, small tubs, firsts	11½	@12
Fresh, large tubs, firsts	12	@—
Fresh, large tubs, seconds	10½	@11
Fourths to thirds	9	@10
Old Western factory or dairy	8	@10½
Rolls, fresh, fine	12	@—
Rolls, fresh, common to good	9	@11

EGGS.

New-laid, fancy (nearby)	15	@	15½
N. Y. State, country marks, fresh gath'd.	15	@	—
Pennsylvania, country marks, new laid.	15	@	—
State and Penn., fair to good	14½	@	15
Western, fresh collections, fancy	15	@	—
Western, fresh collections, fair to good.	14	@	14½
Southern, fresh collections	14½	@	—
Western, refriger., short holdings, choice	10	@	11
Western, refriger., September, packed	10	@	11
Western, refriger., defective, per case	1 50	@	3 00
Western limed, prime to fancy, per doz	9	@	11

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¾	@	7
Choice, 1895, per lb	6	@	6¼
Prime, 1895, per lb	5¾	@	—
Common to good, per lb	4	@	5½
N. C., sundried, 1895, sliced, fancy	3	@	3½
Southern, sundried, common to choice	2	@	2¾
State, sundried, quarters, bbls	3½	@	3¾
Western, sundried, quarters, bbls	3	@	3¾
South-West'n, sundried, quarters, bbls.	3	@	3¼
Southern, sundried, quarters, bbls	2½	@	3
Southern, sundried, quarters, bags	2¼	@	2¾
Chopped, 1895, per lb	2	@	—
Cores and skins, 1894, per lb	1½	@	1¾
Peaches, Sundried, 1895, peeled, per lb	5	@	7
Cherries, 1895, per lb	8	@	10
Blackberries, 1895, per lb	4	@	—
Raspberries, evaporated, 1894, per lb	19	@	—
Sundried, 1895, per lb	17½	@	—
Huckleberries, 1895, per lb	6	@	—

FRUITS—GREEN

Apples, Northern, fancy, winter, per bbl	2 50	@	3 50
Winesap, Va., per bbl	3 50	@	4 50
York Imperial, Va., per bbl	3 00	@	4 00
Other Va., red	2 00	@	3 00
Baldwin, per bbl	2 25	@	3 00
Spy, per bbl	2 25	@	3 25
Greening, per bbl	1 75	@	2 75
Ben Davis, per bbl	2 25	@	3 25
Poor to fair, per bbl	1 00	@	1 75
Grapes, State, Catawba, per 5-lb basket	6	@	10
Oranges, Fla., per box	3 00	@	6 00
Grape Fruit, Fla., per box	10 00	@	12 00
Strawberries, Fla., fancy, per quart	—	@	—
Poor to good, per quart	30	@	50

HAY AND STRAW.

Hay, No. 1 Timothy	90	@	—
No. 2	80	@	85
No. 3	70	@	75
Clover, mixed	75	@	—
Clover	60	@	70
Salt	45	@	50
Straw, long rye	75	@	95
Short rye	50	@	65
Oat	50	@	55
Wheat	45	@	50

MEATS—DRESSED.

Veals, country dressed, prime	10½	@	11
Fair to good, per lb	9½	@	10
Com. to med., per lb	7	@	9
Small, per lb	4	@	6
Barnyards, per lb	4½	@	5½
Spring lambs, each	2 00	@	7 00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	7
60 to 80 lbs, per lb	6	@	6½
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4½	@	5
Rough, per lb	3	@	4
Tenderloins, per lb	15	@	17

POTATOES.

Bermuda, No. 1, per bbl	4 00	@	5 00
No. 2, per bbl	2 00	@	3 00
Houlton Rose, per d. h. bbl	1 50	@	1 75
Maine Rose, per d. h. bbl	1 50	@	—
State Rose, per d. h. bbl	1 25	@	1 50
Maine Hebron, per sack	1 00	@	1 10
Long Island, in bulk, per bbl	75	@	1 00
State Rose and Hebron, per 180 lbs	85	@	1 10
Burbank, etc., per 180 lbs	65	@	80
Jersey, in bulk, per 180 bbl	65	@	75
State and Jersey, per sack	65	@	75
Common, per sack	50	@	60
Sweets, Vineland, fancy, per bbl	3 75	@	4 75
South Jersey, per double-head bbl	3 00	@	3 50
Jersey common, per barrel	2 00	@	2 50

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	19
Medium sizes, per lb	16	@	17
Small and slips, per lb	13	@	15
Western, large, per lb	15	@	16
Western, small and slips, per lb	11	@	13
Chickens, Phila., large, per lb	14	@	15
Phila., mixed weights, per lb	10	@	12
Jersey, per lb	10	@	12
State and Penn., choice, per lb	9½	@	10½
Western, choice, per lb	9	@	10
Western, fair to good, per lb	7	@	9
Chickens & fowls, mixed, West'n, choice	9	@	10
Fair to good, per lb	7	@	9
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	9	@	10
Western, choice, per lb	9	@	10
Western, fair to good	8	@	9
Western, inferior	5	@	—
Old cocks, per lb	6½	@	7
Ducks, State and Penn, choice, per lb	15	@	16
Western, choice, per lb	14	@	15
Western, fair to good, per lb	10	@	12
Western, inferior, per lb	6	@	7
Geese, Western, good to prime	8	@	9
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	3 00	@	3 25
Mixed lots, per doz	2 50	@	2 75
Dark and poor, per doz	2 00	@	2 25
Turkeys, dry-picked, choice young hens	14½	@	15
Mixed young hens and young toms	14½	@	—
Choice young toms	14	@	14½
Fair to good	12½	@	13½
Old toms	11	@	12

POULTRY—LIVE.

Fowls, local, per lb	8	@	9
Western, per lb	8	@	8½
Southern, per lb	8	@	—
Chickens, per lb	7	@	8
Western, per lb	8½	@	9
Southern, per lb	8	@	8½
Roosters, old, per lb	5	@	5½
Turkeys, mixed, per lb	8	@	8½
Ducks, local, per pair	70	@	90
Western, per pair	70	@	80
Southern, per pair	60	@	65
Geese, local, per pair	1 25	@	1 62
Western, per pair	1 25	@	1 50
Southern, per pair	1 12	@	1 25
Pigeons, old, per pair	25	@	30
Young, per pair	20	@	25

VEGETABLES.

Beets, New Orleans, per 100 bunches	4 00	@	5 00
Florida, per crate	1 25	@	1 50
Brussels sprouts, per quart	6	@	12
Cabbage, domestic, per 100	1 50	@	4 00
Florida, per half bbl	1 50	@	2 00
Foreign, per 100	5 00	@	5 50
Carrots, washed, per bbl	1 00	@	1 25
Unwashed, per bbl	75	@	1 00
Cauliflower, Fla., per half bbl	2 00	@	4 00
Celery, State & West'n, fancy, large, per doz.	50	@	65
State & West'n, average, prime, per doz.	25	@	40
State & West'n, small, per doz	10	@	20
Jersey and L. I., per dozen flat bunches	1 00	@	1 25
California, per doz	30	@	90
Cucumbers, hothouse, per doz	75	@	1 50
Egg plant, Florida, per bbl	3 00	@	7 00
Horseradish, per lb	4	@	5
Kale, per bbl	1 00	@	1 25
Lettuce, Florida, per half bbl basket	1 50	@	3 50
Boston, bothouse, per doz	—	@	—
Bermuda, per crate	1 50	@	2 00
Onions, Orange County, red, per bbl	60	@	85
Orange County, yellow, per bbl	1 00	@	1 25
Eastern, white, per bbl	1 00	@	2 00
Eastern, red, per bbl	75	@	1 00
Eastern, yellow, per bbl	1 00	@	1 25
Bermuda, per crate	1 50	@	1 75
Peppers, green, Fla., per crate	1 00	@	1 50
Radishes, hothouse, per 100 bunches	—	@	—
Spinach, per bbl	1 50	@	4 00
Squash, Marrow, per bbl	50	@	75
Hubbard, per bbl	75	@	1 00
Florida, per crate	50	@	75
String beans, Florida, per crate	50	@	4 00
Tomatoes, Fla., per carrier	1 50	@	2 50
Per crate	1 25	@	2 25
Key West, per carrier	1 00	@	2 00
Key West, per peck box	25	@	40
Turnips, Jersey, Russia, per bbl	60	@	75
Canada Russia, per bbl	75	@	—
Watercress, per 100 bunches	1 00	@	2 00

MILK AND CREAM.

The total daily supply has been 20,435 cans of milk, 196 cans of condensed milk and 380 cans of cream The average price paid for the surplus on the platforms has been $1.42 a can of 40 quarts.

SUFFERERS FROM COUGHS, SORE THROAT, ETC., should be constantly supplied with "*Brown's Bronchial Troches.*"—*Adv.*

EXPERIENCED FARM SUPERINTENDENT desires position April 1. Graduate of Massachusetts Agricultural College. Manager of 500-acre farm previous to engagement as Superintendent of New Jersey Agricultural College Farm. April 1, 1893.
E. A. JONES, New Brunswick, N. J.

PLANTS Ohio and Gregg Raspberry Plants for Sale. Send for prices.
E. J. COOK, Oaks Corners, N. Y.

GRASS IS KING

We are the only seedsmen making the growing of farm seeds, grasses and clovers a great specialty. Our Extra Grass and Clover Mixtures last a lifetime without renewal. Prices dirt cheap. Mammoth catalogue and 10 pkgs. Grains and Grasses free for but 10c. postage. Catalogue alone 5c.
JOHN A. SALZER SEED CO., La Crosse, Wis.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

Red or Medium Clover Choice recleaned seed—my own growing. Freight prepaid east of the Mississippi and north of the Ohio Rivers. Free sacks. $5.50 per bushel of 60 pounds.
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Potatoes Carman Nos. 1 and 3, pure, at let live prices.
J. S. CARTER, Port Monmouth, N. J.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices.
G. A. PARCELL, Wilawana, Pa.

SEED POTATOES AND SMALL FRUITS. Some Wonderful Varieties. Fortunes in them! Send postal for FREE Catalogue NOW.
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Seed Potatoes. ED S HILL, PERUVILLE, TOMPKINS CO., N. Y.

Potatoes Carman No. 1, best intermediate potato on earth, per barrel, $2.50. Carman No. 3, best late, per barrel, $3.75. Grown on highest land in county *and good.* Seed stock direct from Thorburn. Write for bulk prices on car load. Address
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Nineteen leading varieties, including Carman No. 1 and 3, Sir William, Great Divide, World's Fair, Irish Cobbler, New Queen, Vick's Early Pride, etc. If with the times you would keep pace, order your seeds from Mace. Illustrated catalogue free.
GEO. W. MACE, Greenville, Ohio.

Send for our 1896 Catalogue of Northern Grown

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Catalogue FREE. | Prices Reduced to suit the times. | AGENTS WANTED.

HOOKER, GROVER & CO., Nurserymen and Seedsmen, Rochester, N. Y.

Belleville Straw Potatoes Superior for SEED.

Carman No. 3 (Thorburn Stock) ..... $6 25 per barrel
Carman No. 1 (Thorburn Stock) ..... 4 00 per barrel
Livingston's Banner ..... 4 00 per barrel

Write for prices by the bushel.
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Horse Shoe Farm Illustrated Catalogue sent. Potatoes, Swine, Poultry, Plants. Practical Pointers to Secure Success. Cheaply grown stock enables us to **defy competition**; 19 years in business. "Hints" for 2-cent stamp. C. E. CHAPMAN, Peruville, N. Y.

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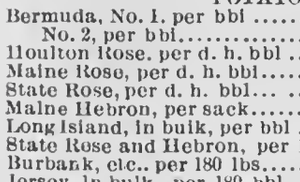

For information about the best Land roller, Horse-power, Thresher, Clover-Huller, Fanning-mill, Feed-mill, Circular-saw Machine and Dog-power, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.**
Address, **MINARD HARDER,** Cobleskill, N. Y.

Maule's Seeds
LEAD ALL.

If you wish to purchase the coming spring, **Garden, Field or Flower Seeds, Small Fruits, Fruit Trees, Flowering Plants, Bulbs, etc., etc.,** and wish the most complete American Seed Catalogue, you should send your address to

WM. HENRY MAULE,
P. O. Box 1296. Philadelphia, Pa.

Mention this Paper

EVERGREENS! Shade and Ornamental trees. Large varieties of Spruces, Pines and Arbor Vitaes, all sizes for Windbreaks, Hedges and Ornament, $1 to $20 per 100, $4 to $10 per 1000. Received highest award at the World's Fair. Illustrated Catalogue **FREE.** Local agents wanted. Evergreen Specialist
D. HILL, Dundee, Illinois

GRAND SWEEPSTAKES CORN AT ILL. STATE FAIR 1895.

Best Corn in the whole big Corn State of Illinois. Best Yellow Dent from NORTHERN Division, Best Yellow Dent from ALL Divisions. Best corn shown.

MANDSCHEURI BARLEY. Better than Manshury!

Sent out last year by the Wis. Ex. Station. Catalogue of Seed Potatoes, Field Seeds and Garden Seeds.
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COLE'S Early Water Melon and Cincinnati Market Radish, three leading Vegetable Novelties, 1 pkt. each for only 10 cts. Or three Flower Novelties—Pansy Large German, Cosmos Giant Perfection, and Zinnia New Giant, 1 pkt. ea. for only 10c, or the two collections together with a pkt. of **CUPID,** the new dwarf Sweet Pea, for 30c, prepaid, worth 60c. Our Handsome Garden Annual Free. Write for it
COLE'S SEED STORE, - PELLA, IOWA

Choice Standard and New varieties grown and stored in **the Cold Northwest.** Send for handsome **Illustrated Catalogue,** containing article describing method of raising and handling. Small shipments at **car-load freight rates.** Samples free.
E. W. ALLEN, Wolverton, Wilkin County, Minn

MICHIGAN NEW MUCK LAND

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One hundred best varieties. Choice sorts, $1.50 per barrel. Early Michigan, best extra early. If you send me five or more names of large potato growers in your county, I will mail you free one beautiful tuber of Carman No. 3, the great potato novelty. Also my 40-page catalogue and new book "Potato Culture in a Nutshell," all free. Address
HARRY N. HAMMOND, Seedsman, Decatur, Mich.

POTATO GROWERS

This is the year to buy new varieties.
Send for our free catalogue.

Seed Potatoes *Carman No. 3,* Ohio Jr., Early Northern, World's Fair, *Carman No. 1,* Good News, Sir William, Irish Daisy, *Early Harvest,* Early Six Weeks, Maggie Murphy, American Wonder, Great Divide, and 50 other new and standard varieties at *hard times prices.* Pure, choice stock, direct from the growers. Standard sorts, $1 per barrel. M. F. WEBSTER & CO., Victor, Ontario Co., N. Y.

Three Grand New Potatoes.

For the first time at popular prices, from Thorburn seed: Carman No. 3 ..... $3.00 per barrel
Carman No. 1 ..... $2.25 per barrel
Great Divide ..... $2.00 per barrel

Quantity, quality and type guaranteed. Terms cash, f. o. b. C. W. Burnett, Lyons, B. 59, Wayne Co., N. Y.

IT'S A GREAT POTATO

That outyields the Sir William, Carman No. 1, Rural No. 2, American Wonder, and half a hundred others Wise's Seedling did it at the Ohio Experiment Station All the above varieties and many others for sale at popular prices. Lincoln Oats and White Cap Corn. Send your own and neighbors' names for free catalogue. J. M. FLUKE, Box 32, Nankin, O.

Carman Seed Potatoes.

No. 1, 800 bushels (Livingston's stock), $1.25 per bushel; Carman No. 3 (Thorburn stock), $3; Banner, $2; World's Fair, $1. All seeds kept true to name. Packages free. WM. H. RUSSELL, Pine City, Minn.

POTATOES. Yankee push back of our Seed Potatoes. We grow them. We know them. Our list tells about them. Short and pointed. Sent free. E. MANCHESTER & SONS, West Winsted, Conn.

CARMAN No. 1.

A fine stock of this most desirable potato. Circulars free. Dr. JABEZ FISHER, Fitchburg, Mass.

Seed Potatoes. Carman No. 1 (seed from J. M. Thorburn), per bushel, $1.25; per barrel, $3. Second size, per bushel, 50c.; per barrel of 180 pounds, $2.25. New Queens, per bushel, 60c; per barrel, $1.50. ISRAEL DENLINGER, Trotwood, O.

Potatoes New Queen and Rural No. 2, true to name, $1 per barrel f. o. b. Remit by P. O. order or draft. J. G. HERMAN, Port Gibson, N. Y.

ONIONS

ARE CHEAP

SO ARE POTATOES OATS and CORN

but no cheaper comparatively. They are a reliable standard vegetable, and the grower who has the skill and soil to produce a good crop every year will make it pay in the end.

NOW IS THE TIME TO STAY IN

while prices are lowest. The seed plays its part. The right kind, with a 90 per cent growth, is a good start. This list contains the leaders, and the seed has been grown from pedigree onions, picked out for seed each year. The crop will be like them if grown right.

	Pkt.	Oz	¼-lb.	lb.
Red Wethersfield	5c.	15c.	35c.	$1.00
Yellow Danvers	3c.	7c.	20c.	.58
Yel. Globe Danvers	5c.	15c.	30c.	1.00
Large Red Globe	5c.	15c.	45c.	1.40
Early Red Globe	5c.	15c.	50c.	1.75
Extra E'ly Flat Red	5c.	15c.	45c.	1.50
Large Yellow Globe	5c.	15c.	40c.	1.25
Ideal White Globe	10c.	25c.	60c.	2.25

Five pound lots, 10c. per lb. less.

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ENGLISH GREYHOUND PUPPIES solid fawn color, $3 and $5 each. These are fine; none are better. Number limited. East Side Poultry Yards, Olean, N. Y.

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Established 1869.

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Also Butter, Eggs, Apples, Potatoes and Oranges.
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Reference: Irving National Bank.

LOOK before you ship your Butter, Eggs, Poultry, Game and Nuts. We can get you highest market prices for fine goods. **Choice Creamery Butter, Fancy Leghorn Eggs, Dressed Poultry and Game a specialty.** Shipping cards and stencils on application to
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COMMISSION MERCHANTS.
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Also Packers of First-class Canned Goods.

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Commission Merchants,
CALVES POULTRY, GAME, Etc.
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Liberal advances by arrangement. Sales and checks mailed daily.
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Dressed Calves, *Butter, Eggs, POULTRY,*
ON COMMISSION.
Best Salesman in New York.
I. T. HUNTER, 174 Chambers St., New York.

SOMERS, BROTHER & CO.
ESTABLISHED IN 1876.
Fruits and Produce
Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.
Market Reports, Special References, Stencils, etc., furnished free on application.
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Inquiries and Correspondence Invited.

Shippers and Producers

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NEW YORK STATE DRAIN TILE and PIPE WORKS. Main Office: *76 Third Avenue, Albany, N. Y.*

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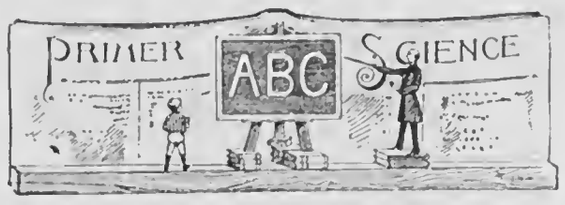

FEEDING A HEN.

PART VI.

Let us begin by reading carefully the article on the first page. Here is a radical change from the rules laid down by most poultrymen. There is much truth in the statement that winter eggs are not always the most *profitable* when we consider the cost of production. Those hens laid only 2,192 eggs in the three coldest months of December, January and February. That is barely 11 eggs to the hen in 90 days. It is pretty evident that an exclusive diet of grain is not the best food for eggs—there is something wrong with the ration somewhere, as the following analysis will indicate:

POUNDS IN 100.

	Muscle-makers.	Fat-formers.	Pure fat.	Ratio.
Fine pasture	3 2-5	11	3-5	1:3 3-5
Whole wheat	11 3-5	64	1 1-5	1:5 4-5
Whole corn	8 2-5	61	4 4-5	1:8 3-5
Whole oats	9	43	4 3-5	1:6

In order to carry out the comparison between milk and eggs, we give a fair statement of the feeding value or analysis of each:

	Muscle-makers.	Fat-formers	Pure fat.	Ratio.
Milk	3 1-5	5	3 2-5	1:4 2-5
Egg	14	..	12	1:2 1-5

This analysis shows only the composition of the edible portion of the egg. There is quite a little difference between egg and milk, and if we were to go entirely by the analysis of the product, the hen would need a somewhat stronger ration than the cow. It is true, as our friend says, that we do not usually feed meat to the cow, though we often give her bone meal when she indicates a lack of phosphates in her food by gnawing the fence or chewing old bones. We know of cases where meat scrap, or even fish, have been fed to cows with good results.

The point we wish to make is that, with this flock of hens, the best record was obtained when on pasture grass with a ration that figured pretty close to one part muscle-makers to four parts fat-formers. The question is—if our friend had made up a ration with meat and bone that would show nearly that proportion, could he not have secured more eggs in the three months when his hens went nearly "dry"? Could he not have found such cheap forms of muscle-makers that the cost of the ration would not have been out of proportion to the increased value of the extra eggs? These are two practical questions. The first can be answered only by experiment, but "Primer Science" shows the way to answer the other.

While we are thinking about it, let us take up another ration. You will remember how, on page 41, C. H. Brewster said that he had 29 pullets in a house that cost $7, and that these birds had laid 12 dozen eggs in six days with the thermometer hugging zero all the time.

Just as soon as Mr. Mapes got that paper, he wrote at once to find out what Mr. Brewster is feeding those hens to make them shell out the eggs in that way. Here is the report:

My rations for 30 fowls, are three quarts of fine feed (wheaten), one-half pint of beef scraps (cooked and ground with bone and sold for $2.25 per 100 pounds) scalded, for morning, and three quarts of corn for supper. A large cabbage is given twice a week, boiled potatoes once a week, oyster shells, and cold water, of which they drink about five quarts per day. I think hot water nonsense, as they will not drink it until cool anyway.

Next time, you will want to know the breed of fowls, so I will save time and tell you now, that they are mixed. I have experimented on crosses for years to get extra winter layers, and have, I think, struck it right at last. I have nothing to sell. For the past six weeks, these 29 pullets have been confined (by the snow) in my low-down, 5x20-foot house. The largest number of eggs per day has been 27 and 28 many times, the lowest 18, next 20; except these two days, the yield has been over 20 for each day since the middle of December. I now have about 200 fowls from which I shall raise a large flock of these mixed ones.

C. H. BREWSTER.

Now let's see about that. Here is another table of analyses:

	Muscle-makers.	Fat-formers.	Pure fat.	Ratio.
Wheat feed	9	55	2½	1:7
Meat scrap	..45	0	2	1: 1-10
Corn	8 2-5	61	4 4-5	1:8 3-5
Cabbage	1.1	6	1-5	1:5 4-5
Potatoes	2.1	22	1-5	1:11

We can't tell exactly the weights of these foods, but by our figuring, the ratio stands about one part muscle-makers to four parts fat-formers—possibly a little higher, but not much. Now it's a good plan to compare the cost of such a ration with whole wheat, and also compare prices obtained for eggs with the cost of producing them. We shall talk about that cheap henhouse at another time.

Just now, the question is—will it pay to feed meat or other strong foods in winter for the sake of obtaining more eggs? It seems pretty evident that when hens are kept warm and clean, a ration of one part muscle-makers to 3½ to 4 parts fat-formers, will give best results for eggs. Of course, this will vary considerably with the breed. For the heavy Asiatics, we would feed a narrower ration. Having decided to feed or force the hens for winter laying, it is evident that meat in some form must be fed in order to supply the needed muscle-makers. These two facts seem pretty well established by experiment and common sense. Yet, they do not cover all the ground, as we hope to show as we go along.

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Lame Pigs; Don't Thrive.

What is the cause of my pigs becoming lame? They appear to be sore and lame in the legs and feet, and don't do well. They are all right till they are five to seven months old. They were very bad last winter, and weighed but 100 to 200 pounds dressed. I have fattened pigs for six winters, and never before had anything like them; they usually dress from 200 to 300 pounds, but we kept our milk at home. Last winter we sent the milk to the factory all winter. The men said that it was because it was too cold where we kept them, but we have a new pen this winter, and they are getting lame again. A. P. C.

North Lawrence, Mass.

See that the pigs have warm, dry, comfortable quarters, with plenty of litter for bedding. Then try feeding the milk or swill, warmed, or with the chill taken off. Add a good handful of ground flaxseed or oil meal to the grain ration, for each pig.

A Wind-Sucking Horse.

I lately bought a carriage horse 11 years old, and in good condition; the seller said that I must feed two quarts of oats three times a day, with hay night and morning. I am doing so, but he seems always hungry. After feeding, he has a habit of grinding his teeth together, and makes a peculiar noise in his throat as if trying to swallow some obstruction. Sometimes when driven, he is very loose and purged, particularly if given water before starting, and after being fed there is a rumbling noise in his bowels and stomach. A mouthful of hay always stops the diarrhea when in the stable. Is this likely to be anything wrong? I am only a novice with horses. He appears lively enough, and is smooth coated. Am I feeding enough grain or hay (about 15 pounds daily of the latter)? Are carrots good? Should hay be dampened and fed once or twice daily? I wish to keep him looking well, and would appreciate any information as to grooming, care of feet, etc. In giving medicine, is it best given in bran mashes, or how? What is good to apply when the skin is sore from the harness pressing on it? J. S. F.

Plainfield, N. J.

From the description, I judge that the horse is a "wind-sucker," possibly a cribber as well. "Wind-sucking" is a bad habit or vice, which is very difficult to stop. Indigestion and purging, such as you describe, are the results of the habit. You are feeding a moderate ration for a horse doing light work. If the work were increased, or the condition of the horse seemed to require it, more grain should then be fed. Carrots make excellent succulent food for either horse or cow. Good, clean hay does not require to be dampened, except in special cases, as when being fed to a horse with the heaves. Dusty hay, if it must be fed to horses at all, is better if slightly dampened. I think it better to feed the hay twice daily—the largest feed at

(Continued on next page.)

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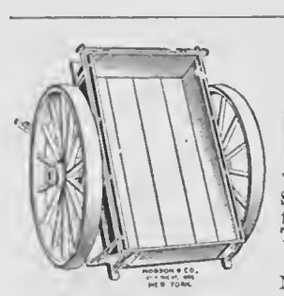

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(CONTINUED.)

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Bad Scouring in Cows.

On March 20, 1895, one of my cows began scouring, and would not eat her ration, composed of the following: 30 pounds of corn ensilage, 8 pounds of mixed hay, and 10 pounds of corn meal, cotton-seed meal and bran equal parts. She shrunk in her milk more than half, and my entire dairy of 30 cows did the same thing. According to the best authority that I could obtain, they had what is known as "winter cholera." On January 12, 1896, one cow began scouring, and went off on feed and milk the same as the cow in March, 1895. What can I do for this cow, and what can I do, if anything, to prevent my whole dairy from having this terrible disease? E. E. T.

Scott, Pa.

Replace the ensilage by dry feed, hay or corn fodder, and reduce the grain ration one-half, until the scouring ceases. Water the cow two or three times daily, but do not allow more than one bucketful at one time. If the water is very cold, take the chill off by adding warm water. After the scouring ceases, return to the full grain ration and ensilage gradually.

What Ails the Mare?

Our mare has what I call the milk leg. Her left hind leg is badly swollen. She was on pasture all summer with her foal without any grain, and at weaning time the mare was brought into the barn and grained very heavily, she being used for heavy hauling on the road. Did the grain have a tendency to drive the milk through her system, or not? If so, what is to be done? B. L. R.

Viola, Wis.

If the mare has in any way been exposed to glanders or farcy, have her examined for that trouble by a competent veterinarian. In the absence of such exposure, it is probably a case of lymphangitis. The heavy feeding was very likely the cause. Reduce the feed, and give once daily a small ration of roots or other green food, or a bran mash. Also give one teaspoonful of iodide of potassium in the feed, night and morning for a week. Then omit for a week, after which repeat if necessary. Moderate daily exercise should be allowed.

A Wart on a Mare.

1. My three-year-old mare has a large, flat-surfaced wart on her neck, as large as a 50-cent silver piece. What will remove it without injury? 2. Where can I obtain a feed ration analysis?

A. J. B

1. Either by tying a strong cord tightly around the neck of the wart, and tightening the cord daily until it drops off, or by cutting out with the knife. 2. Apply to the Agricultural Experiment Station, Cornell University, Ithaca, N. Y., or to the Office of Experiment Stations, U. S. Department of Agriculture, Washington, D. C.

Scratches on a Horse.

I have used on one of my horses, the treatment recommended by Dr. Kilborne on page 809 (1895) of THE R. N.-Y. for scratches. The horse seems to be getting all right. Before, I used a great many remedies, but to no avail. Will the disease likely come back again when completely cured? The horse was very filthy when I bought it, about two months ago, and the disease appeared about 10 days afterwards. P. M.

Afton, Mo.

The condition may or may not return, depending upon circumstances. Some horses are quite subject to the scratches, and even after being practically cured, they will return on the slightest provocation. In another case, it might be cured, never to return. If care be taken to watch the horse, and treat the trouble on its first appearance, it can usually be readily checked. Avoid, as far as possible, driving such a horse in the wet or mud, or, if driven, immediately clean and dry the legs. Standing in the manure or other filth, or overfeeding with little exercise, are also to be avoided.

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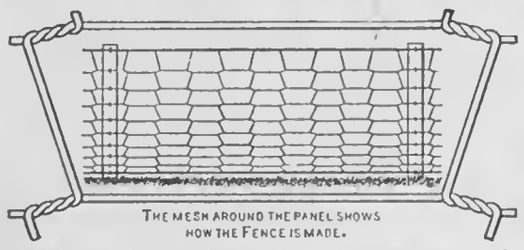

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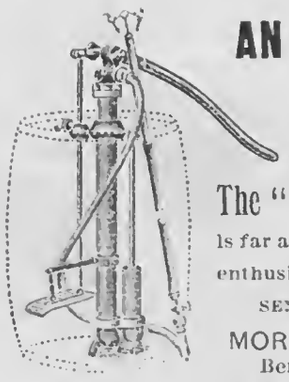

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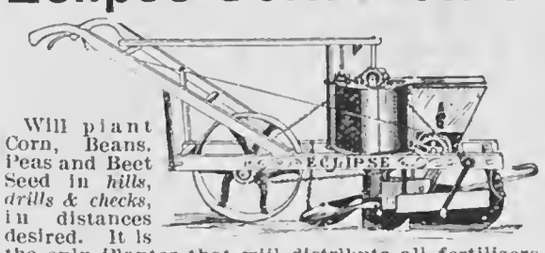

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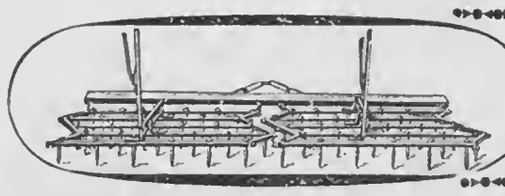

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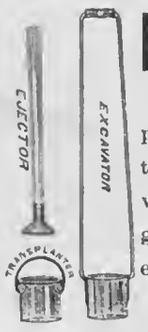

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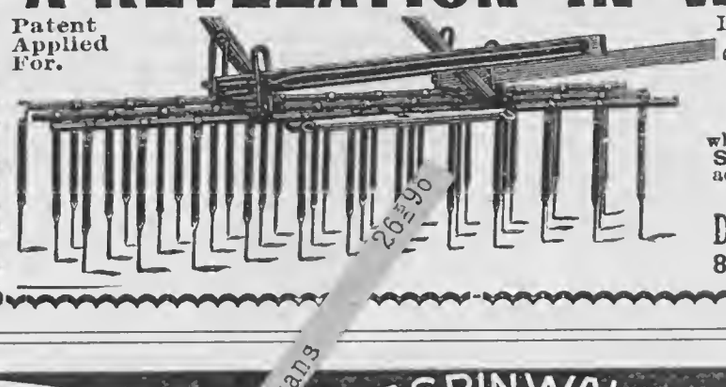

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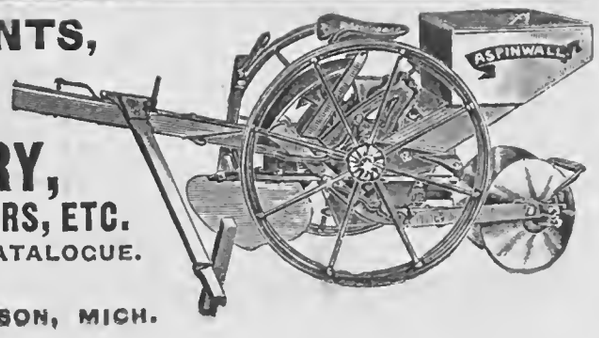

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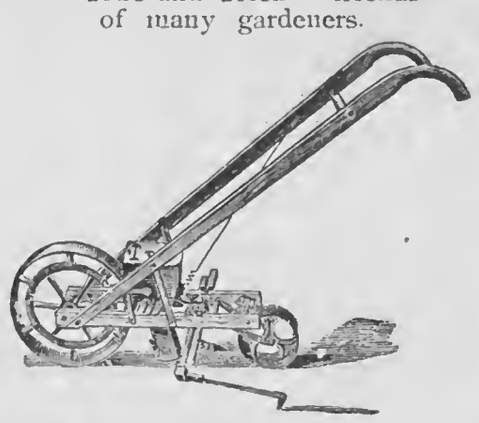

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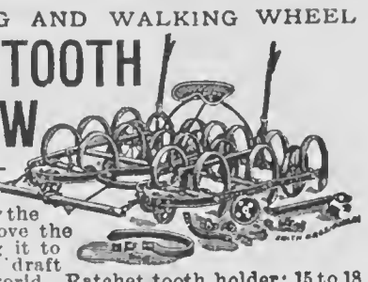

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2404. NEW YORK, FEBRUARY 22, 1896. $1.00 PER YEAR.

BREEDING FOR THE DAIRY.

THREE METHODS OF IMPROVING STOCK.

Great Importance of Proved Ancestry.

There are three methods by which dairy cows can be improved, some one of which is usually practiced by every intelligent dairyman, with more or less success, according to the intelligence that directs and controls his work, while all three methods combined—all necessary to insure the best results—are practiced by the very few who make a careful study of the business. These methods are, first, better care, more and better food; second, selection; third, scientific breeding.

In the first place, we must recognize the fact that the dairy cow, as such, is a machine most delicate, complex and intricate, used for the purpose of converting the products of the soil into milk, butter and cheese—the most desirable and useful food for man. The first method put into practice for the improvement of this machine was *better care, better and more food, more favorable environments.* In the early days of civilization, as this noble and useful animal was gradually transformed from the wild to the domestic state, the herdsman discovered that more and better food meant more milk.

When dairying developed into a business, a means of gaining a livelihood, the art of feeding for larger production, for larger returns, began to attract the attention of the more intelligent and observing dairymen, and thus through the ages, this method of improving the bovine race has gone on, slowly but surely, and the question of feeding has become a science, not yet fully appreciated or comprehended by the average dairyman. This method has done much to improve the machine, the dairy cow, but we still have the same old machine with its defects, better care, better conditions and better food, merely enabling it to do more and better work, giving a larger return.

The second method, that of selection, was gradually put into practice, as observation and thought convinced our early ancestors in the dairy business that some cows, by nature, were better than others, that certain machines would convert more food into the products desired than others. Greater intelligence finally discovered the fact that certain machines not only converted a larger amount of food, but also gave a larger return from a given quantity, a fact that many dairymen, even in this intelligent age, hardly seem to comprehend fully. This great advancement in dairy knowledge developed a system of selection of immense value, and which, coupled with the former system, better care, has resulted in developing great national industries and building up valuable and popular breeds of cattle.

But even this method of development is slow. The better machines are thus, according to the dairyman's best judgment, selected, the poorer discarded, and thus the average is higher. By this method the intelligence and judgment of the dairyman are used only in selecting the machine, generally without trial, as they are placed before him, completed and ready for use, without a knowledge of construction, or the material used in its creation, which is indispensable, if we would judge accurately of its capacity, durability or value. For instance, you examine my watch. It looks well to the eye, but you cannot judge of its value as a time-piece, without either a trial, or knowing what other watches, of like material and construction, have done.

LOG STABLE AND SHED IN THE VIRGINIA MOUNTAINS. FIG. 40.
Compare with last week's picture.

Progress, thus far, was slow and uncertain, and finally by study, by observation, the principle now recognized by all intelligent breeders, that "like begets like or the likeness of some ancestor," became established and recognized as the foundation of scientific breeding. Breeding developed into a science, well understood, and the intelligent breeder was thus enabled to construct and build up a machine of proper construction, possessing the qualities he desired. By this process, great improvement and rapid progress have been made within the past generation. By scientific, intelligent breeding, we are enabled to increase production, improve quality, add quantity to quality, secure larger returns for the food consumed, and add symmetry and beauty to utility, and thus, by uniting these three methods—better care, better selection, and scientific breeding—can produce the most valuable machine on the farm, the improved dairy cow.

Let us carefully follow this last method, and observe how natural are its results. We have a cow of superior excellence, which will produce, say, 5,000 pounds of milk in a year, and whose qualities we wish to perpetuate. The thoughtless breeder uses a sire whose ancestors would average only 3,000 pounds in a year. We have a right to expect from their descendant only the average of the ancestors on both sides, viz., 4,000 pounds. We have thus, by this one unfortunate cross, bred backwards 20 per cent, taking the dam which we wish to reproduce as our standard. This experience is a lesson to the breeder who puts brains into his business, and as the sire is half the herd, he at once secures one of high breeding, coupled with great vigor, and the other qualities which he desires in his future herd, and whose female ancestors, for several generations, have made well authenticated records which average, we will say, 11,000 pounds per year With the same 5,000-pound cow, he makes another cross. He still has the same reasonable expectation that this descendant will represent the average of the ancestors, or, 8,000 pounds, just 100 per cent more than the production which could naturally be expected of the former cross, yet the only difference is in the selection of the sire.

The highes results can be obtained only through the selection of the best class of animals, on both sides, descendants of animals and families of the largest possible production. I could refer to many instances where actual results have proved the accuracy of this theory. A very few instances which are especially significant, are worthy of mention. I know of a cow which gave 26,000 pounds of milk in a year, mated with a sire whose dam produced about 16,000 pounds. and the result was a daughter which produced over 23,000 pounds in a year. This same cow made 28 pounds 2¼ ounces of butter in a week. She was crossed with a sire whose dam made 21 pounds 3 ounces of butter in a week, and the result was a daughter which made 23 pounds 10¼ ounces of butter in a week, at three years of age.

The same rule will apply to the breeding of whole herds. As an illustration, I know a sire, whose 13 nearest female ancestors, without a blank, had made

yearly milk records which averaged over 16,000 pounds, and weekly butter records averaged about 20 pounds. This sire stood at the head of a herd of cows whose milk and butter records were equally as good. The result was watched with interest. Thirteen of his oldest daughters—all that had been tested—finished their two-year-old yearly milk records last season, averaging over 10,000 pounds, and 14 of his daughters, all two-year-olds, made weekly butter records which averaged over 12 pounds. These were all two-year-olds, and all that were tested. These are only a few of the hundreds of illustrations that could be given, showing the value of proper methods of breeding for the dairy.

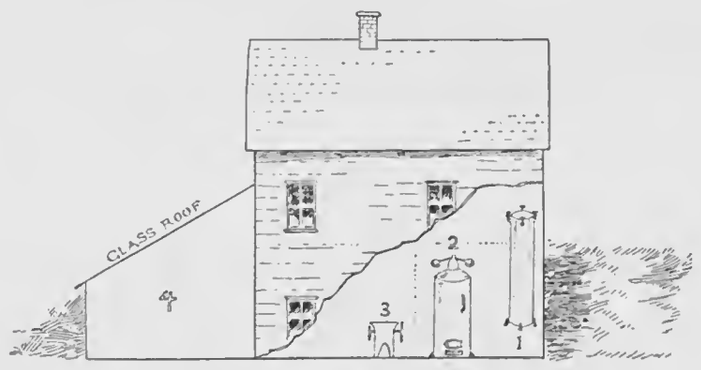
We must not depend on the records of the dam and dam of the sire alone, to insure the results we desire in the offspring. We must go further back on every line, and be sure that all the ancestors are up to the standard we have made, for each ancestor has an influence, in proportion to its relationship. For instance, each animal has two parents, and carries 50 per cent of the blood of each; four grandparents, and carries 25 per cent of the blood of each; eight great-grandparents, and carries 12½ per cent of the blood of each, and the influence of each may be, as a general rule, estimated on this basis. Of course, the stronger prepotency of certain animals would change this ratio, and this very fact makes it all the more important that every ancestor, for several generations, be of such excellence that, if reproduced, we would still have satisfactory results.

There are also certain freaks of Nature—we call them freaks, for want of a better name, which the most intelligent breeders have not yet been able to understand or control, but they are so rare as not greatly to affect the general average. By intelligently following the lines suggested in breeding, by improving our methods of feeding and care, by discarding the inferior, and securing the best animals within our reach for breeding purposes, the average products of our dairies can, in a few years, be doubled, and the balance on the credit side of the ledger at the end of the year, providing the balance is now on that side—be very greatly increased.

One dairyman in this vicinity, a few years ago, commenced to improve his native herd, by selling the poorest, and breeding his best cows to the best pure-bred bulls within his reach. Before the third generation produced by such breeding had reached maturity, he sold to the Syracuse Milk Association an average of over 10,000 pounds of milk per cow, for his entire herd. What he accomplished can be repeated by others, with the exercise of equal care and good judgment. Had the dams at the start been equal to the sires used, the quantity produced would have been still larger, and, therefore, when purebred females can be bought at present prices, they will pay, even for the dairy, providing the best class of animals can be secured.

As a starting point for the improvement proposed, I would recommend every dairyman to buy the best set of spring scales to be found, having them in the most convenient place in the stable, adjacent to a properly-ruled blackboard, on which should be plainly written the name and number of each cow. Have the milk pails all of the same weight, and the scales so adjusted as to give the weight of the milk, without the pail. He is now prepared to learn which cows are paying for the keeping, and which are not. Before spending more time or money, he should decide whether he will breed pure, recorded stock, or grades, and what breed will, all things considered, pay best. Having decided these important questions, he should commence weighing each milking from each cow, and keep a careful and accurate record of the amount given each day. He should secure a Babcock testing machine, arrange with some one to make tests of samples, or send samples to his State Experiment Station for that purpose. He will then, at the end of the year, be able to tell just how much milk each cow has given, and also the value of the product for butter. If butter is the object, add to that production the value of the skim-milk for feeding purposes, and the value of her produce, and he has her total production. Deduct the cost of keeping, and he can readily tell which cows are profitable. Having reached this point, he is prepared to breed intelligently and understandingly, whether he decide to breed grades, or pure bloods. In either case, the sire is half the herd, and if as strongly bred as he should be, he is more than half. The sire, therefore, should be in either case pure blood, and of the very highest possible breeding.

The Illinois Experiment Station has just set a commendable example in this respect, by sending to this State, and selecting a bull, whose 17 nearest female ancestors (extending back in every line to importation) have made milk records which average for the whole number 16,808 pounds 2 ounces in a year, and 21 pounds of butter in a week. This is the class of bulls to breed from, for if the descendant is a duplicate of any ancestor within the first four or five generations, he will be what is desired. With such a sire, crossed with cows of similar breeding, the results are almost as certain to give descendants of equal merit, as a certain variety of seed corn, planted in good soil, and well attended, is to produce a crop of the same variety. In the one instance, good care, and proper, liberal nourishment, with favorable environments, are as necessary, yes, as indispensable, as in the other, if the best results are to be insured. This subject of breeding from producing ancestors, has been carried to such an extent that, in at least one instance, a young bull has been produced whose 30 nearest female ancestors have made weekly butter records which average 20 pounds 2 ounces, and the 35 nearest have made milk records which average 15,447 pounds 12 ounces in a year. If such animals be selected for foundation stock, how surely and readily can a great producing herd be established! EDWARD A. POWELL.



A FARM BONE GRINDING HOUSE. FIG. 41.

A FARM BONE MEAL FACTORY.

A CHEAP TON OF FERTILIZER.

Mr. Geo. L. Clemence, of Massachusetts, solved the problem of how to work up bones on the farm for fertilizing purposes, for himself, some years ago, by fitting up a plant for steaming and grinding them into bone meal. His plant consists of a small building with a basement in which is located the power and machinery for grinding the steamed bone. The raw bones, 1,500 pounds to a charge, are steamed in an upright cylinder tank about 18 inches in diameter, made of boiler plate, and so placed as to extend up about three feet through the floor for convenience in charging, and some five or six feet below, the lower end being about three feet above the basement floor for convenience in removing the steamed bones. Both ends of the tank are fitted with movable hoods, held securely in place with bolts and nuts. The steam is piped to the tank from a portable boiler that stands near by, which also furnishes the steam power for grinding the steamed bone after it is dried. It requires about seven hours of steaming to soften the raw bones sufficiently for grinding.

On the south end of the building, the basement is extended some 10 feet or so, with a glass roof like a greenhouse; under this glass roof the steamed bones are spread on racks to dry, when taken from the tank. The liquid from the steamed bones is composted and used for fertilizer. After the steamed bones are dried, they are about as brittle as chalk, and are easily ground into a coarse meal in an ordinary corn-crusher such as is in common use in this vicinity for cracking ear corn for grinding into meal.

Mr. Clemence buys his raw bones of local soap peddlers and others at from $12 to $15 a ton, and figures the cost to him of the bone meal at $22 per ton. The work is done by himself and help in winter, when other work is not pressing. His soil is of two kinds, part is a stony loam, underlaid by gneiss rock, the gradual wearing down of which has furnished the soil. The other part is a well-drained bowlder clay. He has now been using ground bone for some 12 years. When he first began the use of bone, it was his practice to apply 1,000 pounds to the acre; but now that his tillage soil is well filled, he uses a less amount. Muriate of potash, 200 pounds to the acre, and nitrate of soda, 150 pounds, are also used for fertilizers in connection with the manure from a herd of milch cows. The nitrate of soda is applied to grass land only.

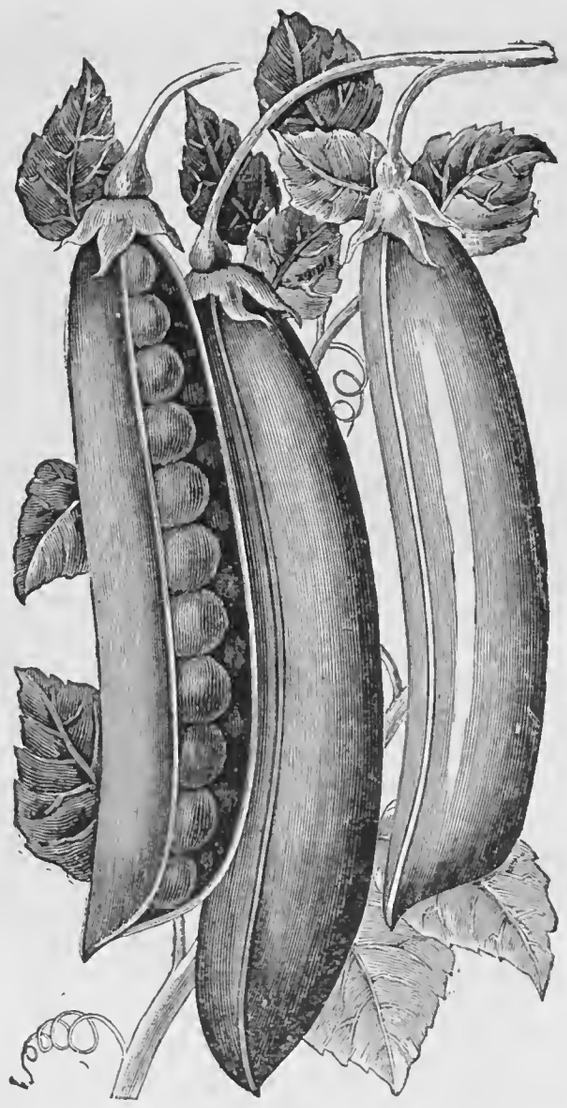
Mr. Clemence believes that he gets well paid for the use of bone meal, notwithstanding that some of our agricultural chemists claim that all bone meal should be treated with acid in order to be profitable to the farm. The entire plant cost about $800, but the portable boiler and engine, and the shafting and pulleys are used for cutting ensilage, and other purposes about the farm.

For a farmer who already has a steam plant, the principal cost for fitting up for reducing bones in this way, would be for a steam tank and bone mill, which, at the present time, ought not to cost more than $150. And if future experiments prove beyond doubt that it pays to treat bone with acid in order to make the phosphate fully available, the man who has sufficient brains to care for a boiler and engine, ought to have sufficient to treat the bone meal with acid at a profit, too.

The picture, Fig. 41, shows the building, which stands on a rocky bank—facing to the east. Inside, 1, is the steam tank running through the first floor; 2, the portable boiler and engine; 3, the bone grinder, and, 4, the glass-roofed drying room. The steam tank is in the corner of the building, with stairs to the upper floor back of it. F. A. PUTNAM.

Massachusetts.

R. N.-Y.—We do not believe that it will pay to use acid on steamed bones. Prepared as here described, they are in good condition for use.



NEW LIFE PEA. FIG. 42.

See Catalogue Reviews. Page 120.

WHAT SAY?

TAR FOR GRUBS.—Have any of THE R. N.-Y. readers had any experience in immersing seed corn in coal tar as a preventive against the cutworm? If so, what was the result? Do they use the tar full strength? A. H. C.

Covert, N. Y.

EVERGREENS IN KANSAS.—Which are the best evergreens, all things considered, for beauty of foliage (dark green preferred), fine shape, and dense foliage—about three or four varieties? Is the Irish Juniper a long-lived tree? Which is the best arbor vitæ for hedges? Which is the best chestnut for Kansas, on high, dry, sandy or gravelly clay? G. D. P.

Manhattan, Kan

RYE FOR COWS.—Is rye a proper food for cows giving milk? How should it be fed? What other feed should be given with it to produce the greatest amount of milk? A. J. L.

Binghamton, N. Y.

R. N.-Y.—Can any of our readers give any experience with rye as cow feed? We would prefer to feed it to horses—mixed with corn, and would not *buy* it for cow feed.

$10 WORTH OF FERTILIZER.—Given $10 per acre to apply to grass land after breaking up and harrowing, what fertilizers, or what mixture of chemicals for home preparation, will be likely to afford the best results? No grain to be sown. Land a clay loam in fairly good heart, but now producing coarse hay.

Winslow, Me. G. S. P.

R. N.-Y.—Here is a first-rate chance for discussion. What would *you* use in such a case?

WHAT TOOLS NEEDED?—I have three acres of tough Timothy sod that I wish to plow and plant to potatoes the coming spring. What tools must I use to make the soil so that I can furrow it out with a single-shovel plow, four or five inches deep, the same as old ground? The soil is black timber clay, on the edge of the prairie, with no stumps. The subsoil, for at least six inches, can be brought to the top without any harm. S. J. E.

Canton, Ill.

POTATOES FOR STOCK.—Will the readers of THE R. N.-Y. give their experience in feeding potatoes to cows? For putting on flesh, and also for milk, are they better cooked and fed with grain, or raw? I cook mine, and mix with corn and oats ground together. I feed 12 quarts per head of the mixture, but

do not think that I am getting any more milk than I would if I fed only the six quarts of ground feed without the six quarts of potatoes. One great advantage with cooked potatoes is that cattle will not choke on them. M. W. S.

Forestville, N. Y.

MAKING A HOG PASTURE.—I have an orchard of young growing, bearing trees which, for several years, has been in cultivation with berries. I wish now to change it to a hog pasture in order to dispose of the drop apples, and at the same time to bring it to a better state of fertility. Will it not be practical to harrow thoroughly each spring, and sow to Crimson clover with cow peas or oats and peas? Our soil is gravel—hillside—oak and chestnut timber. In raising grain, we think a fertilizer that will produce a good growth of straw, more necessary than that which feeds the berry, as our straw always fills well with a plump kernel. Has any one a better suggestion for an orchard on this soil? S. C. B.

Burdett, N. Y.

SIMPLE HORTICULTURE WORTH REMEMBERING.

THE last two sentences of Mr. Munson's instructive remarks respecting plum stocks, on page 50, carry a matter of great moment. Most of the leading questions in plant culture require years of careful experiment and observation before safe opinions can be formed. The changefulness that prevails so generally in all American offices, prevents the carrying out of tests requiring length of time. In Europe, officials keep their places, and are generally faithful and diligent; but our questions rest mostly on different conditions of climate, and should be worked out here to prove serviceable to us.

STRAWBERRY plants should not have their winter blanketing of litter removed till growth begins. If the covering has been packed down by snow and rain, it may be shaken up to admit free air and some light, as soon as bare. To have the berries look appetizing, nip the stem off with the thumb nail. If the berry is laid hold of in order to pull it off, it will look bruised and distasteful soon after. This applies to large berries, such as every garden should grow. Where there are many, it is well to cultivate the thumb nails a little as well as the berry bed, as a preparation for gathering one of the most welcome, rich, and enjoyable of all garden crops.

SKILLFUL pruning is absolutely necessary for securing continued crops of good, handsome fruit of any sort. Here is an epitome of the main requirements: a. Thin out annually all the old exhausted wood, all weakly young shoots, and all that cannot reach full light. b. Cut off no healthy young shoots that have open room and light, or that can be tied or braced into open light. c. Prevent crowding and shading and waste of growth as much as possible, by rubbing off superfluous shoots while yet in the bud. d. Apply this disbudding to weak and crowding buds of low plants as currants, gooseberries, raspberries, roses and other flowers, rhubarb and strawberries. e. When a cut is made in a tree which cannot heal over with new bark within a year, protect the exposed wood from drying out by a coat of some waterproof paint or varnish. Thickened gas tar or asphalt serves this use well.

A BULLETIN of the experiment station at Lafayette, Ind., on the improvement of certain soils (No. 57, November, 1895) gives an instructive and interesting account of the investigation, and the method of cure. Analysis of the soils in question proved them rich in all the essential elements of fertility, yet they yielded no crops. Any student of soil culture, and especially such as have low lands to manage, will find this bulletin by Prof. H. A. Huston, chemist, very good reading. It is in plain language and has good illustrations. W. G. W.

A CARMAN POTATO.—My specimen was a poor, little, shriveled-up thing. I laid it on a shelf, and forgot it until it had sprouts on as long as my penholder. I cut it in five pieces, a sprout to each piece, and stuck it in the ground; that was all I did to it. About the last of July, the tops were dead. October 1 I dug them, and got 16 nice potatoes and four about the size of the one I planted. J. W.

Olympia, Wash.

17-YEAR LOCUSTS AND THE APPLE CROP.

The Locust is a Cultivator.

In regard to the question on page 253, as to the relation between 17-year locusts and big apple crops, I think that Prof. Slingerland is mistaken in treating as a mere local superstition, the belief that the cicada exercises a beneficial influence on vegetation.

THE R. N.-Y. has often told us that, to improve the quality and increase the quantity of fruit, we must drain, mulch, cultivate and fertilize the land. The locusts take that advice, and do all these things, and do them thoroughly. In coming from and returning to the earth, they bore under the apple tree as far as its branches extend, a large number of holes, deep down in the subsoil, forming channels in which fluids descend and gases rise—that's drainage. In time, these holes choke with loose material, and permit the water saturated with plant food to ascend to the surface by capillary attraction—that's the best part of mulching. Sunlight enters the holes and air circulates around the roots—that's about all there is to cultivation. The hard subsoil is perforated like a sponge, and the fertilizing materials that THE R. N.-Y teaches have been for years washing down below the reach of plow or roots, imprisoned in the subsoil, are released and all in solution and ready for immediate use are conducted to the surface and absorbed by the earth surrounding every rootlet—and that's fertilization, the best possible. The locusts have done everything that THE R. N.-Y. says is necessary. The effect must follow the cause, and reason helps tradition prove that locusts make an "apple year." A. W. H.

Irvington, N. J.

JAPAN TREE LILAC. FIG. 43.

See Catalogue Reviews. Page. 120.

What Do "Locusts" Live On?

Prof. Slingerland fails to see any connection between the visitation of 17-year locusts and a large crop of apples. The only possible, and probable connection, lies in the fact that, where the insects are numerous, their incisions kill a large proportion of the smaller branches or twigs and the extension of wood growth being thus checked, the result is the formation of an unusual number of fruit buds. The Cicada appeared in large numbers in this locality last June, and a casual examination of my orchard—10 to 12 years planted—reveals the conditions above indicated. The yield of apples here was quite large in 1895, and the abundance of plump fruit buds presages a large crop this year; yet I would gladly lose one crop if, by that means, we might dispense with the "locusts." Seventeen years is a long time, yet our experience during the past season leads to the belief that once in 17 years is quite as often as we desire to see, or hear, the Cicada.

In this connection, occurs a more abstruse question, which I think many readers of THE R. N.-Y. would like to have Prof. Slingerland answer. Upon what do the larvæ of the Cicada feed during the 17 years they remain in the ground, and at what depth do they remain during the greater portion of that period? About five years ago, when digging out the decayed stump of a Red elm tree, I found a large number, —perhaps 100—of the larvæ, and they were then nearly full-grown. If, in the absence of decaying roots, the larvæ feed upon the live roots of trees and plants, may not serious injury result therefrom? During the past five years, many forest trees, particularly the White or "Pig nut" hickory have died, and their destruction has been attributed to drought; but as the tap roots of these trees extend to great depth in the soil, frequently where permanent moisture is known to exist, may not the loss have been caused by the larvæ feeding upon the roots? M. J. G.

Adel, Iowa.

THE SUTTON BEAUTY APPLE.

HOW DOES IT COMPARE WITH STANDARD SORTS?

Sutton Beauty was received, nearly or quite 50 years since, from the late Charles Downing, and fruited in my trial orchard at Plymouth, Mich. As grown there, the trees were very upright in habit, and the fruit beautiful, but quite acid. So far as I recollect, it was neither an early nor a profuse bearer. Within a few years, an apple bearing this name is receiving favorable notice. and trees of it are on trial at the Michigan Experiment Station. These trees are, to all appearance, identical in habit with those above mentioned. Circumstances have begotten the inference, however, that the two are distinct; though these last have not yet fruited; hence the question of identity cannot yet be determined. T. T. LYON.

Michigan.

The Sutton Beauty is a Massachusetts apple, and its season there is December. Of course it would be later or earlier according to latitude. It is above medium in size, form round, colors yellow and crimson, flavor, brisk subacid. Very good at its home, but so far as my knowledge extends, not very much cultivated elsewhere. T. H. HOSKINS.

Vermont.

I have no knowledge of the Sutton Beauty apple gained from experience in growing it, and have only had limited opportunities for judging it. Its best qualities (as a market fruit) are its fair size, beautiful color, fine quality, and good keeping qualities. I think that it would outsell the Baldwin—would probably rank with the Jonathan, which it excels in size, though their quality is much alike. E. G. FOWLER.

New York.

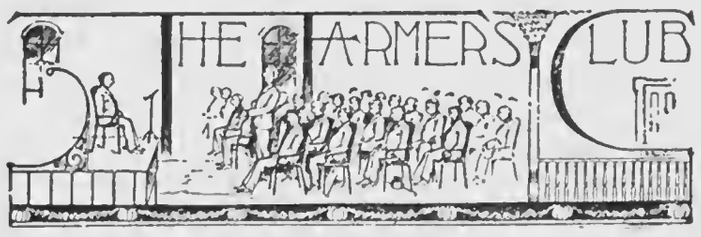
I have this variety in bearing, but, like the Baldwin and other standard winter varieties for more northern climates, it is practically of no value whatever here. Blooming earlier in the year, a longer and hotter summer, later fall, etc., find the fruit of such varieties ripe and rotten before gathering time with us. For winter, and even late fall apples, we are compelled to select such kinds as are slow to mature, hang well and tight to the trees, in short, such as are suited to our long, hot summers, such as Paragon, Mattamusket, Shockley, Virginia Greening, McNash, etc. There is, by no means, any scarcity of varieties that do well here as winter apples that are at the command of well-informed planters. There are anti-"book-larnin'" fruit growers to some extent, as well as farmers. J. W. KERR.

Maryland.

The Sutton Beauty has not been fruited to any extent in this State, that I know of, except in a small way by Ellwanger & Barry and myself. I have found it to be an annual bearer, every other year setting an enormous crop of fruit, which requires thinning, and being one of the few varieties that seem to be entirely free from the scab; in short, it is a variety that I never spray for this disease. With me, it keeps well into March, and I have had it in fine eating condition the first of April. It probably is at its best along in February or March. I regard it as one of the most promising apples of recent introduction, not only for house use, but for commercial purposes, and after fruiting it in a small way, I have grafted over a good many trees with it in my orchard. S. D. WILLARD.

New York.

BOOK REWARDS.—Don't forget the books that are offered as rewards for new subscriptions. The Business Hen, New Potato Culture, Nursery Book, etc., for new names for THE R. N.-Y. Have you booked one?



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Sub-Irrigation from Windmill Tank.

S. H. B., Shreve, Ohio.—I am making arrangements for irrigation. Fig. 44 shows my location. A is the well at the house; water stands at 80 feet. B is a pipe running above ground to the reservoir. E is a reservoir containing 1,000 barrels; it is 450 feet from the well, and the top is three feet higher than the pump spout. D is four half-acre strawberry plots, 210 feet north and south, with two-feet fall to the north. I wish to sub-irrigate. 1. Can I pump enough water with a 10-foot steel windmill? 2. What sized tile should I use, how far apart, how deep, and how many should be connected together? 3. How shall I draw the water from the reservoir? How shall I connect it with the different sections of tile?

ANS.—1. A 10-foot mill would probably be inadequate to supply water for two acres of strawberries when it has to be drawn from a depth of 80 feet. A 12-foot mill would be required, at least, and one that is 14 feet in diameter would be better, unless the storage capacity be increased. 2. Three-inch tile, placed 18 inches to two feet deep, will answer to distribute the water, and the lines can be anywhere from 10 to 30 feet apart, according to the soil, being greatest where the amount of humus is largest. The tiles in each section (100 feet) can be connected by a larger tile. This should be level, and to secure the even distribution of the water, the laterals should have an even slope of not over one foot in 50, while a quarter of this would be better. 3. Draw the water from the reservoir through a two-inch pipe, and connect with each section by means of a 1½-inch pipe, provided with a valve by which the flow can be regulated. The water can be turned directly into the tile by means of an elbow brought up to the surface, or a large tile can be placed at the end of this main tile, forming a silt basin into which the water can be delivered. L. R. TAFT.

Michigan Experiment Station.

Brewers' Grains or Bran; Milk.

A. S. L., St. Charles, Mo.—1. Would there be any money in buying dried brewers' grains at $12 per ton, to take the place of bran at $9.50 and shipstuff at $12.50, to feed to cows for milk and beef? 2. What is the difference between sterilized and Pasteurized milk? Can either operation be successfully performed on a small scale, say, 50 gallons per day? I am running a small dairy in a town of about 7,000. The milk is all right in the winter, but in summer, it sours too quickly, and there is no ice this winter to put up. What do you think of sterilizing, and then bottling and delivering it to customers in that shape? I am going to have the engine any way, and have steam very nearly all the time.

ANS.—1. The following table shows the comparative feeding value of average specimens of these feeds. The grains will vary more in composition than the bran:

	Muscle-makers.	Fat-formers.	Pure fat.
Dried grains....	14½	37½	4¾
Bran.....	11¾	44½	2½
Shipstuff.....	11½	49	2½

At the prices given, bran is the cheapest food, and we would use it in preference to either of the others—especially if you feed corn stalks in any quantity. We would not advise the use of dried brewers' grains at $12 under the circumstances. 2. As explained before, on page 745 of last year's volume, the difference between Pasteurizing and sterilizing milk is a difference in the degree of heat applied. In the former, the milk is never heated above 175 degrees, while to sterilize it properly, boiling heat or even a higher temperature, is applied. You should send to the Wisconsin Experiment Station (Madison, Wis.), for a copy of Bulletin 44. Under the circumstances, it might pay you to Pasteurize the milk, but boiling it would be sure to cause complaint among your customers.

Dairy Cattle in Mexico.

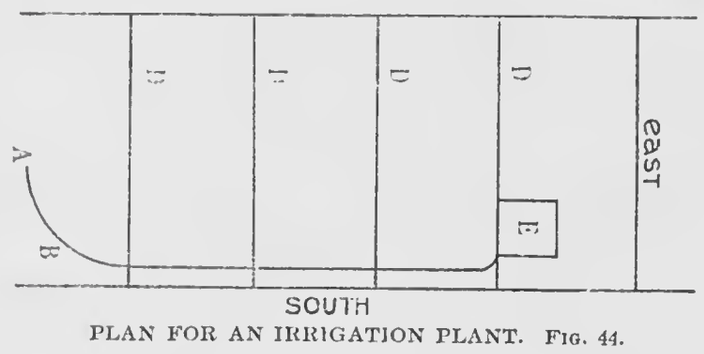
O. C. R., San Luis Potosi, Mexico.—Will a herd of 17 half and three-quarter bred Jersey milch cows, which have been raised on prairie hay, corn, etc., in Texas, producing there three gallons of milk daily, thrive on cotton-seed meal, wheat bran, dry fodder, and green Alfalfa, as a regular ration, with a change to a few roots, etc., given occasionally? Will they produce as much milk as they did in Texas, being kept in a three-acre field here, as against a 1,000-acre pasture in Texas? With wheat bran at $1 per 100 pounds, cotton-seed meal at $1.34, fodder at $1, green alfalfa at 40 cents, and labor at 25 cents per day, can milk be produced at six cents per quart half the year, and 10 cents the other half?

ANS.—The cattle placed under the new conditions, should gain at least 20 per cent in their flow of milk, provided they do not have to go through with the fever of acclimatization. In Mississippi, not long since, cattle were moved not more than 100 miles from a cooler to a warmer district. They all had a slight attack of what is known as Texas fever. This very much interfered with their fattening the first season. I am not acquainted with the climate at San Luis Potosi. The soiling which is proposed and the small run of three acres, if properly managed, will conduce to an increased flow of milk. The price of cotton-seed meal is reasonable, but bran and Alfalfa are both entirely too high. As compared with cotton-seed meal, bran should be worth 75 cents per 100 pounds, Alfalfa, uncured, not more than 10 cents, and corn fodder not more than 50 cents. All the foods named, except corn fodder, are highly nitrogenous and, therefore, should be balanced up with some carbonaceous food. Is it not possible to do so by sowing barley or Hungarian grass, or by raising an abundance of green corn, not corn fodder? That is to say, plant corn about twice as thick as when it is raised for the ears chiefly. This will give a large proportion of ears, and one ton of it will be worth two to three tons of thickly sowed fodder corn. With a little care in cheapening some of the foods named, and in balancing the rations, milk should be produced, with the low-priced labor, at an average of three cents per quart the year around at the barns. I. P. ROBERTS.

Care of a Rural Cemetery.

O. F. B., Rushford, N. Y.—Can THE R. N.-Y. or any of its readers, offer any suggestions as to the treatment and care of a rural cemetery? Ours is a half acre in extent, and we desire to make a continuous level surface, to be lawn mowed when done. The caretaker of a cemetery says that it costs more to trim about the different stones, than it does to lawn mow the whole ground. Does any one know of any method by which a lawn mower will do the whole work without leaving a fringe of grass about the stones? The ground was thoroughly plowed last fall, and many roots, stumps and other rubbish were taken out. The soil naturally grows June grass, and is light and thin. Would it be desirable to grow a crop of potatoes as a means of subduing the ground, or can it be just as well done and at the same expense without the crop of potatoes?

ANS.—The construction of all the lawn mowers now before the public, is such as to prevent cutting close to stationary objects. I do not know of any method by which one can be made to cut close to stones, trees or fences. Hand trimming, by means of the sickle, appears to be necessary. It does not seem needful to grow a hoed crop upon the cemetery lot in question, though it would undoubtedly benefit the soil. An application of 300 to 400 pounds of ground bone, followed a few days later by six or eight bushels of good



PLAN FOR AN IRRIGATION PLANT. FIG. 44.

wood ashes to the half-acre plot, would put it in fine condition to receive the seed, which should consist of a mixture of about 50 pounds each of Kentucky Blue grass (June grass) and Red-top. A pound of Sweet-scented Vernal grass, mixed in, will prove a pleasant addition. Do not use any manure, as it will inevitably introduce myriads of troublesome weed seeds. The seed should be evenly sown on a still morning after the ground has been made as mellow and fine as possible. On a plot of this size, it is best to rake the seed in evenly by hand, after which it should be firmly rolled with a rather heavy roller. If the ground bone and wood ashes are not easily procured, an application of 400 to 500 pounds of any good commercial fertilizer will be found useful, but by no means as lasting in its effects W. V. F.

Making a Pasture in Vermont.

G. M. H., North Ferrisburg, Vt.—I have a piece of pasture which I plowed last year and planted to corn; it is a gravelly soil, and so full of stones that it can scarcely be worked. The soil is rather poor. I wish to turn it back into pasture without harvesting another crop. Would it do to sow millet this spring, mixing the grass seed with it, and let the cows on to it in the middle of summer? The land is rather dry.

ANS.—It is difficult to get dry, open, stony ground into a good pasture. It can only be done by working at it for several years, sowing additional grass seeds from time to time, and adding some plant food; or in other words, it must be *coaxed* back into grass land. Oats, one bushel per acre, sowed with the grass seeds, would be preferable to millet, as the former would cease to grow when the most trying time in August occurs, while the millet would then be at its best, and would rob the soil of both food and moisture to such an extent as to endanger the young grass and clover plants. A mixture of two quarts of Medium clover seed, one-half quart of Alsike, and four quarts of Timothy, and some Orchard grass and Tall Meadow Fescue, about one peck of each per acre, would be sufficient. The latter seeds weigh but 14 pounds to the bushel. Sow as early as possible. The ground being so stony it cannot well be rolled. If, after the seeds and oats are sown, a light dressing of any kind of manure could be spread thinly over the ground, it would assist in conserving moisture, and in shading the plants until they are well established. It will be better to cut the oats when green, and feed them in the stables than to pasture. If the latter must be resorted to, then let the pasturing be as light as possible. A light dressing of nitrogenous fertilizers could be beneficially applied at the time of seeding. It is probable that full success will not be attained the first year. If so, resow with about one-eighth as much seed the following spring, and add a little plant food in some form, if possible. I. P. R.

Heating All "Outdoors" with Bricks.

P. L. B., Dresden, O.—I read in a weekly paper of a peach grower in Connecticut who claims that he can prevent his peach buds from being killed by spring frosts by burning kerosene in cans, in which he places common bricks and allows them to become saturated with the oil. These he places from 30 to 40 feet apart in his orchards, and when there is danger from frost, he lights them, and claims that the smoke will keep the buds from freezing. Does THE R. N.-Y. know of this practice, and whether it is practical or not? I would like to know whether a strip of grass left along the peach trees on a side hill, would be of much injury to them, if the rest of the ground between the trees is cultivated. The idea is to keep the ground from washing.

ANS.—No, there is nothing to it. It is little short of a "fake." In a small, protected inclosure, heat produced in this way might offset a slight freeze; but in large, open orchards, you would waste your fuel. It is a pretty theory—little else. On a hillside, a strip of grass will often save washing, and to that extent, is a help.

How to Fight White Grubs.

W. M., Bloomington, Ill.—Does salt have any effect on White Grubs in strawberry beds? If it does, how should it be applied? Would kainit answer the purpose? Will London-purple kill leaf-rollers? How strong should it be made? Will strawberries, grown in hills, produce more fruit in a single row than in a matted row if managed right?

ANSWERED BY M. V. SLINGERLAND.

In 1891, Prof. Perkins, Entomologist of the Vermont Experiment Station, "conducted a long series of experiments for the purpose of ascertaining, if possible, whether some substance could not be profitably used which should act, at the same time, as a fertilizer to vegetation and a destroyer of White Grubs. It was thought that, perhaps, some one or more of the potash salts commonly used as fertilizers, might prove to meet these conditions. The results of the experiments were not altogether satisfactory, since it was found that, while some of these salts did prove in a measure destructive to the grubs, and of course, would be in most cases beneficial to the crop growing in the soil, it was necessary to use a larger quantity than could profitably be applied." Sulphate of potash, kainit, muriate of potash, and salt were all partially effective when used in solution at the rate of a ton per acre; the salt was the least effective, and the sulphate of potash the most efficient. "Wood ashes, even when used abundantly, failed to injure the grubs; neither did strong lye poured over the ground appear to affect them."

The question of how to rid a strawberry bed of White Grubs is a very serious one. Mr. L. J. Farmer has had much experience with the pests. At the meeting of the Western New York Horticultural Society in 1895, he stated that a liberal application of salt had a tendency to keep the grubs away, and is also said to kill them in the first year of their growth. He had used four bushels per acre, scattered along the rows, and cultivated in, with good results. He further stated that, "in fitting a piece for strawberries, known to be infested with grubs (grass lands usually are), they can be largely killed by plowing late in the fall; thus throwing them out on the top where they will freeze. This must be done just before a heavy freeze, for if given but a short time, the grub is able to burrow back into the ground In spring, if land is plowed and harrowed continuously for several days, most of the grubs come to the surface, and are picked up by birds, poultry, etc. After the plants are set out, there does not seem to be any surface application that will kill the grubs and not kill the plants. Kerosene emulsion I have tried with unsatisfactory results. They fatten on Paris-green water. When a plant is attacked by grubs, it changes color, and if the roots are all severed, in a short time, it wilts. In watching the plants from day to day, one's eyes become trained, so he can tell every plant that has a grub under it. If we dig under one side, the grub can often be removed and the plant saved, especially if the soil be moist; carefully replace and firm the earth down. The grub hates to be disturbed, and will migrate to uncultivated spaces. Thus cultivate close and hoe out deeply all around the plants. Protect the crows, blackbirds, moles, and especially the skunk. The only really successful way to fight these pests in strawberry beds, is to avoid them; and this can be done by cultivating the soil in some farm crop for three years previous to setting out the plants." In short, hand-pick the grubs, thoroughly cultivate the soil before it is to be used for strawberries, and keep the soil stirred close around the plants after they are set.

There are four different kinds of strawberry leaf-rollers at work in Illinois, but most of the destructive work is done by one—the Common Strawberry Leaf-

roller (Phoxopteris comptana)—the adult insect being a small moth. There are two broods, possibly more, of this insect in Illinois; the caterpillars of the first brood roll the leaves in June, and the second brood work in July and August. All attempts to poison these leaf-rollers with Paris-green or London-purple, have been unsuccessful, as the caterpillars are too snugly protected in their rolled leaves. But the pests are very effectually fought in the following manner: As soon as the fruit has been harvested, mow the whole field as close to the ground as possible with a mower, leave the cut weeds and strawberry foliage to dry a day or two; then spread a thin coating of straw over the field, and fire the field. The burning will be most effectual if done late in June or early in July, and there is no danger of injuring the strawberry plants; they will speedily send up new, strong leaves, and make a dense growth by fall. Prof. Forbes states that this is the standard method of fighting the pests in Illinois No other method of destroying the leaf-rollers is known.

Strawberries grown in hills will produce better, but not more, fruit than those grown in matted rows.

What Can Be Done for Wireworms?

M. B. S., Centerville, N. Y.—I am bothered very much by wire worms eating or boring small holes in my potatoes. I understand from some sources, that common salt is a remedy. Would it be likely to do any good, and, if so, how much would it do to put on an acre and not kill the potatoes? What would be the best way to apply it—sow it broadcast, or drill it in?

ANS.—Many farmers have asserted that salt either destroys wireworms, drives them deeper into the soil beyond the roots, or renders the soil so obnoxious that the worms leave. From a long series of experiments made in 1890 and 1891 at the Cornell Insectary, we found that to kill wireworms, salt must be used at the rate of about eight tons to the acre, or over one per cent of the soil to a depth of four inches must be salt. This amount would, of course, kill all vegetation. In 1891, we thoroughly tested the supposed effect of salt in driving the wireworms deeper into the soil. Our results indicated that 1,000 pounds of salt per acre interfered with the germination of wheat, and neither drove the wireworms deeper into the soil, nor caused them to migrate to any appreciable distance. It is thus very doubtful whether salt, used in practicable quantities, would lessen the ravages of the wireworms in potatoes; kainit or any other commercial fertilizer would not be any more effectual. I can suggest no method of ridding a potato field of the pests after the crop has been planted.

M. V. S.

How to Treat Large Shoots.

A. C. W., New Jersey.—Last April, I had several apple, pear and cherry trees grafted, and in almost every case, there are two to three shoots from one to three feet long from each graft, a most satisfactory result, but I am at a loss to know how to prune them. Should I cut away all but one, and cut that back?

ANS.—Grafts that make so considerable a growth the first season, are likely to be blown out during heavy gales. We would therefore cut out the weaker of the shoots entirely, and shorten the rest so as to give the new growth a proper balance.

Cut Out the Dead Wood.

P. L. B., Dresden, O.—Is dead wood in peach trees, caused by winterkilling, injurious to the trees? If so, in what way? Will it pay to cut it out?

ANS.—It is injurious in just this way: The contact of dead wood with live wood will tend to cause the latter to die back still further. We think that it would pay to cut out all dead wood, cutting off a portion of the live wood as well.

Some Notes on Alfalfa.

B. K. A., New Providence, Pa.—How can I raise Alfalfa? I tried it several times, but failed. My soil is sandy and is all to farm crops.

ANS.—The very first and most important thing in growing Alfalfa, is that the land should be well-drained. If it is not, do not waste seed on it. If the drainage is natural, it is best. Next in importance is that it should be fertile. It will not pay to plant it on poor land. Yet, as it is an active gatherer of nitrogen from the air, it will thrive on soil that is supplied with the mineral elements, potash and phosphoric acid. In fertilizing land for Alfalfa, see that the stuff is rich in these two elements. Then it should be carefully prepared for the seed by plowing and harrowing and rolling. If sown with oats, not more than one bushel should be sown to the acre, and the Alfalfa ought to be sown as soon as the oats are drilled in and covered by rolling. If not too moist, roll the field very thoroughly. That will help the young Alfalfa plants to get hold of the soil, and their roots will the quicker get down to moisture, while the soil moisture will get up better from below. Twelve pounds of seed to the acre are plenty. If sown with oats, they ought to be cut for hay when in milk or before. If sown alone, do not be in too great a hurry. Early corn planting time will be soon enough. Prepare the land as for corn, and sow on a freshly harrowed surface. Cover by rolling if dry enough. When the young plants have reached a certain stage of development, they must be cut. That may be at a foot height, or may be less. It may be known by the ceasing of growth and yellowing of the leaves. If not cut, the plant stands a long time, and finally shoots out again at the root. If cut close at once, it is invigorated and will grow more thriftily than ever. Do not leave a mulch on the field. Do not sow the seed on mucky land. On the second year, the Alfalfa may be cut three or four times. Do not sow a large area of it until you have learned about it by experience.

J. E. WING.

Ohio.

Oats and Clover in West Virginia.

F. H. M., Cumberland, Md.—I have a river bottom field which has been farmed in corn for at least five years, which I would like to get in clover and Timothy. The soil is a sandy loam. Which would be the surest way to get the best stand—to sow the seed alone, or to sow it with oats?

ANS.—We have, in former years, been successful in sowing clover and Timothy in oats, and never failed to get a good stand, and even in the last two years, we have never had a finer stand of young grass plants when we cut the oats. But the very hot sun and extreme dry weather afterwards, killed nearly all the young plants. Since F. H. M.'s soil is a sandy loam, it will dry out very quickly, so it is in need of a mulch. We would recommend sowing to oats, 1½ bushel per acre. Then sow to clover and Timothy, and give one stroke with a light smoothing harrow, give a light dressing of barnyard manure, scattering it evenly all over the surface of the ground before the seeds sprout. When the oats have begun to shoot out and form heads of grain, cut them with a mowing machine and let them lie on the ground. This will stop the further exhaustion of plant food from the soil, and will shade the tender plants just at a time when they need it. If weeds come up and threaten to choke out the young grass, cut them with the machine before they seed, and let them lie. They will likewise serve as a mulch, which will hold moisture and protect the grass.

Holliday's Cove, W. Va. T. S. C. & SON.

Timbrell Strawberry and Japan Plums.

O. E. S., Lincoln, N. Y.—1. I see THE R. N.-Y. has been raising the Timbrell strawberry. With what was it fertilized? I have about six acres of lowland that was never plowed until two years ago, when we put in a ditch 400 rods long and drained it nicely. Along this ditch it is dry about three feet down, and I would like to set out a row of trees that will bear some kind of fruit. 2. What is best? How about plums, and what kind? No water stands on the ground. This ground is made land—a sandy muck. Would chestnuts do well? If so, what kind is best?

ANS.—1. We do not know. The Timbrell was growing in a plot with 100 other kinds. We would suggest Parker Earle and Brandywine as pollen plants. 2. We would try the Japan plums in such a place as that, and our choice at present would be Abundance and Burbank. We would also try the Japan chestnuts, selecting the Ridgeley and Paragon.

How to Seed Knolls.

L. J. C., Baldwinsville, N. Y.—I seeded a five-acre field of oats last spring, with clover and Timothy. The seeding killed out on two knolls. How can I keep the field in seeding, and cut hay off from the knolls? Would it do to sow oats with grass seed on the knolls, and cultivate or harrow in and cut all as hay?

ANS.—It would be a good plan to dig up the knolls with a Cutaway or spring-tooth harrow, as you suggest, and sow one bushel of oats or barley per acre (the former is preferable) with grass seed. At the same time, some fertilizer, containing a relatively high per cent of nitrogen, should be scattered over land and worked in with the harrow. The barley, being earlier than oats, would come in better at mowing time than any other crop; and if the weather were good for curing it would make most excellent hay. Its being removed early, would give the grasses a good chance to get a foothold before the dry, hot weather came on.

I. P. R.

Early Corn and Peas; Muck for Manure.

A. H. R., Fitchburg, Mass.—1. What is the best kind of early sweet corn? What is your opinion of the Early Vermont sweet corn? 2. What is the best early pea for a market garden? 3. What is the best early potato for a market garden? My farm is located in the center of New Hampshire, Merrimac County. The soil is mostly a sandy loam, and early. 4. In the center of the farm is a large bog filled with a strong, black muck, 12 or 15 feet deep, which can be easily drained and got out. Not having much manure, what would you advise me to do with it?

ANS.—1. We know of no better sweet corn than the Extra Early Vermont. 2. Nott's Excelsior. Of the taller-growing varieties, (two feet) we would, at present, choose the new Station pea. 3. We cannot answer this question satisfactorily. Every farmer or gardener must answer it for himself, and there is no better way to do this than by planting side by side a few hills of such varieties as the Beauty of Hebron, New Queen, Burpee's Extra Early, Early Ohio, Early Maine, Early Six Weeks, Polaris, Freeman, and others of the most popular varieties of to-day. 4. Muck varies quite a little in quality. It will pay you to send a sample of this muck to your State Experiment Station at Amherst, Mass., for analysis. The plant-food in muck is raw, and not readily available for plants. The best way to "cook" it is to pile it in a compost heap—if possible, mixing manure with it to start up heat and fermentation. Work it over at intervals with fork and shovel until it becomes fine and crumbly. You will improve the compost very much by mixing, as it is made up, 100 pounds of ground bone and 40 pounds of muriate of potash with each load of muck.

Feathers and Shavings for Fertilizers.

Subscriber, New Jersey.—1. In a duckhouse where stock ducks are kept, and planing-mill shavings are used, is the wet stuff that is taken out every few days of any value for a truck farm? 2. Are feathers and the refuse from killing poultry of any value for truck?

ANS.—1. The shavings will not be of much value in truck farming, until they are composted and well rotted. The duck manure alone might answer, but we would prefer to compost the whole material, and thoroughly rot it down before using in the garden. These shavings do better when spread on the surface, as on grass and grain, and not plowed under until well rotted. 2. Feathers will be of even less immediate value than the shavings.

How to Treat Blood for Fertilizer.

T. B., Skowhegan, Me.—I have a lot of lambs to kill, and wish to convert the offal into manure. I understand that there is a method of doing it by digesting the blood and offal in a vat with quick lime. What are the details of the process?

ANS.—Blood may be preserved by the addition of three pounds of powdered quick lime to 100 pounds of blood. It will then form in a solid mass, which can be dried slowly in the sun without risk of either putrefaction or loss of nitrogen. In case the offal is mixed with the blood, I would recommend that the proportion of lime be increased, because of the lower content of water in the offal—say four to five pounds of the lime to 100 pounds of the offal. This may be mixed either in a vat or other suitable receptacle.

E. B. VOORHEES.

Value of Wood Ashes.

W. T. G., Bloomfield, Iowa.—What would be the manurial value of unleached wood ashes per barrel, say, common salt barrels, well-moistened and well-tamped in with a good-sized tamping maul and weighing perhaps 300 pounds? I am janitor of a court house at present, and am making a good many ashes. Parties heretofore have been selling them at 15 cents per barrel, and the barrel costs five cents; consequently I get only 10 cents for the ashes, and I contemplate using them on my fruit, consisting of apples, peaches, plums, grapes, currants, gooseberries, raspberries, blackberries and strawberries.

ANS.—It depends largely on how much water is used on the ashes. If enough is used to run through them, more or less of the potash will be leached out. It will be better to keep them dry and under cover. Three hundred pounds of dry wood ashes contain, at least, 15 pounds of potash, which you could not buy in other fertilizers for less than 70 cents. By all means, save them, and use on fruits of any sort. There is nothing better for a fruit fertilizer.

A Start for a Permanent Pasture.

C. I. W., Mehoopany, Pa.—We have a 15-acre field, rather stony and steep, now in buckwheat stubble, that we wish to seed with mixed grasses for a permanent pasture. Would it be advisable to seed in March on the frozen ground, or would it be best to wait until settled weather, harrow and then seed? The soil is red shale upland, and has produced two crops of buckwheat in succession, yielding very good crops, considering the dry weather. What kinds of grasses and how much per acre should be sown?

ANSWERED BY PROF. I. P. ROBERTS.

It would be better to wait until the ground is in order, and then plow and fit thoroughly. The following kinds and amounts of seed might be sown per acre: One-half bushel of Tall Meadow Fescue, or if that cannot be procured, one peck of Orchard grass and one of Red-top. These seeds weigh 14 pounds per bushel, and, on account of their lightness, would have to be sowed separate from those which follow: Four quarts of Timothy, one quart of Alsike, and two quarts of Red clover seed. If the ground is in good order, and the season is not too far advanced, they would better not be harrowed in; but the ground should be thoroughly rolled after the seeds have been distributed. If Blue grass comes in naturally in this locality, one may make a good permanent pasture without sowing any of the light grass seeds; simply use a liberal amount of Timothy and the clover seeds in the proportion given above. In time, if the pasture be well treated, the Blue grass will come in of itself.

The first year, the pasture should be mowed, and if the growth be not strong, it should be left on the ground; if it be strong, it may be gathered up and fed green in the stables. If the weeds appear in large numbers, it might be well to mow twice, and leave all the material on the ground to shade the plants. In about three years after it had been seeded, scarify with a sharp-tooth harrow and add some clover seed, and, if possible, some fertilizer, and roll. A good permanent pasture is seldom made the first or second year. It requires nursing and watching and fertilizing if the ideal permanent pasture is to be developed.

Setting Strawberries by Machinery; a Hired Man With a Wooden Back.

W. R. C., South Kirtland, O.—Are strawberry transplanters successfully used to any great extent, and what do they cost?

ANS.—The strawberry is a hard plant to set out by machinery, owing to the numerous roots growing so close to the bud of the plant. Just a little too high or too low in the ground will cost the life of the plant. We use the Bemis transplanter, which does the work satisfactorily. This is a two-horse machine that makes the row and waters the plant as it is set by two men or smart boys, who ride on the rear part of the machine, each one setting a plant in turn and holding it in place until the earth is pressed to the plant by the machine. We have set out from 10 to 20 acres each year for three years past, and we could not now do without this transplanter. It never fails to do its part of the work better than is possible in any other way. We are entirely independent of the dry weather, so far as planting is concerned, as the amount of water can be varied to suit the condition. The most tiresome and unhealthful job on our farm, heretofore, is now a pleasant, easy task. We set about 75 plants to the minute when going, or about four acres per day. Quite a number of our neighbors also use our transplanter for strawberries, sweet potatoes, tomatoes and celery, and we always hear them speak highly of its work. In fact, we know a farmer in this section, who has made a decided success of sweet-potato growing, is making money these hard times, and only a few days ago I heard him state before our farmers' institute that he owes his success largely to the superior way in which his plants are set out by his Bemis transplanter. The price is $75, but I think that includes delivery.

Delaware. A. W. SLAYMAKER.

Some Notes on Celery Blight.

D. E., Normal, Ill.—I have seen several articles in THE R. N.-Y. about celery blight. My experience with celery the past year was about the same as that of some others who have written. I had 4,000 plants, which all blighted. My R. N.-Y. No. 2 potatoes all blighted about the same time. On the under side of some of the leaves of the grape vines, there was a fly or hopper; some leaves were almost alive with them, and I have thought that the fly on the celery and potatoes was something like the fly or hopper on the grape vines, but seemed to be of a lighter color. The potato vines were very rank, and, in a week's time after being attacked by this insect, the tops were all dead. The fly or hopper was not very much larger than a common gnat fly. The replies to different correspondents do not say whether the insect that causes the blight was visible to the naked eye or not.

ANS.—Celery blight and the true potato blights, are not caused by insects, but are fungous diseases. There are several leaf-hoppers, resembling the Grape-vine Leaf-hopper, that work on celery, sucking the sap from the leaves, and sometimes retarding its growth. I cannot recognize the insect described by D. E. as working on his potato vines. To answer this query intelligently, I would have to see specimens of the insects and the injured plants. In 1892, the Department of Agriculture at Washington made a successful attempt to prevent the fungous disease causing celery blight. "The plants selected for the experiment were fully exposed to the sun, and were set in such a way that they could be flooded sufficiently often to keep the ground always soaked. Without further treatment, these plants made a vigorous growth, and were almost wholly free from blight. Plants in the same bed which received only water falling naturally, as rain, blighted very badly, in consequence of which there were not enough leaves to bleach when the time came for this operation." It is noticeable that celery on low, moist ground is seldom severely injured by blight. The experiment showed the importance of an abundant supply of water for this crop. "It may not be practicable for all upland celery growers to water as extensively as seems necessary to keep the crop growing and free from disease; still there are, no doubt, many places where irrigation could be practiced at comparatively little expense, making the crop, even in regions where the soil and climate are naturally unfavorable, a certain and profitable one." The above notes on celery blight are taken from Mr. Galloway's account as published in Bulletin 102 of the Michigan Experiment Station. This bulletin deals primarily with insects injurious to celery. D. E. should send for a copy of it. M. V. S.

How to Use Hen and Hog Manures.

E. M., Chalfont, Pa.—What shall I add to 2½ tons of hen manure and one-half ton of ground bone, to form a complete fertilizer for corn, oats

(*Continued on next page*).

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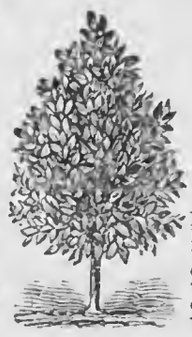

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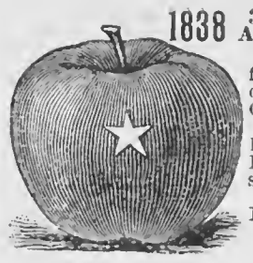

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Ideal, Oriole, Lady Thompson are the coming market Strawberries, fully tested. Raspberries—Miller, London, Columbian. Blackberries—Maxwell, Eldorado, Leader. ☞ EVERYTHING CHOICE FOR THE FRUIT GROWER AT FIRST COST. Our catalogue sent free will save you money. MYER & SON, Bridgeville, Del.

GREENVILLE.

STRAWBERRY PLANTS BY THE MILLION.

5 DOZEN PLANTS BY MAIL (assorted), $1.00.
Berlin (New), $1.00 Doz.; $3.00 per 100; $10.00 per 1000.
500,000 Asparagus Roots. 20,000 Apple Trees.
20,000 Peaches, Champion and Crosby.
By mail, 2 for 25 cts.; 5 for 50 cts.; 12 for $1.00; 100 for $6.00.
Send postal for 20-page catalogue. Free at once.
BERLIN NURSERIES, Berlin, Md.

CROSBY.

THE FARMERS' CLUB.

(CONTINUED.)

and barley? Should I put any on the ground before plowing? What is the best medium to dry up pig manure, when no straw is used, for fertilizer use, and what would necessarily be added to make it a complete fertilizer?

ANS.—By adding 600 pounds of muriate of potash to the hen manure and bone, you would have a fair fertilizer; but it would be better to use 500 pounds more bone, also. Be sure to get the manure as fine as possible. We would not plow in any of this mixture, but would broadcast and *harrow* it all in. Clean out the pig pen frequently, and keep the manure under cover with plaster enough spread over it to keep it white in color. Pig manure has a better balance in its proportion of potash, nitrogen and phosphoric acid than any other live-stoek manures; still, it would pay to use 25 pounds of muriate of potash and 50 pounds of bone with every ton of manure.

Some Plums for Pennsylvania.

P. D. M., Grapeville, Pa.—What varieties of plums shall I plant? Are the Japanese varieties hardy as far north as this? If so, what varieties would you recommend? The ground is a sandy or, rather gravelly loam, sloping to the southeast, and is protected on the north and west by a hill.

ANS.—Yes, we think very highly of several varieties of the Japan plums. They are perfectly hardy at the Rural Grounds, Bergen County, N. J., and farther north. The Abundanee, Burbank and Satsuma are those which we feel safest in recommending at this time. Willard is, perhaps, the best early. Red June, introduced by Stark Bros., Louisiana, Mo., thought to be the best Japan plum, is about a week later than Willard and earlier than the Abundance. Orient, introduced by the same firm, ripens soon after the Burbank. The Hale and Wickson are considered by Mr. Burbank, the originator, as up to this time, perhaps, the best of the Japan plums, but the stock is yet too small for introduction.

Best Early and Late Strawberry.

C. A. S., Vancouver, B. C.—What are the best very early and very late, thoroughly tested, strawberries, productive and possessing good shipping qualities? Do Meek's Early and the Gandy fill the bill?

ANS.—Up to this time, we have found the Rio the best early, and the Beder Wood the next. For late, we would prefer either Parker Earle or Brandywine to the Gandy.

Value of Skill in Grafting.

T. J. B., Constitution, Pa.—We have about 50 Northern Spy apple trees in our orchard, that are of fine shape and thrifty, about 20 years old, but very poor bearers, and the greater portion of the fruit rots before ripe. Would it be best to graft them with some good, late variety, or dig them out, and plant young trees? The rest of the trees are Spitzenburg, York Imperial, Ben Davis and a number of earlier kinds, which are very heavy, perpetual bearers.

ANS.—The Northern Spy is a clean, strong-growing tree, and makes a good stock to graft many of the weak and slow-growing varieties on. The first cost of setting the grafts may seem large, but in comparison with the time lost waiting for young trees to come into bearing, it is small. Success in grafting over sueh large trees depends entirely on the skill of the man who does the work; if done in a bungling manner, the result will be unsatisfactory and unprofitable; while a competent and skillful man will know just how to distribute the grafts in the top so as to form a perfeet shape, and cut away all superfluous branches. A skillful grafter can make nearly every graft live in thrifty trees, so making it unneceessary to put in more grafts than are needed to form the new top, thus reducing the cost of setting grafts--as this work is invariably done by the graft. If such a man can be procured at a reasonable price, better graft over the trees; if not done by a first-class man, they will prove unprofitable, and we would prefer to dig them out and plant others. As to what varieties are best to put on them, soil, markets and taste must deeide altogether; any variety that succeeds in that locality, will grow and do well on such stocks as Northern Spy. T. J. B. does not say whether he prefers early, fall, or winter apples. It would be necessary to know the character of his soil and the demands of his market, before advising him as to varieties.

New Jersey. JOS. H. BLACK SON & CO.

Catalogue Reviews

L. L. OLDS, Clinton, Rock County, Wis.—A catalogue of seed potatoes, varieties of corn, oats, barley and garden seeds. The list of potatoes is first-rate. It regards Maggie Murphy as the largest potato on the list and a tremendous yielder. It is a great drought resister, a strong grower. The eyes are rather deep. The prices are remarkably low.

W. W. RAWSON & Co., 34 South Market St., Boston, Mass.—A seed catalogue of 100 pages. The first page shows colored portraits of three dahlias, three of a prize collection, and the last page the new Chrysanthemum Double helianthus, also awarded a first prize by the Massachusetts Horticultural Society. The color is a clear orange, the flowers resembling those of huge chrysanthemums. Girardeau's Triumph watermelon, it is claimed, is of remarkable size, very early, and exceedingly prolific. Six selected melons weighed 420 pounds. This firm is one of the most extensive market gardening establishments in the country, and the varieties of vegetables it selects for forcing under their acres of glass should command interest. Note what is said about Rawson's Improved Red Drumhead cabbage. Rawson's White Spine cucumber, Rawson's Hothouse lettuce, Rawson's Puritan tomato are regarded as the best of their kinds.

E. H. VICK, Rochester, N. Y.—A catalogue of choice seed potatoes, small fruits and oats. The new potato, Vick's Early Excelsior, is given the place of honor—the first page. It is claimed that this is the best extra early potato in existence which elaim is supported by many testimonials. It is said to be much earlier than its parent, Early Rose, a heavier cropper and better in all other respects. Vick's Abundanee is a new late kind and a cross between the Peachblow and St. Patrick—a heavy yielder and of fine quality Maggie Murphy, late, and Vick's Early Pride are highly praised. The standard sorts are well described.

FRANK FORD & SON, Ravenna, O.—The "Busy Man's Book of Seeds," being a catalogue of 48 pages of garden, flower and field seeds, seed potatoes, small fruit plants, grape vines and trees. We have been favored with many different kinds of new varieties of potatoes from this firm, and have always found them true to name. The firm offer this year one pound each of 41 varieties for $3.25, or one tuber each, weighing from one-third to one-fourth pound, by express for only $1.65. There is certainly no reason why our potato-growing friends should not try different kinds of potatoes with a view of ascertaining which will yield most, and prove the most profitable kinds to sell.

(*Continued on next page.*)

Farm Seeds for All.

We want every American Farmer that reads this advertisement to send us an order. Our "BLOODED SEEDS" produce larger and better crops in any soil and climate than those from any other source. This is a strong statement, but has been proved over and over again to be a fact, and you can prove the truth of this statement on your own farm.

Our FARM SEEDS must be superior to all others or we could not have become the largest growers of Farm Seeds in the world. MERIT ALWAYS WINS.

This is the year to plant Potatoes, for seed was never so cheap and never so good before. We grew 110,000 bushels last year. Over 70,000 bushels are sold; and to sell the balance, we make extremely low prices on all the new and standard kinds, such as Carman No. 3, Carman No. 1, Honeoye Rose, Peerless Jr., Rose No. 9, Money Maker, Freeman, New Queen, Early Norther, World's Fair, Houlton Rose, Lightning Express, Victor Rose, Rural Blush, Rochester Rose, Clay Rose, Great Divide, American Giant, Rural New-Yorker No. 2, Irish Daisy, Maggie Murphy, State of Maine and White Star.

If you use five barrels or over, let us quote you "Special Quantity Prices" on the kind you want.

THREE GOOD KINDS OF CORN.

New York State 90-day Dent, the best Dent Corn for the Eastern and Middle States, and the earliest and heaviest yielding Dent Corn in existence.

Dibble's Mammoth Yellow Flint holds the "World's Record," 243 bushels from one peck of seed.

Dibble's Mammoth White Flint, best White Flint ever grown.

BEST THREE KINDS OF OATS.

Jobes' Mortgage Lifter, the heaviest Oats ever offered the public. No other kind weighs 50 pounds to the bushel.

Early Golden Prolific, a first-class variety with a record of 115 bushels per acre, with common field culture.

Great White Maine Oats, a most reliable White variety. On our farm (average area sown 15 acres), it averaged 83 bushels for three years.

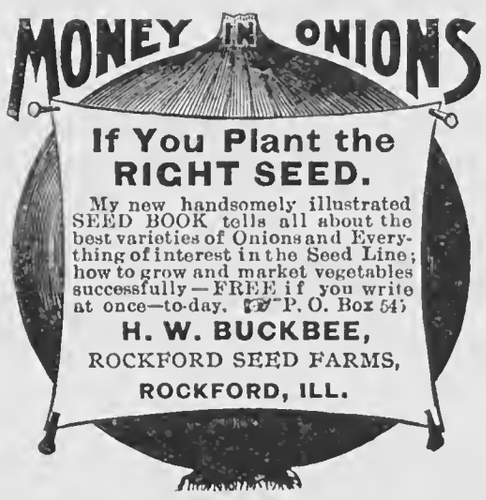
We have special low prices for 25 and 50 bushel lots of these Oats.

DAY'S IMPROVED LEAFLESS MEDIUM BEAN.

This Bean yielded 60 bushels per acre last season. At $1.50 per bushel, they came to $90, and you can grow Beans as cheaply as Wheat. Better try some this year.

Our FARM SEED CATALOGUE gives full description of all these and a hundred other kinds of Farm Seeds. It is the handsomest Catalogue of the kind ever issued, full of illustrations and crowded with testimonials from those who have used our FARM SEEDS. Send for it to-day. It is free. Address

EDWARD F. DIBBLE SEED CO., Honeoye Falls, N. Y.



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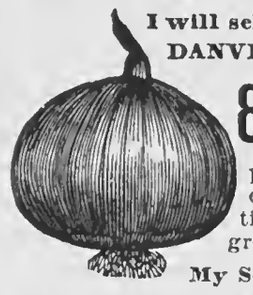
I will sell a strain of GLOBE DANVERS Onion Seed at



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postpaid by me. Discount on large quantities. This is American grown new seed.

My Seed Catalogue FREE.

JAMES J. H. GREGORY & SON, Marblehead, Mass.

NEW CROP ONION SEED

75 CTS. PER POUND for YELLOW DANVERS.
85 CTS. PER POUND for BEST YELLOW GLOBE DANVERS.
$1.00 PER POUND for LARGE RED WETHERSFIELD.
$1.50 PER POUND for American-Grown PRIZE-TAKER,

in lots of FIVE POUNDS of one kind or assorted as desired. With every $5.00 order goes FREE a copy of Greiner's Best Book, "ONIONS FOR PROFIT," telling all the Secrets of Success in ONION CULTURE.

If You Garden for Profit

you can save money and should buy at **Wholesale Prices,** as quoted in **BURPEE'S BLUE LIST for 1896.** It is mailed FREE to Market Gardeners everywhere, who, while entitled to *the lowest prices possible,* should be sure always to get **Only the Best Seeds that Grow! BURPEE'S SEEDS are WARRANTED,** —*few equal, none better*—and are sold annually direct to many more planters than are the seeds of any other growers.

☞ If you have not yet seen **BURPEE'S FARM ANNUAL for 1896,** write for it **TO-DAY.** A handsome New BOOK of 184 pages, it is pronounced by papers everywhere **The Leading American Seed Catalogue.**

ESTIMATES BY LETTER.

It often happens that upon **large orders** (whether from market gardeners, canning establishments, or institutions) we can do better than prices quoted in our catalogue.

When sending for sueh an estimate, please write *each variety on a separate line.* We will then return this sheet (or order blank) with our **lowest cash price** for the lot.

At all times we are prepared to meet any legitimate competition with other first-class seed houses.

W. ATLEE BURPEE & CO., Seed Growers, Philadelphia, Pa.

CATALOGUE REVIEWS.

(CONTINUED.)

O. A. E. BALDWIN, Bridgman, Mich.—A catalogue (25 pages) of small fruits. The strawberry is made a specialty, and 50 varieties are offered. Considerable space is given to describing the best of the strawberries, blackberries and raspberries.

E. M. COLE, Pella, Ia.—A catalogue (80 pages) of garden, farm and flower seeds with colored covers and 16 pages of specialties. Special collections of both flower and vegetable seeds are offered, prepaid, at from 25 cents to $1 each.

HEMAN GLASS, Rochester, N. Y.—A catalogue (64 pages) of seeds for the farm and garden. Besides the regular lists, they are put up in collections. Fifteen packets of vegetable seeds are offered for 50 cents, postpaid by mail; 31 packets ("a complete garden outfit") of vegetable seeds, for $1; 15 packets of flower seeds for 50 cents, and so on.

C. E. WHITTEN, Bridgman, Mich.—A catalogue of strawberries—the list is excellent and the descriptions trustworthy—raspberries, blackberries, currants and gooseberries. Alluding to the Loudon raspberry, Mr. Whitten tells us that the President of the Michigan Horticultural Society, after visiting its place of origin, was so well pleased with it that he intends setting 20 acres for market.

JAMES J. H. GREGORY & SON, Marblehead, Mass.—The ordinary catalogue of farm and garden seeds, garden implements, etc. Few firms, in our opinion, take more pains to send out seeds true to name and the best of their several kinds. The firm regards Siebert's Early as the best pole Lima ever offered and the earliest true Lima. Among the later novelties is Carter's pea the Daisy. It is claimed that this is the finest flavored wrinkled pea yet introduced. The vines grow to the height of 15 inches. It is an intermediate and is noted for the "great size of its pods." The New Life pea (Fig. 42) Mr. Gregory praises because of its large, dark green pods borne in immense quantities and the dwarfness of the vines. It possesses all the good characteristics of the well-known Stratagem, which THE R. N.-Y. popularized, without its defect of bearing a greater or less number of small pods. The sweet pea Celestial is said to bear large flowers of a light blue color. Note what Mr. Gregory says of Saghalin. The Soja bean is regarded as excellent for ensilage. He prefers the Leaming corn for ensilage as the best of all kinds that will mature in New England. He says that Kaffir corn cannot be relied upon to mature seed in New England.

ELLWANGER & BARRY, Rochester, N. Y.—A general catalogue of fruit and ornamental trees, shrubs, roses, hardy border plants, in three parts (150 pages), and also a novelty supplement of 16 additional pages. It is accurately illustrated, and the descriptions are as trustworthy and concise as descriptions can be made. We know of no catalogue superior to it in these respects, and very few its equal. We are pleased to see excellent photographic portraits of the founders of this old and respected firm, George Ellwanger and the late P. Barry, who have done as much, we fancy, to promote a true appreciation of fruit growing, and horticulture in general, as any two men in America. There is a colored page of eight trees and shrubs notable for the brilliant coloring of the leaves, and the marked contrast of the colors. Among the meritorious novelties which the firm "strongly recommend," are the new fall pears, Lady Clapp and Madame Hemminway; the Barry apple, which keeps in perfection until June; the new winter pears, Dorset, Fred Baudry, Olivier des Serres, and P. Barry, while the lists of new and comparatively new peaches, plums, small fruits and ornamental shrubs and trees are so extended that we may not even mention their names. The new Japan Tree lilac, see Fig. 43, is described as a "remarkable species from Japan, which becomes a good-sized tree. The foliage is dark green, glossy and leathery. The flowers are feathery, in great panicles, of a light straw color, and odorless." It blooms a month later than other lilacs.

H. W. BUCKBEE, Rockford, Ill.—Seed and plant guide of 80 large pages, pro-

(*Continued on next page.*)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Ornamenting

It recently occurred to Tiffany & Co., the New York jewelers, to ornament a bicycle elaborately with gold, silver, and precious stones, believing that some wealthy customer would esteem so handsome a mount. They preferred to pay $100 each for

Columbia Bicycles

For their purpose to using any other make of wheel. There must be no question of quality in a bicycle selected for such ornamentation. Therefore they chose Columbias

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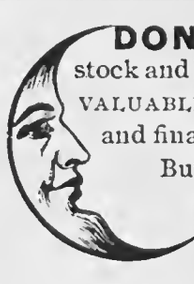

DON'T buy worthless nursery stock and **WASTE** many years of VALUABLE **TIME** waiting results and finally lose your **MONEY.**
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Company who have the

FINEST NURSERY STOCK

at Reasonable Prices.

New Catalog for 1896. Send for one. **Free.**
Estimates furnished. Correspondence solicited.

THE WM. H. MOON COMPANY, Morrisville, Pa.

10 NOVELTIES FOR 25c.

Our collection of Ten Grand Novelties contains: Cabbage, Worldbeater; Cucumber, Cool and Crisp; Lettuce, New Iceberg; Musk Melon, The Banquet; Water Melon, Cole's Early; Onion, Prizetaker; Radish, New Cincinnati Market; Tomato, New Imperial; Squash, Faxon; Turnip, Early White Milan. One trial pkt. of each, only 25c. in stamps or silver. Handsome **Garden Annual FREE**

COLE'S SEED STORE, PELLA, IOWA.

If "The best is the cheapest" is applicatory to the purchase of anything it is preëminently so to that of trees. You find no seedlings scattered through your orchard if you purchase direct of a thorough nurseryman. The Storrs & Harrison Company, Painesville, Ohio, have been in the nursery business over 40 years, have the reputation of being expert tree growers, are perfectly responsible, and as you will see in our advertising columns, offer a valuable catalogue free. If you are in want of trees, plants, seeds, or anything in the nursery line, send them your address on a postal. —*Adv.*

IF YOU WANT THE BEST GARDEN

in your neighborhood this season

PLANT OUR FAMOUS

SEEDS AND PLANTS

all of which are described and illustrated in our beautiful and entirely **New Catalogue for 1896.** A new feature this season is the **Free** delivery of Seeds at Catalogue prices to any Post Office. This **"New Catalogue"** we will mail on receipt of a 2-cent stamp, or to those who will state where they saw this advertisement, the Catalogue will be mailed **Free!**

PETER HENDERSON & CO.

35 & 37 Cortlandt St., New York.

BRIDGEMAN'S

New Catalogue of

GARDEN SEEDS

Now Ready. Send for it.

37 East 19th Street, New York.

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My catalogue of **Seeds direct from the Farm** will explain what that means. Sent FREE. It contains **Rare Collections of Seeds at 1-2 Price.** Earliest Tomato grown, etc., etc.
Address

HEMAN GLASS, Seed Grower, Rochester, N. Y.

FERRY'S SEEDS

Ask for them—get them, plant them. They are the standard seeds everywhere; sown by the largest planters in the world. Whether you plant 50 square feet of ground or 50 acres, you should have **Ferry's Seed Annual** for '96. The most valuable book for farmers and gardeners ever given away. Mailed free.

D. M. FERRY & CO., Detroit, Mich.

RADISHES

A radish hard, pithy and bitter is worthless. A good one—small, crisp and mild—a luxury. Poor radishes are raised by most people with doubtful culture, soil and seed; the GOOD by few, with rich soil, proper fertilizing and best seed—adding wood ashes and salt, insuring quick growth and using BEST SEED.

Vaughan's Seed is best—Vaughan's Twenty-Day Forcing Radish is too quick to get pithy. Twenty days from sowing! The worms cannot keep up with them. TWO CROPS grow from it while one is produced from other seed. EVERY KERNEL GROWS!

Our List of Best Radishes:

	Pkt.	Oz.	¼-lb.	lb.
Twenty-Day Forcing	5c.	10c.	30c.	$1.00
Scarlet Globe	5c.	10c.	25c.	.85
Scarlet Globe, white tip	5c.	10c.	30c.	1.00
Improved Breakfast	5c.	10c.	25c.	.80
Vaughan's Market	5c.	10c.	30c.	1.00
Chartier	3c.	7c.	20c.	.60
Munich Bier Rettig	5c.	10c.	25c.	.80
Lady Finger	5c.	10c.	20c.	.65
Early Long Scarlet	3c.	6c.	15c.	.50

One packet RED Hubbard Squash, rare and valuable, FREE with every order, if you mention this paper. Write for our complete 116-page catalog for 1896. It tells the whole story.

VAUGHAN'S SEED STORE

84 and 86 Randolph St., CHICAGO.
26 Barclay St., New York.

FREE

Prettiest BOOK ever Printed.

SEED ONE CENT A PACKAGE, and up.

Cheap by oz. and lb. A lot of extra packages with every order. Send for catalogue.

R. H. SHUMWAY, - Rockford, Ill.

GARDEN AND FLOWER SEEDS

Our **new 1896 Seed Catalogue** is a marvel of careful work, and the most beautifully illustrated Seed Catalogue published. Sent free if you are **a seed buyer.**

POULTRY SUPPLIES

Our **new Poultry Supply Catalogue** is most complete and has *carefully revised Prices.* You need it if you only keep five Hens. With **CHICK MANNA** you can save every chick hatched.

Catalogue Free.

JOHNSON & STOKES, 217 & 219 Market St., Philadelphia, Pa.

GARDENER'S SEED AND PLANT GUIDE

From experience, tells about gardening for profit or pleasure and about The Flower and Vegetable Garden. Postpaid 5c. JNO. BAUSCHER, JR. Box 465 Freeport, Ill.

ONION SEED.

Any one in want of True Southport Onion Seed White, Yellow and Red Globe, Garden or Flower Seeds of all kinds; Bulbs or Plants should send for our illustrated Catalogue for 1896; mailed free to any address. Our Seeds are all high-grade, tested seeds. Get our list and prices of Hardy Hybrid Rose Bushes

WHEELER & CO., Bridgeport, Conn.

WHITE SCHONEN OATS

Prof. W. A. Henry, of Wisconsin Experiment Station, says: "For productiveness, stiffness of straw and thinness of hull the White Schonen stands at the head of the list." In a letter dated Dec. 28, '95, Prof. Henry says: "The White Schonen have no superior." Write for circulars to J. L. ALBERT, Paw Paw, Ill.

Seed Potatoes
Small Fruits
Seed Oats

Carman No. 1, $3.00 per barrel, Carman No. 3, $6.00 per barrel. Other varieties of potatoes much cheaper. Three to six plants of the **Wonderful Columbian Raspberry Free,** to purchasers, or sold at 30c. each, $2.75 per doz., delivered. Write for my catalogue, it is **Free,** and will save you money.

E. H. VICK, - - ROCHESTER, N. Y.

SALZER'S SEEDS

BRL $1.50

35 Packages EARLIEST VEGETABLE SEEDS. Postpaid, $1.00.

YOU Have often seen seed come up poor and sickly, without sufficient vitality to produce a crop—that was an object lesson that poor seeds produce poor crops—but when you plant Salzer's Northern Grown Seeds, for garden or farm, the scene changes as if by magic. Instead of poor yields you at once get rousing crops, crops that will gladden your heart and fill your purse, for Salzer's Seeds are full of life, full of vigor, full of producing qualities.

$400.00 IN GOLD PRIZES.

We pay this on Oats, Barley and Corn. 209 bushels Silvermine (Nameless Beauty) Oats grown on one acre in 1895. You can beat that! It is the greatest Oats of the century. No more hard times if you sow a plenty of Salzer's Barley, Oats, Potatoes, Grass and Clovers! Have you tried Teosinte, Sacaline, Giant Spurry and Giant Quick-Growing German Clover? Catalogue tells all about these marvelously wonderful Fodder Plants!

SPLENDID VEGETABLES.

Large selections, many splendid sorts. Everything cheap. Onion Seed at 90c. per lb; 10 pkts. Flower Seed, 25c. 1,000,000 Roses, Plants and Small Fruits, hardy as Oaks. Send 2c. for Market Gardener's Wholesale List. Our great Seed and Plant Book, 148 pp., with 10 pkgs. Grasses and Grains, including above Prize Oats, Barley and Corn, is sent upon receipt of 10c. postage. Catalog alone, 5c. Catalog and one pkg. Pumpkin Yellow Melon, 12c.

JOHN A. SALZER SEED CO. LA CROSSE, WIS.

CATALOGUE REVIEWS.

(CONTINUED.)

fusely illustrated. The front and back pages are colored, showing the people who attend county fairs and some of the vegetables exhibited. Buckbee's Colossal field corn is shown natural size and the claim is made that the average yield is 100 bushels to the acre. It is said that the grain is larger than that of any other kind. It ripens in 100 days and many unusual claims are made for it. The Illinois oats, the catalogue says, is "the astonishing agricultural wonder of the age—having yielded 146 bushels to the acre, on a 160-acre field." Among the collections offered at reduced prices we find 25 "grand varieties of vegetable seeds, one liberal package of each, prepaid for 75 cents"—18 varieties for 50 cents. We really do not see how such offers can be made and carried out with profit. The catalogue also offers bedding, greenhouse and hardy plants.

R. M. KELLOGG, Ionia, Mich.—An illustrated catalogue (36 pages) of small fruits. Mr. Kellogg tells in a plain way, the beginning of his venture as a small fruit grower, and how he has earned success, the way he raises his plants, how he treats them, the way he markets them, the tools he uses. It is a very practical talk, taking up 17 pages. The other pages are devoted to the best varieties of strawberries, raspberries, blackberries, gooseberries, currants, grapes, etc.

J. T. THOMPSON, Oneida, N. Y.—An illustrated circular setting forth the good traits of the Columbian raspberry. We may say to our readers that we unqualifiedly recommend this variety as the very best of its kind, and we are speaking from our own experience. We believe it to be, as to plant, among the hardiest and most productive; as to berry, as good and as large as the Shaffer, which it resembles, and clinging more firmly to the stem. Our readers will make no mistake if they invest in the Columbian.

HARRIS'S RURAL ANNUAL.—Catalogue of Moreton Farm, N. Y. Established by the late Joseph Harris who through his agricultural writings made himself affectionately known to most progressive farmers of our country. The company is now managed by his son, S. M. Harris. The catalogue (35 pages) will be found to embody a very substantial list of the vegetable and flower seeds most prized to-day. A pamphlet that tells us how to save money by mixing our own fertilizers will be sent free on application.

THE HUNTINGTON SEED COMPANY, Indianapolis, Ind.—A general catalogue (80 pages) of seeds for the farm and garden. Among the novelties is one that seems specially worthy of attention. It is the Vineless Gold Coin Prolific sweet potato, to which allusion has before been made in these columns. The company value it as "the greatest novelty yet produced among vegetables," and there seems some reason for this claim. The potatoes are similar to the Yellow Jerseys; the quality is fully equal. Of 29 kinds tried at the experiment station the Gold Coin made the largest yield, was the earliest to mature and the best drought-resister. As the plants do not grow to vines—they grow like bush beans—they are easily cultivated. The claim is made that they may be dug more easily than Irish potatoes, because the potatoes are "all in a bunch" and may be lifted out of the soil with one turn of the fork. The variety is so early that it can be grown in extreme Northern latitudes where, hitherto, it has been impossible to raise sweet potatoes. The price for 50 plants, prepaid, is $1; 100 plants, $1.50, etc.

The catalogue tells also of a new seven-eared fodder corn which, if what is said of it is true, is well worthy of trial. It "never produces less than *five* ears to a stalk, and even produces 10 ears measuring seven inches in length. The plants grow as high as 15 feet; the stalks are short-jointed and give a wonderful growth of leaves." The important claim is made that it is an early variety and will mature "almost anywhere," and produce double the amount per acre that any other kind will produce. We shall try this. The picture resembles Blount's (Tennessee) Prolific which often yields from three to six, and even seven *small* ears to the plant. But this is a late variety.

F. BARTELDES & Co., 805-811 New Hampshire St., Lawrence, Kan.—A catalogue of seeds of all kinds for the garden and farm—100 pages with colored covers and a colored page of pansies, nasturtiums, sweet peas and vegetables. The catalogue offers seeds of fruits, evergreen and deciduous trees, etc.

O. H. WHITE & SON, Miller Corners, N. Y.—While this catalogue offers selected lists of garden and farm seeds, it is mainly given to seed potatoes, and the lists comprise the very best of the newer as well as standard varieties. Cash prizes are offered for the largest yields from certain kinds, without resort to sprouting or slipping. Four collections of—two of vegetable and two of flower—seeds are offered prepaid for from 50 cents to $1.

SENT ON TRIAL.

A Double Gang "ACME" Pulverizing Harrow, Clod Crusher and Leveler will be sent to any responsible farmer and if it does not suit may be sent back at the expense of the manufacturer. No pay is asked until tried on his farm. Farmers should not, therefore, let dealers palm off on them a base imitation or inferior tool under the assurance that it is better. See advertisement on page 131.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Experience

has proven conclusively that better **grapes** and **peaches**, and more of them, are produced when Potash is liberally applied. To insure a full crop of choicest quality use a fertilizer containing not less than 10%

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Orchards and vineyards treated with Potash are comparatively free from insects and plant disease.

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$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

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SOUTHERN, SHIPMAN } Chicago.
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IF YOU DON'T KNOW, ask the practical, responsible painter—ask anyone whose business it is to know—and he will tell you to use Pure White Lead and Pure Linseed Oil. They make the best and most durable paint. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands). For colors use the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. No trouble to make or match a shade.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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FERTILIZERS FOR SPRING CROPS

Are a necessity. To obtain proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the CHEAPEST and BEST plant-food known. Our brands are compounded on a scientific basis to supply a constant source of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Special Potato Manure for Potatoes.
Special Corn Fertilizer for Corn.
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Write for our circular giving analyses of goods and testimonials from those who have used them.

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I. P. THOMAS & SON CO.,
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The Alice Grape. The hardiest and best keeping grape ever offered. Ripens with Concord. Keeps all winter; splendid quality, very productive. Catalogue with full description free. F. E. Young, Nurseryman, Rochester, N.Y.

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You can get of us THE RURAL'S favorite grape, Nectar or Black Delaware. Catalogue free.
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Save Money on Fruit Plants.

Strawberries *a specialty. 3 Farms. Immense stock. A No. 1 plants.* 50 best varieties strawberries *low.* Our '96 catalogue tells why I can sell such *choice stock so cheap.* Write now.
O. A. E. BALDWIN, V. St., Bridgman, Mich.

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Introducer of Satisfaction Strawberry, has Clyde, Wm. Belt, Marshall, Bisel, Brandywine, Eleanor, Mary, Staples, Brunette. Over 40 other best varieties. Large stock very fine plants. Descriptive Catalogue free. ENOS W. DUNHAM, Stevensville, Mich.

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1,000 best 4 kinds, by express, not paid 2 50
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Largest yielding and most profitable. Extra fine plants; very cheap. Write for prices on quantity wanted. Address
JOS. HARRIS CO., Moreton Farm (P. O.), N. Y.

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of Fruit Trees and Plants. Send for my Catalogue.
TICE C. KEVITT, Athenia, N. J.

You will make NO MISTAKE. If you plant the WILLIAMS Strawberry. Send for Circular. WM H. BUNTING, St. Catharines, Ont. "The Carleton Fruit Farm."

KANSAS RASPBERRY.

A large and well-rooted stock of this variety; also, of everything to be found at the largest, up-to-the-times small fruit nursery. Prices low; quality high Catalogue free. W. B. FULTON, Kirkwood, Ohio.

PLANTS Ohio and Gregg Raspberry Plants for Sale. Send for prices.
E. J. COOK, Oaks Corners, N. Y.

MY STRAWBERRY CATALOG FREE of interest to progressive growers and careful buyers. SIXTY VARIETIES.
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The Original home of the Greenville Strawberry AND THE ELEGANT NEW APPLE DOWNING'S WINTER MAIDEN BLUSH Like its parent, Fall Maiden Blush, but keeps well all winter. Catalogue of these valuable fruits and other leading varieties is now ready. Address, E. M. BUECHLY, Box 242 Greenville, O.

Plant the Best Currants

WHITE IMPERIAL excels all others in quality for a fine table currant.

PRESIDENT WILDER combines qualities that make it the most valuable market and table Red Currant that has been put upon the market. For prices apply to

S. D. WILLARD, Geneva, N. Y.

Fruit Packages.

A description of the current styles of baskets boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper, 20 cents.

THE RURAL NEW-YORKER New York.

FRUIT PACKAGES of all kinds
Also Beekeepers' Supplies.
Now is the time to order and get the DISCOUNTS. Catalogue and price list free. Address
BERLIN FRUIT BOX CO.,
Berlin Heights, Erie Co., Ohio.

PLANT BOXES $2.25 PER 1000.
For HOT-BED USE
4-inch cube, 4½-inch cube, or 5-inch cube.
BERRY CRATES and GRAPE BASKETS.
Write for price list. Address
COLBY-HINKLEY CO., Benton Harbor, Mich.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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Address all business communications and make all orders payable to
THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, FEBRUARY 22, 1896.

Is it Langford or Lankford apple? A number of people have asked that question. H. E. Van Deman says the apple originated in Kent County, Md., near a town called Lankford—taking its name from the village. Let us spell it with a k then—though it is doubtful if the variety will be largely planted.

⊙

ANOTHER word about seed potatoes. There never was a better time to obtain seed of new and improved varieties at a low price. Don't think that the present low prices will set the standard for the next 10 years. The chances are that it will be 15 years before we again have the combination of circumstances that have made potatoes so low this year. As prices for market potatoes rise, prices for seed will rise with them. This season, therefore, is the time to stock up with new and vigorous seed.

⊙

AT this season of the year, we often have many questions about the best way to utilize bones for a fertilizer. On page 114 we are told how a Massachusetts man does the business. This method requires a somewhat expensive outfit of steam tank and boiler, though on many farms, the engine and boiler are already to be found. A number of farmers might combine and secure such an outfit, and thus save considerable money in buying bone meal. This steamed bone will make a good fertilizer when used with muriate of potash. A small quantity of nitrate of soda may be used with it if desired. It is not necessary to use acid on such bone.

LAST week, THE R. N.-Y. pictured an old log building that is still standing in New York State. This week, as a contrast, we give a picture of a building in the Virginia mountains. These buildings are of just about the same age, and they well illustrate the different plans adopted by the old-time pioneers. To carve a home out of the forest in New York State, was a very different thing from locating a farm in Virginia. Climate, soil and conditions were all different, and the house that could have been made comfortable in Virginia, would have proved only a freezing box in New York. Both these old buildings are typical specimens of the architecture of pioneer days. They served a useful purpose, and we are glad to see them kept to remind the younger generation of what their ancestors did a century ago.

⊙

DURING the past few years, THE R. N.-Y. has had considerable to say about cheap lands in the rainless districts of the West. Thousands of poor people were induced to leave homes in other parts of the country and buy farms in portions of the West where irrigation is impossible, and where there is sufficient rainfall to mature a crop not oftener than once in seven years. These people starved along on this desert until, dried out and discouraged, they left it, in many cases giving up their property to those who held mortgages on it. We understand that an effort is to be made to sell this land again to a second crop of unfortunate or discontented people. Efforts are to be made in the States west of the Missouri River to increase greatly their population before the census year —1900. This is a perfectly legitimate enterprise, and there are many portions of these States where comfortable homes can be made by the economical and thrifty. It is a sin against humanity, however, to induce poor people to settle on the deserts from which hopeless ones have already been driven by starvation and want. This is a poor time to change one's location. Better stick to the old farm and see whether you cannot, by getting closer to it, learn where the trouble lies.

⊙

THE Indiana Experiment Station has issued a sensible bulletin on Kaffir corn for Indiana. Certain newspapers have been printing an article which gives this plant the most extravagant praise. Prof. Latta, of Indiana, gives the following conservative report:

> While Kaffir corn may well claim the attention of farmers living in very dry climates, it is at least an open question, whether it can prove advantageous to the farmers of Indiana. It should be borne in mind that the sorghums are recommended as forage plants for the drier climates in which Indian corn cannot thrive. Where Indian corn grows to perfection, as it does in all portions of Indiana, it would be extremely unwise to neglect it for any of the sorghums which have thus far shown no special adaptation to this section.

That is a safe rule to follow in buying seed of this plant. This was our report 10 years ago. *Try it* in a small way before you buy it extensively.

⊙

IN Mexico and Central America, are many insects injurious to fruits and vegetables. Should they once find a lodgment in this country, it is likely that they will spread and do much injury to our orchards and gardens. We have insect foes enough now without importing any more. The entomologist of the New Mexico Station suggests that the experiment stations in the States along the southern border of this country, combine and take measures to keep out such insects so far as possible. It is also suggested that the United States Government employ a competent entomologist to travel through Central America, studying these insects and planning methods of fighting them. Why not? Let's know about these insects before they reach us. If eastern farmers had known about the potato beetle before it reached their farms, they could have saved many dollars.

⊙

THEORETICALLY, sugar takes less plant food out of the soil than any other crop besides honey. There is no potash, phosphoric acid or nitrogen in the finished crop, and if the cane, after being crushed, could be all returned to the soil, we might say that additional manures and fertilizers would never be needed. The molasses, however, contains considerable potash and phosphoric acid, which would be lost to the land if sold. As we have often stated, the Louisiana sugar growers have tried, in various ways, to dispose of their waste molasses at a profit. Thousands of tons have been poured into ponds and streams. Efforts have been made to work it into rum, or to feed it to live stock. The latest plan is to char it and use it as a fertilizer. The Louisiana Planter states that a heat of 350 degrees will take the water and stickiness out of the molasses, and leave a fine, dry product containing quite a high percentage of available potash and phosphoric acid. What a singular commentary it is on the changes that have taken place in American agriculture, when the sugar princes of Louisiana will seriously consider such a disposition of a waste product.

⊙

THE Southern Farmer states that never before in the history of New Orleans have there been such immense shipments of western corn to that port. Most of it is for export to the republics south of us or to Europe. In former years, the vast quantity of corn came to the South to be used on Southern plantations, Last year, however, Louisiana, Alabama, Mississippi and, probably, Georgia produced twice as much corn as was grown in any previous year. Had they not done so, the grain that is now piling up in New Orleans would have been distributed through these States, and the money paid for it would have been sent out of the South. As it is, this western corn is forced to seek a new outlet in search of a cash market. This is one of the first indications of the effect on the country's trade that may be expected when the South began to produce food for export instead of buying it from the West. Fifty years ago, New England farmers began to find that cheap western meat and grain were destined to change all their plans for agriculture. To-day the western man must realize that the present unused possibilities of Southern climate and soil will, sooner or later, be utilized to force changes in crops and methods upon him.

⊙

AMERICANS are aware of the fact that a war of rebellion is being waged on the island of Cuba, but few have given much thought to the causes of this war, and fewer still know how it is progressing. The reports sent to the press are either magnified or garbled to suit one side or the other, so that it is hard to learn the exact condition of affairs on the island. From information that appears to be accurate and fair, we conclude that the rebellion is fully justified, and that the insurgents are pretty sure to win. By location and climate, Cuba is fitted to be about the happiest and most prosperous bit of earth that peeps out of the ocean. Instead of that, we find there today a colony cursed with all the blights of crime, ignorance, bigotry and hopeless wrong. Spain has forced this condition of affairs upon Cuba by her national greed for gold. From the time of Columbus, the Spanish government has regarded its American colonies simply as fingers, useful to gather up money and send it over the seas to the old country. Injustice, extortion, bribery and fraud have characterized the acts of most of the rulers sent over from Spain. In vain does the stranger in Cuba look for the schools, hospitals, asylums or other public mementos which the rich in other countries often leave behind them. The whole trend of public life has been in the direction of miserly and grasping egotism. Spanish rule has failed, and so far as we can see, the Cubans are more fully justified in their rebellion than were the American colonies when they rose against Great Britain. We think that the Cubans will in the end succeed. They are in the right. Spain is crippled financially; her soldiers are mostly ignorant and untrained men with no patriotic spirit—and she deserves to lose as a just retribution for her evil government. It is said that the Cubans are incapable of self government. The same thing was said of Americans during the Revolution, and it will always be said of any nation or class that asserts its rights and speaks out against oppression and wrong. Success to the Cubans in their struggle for liberty!

⊙

BREVITIES.

It is folded away in the bureau drawer,
With the rent unpatched that her fingers tore,
The daintiest garment you ever saw—
The little, long dress that the baby wore.
"Lie there," said her mother, "the long years through,
Wait there till the baby some day will come
With her first big dolly and call for you
To rustle her skirts in her new doll's home!"
So there it is waiting till baby grows
To a little mother. The years are long.
Will she ever come for the dress? Who knows
What infinite plans to the years belong?
Wait patiently there with your ribbons blue;
Wait patiently, holding our hopes and fears,
And tenderly lead the poor baby through
The troubles and cares of the coming years.

ALL about lettuce culture next week.

QUACK grass has more lives than a cat.

COOK a good dinner for the bread winner.

FOOT up a list of the unhandy things on your farm.

IT'S hard to beat corn stalks as a mulch for strawberries.

THE spliee of a vice will break off a man's good resolves in a trice.

IT is *civil* government when the man in authority says, "*Please* do that!"

WHEN a smart boy does the work of a dull man does he get a man's pay?

ARE you doing any of Grundy's "tinkering" this winter? Do you spell your profits with an *un?*

LOOK out for the man who thinks "gallinocultural science' looks better in print than hen keeping.

WHAT is the secret of coöperative sueeess? Not the many who "co" but the selected few who operate.

"KEEP the boy on the farm!" How about the girls? Are they not worth as much as the boys? Why not?

READ the ingenious explanation of the hen's ability to withhold an egg (page 123), and then resolve to keep your hens good-natured.

HENS often crowd too much on the roost. The latest scheme is to put pegs in the roost at regular distanees so as to keep the birds apart.

MISSISSIPPI has a strong law against carrying concealed weapons. The tongue that whispers slander is a dangerous concealed weapon.

"YOU can't make honest figures lie!" That's what they teach us in our schools, yet figures make the truth to fly when liars use them for their tools.

YOUNG man, that drinking fund of yours would make a good sinking fund to start you in business. It will sink you anyway if you continue to drink it up.

LOOK up the performance of your bull's grandmother as Mr. Powell suggests. Then select his best daughters and feed them well. That is simple science in breeding.

WHAT matter if the wintry chorus blows or at the cracks Jack Frost's sharp teeth may gnaw, if in the shed the wood pile slowly grows—a monument to father's ax and saw?

PROBABLY fewer bogus fertilizers are sold in Connecticut than in any other State. This is due to the experiment station. Now this station will move on similar lines against bogus and adulterated foods.

WE are informed that Bulletin 94 of the Geneva, N. Y., Experiment Station can no longer be supplied to persons living outside the State. This bulletin has been widely circulated. *Simple* and soluble science about fertilizer is always popular.

HERE is one man's opinion on the hen question: "Can a hen refrain from laying at will? My observation leads me to believe that the gentler sex can do most things they have a will to, so that on general principles I would incline to say yes!"

THE Jersey Bulletin, which ought to know, says that swindlers have done much injury by palming off low-grade cattle as genuine Jersey cows. They "buy up anything that looks like a Jersey" and take them to regions where the breed is not known, for sale Who *bred* these cull Jerseys, anyway?

BUSINESS BIRDS FOR BUSINESS BREEDERS.

PROFITABLE POULTRY IN PROSPECTIVE.

The Great New York Show.

Most breeds have some special feature to commend them; for instance, the Dorkings are considered of extra quality for table fowls; but few people raise Dorkings. Probably no breed will lay a greater weight—or possibly, number—of eggs than the Minorcas; yet the number of this breed is not large. The breed which led in numbers at this show was the P. Rock. There were nearly 300 specimens in the various colors, about two-thirds being the well-known old Barred variety. These are familiar all over the country, and are great favorites with farmers and breeders. Their beautifully barred, though quiet suit of gray, contains a plump body mounted on smooth, yellow legs, covered with a bright, yellow skin, that is attractive when the birds are dressed for market. This is a hardy breed, too, though the single combs freeze more easily than the rose combs of some other breeds. It's a general-purpose breed, the hens not only laying a fair number of eggs, but being ready to hatch them as well. Some say that they are too persistent sitters. The eggs are brown.

Much like these except in color are the Whites. Many prefer a white fowl and those who do, will find these good general-purpose fowls. There were 40 of these shown. Of more recent origin—or manufacture—are the Buff P. Rocks. There has been quite a craze for buff-colored breeds in some quarters, and buffs were accordingly produced in several breeds to which this color was formerly a stranger.

Our business hen, the Leghorn, came next to the P. Rocks in numbers, more than 200 being on exhibition. These were divided between a number of different varieties, the Whites falling below the Browns in numbers. It was the smallest show of Whites for many years, there being but 47 Single Combs, and 12 Rose Combs. Judged from this exhibition, the Browns are gaining in popularity, there being 69 Single Combs, and 21 Rose Combs in that color. The old S. C. Whites lay the largest eggs of any, and the purest white in color. All of these different varieties are regular egg machines, but the eggs of the Browns are usually somewhat smaller, and not so white in color. They are all smaller in size, mature early, are nervous and high strung, and require a high fence to keep them in confinement, although enduring confinement well. If anything, the Browns are a little more quiet in disposition than the Whites. The single combs of both colors will freeze if exposed to severe cold, more easily than the rose combs. The Leghorns are supposed to be non-sitters, but sometimes become broody if too fat. They do not equal some of the other breeds as mothers, however. They are not so good for market poultry as the P. Rocks or Wyandottes. They are to the fowls, what the Jersey is to the cattle. In the Leghorn classes are also found Blacks, Silver Duckwings, and Buffs, but none but the fancier has much use for these.

Wyandottes are great favorites with those who have bred them. The originals of these are the Silvers, and of these 74 were shown. These are hard to breed true to color and markings, and when first brought out, many of the strains were so closely inbred as to produce weakness in the offspring. Where this is not the case, the breed is a strong, vigorous one, with plump bodies, broad in the breast with plenty of white meat, with bright yellow skin and legs, the latter being smooth. They are heavily feathered, and this with their rose combs, fits them for enduring colder weather than some of the other breeds of the Leghorn class. They are good layers of fair-sized eggs, the older birds of some strains laying quite large eggs. They are quiet, easily confined, good sitters, and excellent mothers.

The Golden Wyandottes are much like the Silvers, except that they are a rich golden color where the others are white, a most beautiful combination in well-bred birds. Forty of these were shown.

But we believe that the coming general-purpose fowl of the country is the White Wyandotte. It seems to combine the good features of the others, and its plumage is a pure, snowy white. For market, no other color dresses so well as white, and as this is combined with yellow skin and smooth, yellow legs, the combination can't be beaten. There were 42 of these, and one lot of a half dozen were magnificent specimens. They took first prizes all around, and were excellent examples of what care, skill and intelligence can produce. The prize-winning cock weighed 10½ pounds; the Standard weight is 8½. A young cockerel was larger and better than many of the old ones usually seen. The owner said that he had numerous chances to sell him for $50 to $75. Breeders of the whites say that they lay larger eggs than the Silvers, and that they will lay a greater weight of eggs than the Leghorns. The eggs are brown. The man who gets these, if he get good stock, cannot go far amiss. There were a few Buffs and Blacks, and some of the new Columbians which have little excuse for being.

Magnificent specimens of Bronze and Mammoth White turkeys were on exhibition. The former are more widely known, but the latter are gaining in numbers each year. They are not so much inclined to roam as the Bronze, and are preferable on that account.

In ducks, Pekins take the lead as usual. THE R. N.-Y. has had much to say of these, and still considers them *the* breed for this country.

HOW ARE EGGS WITHHELD?—In order that any gland or organ of the body may perform its function properly, it must have a normal amount of blood flowing through it, both to supply the needed material for the secretion, and also to keep up the normal action of the gland itself. The flow of blood being regulated by the involuntary nerves, anything that excites or worries, interferes with normal secretion (usually by causing spasms of the arteries for a time, later followed by relaxation). We see this action in the withholding of saliva when one is very anxious to swallow dry food in a hurry, especially in some of the savage ordeals; or, on the other hand, the excitement may cause a rapid action of the muscular coats of hollow tubes such as the bowels, and cause an involuntary emission of the contents, or they may act so sharply as to cause a complete spasm, and prevent any action at all till relaxation follows the spasm.

Now, in regard to the egg; wouldn't the excitement or fear caused by moving the hen, cause a contraction of the arteries supplying the egg clusters, and for a time interfere with their development? And might not the abnormal action of the oviduct from the same cause, eject an egg that was already formed? Or if the excitement were more severe so as to cause a spasm of the oviduct, cause the withholding of the formed egg for some time?

Some time ago you asked for experience in getting eggs from moulting hens. In the fall of '95, I had six Leghorn hens, two of them two years old last spring. When they commenced moulting, all stopped laying but one of the two-year-olds. She kept on laying for some time, though she was pushing out feathers at the time. She finally stopped laying, and did not begin again till most of the others were laying. The other old hen stopped only for a very few days, then began laying two eggs in three days for a time, then one every other day, then farther apart, though moulting at the time. She did not moult completely in the fall, but took a new start at it in January, and has not a full supply of feathers yet, though I am confident that she has been laying more or less all winter. Now her rose comb looks like a sponge full of blood.

New Jersey. (DR.) W. S. FOSTER.

Last Subscription Contest.

This will be the last opportunity for our agents and friends to win a prize this year. No other farm paper has offered a prize this year equal to our $400 piano.

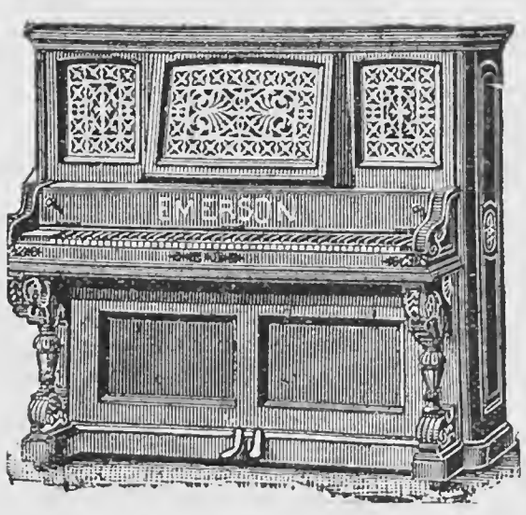
SHORT STORIES ARE IN ORDER.

The New Contest began February 10, and will end April 30.

On May 1, the person sending the largest number of subscriptions, will be entitled to first choice for the following list of premiums. The sender of the second largest club will have second choice, and so on.

The Emerson Upright Piano.

This magnificent instrument is a whole orchestra of itself. We offer it the second time because the last one gave great satisfaction. It is



worth $400 in cash. Picture your family gathered around this instrument, and then scour the neighborhood for the subscriptions needed to win it. It is made by the Emerson Piano Company, Boston, Mass.

Wilcox & White Organ.

The best way for you to learn just what this is, will be to send to the Wilcox & White Organ Company, Meriden, Conn., and get the catalogue. The organ is the "Princess" Style 4709, and is first-class in every particular. It's full of music—only needing foot and finger to bring it out.

Estey Organ.

The name "Estey" is a synonym for excellence in organ making. The instrument we offer is as good as any made by the famous Estey Organ Company, of Brattleboro, Vt. It is pictured and described in their catalogue as Style B 72. Get that catalogue and see what it looks like.

Farmers' Handy Wagon.

This is the celebrated "low-down" vehicle which saves your back and shortens your lift by one-half. The tires are wide so that it will run easily on soft or plowed ground. Just the thing for hauling ensilage, stalks, or in fact, any load that requires much hand work. A fine thing this—as you may see by reading the catalogue of the Farmers' Handy Wagon Co., Saginaw, Mich.

A Kalamazoo Buggy.

This buggy is made by the Kalamazoo Wagon Company, of Kalamazoo, Mich., the same firm that supplied us last year. This buggy costs $60. If you need such a vehicle on your farm, here is your chance to secure it. May 1 is "moving day." Better celebrate it by moving into this buggy.

Z. Breed's Weeder.

THE R. N.-Y. has told you how Mr. Breed started to make a weeder. This machine represents the end of his researches. It will kill the young weeds. What more do you want? Send to the Z. Breed Weeder Company, Boston, Mass., and learn all about it.

The Sherwood Steel Harness.

This is the harness which does not permit a horse to "kick over the traces," because there are no traces to kick over. You can't bark a tree with it, or drop a whiffletree on the horse's heels. Our belief is that a team can haul a heavier load with this harness than it can with the old style. Made by the Sherwood Harness Company, Auburn, N. Y.

Superior Steel Land Roller.

Farmers understand pretty well now when and where a roller is needed. If you need one in your farming, here is your chance to get one by rolling together a club of subscriptions. This roller is one of the best that is made. It has a grass-seeding attachment. Full particulars from John Moore's Son Co., Raritan, N. J.

These premiums are all first-class in every respect. The articles are just as good as you can buy, and the manufacturers expect to add to their reputation by placing them with our agents.

THIS IS NOT ALL.—In addition to the chance of obtaining one of these premiums, the agent is permitted to retain the regular cash commission. We also pay **One Dollar each Day** for the largest daily club of subscriptions. We will also guarantee a cash prize of $5 to any agent who obtains 20 subscriptions and fails to win one of the eight premiums.

Now, Are You Ready? If Not, Why Not?

The Harvest Waits! Who Will Reap It? For any further particulars, address THE RURAL NEW-YORKER, New York.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE REASON.

Grandma Gruff said a curious thing,
"Boys may whistle, but girls *must sing*."
That's the very thing I heard her say
To Kate, no longer than yesterday.

"Boys may whistle." Of course, they may,
If they pucker their lips the proper way;
But for the life of me I can't see
Why Kate can't whistle as well as me.

"Boys may whistle, but girls *must sing*;"
Now I call that a curious thing.
If boys can whistle, why can't girls, too?
It's the easiest thing in the world to do.

So if the boys can whistle and do it well,
Why cannot girls—will somebody tell?
Why can't they do what a boy can do?
That is the thing I would like to know.

I went to father and asked him why
Girls couldn't whistle as well as I,
And he said, "The reason that girls *must sing*
Is because *a girl's a sing-ular thing*."

And grandma laughed till I knew she'd ache,
When I said I thought it all a mistake.
"Never mind, little man," I heard her say,
"*They will make you whistle enough some day.*"

—*New Orleans Picayune.*

THE nurse system is said to be more common in Russia than in any other country. The young Empress, who is a young mother, will set a good example to the neglectful mothers of her empire, by fulfilling her duty to her child, in nursing it herself.

*

IF you would set a table that will be the pride of the neighborhood begin by exercising great care in selecting your vegetable seeds. Whether you do or do not excel in cakes and pies, let not that part of the feast be the objective point. Grow some of the rare and choice vegetables. These, when prepared for the table, will lend a charm to your dinners that the neighbors may well envy—and emulate your example next year. Remember, too, that flowers should have a place on a well-set table. As for fruits, we suppose that they are already attended to.

*

THIS is the way one of our correspondents expresses her arguments in favor of scolding:

If a wife has a husband that is dumb to sensibility, is void of feeling, with no sympathy, destitute of perception, is selfish in the extreme, turns a deaf ear to mild entreaty, scorns his patient wife's wishes, until her physical strength is exhausted or nearly so, and he refuses obstinately to listen to her pleading tones of "if you please," until she is compelled to be practical and demand in terms that he cannot misunderstand, in order to have her requests, which are reasonable, acceded to, and she, being confined to one continued round from day to day, year after year, without relaxation, her mind as well as body is tired, and under such circumstances, is it any wonder that she becomes indignant, perhaps petulant?

THE SCOLDING HABIT.

I THINK that the editor must have thought confession good for the soul, when she called upon scolding wives to give good reasons for the exercise of sharp and nimble tongues. For what is it but confessing ourselves scolds, if we come forward to give good reasons for scolding? We culprits would not care so very much if we could make a confessional of the editorial sanctum, and steal quietly in, one by one, to argue it pro and con with the editor alone. But to confess in public, and on paper, must be very, very good for the soul indeed, absolving it from the guilt of many scoldings, and curtain lectures. Perhaps the editor thought that not being able to give good reasons, we would forever after hold our peace—our tongues rather—both at home and abroad.

Perhaps some one more clever than I can give good reasons, but I have racked my brain in vain for even one. So I say, "Don't scold."

"Well, set an example yourself, then; and stop scolding;" some one retorts. "I am trying to," I meekly reply, but bad habits are not mended as soon as repented. If they were, what saints we all would be. But when I am tired, and Robin comes in all excitement over some boyish project, and sends his cap spinning under the lounge, and tosses his coat in one corner (after all my teaching and exhorting, too); and Bobolink lets fall some dish; or Linnet leaves the marks of her buttery fingers in the most conspicuous places, and another of Fred's air castles tumbles down, thereby dispelling rose-colored daydreams of my own; then that unruly tongue of mine gets fairly forked, it grows so sharp. But not always. Sometimes I set my teeth together, and hold them there until my wrath simmers down. But it is hard work, for it does seem to me that those delinquents ought to have a piece of my mind, in order that they may see things as I do, for I am always right (?) you know. And if I don't forcibly impress upon them the mending of their ways, they will all go to destruction.

But after a time, and some reflection, I find that Robin, if spoken to seriously, but pleasantly, is much more thoughtful for a time than if I had scolded; and Bobolink regrets the broken dish as much as I do. As for the finger marks—well, that is my own fault; for if I had set Linnet at the table to eat her bread and butter, and when she was through eating, if I had wiped her hands, there would have been no finger marks.

But if I had scolded, what then? Why, we would have been miserable and unhappy for a time, the children subdued or sullen. But the scolded ones would be well revenged, though they knew it not. In the silent hours of the night, while the others were sleeping peacefully, I would lie awake staring into the darkness, thinking how good and faithful Robin is in many things. And I would remember with pity the startled look in Bobolink's brown eyes at the result of her carelessness. And my thoughts wander back to that other mother I knew in days gone by, who never punished or scolded a child for a fault not wilfully committed, saying that they did not mean to do it.

As Linnet stirs in her sleep, I reach and softly touch the chubby face and fat little hands, thinking, remorsefully, What if I should place my hand upon the pillow, some wakeful night, and find it untouched by the curly head, and the little hands folded beyond my reach forever? Thinking thus, I clasp them closely, thankful that I have them with me, and not caring if there are butter marks all over the house.

And what of it, if Fred's air castles collapse; he will build a grand, substantial one some day. We must all live according to the brains with which the Creator furnished us. So the ministry of silence and rest works out its own result, and a prayer rises from my heart, that I may be a more patient and kindly wife and mother. JOSEPHINE STARR.

SHALL A WIFE EARN MONEY?

IF a wife's power to earn money, lessens a husband's desire to provide for the needs of his family, then that wife does her husband an injury in engaging in outside work. But such husbands, I think, are few and far between; for a man must be an exceedingly poor specimen of the genus homo, who will thus take advantage of his wife's poor, little efforts.

In the next place, not many wives and mothers have the time and strength that they can lawfully spend in outside work. Such wives help their husbands just as truly by doing their home duties; in fact, more so, than if they went beyond their strength, which is often the case, and a doctor's bill is added to the family expenses.

Then there are those wives, who, while the husbands are doing all they can, feel that they have both the time and opportunity to earn a little money in connection with their household work. Their husbands, whom I feel confident represent the majority and not the minority of married men, are not going to lessen their own efforts to enjoy the luxury of being supported from their wives' earnings. What can she do? Can she earn, even under the most favorable conditions, more than a modest amount of pin money? Bear in mind that the woman in question has but a small proportion of her time at her command. She is supposed to take up this outside work in connection with her housekeeping. Hence her earnings, in the majority of cases, will prove no temptation to the husband, or even suggest the thought that "he may be carried to the skies on flowery beds of ease."

I think that there are few wives who do not enjoy a little money that they have earned themselves. On canvassing the subject, there seem to be few undertakings in which a wife can successfully engage, and at the same time care for her family. Perhaps the first one that suggests itself to a farmer's wife, is the raising of poultry. That many a woman earns, in this way, a neat sum of money each year, is demonstrated by many an article in both farm and poultry papers. Probably, all things considered, there is no better or more profitable work for the farmer's wife,

Of late years, a number of articles have been published on the ways that a wife may earn money, such as making pickles, preserves, cottage cheese, and other articles of food.

I will close with a bit of experience, which may serve as a timely warning. Several years ago, while taking a vacation at home, I began to wish for something to do, as practically I had all my time to myself. While in this mood, I chanced to see an advertisement offering to send crochet work to women having a little spare time, and thereby filling their pocketbooks. Of course, I wrote to the firm, and received an answer. Women were said to earn from $2 to $10 per week. As a firm could not be expected to send material to unknown workers, a security of $2.50 was required, which, by the way, was not to be refunded under any circumstances. Despite the advice of the family, I sent the money and received my first work. It was a large tidy, the material being a stiff crochet cotton which was very hard to work. Unless a dozen of the tidies were made, no pay was to be received. With depressed spirits, I went to work. I crocheted in season and out of season; a week went by, then another, and the last tidy was yet to be finished. I have forgotten just how long it took me to complete the dozen, but I know that it took several days to make one, and I am a fairly rapid crochet worker. But, as I said, the cord was so stiff that it took much longer to make a tidy than though the material had been of a softer finish.

At last, the 12 tidies were finished. If they had all been joined together, they would have made a large bed spread. I had to pay return charges. These were in the neighborhood of 50 cents. And how much, think you, did I receive for all this labor? The munificent sum sent in payment was $1.40. That ended for all time my crocheting for profit. Instead of filling my pocketbook, I had emptied it. NELLIE C. ANDREWS.

WHAT'S IN A NAME?

ONE who delights to think of herself as a member of THE R. N.-Y.'s Woman and Home club, rises to protest—not against anything that has appeared in these columns, but concerning things which have not appeared. Why use initials as signatures? Could you fully enjoy a conference where more than half of the speakers were hidden behind a screen? And how would you like being introduced in a friend's parlor, each week of her at home afternoon, to a number of people who talked pleasantly, or wisely, or sympathetically, but were always closely veiled? Would masquerading parties where there was no final unmasking be very popular?

Little does it matter whether a person's name is Mrs. Brown or Mrs Smith,

With Little To Do On The Farm

Many a young fellow, living in any small town or village, could take

The Time To Make Some Money

THE LADIES' HOME JOURNAL gives him this chance. He can earn anywhere from ten to a hundred dollars. Just a little effort is required: the rest comes easy enough. Write to

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Philadelphia, Pennsylvania

Miss Black or Miss Gray, the convenience of having a nib on which to hang her personality being the main thing to her friends. In a coterie which has its only local habitation on the printed page, even greater becomes the necessity for the symbol which can appeal to the eye, become familiar with continued meetings and grow dear with acquaintance.

If the scribbling habit become fixed, it probably often happens that an assumed name taken at the start, is always kept to and may be regretted as the years go by. An editor of a woman's paper who used to devote some of his "valuable time" (by the way what makes an editor's time more valuable than other people's ?) to criticising and advising his contributors, used to urge them, by all means, to sign their real names ; if not those, their pseudonyms having the ring of reality. No valid objection can be made against the use of a nom de plume, and in writing of matters of personal experience or observation, as one is likely to do in a woman's department like ours, the use seems to some of us to have very decided advantages. Probably the reserved or sensitive are likely to overestimate the discomforts of writing over their own names, however; certainly the best known and most familiar names appearing in these columns are bona fide signatures ; yet their owners, probably, suffer no inconvenience from the fact.

Not the choice of a name, but the having one of some sort, is the point. It would take a better memory and more imagination than most of us possess, to build about the X, Y, Z's and W, X, Y's anything like the approach to personality called up by the names, Mary Wager-Fisher, Mrs. Kellerman, Mollie Wiggins, Mrs. L. H. Niles, Aunt Susan, Emily Steedman. Then, too, what a pleasant sense of kinship with all the length and breadth of our wide agricultural domain, is induced by recollecting that we have L. Robbins in Massachusetts, Alice Pinney in Connecticut, S. A. Little in western New York, Myra V. Norys in New Jersey, Annie L. Jack in Canada, Dorothy Dean in Illinois, Rose Seelye-Miller in South Dakota, May Maple in Michigan and Mrs. Mabel H. Monsey in far-off Washington.

How pleasant, too, to happen upon members of THE RURAL family in other columns ! How full of unspoken congratulations we are at seeing household friends hobnobbing with fame and genius in some aristocratic table of contents.

Do you ever on a rainy day, go away to the attic, or to that store room to which is consigned everything there is room for nowhere else, and sitting down with a pile of old RURALS, go over the time-stained pages ? Would the domestic department have all the charm of old letters if non-committal and monotonous extracts from the alphabet appeared in place of Aunt Em, Judy Jones, Charity Sweetheart, Aunt Rachel and many another name endeared by time and memories of past pleasures ? Not that we always used to be favored with honest-sounding two and three jointed signatures, but it is for the recognizable ones we look and are thankful.

What texts for wide thoughts there are on the pages, "As We Go to Press" ! Added to the mailing list are how many new names from New York State, how many from Delaware, from Massachusetts, Georgia, Texas, Canada ? We may multiply these by three, at least, to estimate the average number of readers added for "Woman and Home." What an array of friends the new and the old together make ! And all are armed with something the rest want to hear, some thought, some experience, some ideal. Good friends, you who are recent comers, and you who masquerade under initials, be pleased to give us with your ideas a rememberable signature.

PRUDENCE T. PRIMROSE.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

FOR MIND AND HEART.

Every one who loves you
  Loves to see you smile;
Loves to see you cheerful
  And happy all the while.
Smiling comes so easy !
  Do not wear a frown;
If you feel one rising,
  Always smile it down.

—*The Household.*

....GOLDEN RULE : "In the school of experience, there are no graduates."

....ATCHISON GLOBE : "Talking about troubles decreases them for the time being, and increases them afterwards."

....THE HOUSEKEEPER : "The home that does not recognize pleasure in its economy, is a preparation for a cemetery, not for a heaven where fulnesss of joy is promised, and 'pleasures forever more.'"

....REV. D. HUDSON : "Sin is its own worst punishment, for it involves the death of all that is noblest and of greatest worth in life. The choice of sin is the soul's judgment against itself—the deliberate choosing of the darkness rather than the light."

A GENTLE HINT.—Priscilla would never have said, "Why don't you speak for yourself, John ?" [Courtship of Miles Standish] if she had not known that John longed to speak most ardently. Perhaps, then, a gentle hint does no harm ; but I hope the time will never come when the girls have to ask the men to marry them. Where would the romance be ? No matter how commonplace we grow with years and cares, there is a time when we dearly love romance. Remember, girls, that it is the man who really and truly makes the wife happy, not his houses or lands. Of course, broad acres and fine houses are all very well, if one may have them without sacrificing love. It has been said, "All the world loves a lover." And, dear me ! if the girls proposed, where would the lover go to ? Out of the door, I am afraid, never to return.

COUSIN B.

Miscellaneous Advertising.

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Is all the time you need in which to do your cleaning if you use Gold Dust Washing Powder. With this famous preparation the housewife can also count on saving half her labor as well as half the expense required when soap was used.
GOLD DUST
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is to the farmer's wife what the mowing machine, the seed drill and other labor saving inventions are to the farmer. Will you accept its help ? Sold everywhere in large packages, price 25 cents.
GOLD DUST WASHING POWDER has an additional value to the farmer for destroying insects. Send us your name and address and we will mail you an important booklet containing recipes for making kerosene emulsions, for spraying crops and trees and live stock.
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Are always clean and white. 300,000 of them in use is convincing proof of their popularity. Sold under a guarantee to please. Agents Wanted Write for catalogue and prices, and mention this paper. HORTON MFG. CO. Ft. Wayne, Ind.

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With Root's Home Rep'ng Outfits for half-soling and rep'ng Boots, Shoes, Rubbers Harness, Tinware, etc. No. 1, 40 items, $3; No. 2, 32 items, $2. Send for FREE catalog describing these and "Root's Simplicity Process" for home rep'ng. Carpenters and Blacksmiths' tools, etc. Agents wanted. THE ROOT BROS. CO. Box F, Plymouth.

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WILLIS SAP SPOUT.
Will not break. Send for circular.
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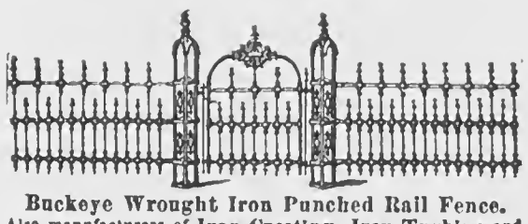

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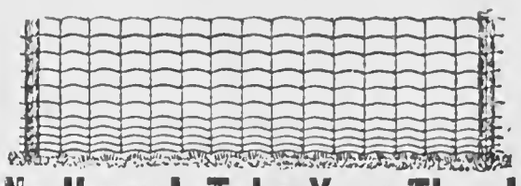

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Just had a customer who was ten years making up his mind. Using our fence all the time too, as his farm joins a railroad with PAGE between. We send our paper free while you wait.
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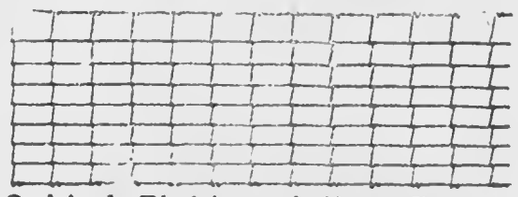

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"HOLIDAYS."

FEBRUARY is the shortest month in the year; yet, in order to make it shorter still, the law makers of New York State have crowded two holidays into it. For many years, Washington's Birthday has been celebrated, and now Lincoln's Birthday has been set apart from the ordinary days of labor. We doubt the wisdom of making so many new holidays. They are well enough in theory, for this country would be better off if, once a year, all the people would take a whole day for considering how they may emulate the patriotic example of Lincoln and Washington. That is true enough; but we all know that these holidays are not spent for that purpose at all. They are at best play-days, and few if any of our people think more of Washington or Lincoln after the day is spent than they did when it began. We are now threatened with a number of other "days" to commemorate the births of Jackson, Grant, and others. We hope this craze for making new play-days will pass over, for if it keep on, we won't have days enough left in the year to enable an ordinary man to make a living.

*

MIND you, we don't object to the practice of holding up Washington and Lincoln as worthy examples for our youth! Our point is that you must invoke something besides the law to bring the true lesson home to the people. If Washington was "the Father of His Country," Lincoln may be justly termed its "favorite son." The two men were so different in many ways, and the work they did for their country was done on such different lines, that a fair and just comparison is sure to bring out a new thought about our country and its government. Washington was a rebel—in arms against what was considered a lawful government. He fought to break down an existing condition and substitute an experiment. Lincoln, on the other hand, supported an established government, and strove to make an experiment turn out a failure. Washington fought for a *country*. He bound the States loosely together. Lincoln upheld the principle of *Union*, and riveted these States together in such a way that they can never be broken apart. Thus Lincoln, "the favorite son" of Washington's daughter, carried on his grandfather's work and bound this country together with bands stronger than those of steel. We may well honor these men and hold them up to our children as examples of the true and loyal American spirit.

*

AND now you are probably in just the right condition to appreciate a few words about THE R. N.-Y. The men who got our subscribers together and formed a solid list, did a work not unlike that done by Washington. They were rebels in the fact that they had to oppose many an old idea and back-numbered notion before they could get people to subscribe to a new paper. They gave them good, sound arguments—just as Washington argued with the patriots—and as a result, THE R. N.-Y.'s list has grown fast and steadily. Now, these Washington men, by way of variety, can imitate the great Lincoln in his work for Union, by holding this great subscription list together. Washington and Lincoln were paid for their great services by being "embalmed in the hearts of their countrymen." This sort of payment may suit these patriots, but everyday citizens like a little money thrown in with the embalmment. Those who play the part of father and favorite son to our subscription list, will not only receive all the thanks THE R. N.-Y. can bestow, but will also receive something a good deal more substantial. Look at the announcement on page 123, and see what it is. This is a mere announcement. You will hear more about these articles as the weeks go by. Washington and Lincoln were men of action—not of words and holidays. Washington never made but one good speech in his life. If you see fit to send us a good club of subscriptions, we will give you credit for the most effective eloquence we know of.

*

BEFORE we close, here are two notes for your inspection—both from Connecticut:

> I was in the Register's office yesterday, and to get rid of me, they handed me a copy of THE R. N.-Y. I inclose $1 as a result of the reading.
> L. W.

That is the Washington of it—a new subscription. That's a good way to get rid of a man—good for us. Now here is the Lincoln of it:

> I am trying to run two kinds of business at one time: Running a small farm, and working at hatting in its season. As the only help I have is THE R. N.-Y., you can see plainly I can not get along very well without it. Money has not been very plenty owing to a backward season in hatting. Furthermore, on January 1 I made an ironclad rule to get nothing unless I paid for it; but seeing that a whole summer's work depends on THE R. N.-Y., I will ask you to send the paper and I will remit before April 1. I am young at farming, and I take other farm papers to get all the information I can; but your paper is always first, and always read first, as I believe that I get more solid information from it.
> J. F. MEF.

That, as we say, is the Lincoln of it. That means Union of our subscribers. That young man will fulfill every engagement, and not turn his ironclad rule into steal. Now, then, we are ready to hear from all the Washingtons and Lincolns in the country. Here are five persons who won the dollar a day last week:

Feb. 10—Geo. H. Pearson, Fairfield Co., Conn.
11—D. J. Webster, Montgomery Co., Pa.
13—J. H. Davidson, Dewitt Co., Ill.
14—Aaron I. Weidner, Adams Co., Pa.
15—J. S. Steel, Fountain Co., Ind.

We believe in specie payments—that is, in the species of payments that keep the people satisfied and good natured.

CROP AND MARKET NOTES.

Oranges are selling well.

Dry beans are dull and slow of sale.

Celery is bringing a little higher prices.

There is only a light demand for grapes.

Florida strawberries are in light supply.

It is next to impossible to sell limed eggs.

Sweet potatoes are in good demand if choice.

Choice dressed poultry is higher in price and firm.

Considerable live poultry is being shipped to Cuba.

Beeswax sells quickly at 30 to 33 cents per pound for pure.

There are a great many poor capons in market which sell slowly.

Spring lambs are in fair supply, and prices are fair for the season.

Danish cabbage is selling slowly, and domestic is dull at low prices.

Dressed calves are plenty and dull with low prices except for the best.

The egg market is in good condition, but receipts are heavy and prices not high.

The best grades of red apples are in good demand at full prices. Receipts are only moderate.

Poultry that was put in cold storage before the holidays, is now being taken out and put on the market. The amount yet in storage is said to be light.

It seemed some time since as though the bottom had been reached in the potato market, but the tendency is still downward, with receipts heavy and trade dull.

The Board of Health has been making extra efforts recently to enforce the ordinance against bob veals, and many have been captured. It is reported that an ordinance is now being prepared, imposing a fine of $45 for each veal found weighing less than 25 pounds.

B-R-A-D-L-E-Y-'-S - S-T-A-N-D-A-R-D - F-E-R-T-I-L-I-Z-E-R-S.

- B-R-A-D-L-E-Y-'-S -

400% Profit.

Lowville, N. Y.

I have used Bradley's Fertilizers for years and am convinced that they pay.

By broadcasting four hundred pounds per acre for oats and seeding to grass I am satisfied I received a return of four hundred per cent. on the investment. The oat crop was doubled as well as the yield of grass for three years.

E. W. Stanford.

If you want to make your farm pay this year, call on or write to
Bradley Fertilizer Co.,
Boston,
or 843 Granite Bldg.,
Rochester, N. Y.

B-R-A-D-L-E-Y-'-S - S-T-A-N-D-A-R-D - F-E-R-T-I-L-I-Z-E-R-S.

F-E-R-T-I-L-I-Z-E-R-S.

EXPERIENCED FARM SUPERINTENDENT

desires position April 1. Graduate of Massachusetts Agricultural College. Manager of 500-acre farm previous to engagement as Superintendent of New Jersey Agricultural College Farm. April 1, 1893.
E. A. JONES, New Brunswick, N. J.

A Cloud of Witnesses.

Most people are skeptical about the cure of Asthma, Catarrh, Bronchitis and similar diseases, and this advertisement is intended for any "doubting Thomas" who is a reasonable person. Are *you* open to conviction? We *know* from thousands of letters unsolicited, and from personal testimonial that **Hyomei,** the new and wonderful Australian "**Dry=Air**" treatment, comprised in

Booth's Pocket Inhaler Outfit, by mail, $1.00

relieves 99 out of every 100 people who try it, and **cures** 99 out of every 100 who use it conscientiously and according to directions. Here are the endorsements of living men and women *whom you* **must** *believe*—you can't help yourself.

Bronchitis.

Hon. FRANCIS H. WILSON, Member of Congress from Brooklyn, writes:

Temple Court, New York City, November 26, 1894.

My Dear Mr. Wyckoff: On your suggestion, I procured from your friend, Mr. Booth, one of his Pocket Inhalers. It has worked like a charm. The Bronchitis has *entirely disappeared*, and, thanks to you, is the first thing I have found in ten years that has given permanent relief. There is certainly a great field for a remedy having such merit.

Cordially yours, F. H. WILSON.

[The above is to the late W. O. Wyckoff, Esq., President Remington Typewriter Co.]

Colds.

Boston, Mass., July 30, 1895.

In my family of three we have used the Hyomei, and have been perfectly satisfied with the result None of us have had a cold since we have had it. I believe it is a great preventitive as well as a cure.

Rev. STANLEY SEARING,
10 Carter Street.

Loss of Voice.

Brooklyn, N. Y., February 1, 1895.

Booth's Pocket Inhaler works like a charm. The first inhalation gave relief. It *is a blessing to humanity, and I am sorry it is not better known.* I add my name to the "Pass-It-On-Society."

Sincerely yours,
Rev. J. M. FARRAR, D.D.

Asthma.

Deer Park Parsonage,
Baltimore, Md., Oct. 7, 1895.

The Pocket Inhaler came Friday morning. Mrs. Honey had been suffering severely for three weeks daily with Asthma. As soon as the Inhaler came, she began using it, and after a few inhalations, the Asthma ceased, and now, Tuesday, it has not returned. She has had this trouble since she was seven years old, and is now forty. We have spent hundreds of dollars in search of relief, purchasing everything we saw advertised.

Rev. GEORGE H. HONEY.

Catarrhal Deafness.

Syracuse, N. Y., March 6, 1895.

Having been personally relieved from Catarrh through the use of an Inhaler charged with Hyomei, I take pleasure in recommending it most highly. Mr. H. H. Warner, of Rochester, of Warner's Safe Cure fame, according to his own statement, made in the presence of a friend of mine, Dr. Frank E. Howe, Barrett House, Broadway, New York, has been cured of Catarrh and Catarrhal Deafness of several years' standing through the use of Hyomei.

E. G. WYCKOFF, No. 209 Genesee Street.

Chronic Cough.

Manchester, Mass., March 26, 1895.

Inclosed find $1.00 for Pocket Inhaler outfit. The one I bought of you for my mother did her a world of good. She writes me that her cough is completely cured. Success to you.

ABBIE J. GANNET.

Catarrh.

Boston, Mass., April 20, 1894. (Care Jordan, Marsh & Co.)

I had Catarrh for twenty years and the last ten years (passed in this great establishment) I suffered fearfully. It extended to my throat; the base of my tongue was badly affected. I could not sleep with my mouth closed. I began using Hyomei in December, and in two weeks I was entirely—and now, after four months and no return of the disease, I can say, *permanently*—cured. I am going to ask the head of this firm, Mr. Eben D. Jordan, to indorse this statement. ELVIRA E. B. GIBSON.

Indorsed, EBEN D. JORDAN.

Consumption.

Buffalo, N. Y., August 21, 1895.

In thirty years' experience in the practice of medicine, I have never given my name in support of a proprietary remedy; for I have never seen one that performed all and more than was claimed for it, until I met with Hyomei, which I indorse with all my heart (professional ethics to the contrary notwithstanding), for I believe it a duty I owe to humanity. Since testing Hyomei in Laryngitis, Bronchitis, Catarrh, Asthma, Hay Fever, and last, but far from being least, Galloping Consumption, in an advanced stage, which by the use of the Exhaler one hour a day, and the Pocket Inhaler ten minutes every hour, with no other medicine, in four weeks, was transformed into an assured recovery; I believe in it for itself for what it has done, and I gladly add my name to the "Pass-It-On-Society."

S. H. MORRIS, M.D., 159 Franklin St.

P. S.—You are at liberty to use this as you may deem best.

Hyomei is a purely vegetable antiseptic, and destroys the germs and microbes which cause diseases of the respiratory organs.

The air, thoroughly charged with **Hyomei**, is inhaled through the Pocket Inhaler at the mouth, and, after permeating the minutest air cells, is slowly exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It stops all spasmodic coughing instantly, clears the voice, expands the lungs, and increases the breathing capacity.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, consisting of pocket inhaler (made of deodorized hard rubber, beautifully polished), a bottle of **Hyomei**, a dropper, and full directions for using. If you are *still* skeptical, send me your address, and my pamphlet shall prove that **Hyomei** does cure. Consultation and trial treatment **free** at my office.

Hyomei Balm.—An antiseptic skin food for weak chests, burns, scalds, chapped lips, rough hands, frost bites, eczema, etc. Nothing has been discovered so effective for the purposes named. Price by mail, 50 cents.

R. T. BOOTH, 23 East 20th St., New York.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 35	@	—
Medium, 1895, choice	1 25	@	—
Pea, 1895, choice	1 22	@	—
White Kidney, 1895, choice	1 40	@	—
Red Kidney, 1895, choice	1 00	@1	10
Black Turtle soup, 1895	1 55	@1	60
Yellow Eye 1895, choice	1 40	@	—
Lima, Cal., 1894 (60 lbs)	1 85	@1	90
Medium, foreign, 1894	90	@1	05
Marrow, foreign, 1894	90	@1	05
Pea, foreign, 1894	90	@1	05
Green peas, bbl., per bushel	80	@	—
Bags, per bushel	75	@	—
Scotch, bags	75	@	—

BUTTER—NEW.

Creamery, State and Penn., best	19	@	—
Seconds to firsts	14	@	18
Elgin and other Western, extras	19	@	—
Western, firsts	16	@	18
Western, seconds	14	@	15
Western, thirds	13	@	—
Western, June, extra	16½	@	17
Western, June, seconds to firsts	12	@	15
State dairy, half tubs, fresh, extras	17	@	18
Firsts	13	@	14
Seconds	12	@	13
Dairies, firkins and tubs, extras	15	@	16
Dairies, firkins and tubs, firsts	13	@	14
Firkins, extras	15	@	15½
Firkins, seconds to firsts	11	@	14
Welsh tubs, extras	16	@	17
Welsh tubs, firsts	14	@	15
Welsh tubs, seconds	11	@	12
Tubs, thirds	9	@	10
Western imitation creamery, firsts	14	@	15
Seconds	11	@	12
Western dairy, firsts	12	@	13
Seconds	11	@	—
Thirds	10	@	—
Factory, Fresh, small tubs, extras	12	@	—
Fresh, small tubs, firsts	10½	@	11
Fresh, large tubs, firsts	10½	@	11
Fresh, large tubs, seconds	10	@	—
Fourths to thirds	8	@	9
Old Western factory or dairy	8	@	10
Rolls, fresh, fine	11	@	12
Rolls, fresh, common to good	9	@	10½

CHEESE—NEW.

State, full cream, large, colored, fancy	10¼	@	—
Large, white, fancy	10¼	@	—
Prime to choice	9½	@	10
Fair to good	8¾	@	9¼
Common	7¼	@	8½
Small, white fancy	10½	@	10¾
Small, colored, fancy	10½	@	10¾
Small, good to choice	9¾	@	10½
Small, common to fair	7¾	@	9¼
Part skims, Chen. Co., etc., best	6½	@	7
Fair to good	4¼	@	5
Common	3¼	@	4
Full skims	2	@	3

EGGS.

New-laid, fancy (nearby)	16	@	—
N. Y. State, country marks, fresh gath'd.	15	@	15½
Pennsylvania, country marks, new laid.	15	@	15½
State and Penn., fair to good	14½	@	15
Western, fresh collections, fancy	15	@	15½
Western, fresh collections, fair to good.	14	@	14½
Southern, fresh collections	14½	@	15
Western, refriger., short holdings, choice	10	@	11
Western, refriger., September, packed	10	@	11
Western, refriger., defective, per case	1 50	@3	00
Western limed, prime to fancy, per doz.	9	@	11

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¾	@	—
Choice, 1895, per lb	6	@	6¼
Prime, 1895, per lb	5½	@	—
Common to good, per lb	4	@	5¼
N. C., sundried, 1895, sliced, fancy	3	@	3½
Southern, sundried, common to choice	2	@	2¾
State, sundried, quarters, bbls	3¼	@	3½
Western, sundried, quarters, bbls	3	@	3½
South-West'n, sundried, quarters, bbls.	3	@	3¼
Southern, sundried, quarters, bbls	2½	@	3
Southern, sundried, quarters, bags	2¼	@	2¾
Chopped, 1895, per lb	2	@	—
Cores and skins, 1894, per lb	1½	@	2
Peaches, Sundried, 1895, peeled, per lb	5	@	7
Cherries, 1895, per lb	8	@	10
Blackberries, 1895, per lb	4	@	—
Raspberries, evaporated, 1894, per lb	18¾	@	19
Sundried, 1895, per lb	17½	@	—
Huckleberries, 1895, per lb	6	@	—

FRUITS—GREEN

Apples, Northern, fancy, winter, per bbl	2 50	@3	50
Winesap, Va., per bbl	3 50	@4	50
York Imperial, Va., per bbl	3 00	@4	00
Other Va., red	2 00	@3	00
Baldwin, per bbl	2 25	@3	00
Spy, per bbl	2 25	@3	25
Greening, per bbl	1 75	@2	75
Ben Davis, per bbl	2 25	@3	50
Poor to fair, per bbl	1 00	@1	75
Grapes, State, Catawba, per 5-lb basket	6	@	12
Oranges, Fla., per box	3 00	@6	00
Grape Fruit, Fla., per box	10 00	@12	00
Strawberries, Fla., fancy, per quart	—	@	—
Poor to good, per quart	25	@	50

GRAIN.

Wheat	68	@	83
Rye	47	@	98
Barley	38	@	45
Buckwheat, silver	41	@	42
Buckwheat, Japan	—	@	—
Corn	33	@	36
Oats	22	@	28

GRASS SEED.

Clover, per 100 lb	6 50	@	7 75
Timothy	5 50	@	4 75

HAY AND STRAW.

Hay, No. 1 Timothy	90	@	—
No. 2	80	@	85
No. 3	70	@	75
Clover, mixed	75	@	—
Clover	60	@	70
Salt	45	@	50
Straw, long rye	75	@	90
Short rye	50	@	60
Oat	50	@	55
Wheat	45	@	50

HOPS.

N. Y. State, crop of 1895, choice	8	@	—
Medium to prime	6	@	7
Crop of 1894, fancy	4	@	4½
Prime	3½	@	—
Medium	3	@	—
Common	2	@	2½
Old olds	1½	@	2½
Pacific Coast, crop of 1895, choice	8	@	—
Prime	7	@	—
Medium	6	@	—
Crop of 1894, common	2	@	3
German	20	@	25

HONEY.

State, white clover, comb, fancy, per lb	14	@	15
Fair, per lb	11	@	13
Buckwheat, comb, per lb	9	@	10
Extracted, per lb	6	@	6½
California, comb, fair to prime, per lb	12½	@	15
Extracted, per lb	5	@	5½
Southern, in bulk, per gallon	45	@	55

MEATS—DRESSED.

Veals, country dressed, prime	10½	@	11
Fair to good, per lb	9½	@	10
Com. to med., per lb	7	@	9
Small, per lb	4½	@	6½
Barnyards, per lb	5	@	6
Spring lambs, each	4 00	@8	00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	7
60 to 80 lbs, per lb	6¼	@	6¾
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4½	@	5
Rough, per lb	3	@	4
Tenderloins, per lb	15	@	17

POTATOES.

Bermuda, No. 1, per bbl	4 00	@5	00
No. 2, per bbl	2 00	@3	00
Houlton Rose, per d. h. bbl	1 50	@1	75
Maine Rose, per d. h. bbl	1 50	@	—
State Rose, per d. h. bbl	1 25	@1	50
Maine Hebron, per sack	90	@1	00
Long Island, in bulk, per bbl	75	@	90
State Rose and Hebron, per 180 lbs	85	@1	10
Burbank, etc., per 180 lbs	60	@	80
Jersey, in bulk, per 180 bbl	60	@	75
State and Jersey, per sack	65	@	75
Common, per sack	50	@	60
Sweets, Vineland, fancy, per bbl	3 75	@4	75
South Jersey, per double-head bbl	3 00	@3	50
South Jersey, cloth top, per barrel	5 25	@3	75
Jersey common, per barrel	2 00	@3	00

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	19
Medium sizes, per lb	16	@	17
Small and slips, per lb	13	@	15
Western, large, per lb	15	@	16
Western, small and slips, per lb	11	@	13
Chickens, Phila., large, per lb	14	@	15
Phila., mixed weights, per lb	11	@	13
Jersey, per lb	11	@	13
State and Penn., choice, per lb	11	@	11½
Western, choice, per lb	11	@	11½
Western, fair to good, per lb	9	@	10
Chickens & fowls, mixed, West'n, choice	11	@	11½
Fair to good, per lb	9	@	10
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	11	@	11½
Western, choice, per lb	11	@	11½
Western, fair to good	9	@	10
Western, inferior	5	@	6
Old cocks, per lb	6½	@	7
Ducks, choice, per lb	16	@	17
Fair to good, per lb	12	@	15
Geese, Western, good to prime	8	@	10
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	2 75	@3	00
Mixed lots, per doz	2 25	@2	50
Dark and poor, per doz	2 00	@	—
Turkeys, dry-picked, choice young hens	14½	@	15
Mixed young hens and young toms	14	@	14½
Choice young toms	13½	@	14½
Fair to good	12½	@	13
Old toms	11	@	12

POULTRY—LIVE.

Fowls, local, per lb	11	@	—
Western, per lb	11	@	—
Southern, per lb	10½	@	—
Chickens, per lb	10	@	—
Western, per lb	9½	@	10
Southern, per lb	9½	@	—
Roosters, old, per lb	5	@	5½
Turkeys, mixed, per lb	11	@	12
Ducks, local, per pair	85	@1	00
Western, per pair	75	@1	00
Southern, per pair	70	@	75
Geese, local, per pair	1 50	@2	00
Western, per pair	1 37	@1	62
Southern, per pair	1 25	@1	37
Pigeons, old, per pair	35	@	40
Young, per pair	30	@	—

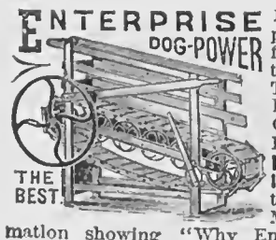
VEGETABLES.

Asparagus, Cal., per bunch	15	@	20
Beets, New Orleans, per 100 bunches	4 00	@5	00
Florida, per crate	1 25	@1	75
Brussels sprouts, per quart	5	@	15
Cabbage, domestic, per 100	1 50	@3	50
Florida, per barrel-crate	1 50	@2	00
Foreign, per 100	5 00	@	—
Carrots, washed, per bbl	1 00	@	—
Unwashed, per bbl	75	@	90
Cauliflower, Fla., per half bbl	2 00	@4	00
California, per case	2 50	@3	50
Celery, State & West'n, fancy, large, per doz.	60	@	80
State & West'n, average, prime, per doz.	30	@	50
State & West'n, small, per doz	15	@	25
Jersey and L. I., per dozen flat bunches	1 00	@1	50
California, per doz	30	@	90
New Orleans, per doz	25	@	75
Cucumbers, hothouse, per doz	75	@1	50
Egg plant, Florida, per bbl	3 00	@7	00
Horseradish, per lb	4	@	5
Kale, per bbl	1 00	@1	25
Lettuce, Florida, per half bbl basket	1 50	@3	00
New Orleans, per bbl	4 00	@6	00
Boston, hothouse, per doz	—	@	—
Bermuda, per crate	1 50	@2	00
Onions, Orange County, red, per bbl	60	@	85
Orange County, yellow, per bbl	1 00	@1	25
Eastern, white, per bbl	1 00	@1	75
Eastern, red, per bbl	75	@1	00
Eastern, yellow, per bbl	1 00	@1	25
Bermuda, per crate	1 50	@1	75
Peppers, green, Fla., per crate	1 00	@1	50
Radishes, hothouse, per 100 bunches	—	@	—
Spinach, per bbl	1 50	@2	50
Squash, Marrow, per bbl	50	@	75
Hubbard, per bbl	75	@1	00
Florida, per crate	50	@	75
String beans, Florida, per crate	1 50	@3	00
Tomatoes, Fla., per carrier	2 00	@3	00
Per crate	1 50	@2	50
Key West, per carrier	2 00	@2	75
Key West, per peck box	25	@	50
Turnips, Jersey, Russia, per bbl	50	@	65
Canada Russia, per bbl	65	@	70
Watercress, per 100 bunches	1 00	@2	00

MILK AND CREAM.

The total daily supply has been 20,683 cans of milk, 185 cans of condensed milk and 363 cans of cream. The average price paid for the surplus on the platforms has been $1.40 a can of 40 quarts.

For relieving THROAT DISEASES AND COUGHS, use "*Brown's Bronchial Troches.*"—*Adv.*



For the best Dog or Sheep power, for churning, and for full information about the best Horse-powers Threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular saw Machines and Land-rollers, send for **Fearless Catalogue.** For Fodder cutters, Carriers and Drag saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.**
Address, MINARD HARDER, Cobleskill, N. Y.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

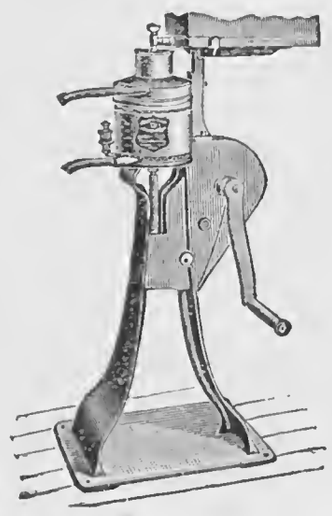
LOOK before you ship your Butter, Eggs, Poultry, Game and Nuts. We can get you highest market prices for fine goods. **Choice Creamery Butter, Fancy Leghorn Eggs, Dressed Poultry and Game a specialty.** Shipping cards and stencils on application to **GARNER & CO., 32 Little 12th St., New York,** Reference: Gansevoort Bank, New York.

SAMPLES FREE — FREIGHT PREPAID

ALFRED PEATS
Prize
WALL PAPER

We will mail you samples free of our Prize Patterns, 1896 Series, and our guide, "How to Paper," if you will send us a description of your rooms to aid us in selecting suitable patterns and colorings.
Our new $1,000 Prize Designs are the handsomest and most artistic papers manufactured and are only
10 cents and up per roll.
The New York World says: *None so beautiful, so perfect or offered so cheap.*
The Chicago Tribune says: *They will be in great demand by people of artistic taste.*
Over 2,000,000 rolls of paper from
3 cents and up per roll.
WE PREPAY THE FREIGHT.
AGENTS WANTED. One agent wanted in each town, who can furnish good references to sell from our large sample books on commission, and to whom we can refer all requests for samples in their vicinity. Experience not necessary. Agent's outfit, complete, $1.00.
PRICES AND SAMPLES ARE OUR BEST ARGUMENT.
Write to nearest address.
41-43 W. 14th ST. NEW YORK. **ALFRED PEATS** 143-145 WABASH AVE. CHICAGO.

0.01 OF 1 PER CENT. ONLY,
THREE DIFFERENT TESTS.
0.05 of 1 per cent. Only,
AVERAGE OF 19 TESTS.



Such is the grand history of tests, extending over a period of two months, at **Cornell University Experiment Station,** of the
IMPROVED U. S. SEPARATOR
As just published in Bulletin No. 105 of that Station; **the United States Separator excelling all competing dairy machines,** and repeating again the history of the tests recorded in Bulletin No. 66 of the same Station.
Truly, **The U. S. Stands on Its Own Bottom.**
PRICES, $75.00 AND UP.
Send for pamphlets giving full details.
We want agents in every town and county where we have none.
VERMONT FARM MACHINE CO., - Bellows Falls, Vt.

ESTABLISHED 1852.
THE FAMOUS
QUINNIPIAC FERTILIZERS.
Scientifically made, in perfect drilling condition, and always give good results. 1896 book ready. Send for one.
THE QUINNIPIAC CO., 83 Fulton St., New York.

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BAUCH & SONS COMPANY,
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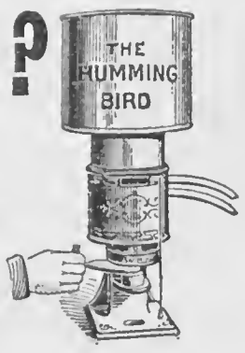

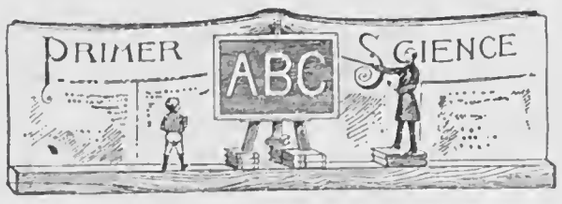

FEEDING A HEN.

PART VII.

It is pretty safe to assume that, in winter when hens are kept dry, clean and warm, a ration composed of one part muscle-makers to about 3½ parts fat-formers, is theoretically the best for egg production. In order to obtain this ratio, some form of meat must be provided, as all the grains have a much wider ratio. The form in which this meat is to be furnished, will, of course, vary with the convenience and cost of obtaining it. The *best* form is, undoubtedly, one of the fine dry meat powders like "animal meal." When this is used, the feeder can mix it thoroughly with the other food. In this form, the meat is generally put into the mash, and is thus so perfectly mixed with grain or potatoes, that each hen may receive an equal share. With cut bone or any meat fed in larger pieces, some hens will be sure to obtain more than others—especially where it is fed only twice or three times a week, as is often the case. For best results, we would feed a little meat every day, and the powdered form enables one to do that to better advantage. One disadvantage of the meat meals is that they often contain too much pure fat which is not needed, as the chief object of the meat is to give a narrower ration by supplying a large proportion of muscle-makers.

The cheapest meat supply in winter is obtained from the carcasses of horses or other healthy animals which are often sold at a low price. When this meat is frozen, it will work up pretty well in a bone cutter, and will give good satisfaction both for poultry and hogs. Our opinion is that both cut bone and this cut meat would be more profitable if *cooked* with potatoes or grain, pumpkins, roots, or even stalks, and fed in the form of a thick stew. We think that the individual hen will obtain a fairer share of the meats when fed in this way, and that better results will be obtained. To cook this bone or meat with potatoes, and thoroughly mix the product for hens or pigs, is an excellent way to sell potatoes for more than 12 cents a bushel, especially if the meat is obtained from some animal that would otherwise be hauled off into the swamp for wandering curs to devour.

Of course, as was stated last week, it may not pay to feed meat at all during the winter, as the increased cost may more than offset the increased price for the eggs. If eggs are wanted, however, a narrow ration is undoubtedly needed, and this can hardly be made up without meat in some form.

Green food of some sort is another necessity in order to obtain the best results. Boiled potatoes will hardly supply the needed succulence—raw potatoes would be better—but turnips, carrots, cabbage, clover hay or apples will give the hens a variety of food, and keep them busy. The preparation of some of these bulky foods was explained in the first article of this series. To a hen, shut up in a tight house all winter long, a bit of raw cabbage or carrot is as appetizing as is a ripe apple to a growing boy.

Some people have gone so far as to state that a hen has little, if any, sense of smell or taste. Any observing person may readily see what a mistake that is. The hen has a very acute taste, and it is always well to cater to it. One very successful hen man tells us that his plan is to keep surprising his hens with new combinations of the food they like. He will often feed the whole corn in the morning instead of at night, and the warm mash the last thing before the hens go to roost in order to vary the feeding. We question whether there is anything gained by such a performance as that, but there is no doubt that hens like a variety, and that they do better when given a combination of foods to select from.

Another thing that greatly affects a hen's ability to lay is "the state of her nerves"—if we may put it that way. We have had something to say about *why* hens "hold up" their eggs, and how they are able to do it. We all know how hens sometimes stop laying for days or weeks when made uncomfortable by fright, vermin, change of house, or some other cause. In this issue of THE R. N.-Y., is a sensible explanation of the reason for this "hold up," and it all comes back to the matter of keeping the hens good-natured and happy. The Leghorn hen is much like the Jersey cow in the fact that she is naturally nervous and high strung. It takes but little disturbance to unsettle her and stop her egg flow. Some people claim that it is no use trying to tame a high-spirited Leghorn, and that the quieter breeds are more profitable for that reason. That is nonsense, as many poultrymen can say from actual experience. You may feed the most carefully balanced ration in the world, and house the hens in the most scientific manner; but if they are not kept quiet and good-natured, you will have but few eggs. This naturally leads up to the question whether it is profitable to make a change in the ration as between large and small breeds. We know that these breeds differ considerably in temperament and habits. Is it worth while to attempt to cover this difference by a difference in feeding? Let us talk of that next.

Live Stock Matters.

FORKFULS OF FACTS.

AN EYE CURE.—To remove the film grown over a horse's eye, mix well together a tablespoonful each of fresh honey and fresh lard, rub in the corner of the eye, in the hollow above and below. Rub down over the eyes. I. J.

Sunbury, Pa.

KILLING HORNS.—D. M. S., North Yakima, Wash., asks on page 30, January 11, of THE R. N.-Y. what will prevent the growth of horns on calves. If, when a calf's horns first start, the hair is clipped, the bud wet and rubbed with caustic potash, it will prove a sure preventive without injury to the calf.

Danbury, Conn. D. O. C.

WHAT COW?—At a farmers' institute held in Olympia, Wash., Mr. A. A. Lindsley gave the following advice about selecting a cow. The advice is good for any part of this great country:

If you want milk, buy a Holstein; if butter is a desideratum, a Jersey or a Guernsey; if you want beautifully marbled beef, and are prepared to provide the best feed and care, buy a Shorthorn; if you want an animal that will do well in a severe climate, buy a Red Poll or a black mulley; if you want a cow that will give some milk and raise an alleged calf while "rustling," buy a scrub; if you want a cow to give milk while ranging over barren wastes where she must travel 4¾ miles for water, buy her in a condensed milk can, or go without.

ANOTHER BONE CUTTER.—We have a large-sized bone cutter, and feed bone to about 300 fowls. So far as known, this is the only machine in this locality. We buy bones in the local market at one-half cent per pound. Some time ago, we took shin bones, knuckle joints, etc., but now we get beef heads with only the tongues removed, at the same price. On these, there is quite a quantity of meat of the best quality. Lean meat is much to be preferred to fat. We would no longer try to produce winter eggs without ground meat and bone. W. A. W.

Kentland, Ind.

BONE CUTTERS.—As to bone cutters, I don't own one, but know those who do, and they are not at all enthusiastic in favor of them. They are allowed to stand quietly by while the hens eat ground beef scraps or none at all. My hens have laid finely this winter, and for two months had no meat of any kind, neither any corn, their feed consisting of wheat, oats, meal and shorts. They have been obliged to scratch for their whole grain. They have also had a good supply of chopped vegetable food, and whole cabbage heads now and then. My flock consists of 40 P. Rocks which laid in one month 40 dozen eggs, and that without any green cut bone, animal meal, or any other kind of meat.

East Taunton, Mass. K.

A GOOD COW STALL.—I have a cow stall made after Ex-Governor Hoard's plan. The feeding rack begins 26 inches above the floor, and is one foot wide. I nail six-inch boards four feet long to the bottom of the manger, slanting up-

(*Continued on next page.*)

Miscellaneous Advertising.

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28 sizes and styles. Every mill warranted. For All Kinds of Grinding. A boy can operate and keep in order. "Book on Mills" and sample meal FREE. All kinds mill machinery. Flour mills built, roller or buhr system. Reduced Prices for '96. NORDYKE & MARMON CO., 270 Day Street, Indianapolis, Ind.

This Mill **GRINDS CORN** and Cob, rye, barley, oats and wheat; fine, *and does it all on one set of grinders without injuring them.* Different from others. The Best. (I also make 5 sizes of belt power mills.) P. N. BOWSHER, SouthBend, Ind.

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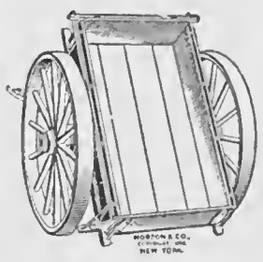

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A "NEW IDEA" in farm wagons, 30 in. high, 6-in. tire, recommended by the Agricultural Colleges and Farmers in every State in the Union. We wish agents and will give special introductory prices in new territory. Other farm implements are used only in one kind of work and in one crop during the year, but our *Handy Wagon* saves you money and labor every day. Good on sidehill or flats. It is handy, cheap, durable, and leaves no tracks in the fields. Beautiful Catalog free. Costs nothing to investigate, and will interest every farmer

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NEW MAMMOTH Poultry Guide for 1896 Finest book ever published, contains nearly 100 pages, all printed in colors, plans for best poultry houses, sure remedies and recipes for all diseases, and how to make poultry and gardening pay. Sent post paid for 15c. John Bauscher, Jr., box 66 Freeport, Ill.

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LIVE STOCK MATTERS.

(CONTINUED.)

ward at an angle of 45 degrees. I nail a 2x4 the width of the stall and four feet above the bottom of the rack to nail the boards to, at the top of the rack. The boards should be about six inches apart. I then lead the cow in and up to the rack just in position to eat, and put a 2x4 edgewise just in front of the hind feet. This compels the cow to get in front of it to lie down. She won't lie down across the 2x4 many times before she will learn to get in front of it; the opening under the rack makes it possible for her to get ahead far enough to lie down ahead of it. If it be fixed just right, the cow will be as clean as though she ran in a clover pasture. The advantage over a gutter and stanchion, is the adjusting to fit a big cow or a small one, and it's much more comfortable for the cow, as she can be tied with anything one wishes. J. H.

Grass Lake, Mich.

VEAL OR "DEACON"?—A reader in New York State sends the following problem:

This morning, one of my cows gave birth to a three-legged calf, one fore leg being missing, and seems to have no shoulder blade. It is a nice, strong calf. Would you veal it, raise it as a freak of Nature, or deacon it?

The question is, What would *you* do with such a monstrosity?

SOME CONNECTICUT JERSEY BLOOD.—The following report gives the yield of a Connecticut herd of Jerseys, composed of both purebreds and grades:

POUNDS OF MILK FROM JAN. 1, '95 TO JAN. 1, '96.

No. 1	11,145	No. 10	6,750
2	8,190	11	7,200
3	7,395	12	7,230
4	6,720	13	5,775
5	6,480	14	6,900
6	7,860	15	7,005
7	7,950	16	5,210
8	5,225		
9	5,580	Total	112,615

Average per cow 7,050 pounds. Average butter fat of herd 5.2 per cent.

This would make an average of 431 pounds of butter per cow. The milk of No. 1 tests five per cent of butter fat, which would make her yield of butter 655 pounds. Several others started in the race, but for one cause or another, were distanced and sent to the slaughter. These below were bought to take their places:

	Pounds milk.
No. 17.—March, 1895, January 1, 1896	8,250
18.—April, 1895, January 1, 1896	4,950
19.—May, 1895, January 1, 1896	7,200
20.—May, 1895, January 1, 1896	5,310
21.—May, 1895, January 1, 1896	6,345
22.—May, 1895, January 1, 1896	6,001
23.—August, 1895, January 1, 1896	4,380
24.—September, 1895, January 1, 1896	2,910
25.—September, 1895, January 1, 1896	3,210
26.—September, 1895, January 1, 1896	2,580
27.—September, 1895, January 1, 1896	2,880
28.—September, 1895, January 1, 1896	2,520
29.—September, 1895, January 1, 1896	2,670
30.—October, 1895, January 1, 1896	2,040
31.—November, 1895, January 1, 1896	1,320

The grain ration, summer and winter, averages per cow four pounds of linseed meal, eight pounds corn meal. In summer when feed was short, I gave six to ten pounds of bran in addition. The winter feed is 40 pounds of well-eared ensilage and six pounds of hay.

Bristol, Conn. S. D. N.

ROOTS SAVE GRAIN.—Much is said lately about feeding cows in winter. I have grown sugar beets and all root crops for 20 years, to feed in winter. The only way I make out a balanced ration is to feed my cows what they like and will eat the most of. There has never been a spring yet but I have wished that I had planted more roots. It has been said that cows must have some grain; but I have a cow six years old, in milk in winter, from which we can make four pounds of butter a day, on good hay and all the roots I can afford to feed, which is not more than a bushel a day. I have also a cow coming three years this spring, which calved last May, and is not due till next August, which will make 1¼ pound of butter a day at present, with no feed but good hay and roots. The roots are sugar beets and mangels and some rutabagas, all mixed, just as it happens.

On each side of me are farmers who keep from 20 to 30 cows, which are grained all winter long, and the feed is bought. They tell me that it takes half of the next summer to pay the feed bill. They sometimes come to look at my crop of roots, and say that it is too much trouble to grow them. I can grow 300 bushels on one-quarter of an acre; it may cost me $5 to grow that many, and then I have them. But some one may say that I cannot keep my cows in that way. I simply point to my cows, and let them speak for themselves; they are always sleek and strong and ready for a frolic. I would not change if I could get the grain for nothing, that is, to drop the roots altogether. Perhaps, if I wanted to crowd my cows for all they were worth, I might add some feed; but my system suits me well enough. A man should learn something by what he sees among his neighbors.

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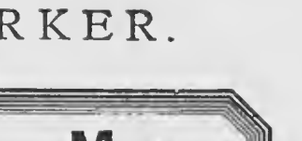

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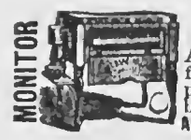

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"$500 From 12 Hens."

F. P., CAPRON, IA.—We have been reading of late, much about "hens by the acre"; but inclosed find a hen story that will "beat 'em all." These circulars are flooding the country here. The times are hard, and if the half of Prof. Corbett's story were true, what a boon to the poor farmers it would be. If the book is just published, how can "Moore's Rural New-Yorker" give an opinion about it? Has it not been over 20 years since Moore's was dropped from THE R. N.-Y.? How could Prof. Corbett be awarded diplomas by agricultural societies of Brocton County, Mass., and Denison County, Ia.? Where are those counties? As that shining light on Gallinoculture Science, has his place of business in your burgh, I thought that I would not send a hard-earned dollar for his book, until THE R. N.-Y. had turned its search light on him and his publication.

R. N.-Y.—As explained last week, this is an old book written when little was known about incubation. To-day it is simply a "back number" and 'way back at that. It is of no value to any wide-awake poultry man. If one wished to make Prof. Corbett a present of $1 for the good he did 25 years ago, this is a fine opportunity. If you wish to invest that dollar in poultry, we advise you to keep it in your pocket, rather than purchase this product of "gallinocultural science."

Wood Growth in Kansas.

J. E. H., EMPORIA, KAN.—In the spring of 1894, a sycamore and cottonwood came up from the seed, near a fence. After 11 years of growth, they intruded too much on the evergreens, and a few days ago they were felled. They measured as follows: Cottonwood, circumference 29 inches; height, 40 feet; Sycamore, circumference 39 inches; height, 42feet. All this in droughty Kansas. The cottonwood had 10 rings, the sycamore nine. The latter made the growth of one inch in one year, as indicated by the ring.

Rot in Plums.

W. W. S., MERCER COUNTY, N. J.—An inquiry was made some months ago in the columns of THE R. N.-Y., as to a remedy for rot in plums. The reply seemed to take it for granted that the rot in question was caused by curculio. If the reply was not satisfactory to the inquirer, the following statement may be of interest to him: A few years ago, the nursery firm of Jos. H. Black Son & Co., added an adjoining farm to their grounds. The senior member of the firm noticed three large plum trees which had set a goodly amount of fine-looking fruit. He inquired of the former owner as to name or character of the plum. He could not inform him as the trees had never given a crop during his acquaintance with the farm. Mr. Black felt quite confident that this year would be an exception; but every plum rotted—when nearly full-grown, I think. The next year the trees were sprayed three times with Bordeaux Mixture—the first time when the plums were about as large as peas, and then at intervals of, perhaps, two weeks. The result was a crop of 10½ bushels, or 21 baskets, of plums nearly the size of the Imperial Gage. The trees have during different years been sprayed and again neglected, but always with the same result; the plums matured when sprayed, and rotted when neglected.

Some Pacific Coast Apples.

A. W., MARSHFIELD, ORE.—According to the statements in THE R. N.-Y. of October 12 and 26, the impression that all the apples grown on the Pacific Coast lack in color, flavor, shape and keeping qualities, prevails among Eastern pomologists. Not intending to dispute or doubt the sincerity of the statements, I beg to make a few remarks. By observation, I noticed that the physical situation of a region, and the different soils, have a great influence on the coloring of the fruit, and that the color is more prominent in fine autumn weather, with alternate showers, and concluded that the cause of the acknowledged fact that, in high altitudes, the fruit has better color, shape and keeping qualities, may be due to the existence of the mineral substances in the soil, and to the solar beams striking on an elevated and protected ground. A little experimenting with adding mineral substances to the soil, not only convinced me of their important influence on the shape, color and keeping qualities of the fruit, but also impressed me with their influence on self-fertilization, and the resistance of fungous and other diseases of the fruit trees. I anticipate the time when it will be in the fruit growers' power to regu-

(*Continued on next page.*)

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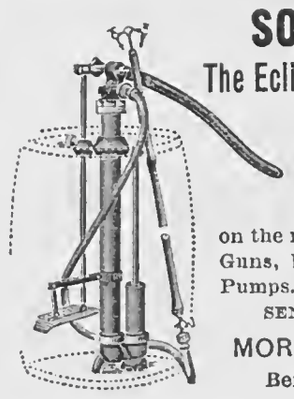

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

late the shape, color, flavor and keeping qualities of the fruit at will.

The fruit raised here on Coos Bay, on alluvial soil, is more elongated, inferior in color, flavor and in keeping qualities to the fruit raised on upland soil, and the samples observed and inspected by Eastern pomologists, and from which they derived their opinions, may have been raised on such soil. I have seen and sampled Spitzenbergs and Baldwins raised two miles from the ocean, on common upland, and about 25 feet above the sea level, that had all the desirableness of first-class apples. To back my statement, I send you by this mail, some ordinary samples of Coos River Beauty, a new apple originated and grown 12 miles from the ocean, and about 10 feet above high tidewater mark, on common elevated upland. The samples have been kept in a room at a temperature of 63 degrees, for the purpose of advancing maturity.

R. N.-Y.—The specimens reached us in excellent condition. The apple has a high, spicy flavor, and is well colored; but it is too coarse-grained to compete with firmer apples.

Ways of Some Publishers.

G. A. D., MARSHFIELD HILLS, MASS.—Some years ago, I had dealings with a nursery firm which published a paper devoted to horticulture. I placed an order for some nursery stock, in the early part of the winter. The next spring, there arrived a box of substitutes, new strawberry plants which I desired to test, being replaced by varieties as old as the hills, the crowns of which were completely rotted off. I sent a remonstrance, but was informed that I had no redress. I concluded that it would be wisdom to send my orders elsewhere, and when my subscription for the paper expired, not to renew. As they published a notice saying that the paper would be stopped at the expiration of the subscription, I did not take the pains to notify them, but the boys continued to bring the paper from the postoffice. But I was more than surprised to have my attention called to an article in this paper, with my initials attached, that I had forwarded to THE R. N.-Y., and which had been published a short time previous, with no credit to THE R. N.-Y.

Don't Bud from Scrub Trees.

J. H. T, BURNT HILLS, N. Y.—THE R. N.-Y. of December 28, 1895, in comments on Bulletin 102, Cornell Experiment Station, asks for arguments against the practice therein recommended. I can say nothing against it, but am in favor of it every time, as I believe that, by taking scions from the best bearing trees, and grafting them on sound, healthy stock, apples will be obtained sooner, and more of them, than from trees budded or grafted at the nursery. In support of this, I will give my experience.

Twenty-two years ago, I set an orchard of 180 trees—100 Baldwin, 40 Rhode Island Greening, and 40 Northern Spy, the three most profitable apples, as I thought, to be set at that time. After the orchard had been set five or six years, I concluded to change the tops of the Northern Spy to Baldwin, as the Northern Spy did not do very well about here at that time. Having a few older Baldwin trees which were bearing fine crops of fruit, I selected scions from them, and soon had the tops changed.

The result was that these trees commenced bearing five or six years sooner, have always borne double the quantity, and of better quality, than the trees that were budded to Baldwin at the nursery, and set at the same time under the same conditions. While all are now fine, healthy trees, those that were budded to Baldwin at the nursery, make the most wood growth, the branches are longer and more reedy. I have also noticed that, while these trees seemed to have as much bloom, they would not perfect more than half as much fruit as those with the changed tops. Who will tell the reason of this?

When to Sow Millet.

G. H. J., MISSOURI.—In reply to J. B. M., page 19, as to how early millet can be sown, I can say that we sowed an acre on April 20 which was about 1½ inch high on May 12, when a frost came which killed potato vines to the ground on low places. The young millet leaves turned brown, but the growth was not interfered with. The millet was cut July 31, and might have been cut a week or 10 days earlier, as we find it much too ripe. The yield was rather light—about two tons—owing to a dry season. I believe that it could be sown as early as April 12, and succeed three years out of four here in the central-western part of Missouri.

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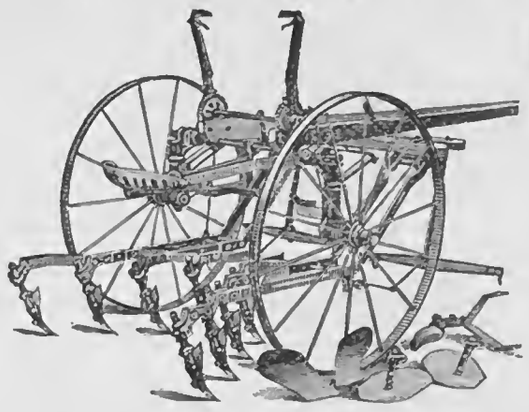
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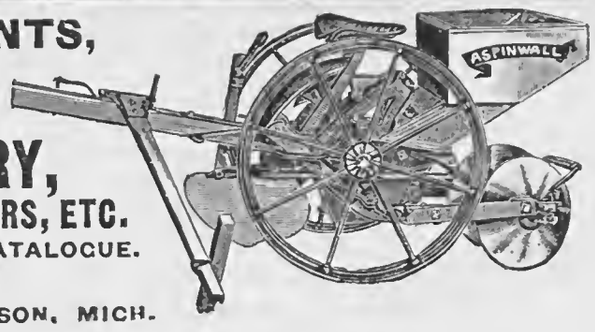
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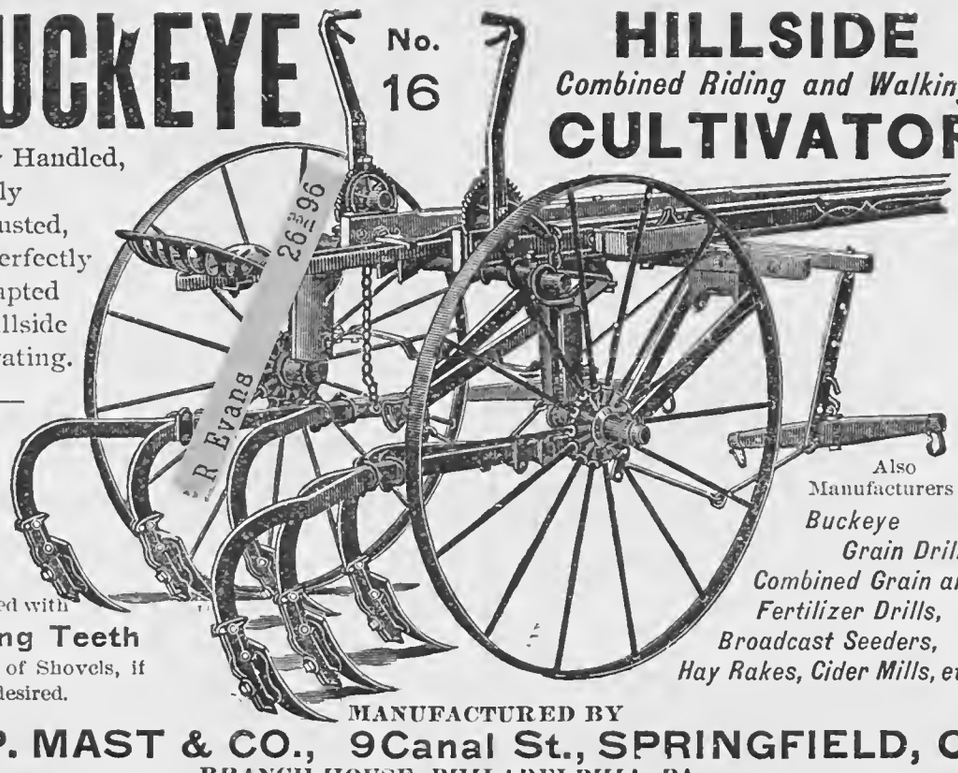
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2405. NEW YORK, FEBRUARY 29, 1896. $1.00 PER YEAR.

COLD FACTS ABOUT HOTHOUSE LETTUCE.

A FAVORITE CROP FOR GLASS GARDENING.

Seed, Soil, Varieties and Markets.

In any garden work, and this is especially true of the winter garden, the secret of success is to have something on the ground constantly. It costs but little more to have some plants half grown and ready to take the place of the first crop when marketed, than it does to devote the whole house to a crop and then wait several weeks for the next to come on. In case of plants not readily handled, "catch crops" may be grown in the interim.

From three to four months are required for lettuce to attain the best condition for marketing, though with somewhat strong bottom heat, we have taken off a crop in 10 weeks from the time the seed was sown. So in growing lettuce for the winter markets, the seed for the first crop should be started as early as September 1, and other sowings should be made at intervals of about a month to insure a constant supply.

We usually sow the seed in light, rich soil in flats—shallow boxes about 16 x 20 inches and two inches deep—and place the flats in a moderately warm and well-ventilated room to induce rapid growth. A house kept at a night temperature of about 50 degrees is preferred. When the first true leaves are well started, prick out the young plants about 2 x 2 inches in other flats or in a shallow bed. Water carefully, and stir the soil frequently. About three or four weeks later, transfer to the permanent bed placing the plants about 6 x 6 or 8 x 8 inches—the distance varying with the variety grown. Many successful growers practice handling twice before the final transfer, placing the young plants two inches apart at the first handling, and four inches at the second. With the second and third crops, this is, doubtless, a good practice, as the main body of the house is thus more fully utilized.

INTERIOR OF A LETTUCE HOUSE. HOW THE CROP IS GROWN. FIG. 45.

The soil into which the plants are put at the second transfer and at the final handling, is usually somewhat heavier than that used at first. We generally take one part of rotted sods or rich garden loam, and one part compost or well-rotted stable manure. On solid beds, we also place a layer of fresh stable manure before putting in the soil; thus having, in effect, a large hotbed in the house. Before the second crop is put on the bed, the soil is enriched by a liberal quantity of stable manure, which is thoroughly forked in. The photograph shown at Fig. 45, represents our lettuce house as seen in January. The upper bench is often used for radishes, and the lower one for carrying forward young plants; though, as in the present instance, the latter is sometimes devoted to the use of students.

To be of the best quality, lettuce must be grown rapidly, and the one element needful in securing rapid growth of foliage is nitrogen. This element we often supply in the form of nitrate of soda. Place about three ounces—a small handful—of the nitrate in a 12-quart can of water and sprinkle the soil thoroughly. It is, perhaps, needless for us to say that to apply the nitrate at the rate of 100 pounds per acre, the can of water should be distributed over a space about nine feet square (81.6 square feet). During the earlier stages of growth, the plants may be watered freely with a coarse spray; but as the heads begin to form, and the leaves cover the surface of the ground, we usually water with a solid stream between the plants. Not infrequently the heading of the plants seems to be hastened by an occasional application of warm water, and this may well be used when applying the nitrate of soda. The marked success of the method of sub-irrigation already outlined, will, no doubt, completely change existing methods of treatment in this direction. In any case, the atmosphere should be kept moist by frequent spraying of walks. The leaf surface of the lettuce plant is enormous, and the rapid transpiration in case the atmosphere is very dry, will often seriously injure the plants.

The temperature of the lettuce house may be varied considerably, though most growers prefer a night temperature of about 45 degrees, and a range of about 20 degrees during the day. In case it is desired to hold a crop in check for some special purpose, the house may be kept 10 degrees lower than here indicated. On the other hand, we often force the crop for a short time by increasing the heat. But in general, the conditions of temperature should be as nearly uniform as possible.

Insect and fungous enemies must be watched most closely. It is a good plan to strew tobacco stems or tobacco dust on the bed among the plants; and thorough fumigation once or twice a week is indispensable. It is much easier to keep the aphis from gaining a foothold than it is to rid the house of this pest when once well established. Whenever a plant is affected with mildew, it should at once be removed, and the use of sulphur on the steam pipes is recommended. But if the soil is stirred frequently, and there is reasonable care in watering and in maintaining a uniform temperature, we are seldom troubled with mildew. One of the advantages claimed for the practice of sub-irrigation is that there is less liability of trouble from this disease.

The most profitable varieties to grow will depend entirely on the markets available. In New England, there is little demand for any but the cabbage lettuces, while in the Western markets, the open-head or curled leaf varieties are sought. Of the former type, there is nothing better than the old White-seeded Tennis Ball, or a selected strain of this known as Rawson's Hothouse. Of the second type, Grand Rapids is the most popular, though Curled Simpson is good. The cabbage lettuces are somewhat more difficult to grow than the others, and usually command a correspondingly higher price.

It is difficult to give any general notes on marketing, as conditions vary so widely in different sections In the West, heads weighing two ounces average about 20 cents per dozen at wholesale, while those weighing four and six ounces will bring 40 to 50 cents in early winter and late spring. In February and March, the prices are about double the above. In Boston and other Eastern markets, the prices range from 60 cents to $1 per dozen heads, and often higher. The heads are cut off at the surface of the ground, and packed in barrels or in bushel crates, and then shipped. The demand is best and the prices highest in February and March, so the grower should aim to have his heaviest crop mature at that time.

For a beginner in greenhouse gardening, lettuce is one of the most satisfactory crops to grow. It is easily managed; requires a smaller outlay for a suitable house than is necessary for cucumbers or tomatoes; it is always in demand, and is not a total loss if not marketed within a certain limited time.

To summarize: From three to four months are required to perfect a crop of lettuce. The seed should be started in flats as early as September 1, and successive sowings should be made at intervals of about one month. Use rich soil; transplant frequently; cultivate freely; use care in watering; watch constantly for mildew; prevent rather than destroy the

aphis. If cabbage lettuces are in demand, grow Tennis Ball or Rawson's Hothouse; if open-head sorts are wanted, try Grand Rapids or Curled Simpson. Above all, use "directions" from whatever source, with a liberal supply of native common sense.

Maine State College. W. M. MUNSON.

ACID PHOSPHATE vs. BONE FOR FRUIT.

Will Rock Replace the Bone?

THE QUESTION.

Is acid phosphate as good to furnish phosphoric acid for peach trees and other fruits, as ground bones? I would like the opinion of experts in fruit growing.

THE ANSWERS.

From a Maryland Standpoint.

Conditionally—yes. Aeid phosphate, popularly known as "dissolved S. C. rock," contains little, if anything else but phosphoric acid that is conducive to vegetable life; hence, if supplemented from other sources, or by other means, with nitrogen and potash, the soil is supplied with phosphoric acid by the use of S. C. rock at a less cost than by the use of ground animal bones for the same purpose. Of course, every one at all familiar with commercial fertilizers, need not be told that neither dissolved rock nor ground animal bones, alone, would produce results proportionately as to cost, as would the combination of either, with nitrogen and potash. The most economical way I have yet discovered to keep up a safe proportion of this "Agricultural Trinity," is by the use of Crimson clover for a green manure to supply nitrogen, S. C. rock for phosphoric acid, and muriate of potash. This combination tested, in comparison with special formulas, for special purposes, at special prices, has proved the winner every time. I never had any desire to look or hunt for a better reason for continued adherence to such practice than is afforded by better results attained thereby as relates to trees and plants, than by the use of the special formulas with animal bone base—and at a much less cost.

J. W. KERR.

Nothing Like Bone Here.

No, decidedly not. We have found that, for making the trees grow, there is nothing in the nursery so good as the following formula: 600 pounds of pure steamed bone, and 100 pounds of nitrate of soda applied as soon as they are ready to start, and then later in the season apply 200 pounds of muriate of potash. For orchards, we have found a liberal application of stable manure to be good, but without this it will do well, especially if far enough south to grow Crimson clover in the orchard. Our plan for an orchard is this: Apply when the trees have started to grow in the spring, and work in with a wheel-harrow not too deep, 600 pounds of steamed bone, 200 pounds muriate and 100 nitrate of soda. We have tried both of these methods, and we find that, for the nurseries, the former is best, and where there are two applications, as the nitrate takes hold at once and with the assistance of the bone makes a strong upright growth; with the muriate, there comes a change whereby the wood is immediately hardened. With the orchards, we find that we do not want too much growth, but just enough to start the trees well, and then to harden them carefully all the time, so that they are prepared for any kind of weather, wet or dry. The fruit then gets the benefit of all the material it is able to use, and the tree makes sufficient growth. In the nursery, we, of course, desire growth, and also we wish the trees to be perfectly hard when the winter sets in. We have this year proved our method to be true, and never a lot of trees showed finer growth, or ripened up better than ours did. In the orchard, the trees did not make much growth, but they are full of buds, enough and to spare, and the wood is in good shape to protect them from winterkilling. We have tried all kinds of substitutes for bone, and not one of them did the work so perfectly and so satisfactorily as the above combinations. We use more bone, and are better satisfied with it than with anything else we have used.

New Jersey. JOS. H. BLACK, SON & CO.

Three Bone Men Talk.

I use only bone as a source of phosphoric acid, because I get more growth for a dollar out of it than from the same value in any other form, Wagner, Steffek, and Maercker to the contrary notwithstanding. G. S. BUTLER.

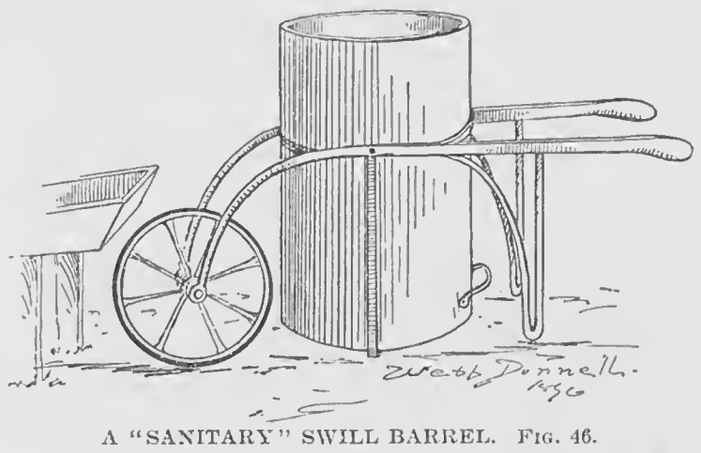
We much prefer to use bone on all kinds of fruits, rather than supply the needed phosphoric acid by means of dissolved S. C. rock or acid phosphate. Here, in Delaware, the rock is much the cheaper source of supply, and in the case of wheat, corn, tomatoes, and such annual crops, we use it with satisfactory results. But with berries and other fruits, we think that we get better results from ground bone, as the decaying animal matter in the bone keeps the ground loose and in good, moist condition. The main point, however, is to use a sufficient supply of phosphoric acid and potash to keep the plants or trees in good condition. No half-starved tree or plant can long continue to yield good fruit. A. W. SLAYMAKER.

Delaware.

I have always preferred fine ground bone to acid phosphate as upon the whole being the cheapest and most satisfactory in results. I know of no good reason for substituting the rock for the bone. J. H. HALE.

A DISCUSSION ON SWILL BARRELS.

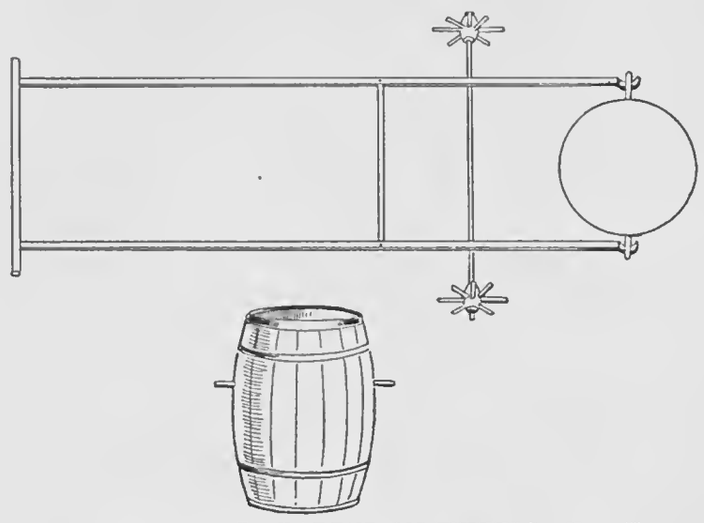
THE SANITARY BARREL.—I wish to enter my protest against the "handy swill barrow" that was illustrated and described on page 82 in THE R. N.-Y. of February 8. With my protest, I send a substitute swill barrow that



A "SANITARY" SWILL BARREL. FIG. 46.

is shown at Fig. 46. I earnestly protest against the one described on page 82, because a swill barrel should *never* be of wood. I do not doubt that the owner of the barrel in question keeps it as sweet and clean as it is possible to keep a wooden swill barrel; but I contend that it is not possible without a great amount of work, to keep a wooden barrel sweet under such circumstances, and this attention the ordinary farmer has not the time to give in the hot weather, when such care is especially needed. The wood absorbs the liquids, souring and decomposition take place, and the swill barrel becomes a menace to health.

A much neater, more convenient, and a thoroughly sanitary arrangement is shown in the substitute mentioned. It is a galvanized iron tank, such as is sold for the holding of ashes, and holds a half barrel or more. This is swung in a light iron-and-wood frame



ANOTHER SWILL BARREL ON WHEELS. FIG. 47.

that any blacksmith can make, the handles only being of wood. The wheel is either an old wheelbarrow wheel, or one of the light iron wheels sold at hardware stores for use on barrows. As the tank is pivoted at the middle, or a little above, it can be dumped much more easily than the one shown on page 82, the spout of the trough being placed at just the right height, as shown. An iron receptacle for swill can be washed out thoroughly in a few minutes—something of the greatest importance in the hot weather of summer. The arrangement figured here costs more than the wooden barrel, but there are some things in which "cheapness" becomes very dear in the end. W. D.

TWO OF A KIND.—Fig. 47 is supposed to represent a handy swill barrel which is used on my farm. To two old wagon wheels, fit a wooden axle about three inches in diameter; two oak sticks five feet long, are bolted to the axle, letting them run far enough ahead of the axle to come to the center of the barrel used. One brace back of the axle is sufficient besides a cross piece for the handles. We have two barrels, one which we leave empty at the house at meal time, the other one goes to the hog house at least twice a day. Any one using one of these will see the advantage of large wheels in muddy weather. J. B. H.

Waverly, N. Y.

HOW I GREW A BIG CROP OF TOMATOES.

ONE BUSHEL AND A HALF TO THE PLANT.

Since I reported my great yield of tomatoes last fall, I have been asked to tell how the crop was grown. Here is a short story about it—probably not much different from the methods of other growers: I sow the seed in a greenhouse from March 15 to 20, in flats or boxes, in rich soil; I check off the boxes of earth in squares of about 1½ inch, and drop one seed at each point where the lines cross. This is some work, but I never have drawn or spindling plants in this way, and one would be surprised to see how short a time it takes to put in 20,000 or 30,000 seeds, one at a time. When these plants are about two inches high, they are carefully pricked out into flats about three inches apart each way. Again, as soon as the weather will permit, they are put out into hotbeds, this time six inches apart. We give them at all times, and especially after they go into the hotbeds, all the air that is safe, often leaving the sashes off all night if there is no danger of freezing, as it is very essential to have them well hardened off, and, also, to keep them as short or low down as possible. A good, robust, stocky plant, six inches high, is worth a dozen of the long-drawn plants which many people like.

My land last season was of various kinds, from rather poor and gravelly, to rich clay loam, some dry, and some moist. Most of it had a rather light dressing of barnyard manure plowed under in the spring, and some had the same applied in the fall. I marked off the fields in squares, 4x4 feet, opened the holes with hoes, and dropped into each one about a large tablespoonful of a complete potato manure, and nearly the same of nitrate of soda. These were well mixed with the soil, and about June 5, we commenced setting the plants. I would never apply the complete manure and nitrate again in this way. I would put it on after the plants are set. If it rain very soon after the plants are put out, it is all well; but last season we had no rain for several days, and the roots were burned up on quite a number of the plants before the rains came. The cutworms and potato beetles destroyed many of my plants, which were replaced as fast as destroyed, but of course, made the plants thus replaced later in ripening. We gave all our plants thorough cultivation as long as we could work among them, but did not rack them up in any way, or mulch them to hold the fruit up from the ground; neither did we trim the plants

We commenced picking ripe fruit from these vines on July 22. This was from the plants on the poorest land; those on the richest land were the latest in ripening by, at least, two weeks, but the vines on the latter gave me nearly double the number of pounds of fruit, being much larger and finer. Always put the tomatoes for early use, on rather poor land, and use a good supply of commercial fertilizers. I was offered 10 cents a pound for them early, by a local marketman, and many people came here to try to buy some of them. I did not sell any as they were grown for the seed, but gave them to any one who would come here and take out the seeds, which was easily done by cutting them open and with a blunt-end knife slipping out the pulp and seed, and leaving the tomato in fine shape for slicing or canning. In this way, hundreds of bushels were carried away, people coming in two-horse loads 25 miles for them.

One should never eat the seeds of tomatoes; try taking them out and see how much nicer the tomato is. Those who cannot eat tomatoes with the seeds in, will find that they will like them without the seeds. The seeds and pulp contain the acid which is disliked by many people; it is so strong as to eat the galvanizing off of iron; it will eat leather and woolen or cotton goods. But the real meat of the tomato is more like a plum, and can be eaten by those who cannot eat the entire tomato. A. A. HALLADAY.

Vermont.

TIME LOST OVER THE HARNESS.

FIRE HORSE DRILL ON THE FARM.

A short time ago, I stood in a fire station in a small New England city, and watched the horses go through their nine o'clock drill. When the alarm sounded, every horse burst from his stall and trotted to his place in front of the engine, or ladder and hose truck. The harness was down on their backs in a twinkling, two or three snaps fastened, and all was ready. The idea came to my mind, Why do not farmers have similar arrangements for harnessing? and I decided then and there that too much time is spent in harnessing and unharnessing horses. Fifteen minutes a day saved amount to 5,475 minutes, or 91 hours in a year—time enough for quite a vacation.

Of course, one would not expect to have his wagon-house fitted up like a fire station; but certain improvements could be made that would lessen the time required to harness in the ordinary way, one-half or more. Nearly every farmer has one wagon, a milk

or market wagon, that is used more than all others together. The arrangement I have in mind is as follows: Six hooks are suspended from the ceiling of the wagon-house in such a way that, when I drive in with my milk wagon, three come directly over each horse just high enough to clear their heads. To unharness, I unbuckle crupper, girth and hame, unfasten the neck yoke, and hang the harness on the hooks directly over the horse. One hook is for hame sticks, another for back pad and the third for the bridle. I next take off the bridle, hang it up and put on the halter. The collar can be hung in any convenient place. Harnessing is only the reverse of unharnessing. This arrangement saves the time required to unhook and tie up traces and lines; in fact, the lines are left in the wagon ready for the next drive. This not only saves time, but keeps a harness in much better shape. It is easy to apply oil occasionally without taking the harness from the hooks. It is better to have the neck yoke so that it can't come off from the pole, and the traces so that they can't be easily unhooked. If everybody would heed these last two suggestions, many a runaway would be avoided. JEAN BURTON.

Dutchess County, N. Y.

RANDOM NOTES ON HORTICULTURAL NOVELTIES.

The "Logan-Berry."—Several years ago, a most distinct fruit of the raspberry type, originated in the garden of Judge J. H. Logan, of Santa Cruz, Cal. It was the product of seeds of the Red Antwerp raspberry and Aughinbaugh blackberry (an improved variety of the California wild blackberry.) These berries grew together in adjacent rows, and flowered at the same time. The Logan-berry is, apparently, the only one of the resulting seedlings that has been preserved, and is, in every way, a distinct fruit of the most striking and valuable character. Of the multitude of new berries offered to the public, this one seems to promise the most solid commercial value. The Logan-berry fruits have been offered in the California city markets in a small way, for the past three years, and have always found ready purchasers, owing to their earliness and handsome, unique appearance.

The vine has been tested during the past year in the eastern States. Here (in Monmouth County, N. J.) it withstood the severe winter of 1894-5 without the slightest protection, and I could not see that the plant was harmed in the least. It fruited profusely during the past summer, though most of the wood was cut away for propagating purposes. The berries in every way equaled the description of the introducer, being of the shape and size of the largest blackberries, and of a most pleasing, dark, garnet-red color. They are firm and solid in character, and should be of the best shipping quality. The flavor, even when fully ripe, is somewhat of a disappointment, being too acid to be enjoyable, though one can imagine it to be of desirable cooking and preserving quality. There is a hint of the red raspberry taste, but it does not predominate. The first fruits ripened with the earliest raspberries, long before blackberries began to color; thus, its extreme earliness in this climate seems assured, though scattering berries were produced until August, on young plants.

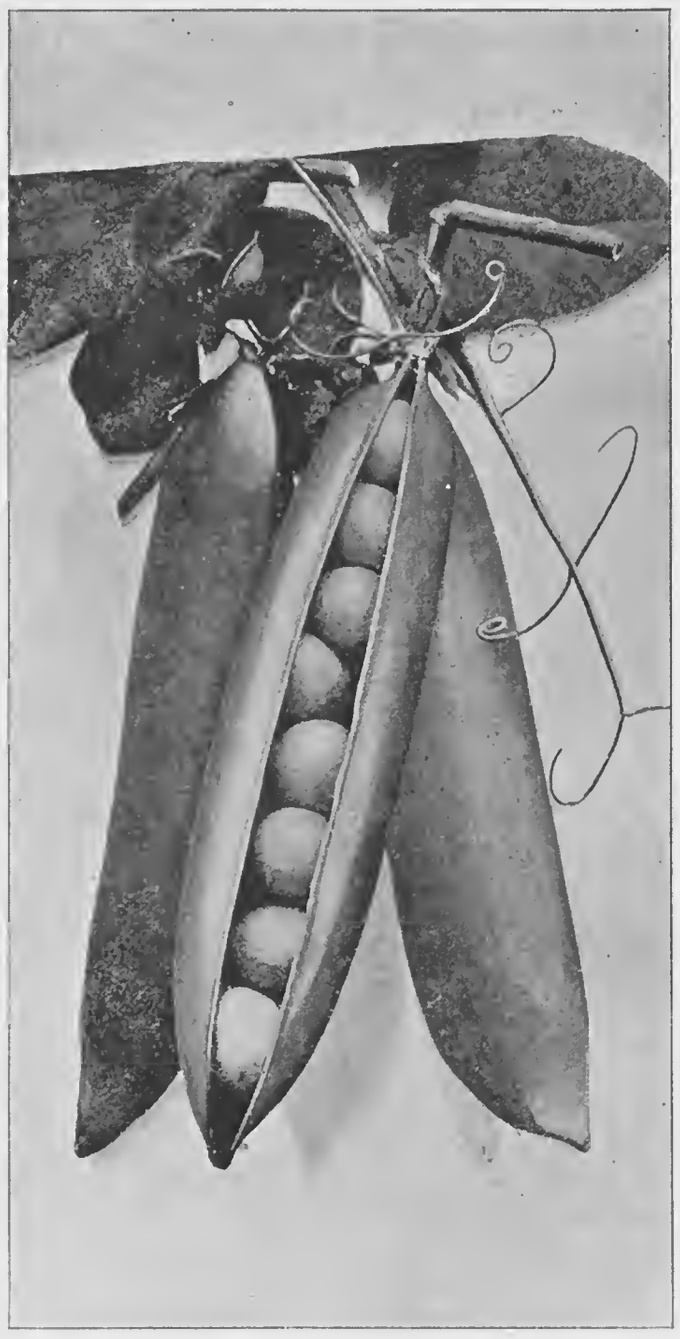
The vine or cane of the Logan-berry is entirely unlike those of either of its supposed parents, being of surprising vigor; seven to ten feet of growth in a season are not unusual. It is large and covered with rather soft spines, like a Japanese Wineberry. The leaves are large and thick, deep green in color, and are, apparently, not attacked by disease. They have a raspberry look, while the canes sprawl over the ground, rooting from the tips like a blackcap or dewberry. The only defects to be noticed in this promising novelty, from the above slight trial, are its lack of distinctive flavor, and the creeping habit of the canes, which is more or less of a hindrance to cultivation. That it will succeed in the East, and eventually become a valuable and practical market berry, its earliness, hardiness and extremely fine appearance, undoubtedly assure, while as to its productiveness, at least in the West, there is no question.

Rosa Multiflora Nana, (Midget Rose).—Under the name of Little Midget roses, seed of a particularly dwarf variety of Rosa polyantha, or multiflora has been offered for the past two years by a leading seedsman, with the assertion that, in a few weeks after planting, flowering rose plants will be produced, which continue to grow and bloom until fall, reaching a height of not more than 10 or 12 inches. This statement is strictly true, as I have found by trial. There is an evident inclination to push the sale of this pleasing novelty the coming season, throughout the better part of the flower seed trade.

While the seeds of this tiny strain of roses germinate quite readily, I would not recommend any one to plant it unless prepared to give the young seedlings careful attention, as they seem especially subject to mildew, and are liable to perish quickly just as they are developing their first blooms, which may take place as early as six weeks after germination. The seeds, which usually come in the hip, or berry, should be planted in pots or boxes of fine soil, kept quite moist, and in a temperature of not more than 60 degrees Fahr. If they are previously mixed with wet sand and exposed to freezing weather for a few days, germination, which is always somewhat tedious, is hastened.

As soon as the seedlings have made their second pair of leaves, they should be potted off in very small pots of rather firm, rich soil, and be kept in a light place, free from sudden changes or draughts of cold air. A large proportion will die under the best of care, but the stronger ones are likely to pull through. If mildew appear, the affected leaves may be removed and the plant dusted with fine sulphur.

The little roses are at first borne singly, but develop in clusters as the plants gain strength. They are scarcely an inch in diameter, and usually double, or at least, semi-double. They are borne in great profusion, but the range of color is not so great as the introducers claim, being limited chiefly to white and



THE CROWN PRINCE PEA. Fig. 48.
(See Ruralisms, page 141.)

light pink. These Midget roses appear to be entirely hardy, and should produce a better effect the second season than the first. Even when planted out in the garden, mildew seems to trouble them, and the foliage is affected by hot sunshine. They prefer a firm, rich soil and some shade during the middle of the day. The habit of precocious blooming, though strongly marked in these Liliputian roses, is not peculiar to them, as nearly all seedlings from the Polyantha or Tea-scented roses, bloom when they have developed their fourth or fifth pair of leaves from germination. FAIRFAX.

WHAT THEY SAY.

Hay That Wouldn't Make.—Our failures are good teachers, even though the information they convey is all of a negative character. If we only knew at the start what not to do in our farming operations, we would save a good deal of energy that now is lost, and have it to use when it might bring good returns. A couple of seasons ago, after clearing off a crop of beet seed, I seeded down the land to rye, using two bushels of seed to the acre. It was in excellent heart, and beet seed being an early crop, the rye had a longer season for growth than is usually the case when sowed as an after crop. It came up very thick and made a tremendous growth. When about knee high, as I had no cows to feed it down, it occurred to me that there was a good chance to get a big crop of something allied to second-crop hay. I sent my man with the mowing machine, but he soon came back with the report that he could do nothing with it, the rye clogged so badly. Then we cut with the scythe, but though the weather was average hay weather, and it was well tended, it made no headway in drying. Finally it was carted to a piece of clear pasture land near by, and there spread rather thinly; but as the boys would say, it was "no go." It would wilt but not dry, and however much tended would bunch up in damp locks. The final result was a good-for-nothing mess of damp and musty stuff, greatly reduced in bulk, and utterly worthless. The only practical way to utilize such a rank growth is by turning stock into it. J. J. H. GREGORY.

Marblehead, Mass.

Feeding Dried Brewers' Grains.—I started farming for myself last spring, and having a very limited quantity of oats and corn on hand, I bought and fed dried brewers' grains to my work horses until August. I had three horses; one was doing road work the greater part of the time, and the other two did the farm work. I had extra work to do so that they were in harness and at work every clear day, and some of the work was exceptionally heavy. I fed 3½ pounds of cob meal, and six pounds of dried brewers' grains per day, per horse, for a grain ration, and about 12 to 15 pounds mixed hay (Red-top, clover and Timothy). The horses did well on the ration, held their own in flesh, and had good powers of endurance. In cost, brewers' grains are equivalent to oats at 27 cents per bushel, if bought for $18 per ton, or are equal pound for pound. I sold what oats I had last spring for 40 cents a bushel, and replaced with grains at $18. From my little experience, I think that, while a horse will not show quite so much nerve or life, or ambition, perhaps, as when fed on oats, their powers of endurance are just as great, and equally so for road or farm. They are a good substitute for oats when that grain is high, but at present prices there is no need of a substitute. G. S. V.

Bedminster, N. J.

Breed, Feed and Care.—You ask whether I will tell you how the four cows, whose record for 1895 I sent you last week, were fed and cared for. My herd consists of six head of foundation animals—five cows and a bull—two two-year-old heifers, and three young things. It is located just outside of the city limits, on a 10-acre plot. The buildings, lawn and gardens occupy about 2½ acres. The rest is partly in orchard, leaving scarcely six acres to fill the silo and give green feed for the summer months. I buy all hay and grain fed. The winter feed of these cows is five pounds of hay, 40 pounds of ensilage, and about eight quarts of mixed grain, in the proportion of six quarts of wheat bran to two of corn meal, or three of Buffalo gluten feed.

In summer, we have no pasture, but secure green feed by careful succession of rye, wheat, Orchard grass, clover, oats and peas, and corn. We also feed regularly four quarts of wheat bran and two of Buffalo gluten feed. The four cows are of light weight, and very rich, persistent milkers. They have a sheltered yard and a comfortable stable. Indoor ventilation is secured by traps into the loft, which are easily regulated and prove satisfactory. Cleanliness is secured by the liberal use of shavings for bedding, and frequent applications of whitewash and plaster. The animals are always groomed once a day. I venture to believe that breed, feed and care share the honors of a good return. H. A. S.

Hurstville, N. Y.

Feeding Hens With Hotel Offal.—About the first of last September, The R. N.-Y. asked, "What do you feed your hens and what effect does the feed have on them? As I was feeding wheat in the sheaf, and some milk and scraps from the table, with small results in the egg basket, I thought it not worth while to report. Just then, I had an opportunity of getting all the hotel offal I wanted without cost delivered. Not to make too great a change in diet, I fed only about half rations of the former feed with the hotel feed for about 10 days. The first apparent result, was the greater thirst; the second was the soiled plumage owing to the grease it contained, and the third, more than double the egg product. I felt greatly encouraged at this point of the experiment, and for 20 days fed nothing but the hotel offal. There was no increase in egg production after the wheat was omitted, but after a week, it began to decrease, till at the end of 20 days the hens ceased to lay entirely. They were also very lazy, being too fat, as I found by examining them. Four hens died during the month. About half of the bulk of the offal was melons, broken dishes, corn cobs and corks. It was eaten up clean except the last two items. The offal rations were replaced by wheat and oats in the sheaf, and it was a month before the hens began to lay again. Some of the flock were moulting during the two months of the experiment. The breed was the White Java. The moulting season is not a good time to ex-

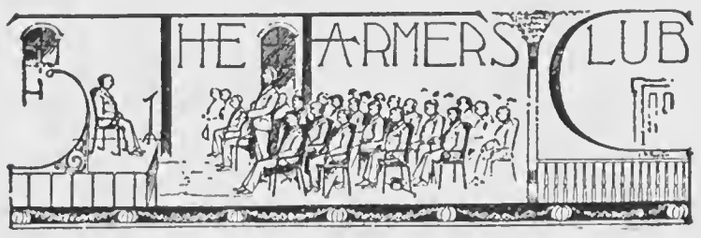
periment for results in the egg basket. A neighbor also tried the hotel offal rations for over two weeks—result, his hens ceased to lay, and four died.

Ohio. D. D. COTTOM.

R. N.-Y.—Too much "pure fat" in that ration. There is a case where lean meat would have helped.

A SIMPLE AND EASILY MADE BRUSH RAKE.—In THE R. N.-Y. of December 28, 1895, was a description of a California brush rake. We are using one—see Fig. 49—in our vineyard, that might suit some better, and it is very much simpler and more easily made. A man with an ax, saw, and two-inch auger can make one in two hours. What is needed is a stick of tough wood for a head piece, about five feet long and six inches through; put in this three or four teeth two feet long and two inches in diameter; and on the opposite side a handle six feet long, a little above a plane with the teeth. To draw with, drive in the ends of the head piece two heavy spikes or old bolts, and fasten to these some grape wire, double, and twisted some, and to reach out about eight feet; put in a stretcher two feet from the end, fasten on an old whiffletree, and it is ready for use. The stretcher is to keep the handle off the ground when dumped. We raked the vines out of 20 acres in 2½ days. We shall try a larger one among our fruit trees in the spring, with two horses, to rake out the brush.

Trumansburg, N. Y. T. H. K.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

An Attack of Mange in Cattle.

W. J. L., Alstead, N. H.—What is a cure for the mange in a herd of cows? They are constantly rubbing, and have rubbed off large patches of hair, especially on their necks just in front of the shoulders.

Scrub and thoroughly clean the diseased surface with soft-soap suds. To any scabs that are not removed by the working, apply sweet oil to soften them. Then apply the following wash, using a brush to rub in thoroughly over the whole diseased surface: Creolin and oil of tar, of each one ounce, soft soap one-half pint, sulphur one-half pound, alcohol one pint; mix. Wash off after a day or two with warm soap suds. A second and third application should be made on the third and sixth days. If thorough, this treatment should effect a cure. The interior of the stable should be whitewashed, adding one pint of kerosene to each two gallons of whitewash. Or the stable may be washed with a solution of sulphuric acid, one pint of the strong commercial sulphuric acid to three gallons of water.

A Horse that Sweats Freely.

F. C. S., Elizabeth, N. J.—Can you give the cause of, and a remedy for my horse sweating so easily? I purchased him last fall. He is about 14 years of age, weighs about 1,200 pounds, and is in good flesh, sound, apparently hard, and not hog fat. I feed whole corn and oats, equal parts by measure, and hay, and keep him unblanketed in a warm box stall. He seems to feel well, eats well, and is not nervous. The wagon is not heavy, and the load never weighs over 800 pounds. He is on the road five days a week, and is driven from 20 to 30 miles per day, with numerous stops; but he sweats very easily, often standing. I allowed him one hour to make 4½ miles the other day, and he was wringing wet. Some mornings, it is impossible to clean him properly on account of stable sweat.

Some horses, like some people, sweat very easily and freely, and yet are, apparently, in good health. I would not advise medicinal treatment as long as the horse is in good health, flesh and spirits. Replace the corn by wheat bran in his grain ration. That may lessen the trouble somewhat.

Sheep With Intestinal Disease.

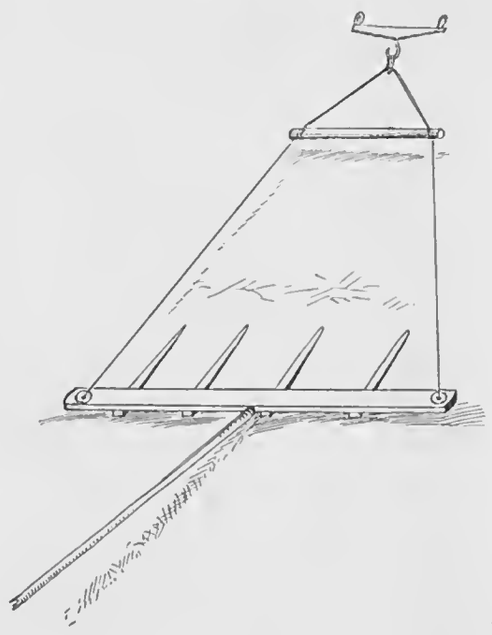
A. P. F., Pennsylvania.—1. As requested by Dr. Kilborne on page 37, I killed one of my poorest sheep, and made as thorough an examination as I was capable of doing. I found the head, throat and lungs sound, only very much inflamed. The lights had three large spots on them the color of a hog's liver after it gets cold—very dark red. I found all else right till I came to the small intestines, which had, from one end to the other, small, very hard substances about one inch apart on the inside about the size of a kernel of corn. In color, some were yellow, just like a ripe boil, others were of a darker color. I cut some open, but found no worms. They were hard like gristle. The rest of the sheep are getting better. 2. My six-year-old mare had her hind leg jammed between two logs at the knee. She is not lame, and the knee is not stiff, but the leg from the body down is swelled as full as the skin will hold. If I work her all day, the swelling nearly all goes away, but in one night the leg swells up again, and is very hard. This accident happened about one year ago. What can I do to cure her, or is there no cure?

1. The small nodules or tumors you found in the intestinal wall were due to a minute, round worm, the Oesophagustoma Columbianum, which is barely visible to the naked eye, under favorable circumstances. You could not be expected to find the worms. They produce what is termed the nodular disease of the intestines. Drench each sheep with one to three teaspoonfuls oil of turpentine well shaken up in four to six tablespoonfuls of castor oil—gauging the quantity according to the size of the sheep. The disease can be prevented in part by a change of pasture, pure drinking water and free access to salt. The cough was probably due to simple catarrhal trouble. If the sheep are now well fed and protected from exposure, there will probably be no further trouble. 2. Give the mare one teaspoonful potassium iodide crystals in the feed once daily for two weeks, then omit for a few days. If any marked improvement is shown, repeat the course of the iodide. A complete cure cannot now be expected, but she should be benefited by treatment.

What to Do For Choking Cattle.

G. L., Dinsmore, Pa.—What was the matter with our heifer? It was very difficult for her to get her breath. When first noticed, she was snoring very loudly and rubbing her throat; at times she seemed hardly able to get her breath, then she would feel easier, and then struggle for her breath again. What is the best known way for relieving choked cattle.

The heifer was probably choked, although your description is too indefinite to give a positive opinion. The usual symptoms of choking in cattle are, great distress, discharge of saliva from the mouth; frequent, more or less violent coughing; continuous efforts at swallowing, and tympany or bloating. There is also often frequent passage of dung and urine. In all cases of supposed choking, first endeavor to locate the foreign body, or in case of bloating, first gag the animal by tying a round piece of wood two to three



A HOMEMADE BRUSH RAKE. FIG. 49.

inches in diameter, or a plow clevis in the mouth to keep it open. The clevis or balling iron is preferable, because if the body is still in the throat, you can pass your arm in and withdraw it. Oftentimes a swelling to be seen in the furrow on the left side of the neck, will reveal the location of the object. In other cases, by pressing the ends of the fingers into the neck along this furrow, with one hand on either side, the foreign body can be felt and located. Treatment consists, first, in endeavoring to force the body upward into the mouth. Failing in this, to force it gently onward, with a probang, into the stomach. As a last resort, the œsophagus can be opened, the obstruction removed, and the wound sewed up. This last method can be safely undertaken only by a competent veterinary surgeon. Even for the use of the probang, it is always safer to employ a veterinary surgeon if one can be had. Probably more cows have been killed than relieved, usually by rupture or laceration of the œsophagus, by the use of the whip, fork-handle or other improvised probang, in the hands of an inexperienced person. If the foreign body is located in the throat, endeavor to remove it with the fingers, passing the hand and arm through the clevis or balling iron. If the body is felt lower down in the œsophagus, first drench the cow with a teacupful of raw linseed or sweet oil, then have an assistant, or two, one on either side, hold the head straight forward and low down. The operator will then stand on the left side of the neck, and with the thumb and fingers pressed firmly into the neck on either side, immediately below the body, endeavor to force it upward towards the mouth. When the substance has been forced nearly into the throat, if it is a smooth body, it can usually be thrown into the mouth, by a quick jerk with the hands. In other cases it may be held while one of the assistants reaches in and grasps the object with the fingers or a pair of forceps. In all cases where the obstruction cannot be removed in this way, without danger of injury to the cow, I would advise putting the gag in the mouth and sending for the veterinarian.

Azoturia and Scouring in a Horse.

A. H., Skaneateles, N. Y.—My 11-year-old mare, when being driven last July, fell down flat on her side. Afterward I had driven her about five miles and stopped; in a few minutes she began to hump her back and look at her sides, and acted as though she would lie down as in colic. I at once began to move her around, and soon she seemed easier, but acted very weak, and I had hard work to get her home. Her legs wabbled, and she acted as though she could hardly stand on them. I stopped at a veterinary surgeon's on the way home; he made an examination and thought that the trouble was caused by an irritant in the stomach or bowels, and treated her for worms. He then gave oil, and then condition powders, after which she seemed better; but when I drove her, she was no better. For the last year, when driven, her bowels get very loose, and she sweats very much. Since the veterinary treated her, I got one pound of soda, one pound of ginger and one pound of gentian, mixed, and gave her a tablespoonful on each feed. She got to looking very fine, and in good order, but when I drive her, there is no change.

For the scouring and bowel trouble, try the powders advised for "Scouring in a Horse," on page 37 of THE R. N.-Y. for January 18. The diet should consist of easily-digested food, given in moderate quantity. Do not overfeed. Light daily exercise should be given if possible. Rub the loins and right side over the last ribs with sweet oil and strong aqua ammonia well shaken together. Repeat the application every three or four days until the skin is well blistered.

Chronic Indigestion in a Horse.

E. P. S., Plymouth, Mass.—My horse has grown shockingly thin, and has a terrible internal rolling, more especially after eating or driving. Is it caused by worms, and what will kill them? Would cotton-seed meal mixed in bran mash fatten him any?

Give the horse six drams of the best aloes and follow by a bran mash. Allow no other feed. After 12 hours, and before feeding, give the horse, as a drench, one pint of raw linseed oil and 2½ ounces (five tablespoonfuls) of oil of turpentine well shaken together. Follow with a bran mash diet until purged. Then give the following powders, in two-tablespoonful doses, on the feed night and morning: Sulphate of soda, two pounds; powdered gentian, one pound; powdered nux vomica, one-fourth pound; mix. Repeat the aloes and oils in two or three weeks if it appear advisable. Cotton-seed or flax-seed meal with bran and oats or corn meal should improve his condition. Place salt in a box where the horse can lick it at will.

When to Use Hen Manure.

C. B., Hartford, Conn.—THE R. N.-Y. stated once that stable manure was never better than the day that it was made. I believe that it is considered a good plan to haul it out during the winter if the land is level. It would be a great convenience to me to put the droppings from my poultry houses right on the garden. This plan gets it out of the way. How much would I lose by so doing? Is not this certainly as well as to keep it in barrels without any care, allowing it, perhaps, to get dry? What effect has lime on the manure? There is nothing so good to keep the houses clean and sweet as lime.

ANS.—Certainly nothing is added to stable manure by holding it in heaps. In the ordinary methods of keeping it, considerable is lost by leaching or badly managed fermentation like "fire fanging." The great object in composting manure or causing it to ferment under the most favorable conditions, is to make it finer, and render its plant food somewhat more available. There is little objection to putting the hen manure directly on the garden to be plowed or spaded under in the spring. One advantage in keeping this manure over winter, is that when thoroughly dried out, it may be crushed or ground and used with muriate of potash and ground bone to make a good fertilizer. This dried manure makes an excellent "filler" for a home-mixed fertilizer. The carbonate of lime should not be used on fresh hen manure if you wish to retain its value. This form of lime liberates the ammonia by permitting it to pass into a volatile form. Land plaster, or sulphate of lime, will "sweeten" the house and preserve the manure much better than the "lime."

Building a "Low-Down" Poultry House.

Several Subscribers.—On page 41, C. H. Brewster says that he can house 1,000 fowls for $300, and tells of a house that cost only $7. Will he tell how it is made?

ANS.—If you care to run the risk of having your poultry subscribers throw their papers in the fire because a man is foolish enough to let it be known that he can house 1,000 hens at a cost of less than $300, I will do as you requested, and tell you how I can house 25 hens for $7. First I saw round cedar rails in three-foot lengths, sharpen one end and drive four into the ground two feet, five feet apart one way and 20 the other, for corners. I drive others between according to the length of the boards 12 inches wide, to be nailed on inside of the posts; 2x3 joists are spiked on top of the posts. For covering, I use white pine "box boards" rough, which come four and six feet in length. I nail four-foot boards on the front corners, and the saw run across the middle of a few more four-foot ones, makes the boarding for the back. Nail 2x3 20-foot joists to the top of these, and use six-foot boards for the roof. I make the house to fit the boards. We have a house five feet high in front, three feet at the back, and a five-foot floor, 20 feet long. I board over six feet of the east end, and place

roosts one foot from the floor. I fill the other floor space six or more inches with clean sand, put in three or four half windows to slide on the sill, in front commencing at the west end, so as not to get glass too near the roosts. The door takes one-half of the west end. I cover all above the sills with Neponset red rope paper. Three boards 12 inches wide and four feet long make four covered nests, placed 12 inches from the floor on the west end of the back side; any old leather makes hinges for them. Here is the cost:

300 feet of boards at $8 per M	$2.40
102 feet of spruce 2x3 at $15 per M	1.53
270 feet of Neponset paper at one cent per foot	2.70
Four half-sash windows (second hand)	0.75
Nails	0.12
Total	$7.50

I can get a good discount on paper if I should build 40 houses. I charged nothing for labor, as I had nothing else to do, and I dislike idleness. I had it all complete in six hours' time. I have had a house covered with this paper seven years, and it is all right. It may be painted if desired. If I have good luck hatching chicks this spring, I shall build 20 or more low-downs. This morning (January 15) the temperature was three degrees above zero; this evening I got 26 eggs, yesterday 21 eggs from 29 pullets that have been shut in one of these houses for over two weeks. It may be economy and good business to build a $40 house for $12.50 worth of hens, but it does not look that way to me. Many poultrymen state the profit on eggs per hen to be $1 per year, others $2, over the cost of feed; so biddy has to work quite a while to square up for food and rent. C. H. BREWSTER.

Irrigation of Fruits in Ohio.

H. E. A., Choctaw City, O. T.—I have nine acres of land located 2½ miles from a good market in Ohio on the river bottom. I am thinking of putting in an irrigation plant, pumping the water from the river, and putting all in strawberries. Which would be the better way to apply the water—through tiles or in ditches? If I tile it, what size tile, how far apart, and how deep should the tiles be put in the ground? The soil is dark, has a clay subsoil, and is first-class, but the dry weather for two years past has hurt the crop one-half. I wish to know whether it will pay to irrigate so far east. I have lived in the West for 12 years, where they irrigate field crops, and it pays. When I was living in Ohio, there were many years in which the dry weather would lessen the berry crop one-half, and my father often said that if we could just get the water on them, what money we could make and have fine berries all the season through. What will an acre of strawberries produce with good care? Could a man with a small family make a good living on nine acres well tended?

ANSWERED BY PROF. W. J. GREEN.

On many river bottoms in Ohio, it would be a very risky business to plant strawberries, on account of frost; but near Lake Erie, and along some of the large streams, the danger is less. In any case, it seems to me to be putting too many eggs in one basket to go into the strawberry business alone, as H. E. A. appears to contemplate. The yield depends upon the varieties selected, as well as the soil and care given; 3,000 to 4,000 quarts per acre may be taken as fair yields, though these figures are greatly exceeded in some cases. I doubt whether the average crop in this State equals 3,000 quarts per acre. A man with a small family can make a living from nine acres, but he should have not more than one-third or one-half in strawberries at one time, and alternate the crop with vegetables or other small fruits, using manure and clover to keep the land in good condition.

The main question at issue, however, is, Will it pay to irrigate strawberries in this State? There are seasons when it would not pay, and sometimes might be detrimental; but on most soils, it would pay about three years out of five. One ought to consider well before going into it, however, what is involved. I attempted one dry season to irrigate a strawberry bed where the rows were 10 rods long, with a fall of about three feet from the upper to the lower end. The water was taken from the city water works through a three-quarter-inch pipe. It was turned on at the upper end, and allowed to run all one day and night. The water never reached the lower end of the rows, although the soil at the upper end was like mortar. This shows, simply, that the water supply must be abundant enough to admit of such distribution as to water the beds quickly. This means a large pumping capacity, or a reservoir, or both. One thousand barrels of water per acre are about the same as one inch of rainfall, and this is about the least quantity that is likely to be needed at one time. Applications that are to be made during the picking season, must be made quickly, and just after a picking, so as to allow the ground to dry somewhat before the next picking. Unless one can command about 1,000 barrels of water per acre per day at any time when it may be needed, it is my opinion that it is as well not to attempt irrigation. Of course a smaller supply can often be used to good advantage; but the cost of application will be relatively greater. The water cannot be turned on and left to run, but must be looked after so that it will be properly distributed. and this will require the time of one or more men, and it is economy to keep them busy, for they cannot do much else but to regulate the water while it is running.

As to the method of application, much depends upon circumstances; but it will generally be found that surface irrigation is more practicable than sub-irrigation. If the field is level, or nearly so, then the latter plan may be practiced. In order to make this plan work, the fall should be so slight that when the outlet is dammed up, water will stand in the tiles all over the field, and the supply should be sufficient to fill them all at once, or within a very short time. In case the tiles open into an open ditch, the latter may be dammed and filled with water, and kept so until the ground is well soaked. In order to work satisfactorily, the rows of tile ought not to be more than six or eight feet apart, as near the surface as possible. It is easy to make this system work on small plots, but the difficulties increase in proportion as the area is enlarged, and it is only in exceptional cases that it is practicable. Where the water supply is sufficient, surface irrigation under almost all circumstances is practicable.

The best method of applying water to strawberries that I have tried or heard of, is the one described by Prof. Goff in the Wisconsin Experiment Station report for 1894. The water is conveyed across the strawberry beds in troughs made of boards nailed together at right angles. Three-quarter inch holes are bored in the troughs at intervals of 3½ feet. The flow of water is regulated by means of pieces of tin which slip into grooves over the holes, and in this manner the distribution can be made uniform to all parts of the field. The troughs are supported, at the proper height and slope to give a uniform flow, upon stakes into which pins are inserted. Any one can easily work out the details of the plan according to his circumstances and surrounding conditions. An attendant is necessary in order to keep the water running where it should and to see that the distribution is uniform. The troughs are to be removed to other parts of the field as occasion requires, as it is not best to attempt to run the water along the surface so far that the soil at the starting point becomes too wet. Hose or pipes might be used, but having tried various methods of distributing water, my preference is decidedly in favor of troughs.

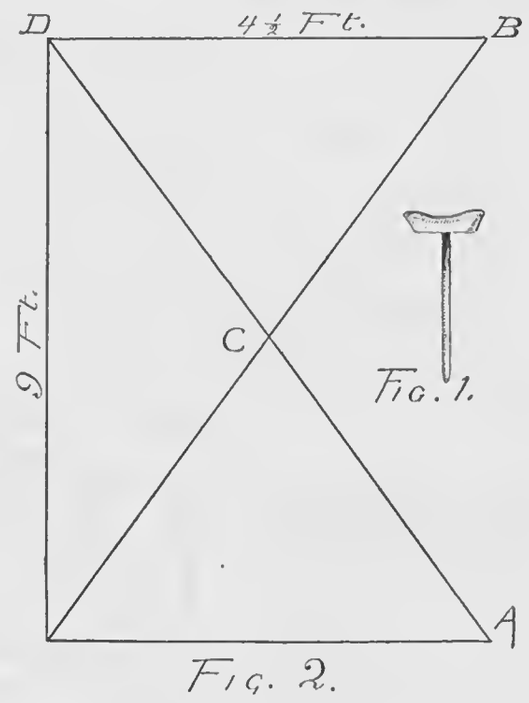


Fig. 1.

Fig. 2.

THE TOOLS FOR JARRING THE CURCULIO. Fig. 50.

How to Give the Curculio a Jar.

F. W. B., Ithaca, Mich.—Will Mr. Willard give a detailed account of just how he traps the curculios by jarring?

Ans.—The jarring process is very simple. Provide a tool as shown at Fig 50, which is an ordinary hoe handle, at the end of which is a light, hard-wood block, the upper part of which is made concave, so as to permit being filled with cotton or deers' hair and then tightly covered with leather of some kind. It must be rendered soft so as to do no injury to the bark of the tree when used as a pounder to jar it. No. 2 represents a frame, that may be made of 2½ x 1¼-inch pine, notched and nailed together at C, with a distance from A to B of about nine feet, and from B to D about 4½ feet. A crossbar of the same width and thickness, is notched and tightly nailed at the points B and D. Upon the frame thus made stretch and tack a piece of factory cloth, three yards long and 1½ yard wide. Provide yourself with two of these frames; have a boy carry one and with the other in your own hands, and the pounder, you are ready for business. Drop the frames under the tree with the sheet side up, so that the tree may be about opposite the point C of the sheets. You then have the ground beneath the tree covered for about nine feet in each direction.

A sudden blow on a few of the larger limbs, if the tree is large, or one blow on the body, if the tree is small, will cause the curculios to drop upon the sheets, from which they may be picked at once and destroyed. A few hours' experience will enable any eye to detect them at once. Two or three minutes will suffice at any tree, hence a large number of trees can be run over in a day. The work should begin as soon as the fruit is formed, and be followed for two or three weeks, at first daily, or until it is evident that the number of insects is being greatly reduced, so that only a few are found, when it may be safe to do it only alternate days. The insects usually begin their work on the outside of an orchard, especially if there be a nearby belt of timber; hence we begin to hunt them first on the outskirts. S. D. WILLARD.

Vegetables for Overflowed Land.

G. E. P., Maryland, N. Y.—I have a six-acre field composed of loam, which is overflowed every spring. It is very mellow, free from stones and weeds, and never bakes. Last year it grew ensilage corn. 1. Is this soil suitable for growing cabbage, cauliflower, celery, and onions? 2. Is it probable that one unskilled in their culture could meet with success on such a large scale when the product would have to be thrown upon the open market? 3. What varieties would The R. N.-Y. suggest for market? 4. Where can I obtain the requisite information for growing these vegetables?

Ans.—1. Yes, it should be excellent provided it is fertile enough, or is made so by the application of the proper fertilizers. 2. Possible, but extremely improbable, especially in these days of low prices and close competition. 3. Cabbages: early, Early Jersey Wakefield, Express; medium, Early Summer, All Seasons, Fottler, Early Deep Head; late, Flat Dutch, Stone Mason, Large Late Drumhead. Cauliflower: Snowball. Celery: White Plume, Golden Self-Blanching, Giant Pascal. Onions: Red Wethersfield, Yellow Danvers, Southport White Globe. 4. Study The R. N.-Y.; send for and study the catalogues of reliable seedsmen whom we advertise; get Gregory's books on cabbages and onions—each 30 cents; or Cabbage and Cauliflower by Burpee, 30 cents, or the New Onion Culture by Greiner, 50 cents, or Onions, How to Grow, Burpee, 30 cents, or Henderson's Gardening for Profit, which contains information on growing all vegetables, in cloth, $2. Any of these will be sent postpaid from this office.

Costly Straw for Bedding.

D., Bellaire, O.—What is the manurial value of a ton of wheat straw? Of oat straw? Will you give the analysis of each? Would it be advisable to buy straw at $8 per ton to be used as an absorbent in cow stables where a large per cent of the liquid manure is wasted? The stable keeps cows fairly clean without straw. What would be the approximate per cent of gain on such an investment, on a farm where manure is badly needed, and used for growing truck, fodder, beets, etc.?

Ans.—The following table shows the composition of average samples of oat straw, wheat straw and average barnyard manure:

	Pounds to the Ton.		
	Nitrogen.	Phosphoric acid.	Potash.
Wheat straw	12	2½	10
Oat straw	12½	4	25
Manure	10	5	12

The manurial value of the straw is not much over $3.50 at present prices for chemicals. We would not pay $8 per ton for straw to be used as an absorbent. The horse manure can be used for this purpose as far as it will go. Can you not obtain leaves, muck or even dry, rich earth for absorbents? Any of these materials will save more or less of the liquid manure and be less costly than the straw at $8. It is impossible to tell what the gain of such an investment would be. If we could obtain good muck for an absorbent, we would take the $8 and buy ground bone and muriate of potash, and grow some green crop to turn into the land, and a crop of straw for next winter's bedding.

To Make Good Kentucky Soil Better.

J. W. H., Payne's Depot, Ky.—I have a piece of land that grew corn last year, and, though good soil, I wish to make it better for berries next year. 1. How would it do to sow peas early, and, after they mature, gather them and sow again to peas, and plow the second crop under green in the fall? 2. When is the best time to graft or bud plums? I have some plum sprouts that I wish to graft or bud into Japan plums. 3. When is the best time to graft the grape?

Ans.—1. You suggest good treatment. I would chop the corn stubs off short, so that they will work into the ground and rot out of the way; then subsoil to a depth of 15 to 20 inches, raise and harvest a crop of peas, broadcast sorghum, and plow under when two feet high. Later in the fall, cut down with the disc, and plant as soon after the middle of March as you can get pleasant weather. 2. Graft plum sprouts in the open ground during a pleasant day in February or March, and protect with litter or boards. Bud in July or August, when you find the sprouts will work. 3. Graft the grape in February or before the vines commence to bleed. Protect from weather changes with boards, litter and earth. Open gradually and mulch during summer. In a special preparation of Blue-grass land, I would emphasize a thorough subsoiling. Under the light, rich surface soil, stirred by the plow, there is a crust amounting almost to a hardpan (though one dare not call it that) formed by carrying heavy stock, which tends to run off the winter rains and spring and summer showers instead of storing them in the clay to be returned to the surface when the growing or ripening crop is in dire need. J. A. MCKEE,

What is "Ammoniated Bone?"

T. M. T., Falls Church, Va.—Is ammoniated bone and muriate of potash as good for berries and fruit trees as ground bone and potash? Is dissolved S. C. rock good for small fruits?

ANS.—This question is discussed in another part of this issue. An "ammoniated bone" is usually a sample of dissolved phosphate rock with ground fish, cotton-seed meal, or some other substance mixed with it to give a low per cent of nitrogen. We prefer the bone unless the price of dissolved rock is very low. The Delaware farmer obtains an "ammoniated bone" by plowing under a crop of Crimson clover and cow peas and fertilizing with dissolved rock and potash.

A Colony of "Spring-tails" in Water.

G. G. G., Vail, N. J.—I inclose some little creatures which I took from the surface of my spring, and would like to know what they are, why they are there, and what will make them go away and stay away. They frequently congregate in patches as large as silver dollars. Through these patches, no water can be seen, but a great many individual "bugs" are, at the same time, scattered over the spring. It is seldom that they move, though occasionally one will, apparently, jump several inches. The great storm we had February 6, caused a stream to overflow the spring, and a strong current ran over the spring for several hours. I hoped that this would carry the "mites" clear to the ocean, but was surprised the next day to see them still in the spring in undiminished numbers.

ANSWERED BY M. V. SLINGERLAND.

The minute, blackish creatures, about 1-32 of an inch in length, which congregate in such numbers on the surface of the water in G. G. G.'s spring, are members of an interesting group of insects known as the Thysanura, which includes insects popularly called Bristle-tails, Spring-tails, Fish-moths, etc. As all of these insects are very small in size, they usually escape the attention of all except the most careful students of nature; sometimes, as in the present instance, they are numerous and lively enough to make up for their lack in size, and thus attract one's attention. Most of them live on decaying matter, and are to be found under stones and decayed leaves and wood, in the chinks of bark, among moss, and in damp places. One species, a near relative of the one found on the spring, sometimes occurs in large numbers on the surface of the snow in winter. It is known as the "Snow-flea," and sometimes proves a nuisance in maple-sugar bushes by getting into the sap. The species sent by G. G. G. is probably Schoturus armatus, which is common on the surface of standing water, both in this country and in Europe. The purpose in thus frequenting pools or springs is not known; perhaps, it is simply to have a social, frolicsome time with each other. They doubtless are bred in or on surrounding moss, old logs, or in other damp places near by. They are entirely harmless creatures, but, of course, one does not care to have his spring water seasoned with even these animate specks.

G. G. G. mentions that, occasionally, one jumps several inches, and the little creatures are, indeed, provided with a wonderful means of jumping. There is on the end of the body a tail-like organ that is bent under when the insect is at rest, and that reaches almost to the head; this, when suddenly straightened, throws the insect high in the air, and sometimes several feet away. This action is like a spring-board jump, only these little fellows always carry their spring-boards with them, and have thus won the name of Spring-tails.

None of the minute and curious forms belonging to this group of insects, possesses any wings; the only means of locomotion are their legs, and, in several species, the interesting "spring-board" just described. The whole group is of great interest to the entomologist, for some of the forms show in their structures close affinities to the more generalized, but closely allied, animals known as thousand-legged worms. Thus, these Thysanurans represent one of the connecting links which we hear so much about; and it is believed that they are much like the first insects that appeared on the earth in ancient geological times.

To come back to the practical side of the subject, How can G. G. G. rid his spring of these Spring-tails? Remove any possible breeding places, as old decaying logs, etc. Skim them off frequently with a saucer-like dish, throwing them into a kettle of water kept boiling near by. Or, all that are on the surface at one time can be quickly killed by pouring a little kerosene oil in the spring; this will at once spread over the surface in a thin film which will be death to the insects. If this film could be left on the surface for a few days, it would also kill all others that came to play on the surface. The kerosene would not contaminate the main body of the spring water, and the film could, probably, be easily dipped off.

(*Continued on next page*).

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(CONTINUED.)

Seedsmen and Poor Seeds.

W. W. L., Marshall, Mich.—On page 56, in an article beginning, "Some Celery Growers," etc., are the words, "At least one seedsman in America has recognized the fact that tested seeds must stand the test, or his reputation, like his seeds, will be declared worthless." You will oblige me greatly by giving his address. Beets and carrots, which we grow here as a field crop, have been a total failure for the past two years with me, because of worthless seed. I am informed that Canada has found a way to get good seed, by making the dealer liable for the full estimated value of the crop in case of failure by reason of poor seed. In the matter of garden seeds, your correspondent, Mr. Bryant, and I have suffered alike; but I have solved the problem of a garden by growing my own seeds. THE R. N.-Y. can do no better work for the farmers than to help them get seeds that will grow. Our meadows and pastures show the abominations practiced by the seedsmen, and the last report of the Secretary of Agriculture shows their methods. I have just paid $5 a bushel for clover seed to sow on wheat land, and then read a government analysis of a sample of clover seed, bought here in Michigan, of which only 10 per cent was clover seed, the rest being weed seeds of the worst kind, estimated at 60,000 to the pound. Another sample was largely made up of a sand imported from Holland expressly for grass seed adulteration.

ANS.—J. J. H. Gregory of Marblehead, Mass., gives the strongest public guarantee we have seen in this year's catalogues. In regard to Canadian laws covering this matter, Prof. Wm. Saunders of the Ottawa Agricultural College writes us as follows:

In reply to your letter inquiring whether any law had been passed by the Canadian Government to protect farmers and gardeners in the purchase of seeds, by compelling the dealer to pay damages for losses resulting from seeds untrue to name or from worthless seeds, I have made inquiries from the law clerk of the House of Commons, and he tells me that there is no special law in Canada, Ontario or Quebec, protecting farmers in the manner mentioned. The provisions made under other general acts relating more or less to this subject, are such as to make the punishment of such fraudulent transactions quite severe, and some prosecutions were made under the general law two or three years ago which have had the effect of protecting farmers to a very large extent from swindlers.

Grafting Japan Chestnuts on 15-Year-Old Wood.

H. K. G., New Jersey.—I have about three acres from which chestnut timber was cut 15 to 18 years ago; this now has very fine trees or suckers, measuring from 3 to 12 inches across. Can I cut this off, and let them sucker again, then graft young wood, with better success than by grafting the tops of such trees? Some four years ago, I grafted a few young trees, and got some six or eight grafts growing nicely. About 1½ year ago, I saw through THE R. N.-Y. how some were turning their attention to chestnut culture. This revived my interest; so last spring I put in about 500 grafts of Early Reliance, Numbo, Alpha, Parry Giant Japan and Paragon. Of the grafts put in last April, a number bore last fall; one graft had eight burrs on, and some that were three years old were a sight. We did the most of the grafting about April 15. Is this the best time? I wish to put in 2,000 or 3,000 this spring. Would it hurt the grafts to be shaped ready for setting, then thrown into water before setting them after being cut two or three weeks?

ANS.—H. K. G. can top-graft his chestnut trees, but it would require a vast amount of labor, and then he could not expect to get them in as good shape as he would had he cut them down and grafted on one-year-old sprouts. He can then have his trees branch low, as they should be trained to be convenient for gathering the nuts. He might shape some grafts a few weeks in advance to test them, but freshly-shaped scions would be safer. Take good care of good walnuts and hickory nuts. There is, no doubt, a promising future for improved nuts of all kinds. H. M. ENGLE.

A New House that Keeps Damp.

J. M., Marlette, Mich.—Last summer, I built a new house, finished the inside with hard wood, and had it hard-oiled. Now every room that I have heated will get damp and gather mold in the corners, and on the outside door. The house is very warm, two rooms where no fires were kept, showed signs of frost only once this winter for several days. The building is a common frame, boarded inside and out, lathed inside on the boards, plastered and hard-finished with plaster of Paris. Outside I used building paper beneath the siding. The workmanship was good, and I do not see where the fault lies.

ANS.—This is no uncommon occurrence in new dwellings, especially where the plastering is done late in the season. J. M. does not mention when the house was completed, but I presume not before cool weather set in. In all cases, the house should be well aired, when it is not freezing weather, for several weeks after the plastering is finished—doors and windows wide open—that every part of the building may be thoroughly dry before the building is occupied. I know of instances in which families have moved into newly-finished houses, and being neglectful of ventilation, every member of the family contracted throat or lung trouble, and in one instance, every member of the family died within a few months. J. M. should open windows wide each morning, and provide for ventilation both night and day, by which means the objectionable features mentioned will gradually disappear.

JOHN L. SHAWVER.

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Plants Largest stock of Snyder, Kittatinny and Minnewaski Blackberry, and Gregg, Palmer, Kansas, Marlboro and Cuthbert Raspberry Plants in western Pennsylvania. Rock bottom prices. All plants strictly first-class; no catalogue. Write your wants; bargains here. EAST VIEW FARM, Homewood, Pa.

KANSAS RASPBERRY. A large and well-rooted stock of this variety; also, of everything to be found at the largest, up-to-the-times small fruit nursery. Prices low; quality high Catalogue free. W. B. FULTON, Kirkwood, Ohio.

PLANTS Ohio and Gregg Raspberry Plants for Sale. Send for prices. E. J. COOK, Oaks Corners, N. Y

We Grow Plants. Millions of them, best varieties; also Trees, Farm Seed, Potatoes, Etc. Catalogue Free. W. N. SCARFF, New Carlisle, O.

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ALICE, the new Red Grape; samples by mail to any address for 25c. until April 1. WARD D. GUNN, Clintondale, N.Y.

FRUIT AND ORNAMENTAL TREES, Shrubs, Roses, Grape Vines, etc. Apples, 10c. Catalogue free. Rochester Nursery Co., Rochester, N. Y.

GRAPE VINES SMALL FRUIT PLANTS. You can get of us THE RURAL'S favorite grape, Nectar or Black Delaware. Catalogue Free. EUGENE WILLETT & SON, North Collins, N. Y.

The Alice Grape. The hardiest and best keeping grape ever offered. Ripens with Concord. Keeps all winter; splendid quality, very productive. Catalogue with full description free. F. E. Young, Nurseryman, Rochester, N.Y.

To Fruit Growers and Shippers!

Have you had a copy of our new 1896 Catalogue and Price List of **Berry Boxes** and **Crates, Plant Boxes, Climax Baskets**—for Peaches, Grapes and Melons—**Stave Baskets**, and all kinds of **Fruit and Vegetable Packages?** If not, send us your name and address on a Postal to-day, and get this valuable 32-page (4½x7 in.) pamphlet, *free.* It is fully illustrated with numerous photo-engravings, showing the packages filled with fruit, and as packed for shipment. When writing for catalogue, send us the names of other Fruit Growers.

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The Standard Guano Now in Use.

Almanac for 1896 now ready; sent on application.

PACIFIC GUANO CO.,

AGENTS WANTED. New York, Pittsburgh and Cleveland.

BURPEE'S SEEDS, Philadelphia

A postal card addressed as above will bring you BURPEE'S FARM ANNUAL for 1896, if *you intend to purchase Seeds*, otherwise the price is ten cents (less than cost). It is a bright BOOK of 184 pages, with hundreds of illustrations and colored plates painted from nature. It tells all about the BEST SEEDS that Grow!

Kaffir Corn is the best fodder crop that grows. The stalks and leaves are as good as green Corn fodder AND WILL REMAIN EVERGREEN through the dryest summer and fall. Other Valuable Forage Crops: ESSEX RAPE, VETCHES, SANDVETCH, etc. We mail 1 Pkt. each, 4 kinds with our 116 page complete Seed Catalogue for 14c-7, 2 cent stamps. VAUGHAN'S SEED STORE, 26 BARCLAY ST., NEW YORK. 84 & 86 RANDOLPH ST., CHICAGO.

100 BARGAIN COLLECTIONS. We can't afford to deceive our customers. By express, $4.65 for $2.

100 Parker Earle Strawberry	$0.80
12 Royal Church Raspberry	.50
12 Lovett Raspberry	.50
12 Erie Blackberry	.50
6 North Star Currant, one year	.50
1 Bartlett Pear, two years, 5 to 6 feet	.30
1 Keiffer Pear, two years, 5 to 6 feet	.30
1 Koonee Pear, two years, 5 to 6 feet	.30
1 Abundance Plum, two years, 5 to 6 feet	.25
1 Black Tartarian Cherry, two years, 5 to 6 feet	.25
1 Meech Quince, two years, 4 to 5 feet	.25
Total,	$4.65

Send for my Catalogue. TICE C. KEVITT, Athenia, N. J.

Plant the Best Currants

WHITE IMPERIAL excels all others in quality for a fine table currant.

PRESIDENT WILDER combines qualities that make it the most valuable market and table Red Currant that has been put upon the market. For prices apply to S. D. WILLARD, Geneva, N. Y.

THE COLUMBIAN RASPBERRY is extremely hardy and vigorous, resists drought, has no suckers, as it propagates from the tips only. Largest in size; best for canning, as it retains its form, size, color and flavor. It adheres firmly to the stem, does not crumble in picking, is a good shipper and wonderfully prolific. 8,000 quarts to the acre.

Price, 50 cents each; $2.50 per half dozen; $5 per dozen. CAUTION: Buy only of responsible, well-known dealers, or of the originator. Illustrated circular sent free on application. J. T. THOMPSON, Originator, Oneida, N. Y.

BRANDYWINE, *Marshall and Rio Strawberry,* and a choice selection of Raspberry Plants. Carman Nos. 1 and 3 seed potatoes. Descriptive price list free. Address EDWARD. T. INGRAM, WEST CHESTER, PA.

30 STRAWBERRY PLANTS SIX EACH. Orloie, Ideal, Giant, Tubbs and Lady Thompson $2 50
1,000 best 4 kinds, by express, not paid 2 50
12 Miller Raspberry ..... } 2 50
10 Peach Trees .....
1 Ridgely Chestnut, postpaid .....
Millions of plants. Peach, Apple, Plum, Pear and Nut Trees. CHAS. WRIGHT, Seaford, Del.

SPRAYERS EXP. PAID Any Point. We are the largest Sprayer Co. in U. S. Get our Catalogue and compare it with others. LENOX SPRAYER CO. 95 West St., Pittsfield, Mass.

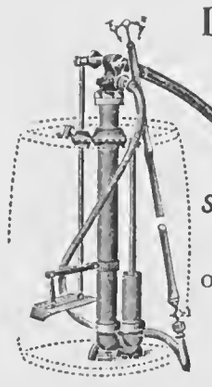
SPRAY PUMPS 21 STYLES. BEST and CHEAPEST. Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address WM. STAHL, QUINCY, ILL.

A SPRAYER $2.50 Express Prepaid. FREE catalogue and hints on spraying. **THE COMET** All Brass are best; sells on sight. Sprays from bucket or barrel, 50 feet. You want it for your orchard, vines, and plants. I want agents. Write today. H. B. RUSLER, Johnstown, Ohio, U. S. A.

PERFECT FRUIT IS PRODUCED BY SPRAYING. Our 32-page Illustrated Spray Pump Catalogue tells How and When to Spray—mailed Free. THE DEMING CO. Gen'l Western Ag'ts. Henion & Hubbell, Chicago. Salem, Ohio.

SPRAY YOUR FRUIT trees, vines, lawns, flowers, chickens, and kill the insects with the **Improved 'DAISY' Sprayer.** Very durable, guaranteed, and lasts for years. 150,000 sold in ten years; has rubber hose and throws constant stream 50 feet. Latest recipes for killing insects. No. 1, heavy tin, brass valve, $1.65; No. 2, iron, brass valve, $2.25; No. 5, heavy brass (fine), $5.00. *Express prepaid. Agents wanted. Catalogue free.* W. M. Johnston & Co., 25 Eagle St., Canton, O.

THE PEPPLER SPRAYER SIX-ROW *For Trees, Potatoes and Vineyards.* HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD. POSITIVELY WARRANTED **THE BEST ON EARTH.** Catalogue free. Address THOMAS PEPPLER, P. O. Box 35. Hightstown, N. J.



DO ONE THING Do it well, is our motto. WE... make the *"Eclipse" Spray Pump* better than ...ANY OTHER... or return money. Send for Catalogue. MORRILL & MORLEY, Benton Harbor, Mich.

I SELL THE **ECLIPSE SPRAY PUMP** Because it is the *BEST. Try* it and *you* will agree with *me.* Send for catalogue. WALTER F. TABER, Lakeview Fruit Farm, Poughkeepsie, N. Y.

Adjusted to dust wide or narrow rows over one acre per hour, one pound green to acre. Extra tubes furnished for orchard work, with each machine.

One farmer says: "It was my custom before buying your Champion Gun to use water, it required four men to do about the same work that I can do with the Gun in the same time. It will pay any farmer, having one acre of potatoes in one season's use." Send for circular. Ask for Leggett's Pure Paris-green; it is the best.

LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Pittsburgh, Pa. *Agents wanted.*

SPRAY PUMP "EMPIRE KING." The only Pump with a **Perfect Agitator** a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

THE FARMERS' CLUB.

(CONTINUED.)

Quality of Early Richmond Cherry.

W. A. B., Farmer, N. Y.—In bulletin 98 of the Cornell Experiment Station, the Early Richmond cherry is described as poor in flavor and quality, fruit soft and small. Further it says that the better cherries are bound to drive it out. From all that I can gather from the different fruit catalogues, this description does not tally with them at all; in fact, the catalogues classify it as being one of the most popular sour cherries grown. What is your opinion, or that of any of your readers who have grown it?

ANS.—We think that the bulletin estimate of Early Richmond is about right. Besides its small size, it ripens too early. We would much prefer Montmorency Ordinaire, or even Montmorency Large-fruited, Late Duke or Belle Magnifique.

Some Questions About Celery.

H. Z., Allendale, N. J.—I have about three acres of black soil underlaid with sand at a depth of 1½ to 2 feet. Can I plant celery in it the first year? It has not been worked and is in grass. What tools are required? What book will give me all needed information? Is White Plume the best kind?

ANS.—Yes, our friend could raise celery in just such land, provided he can give it all the water needed in case of drought. The tools required are a plow, harrow, cultivator and hoes—the same as for any other hoed crop. W. W Rawson & Co., Boston, Mass., and W. Atlee Burpee of Philadelphia have published books that tell all about celery and celery culture. White or Pink Plume is the best early celery.

A List of Fruits for Virginia.

D. E. S., Bethlehem, Pa.—I expect to move on a farm in Piedmont, Va., this month, and would like to set out strawberries, raspberries, currants, gooseberries, apples, peaches, pears, grapes, plums and cherries, about four or six varieties of each, so as to get a succession of fruits and berries as long as the season lasts. What would your choice be under similar circumstances?

ANS.—Assuming that the fruits D. E. S. desires to plant, are for family use as well as market, the selection here presented, will be found satisfactory for either purpose. The list may not embrace as many of the new varieties as the claims made for them would justify; but those named are good and profitable kinds, and will succeed in the section indicated. The important feature bearing upon this point, is to get healthy trees and plants, free from all dangerous insect pests, and reliable as to genuineness of the kinds. The following is about what I would select for myself were I to plant in Mineral County, W. Va., for family use and market: Strawberries.—Michel, Crescent, Lovett, Bubach and Brandywine. Raspberries.—Miller and Cuthbert for red, Souhegan and Gregg for black. Currants.—Red Dutch and White Grape. Gooseberries.—Houghton and Downing. Apples.—Early Colton, Fourth of July, Gravenstein, Wine, Paragon and Stayman's Winesap. Peaches.—Champion, Mountain Rose, Foster, Elberta, Crawford's Late, Hold On. Pears.—Wilder Early, Clapp's Favorite, Bartlett, Anjou and Lawrence, and a very few Keiffers. Plums.—Abundance and Chabot (Japan), Whitaker, Milton, Newman and Moseman, of the natives. Cherries.—May Duke and Richmond, Tartarian, Gov. Wood. Grapes.—Moore's Early, Concord (black), Wyoming Red, Vergennes (red), Diamond, Pocklington (white).

J. W. KERR.

If you are in want of vegetable or flower seeds, plants or bulbs, shrubs or roses, grape vines or small fruits, fruit or ornamental trees, or in fact anything in the seedsmen, florist or nursery line, The Storrs & Harrison Company, Painesville, Ohio, will be pleased to send you their valuable catalogue free. They have been in business over 40 years and are reliable and responsible. In connection with their nursery of a thousand acres they have 29 greenhouses and have an immense plant and seed mail trade extending to every State and Territory in the Union.—*Adv.*

THERE are more new kinds of potatoes announced in the current catalogues that will yield far more than any other kinds, than we have noticed in any previous year. Let us hope there may be some basis of truth in these claims...

SEVERAL friends would like to hear through THE R. N.-Y. as to the Eldorado blackberry—hardiness of plant, size and quality of berry, etc.....

WE are glad to be able to report that our winter oats are standing the hard season splendidly. There has been little snow, and the mercury has fallen as low as 10 degrees below zero. Crimson clover is injured in places.....

PROF. L. H. BAILEY writes us that the Cassabanana is not Benincasa cerifera, but a form of Cucurbita pepo, and closely allied to the Vegetable Marrow of the English. We are unable to find much about this singular fruit in any of the reference books we have at hand. Paxton gives Cucurbita cerifera as a synonym of Benincasa.....

THE R. N.-Y. tried the Ne Plus Ultra sweet corn when first introduced under that name, some 12 years ago. It had previously been disseminated for many years under other names. Now we find the "new" variety, Country Gentleman, to be just this Ne Plus Ultra and nothing more. Beside it, we have grown the

(*Continued on next page.*)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Steady Nerves

Are needed for success in business. Nerves are fed by the blood. Pure, rich, healthy blood makes steady nerves, and pure, rich blood may be had by taking

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. $1. Prepared only by C. I. Hood & Co., Lowell, Mass.

Hood's Pills act harmoniously with Hood's Sarsaparilla. 25c.

The Most Artistic Effect In Sweet Peas

is obtained by having each color by itself in a separate vase. Try it. We offer one packet of each of these choicest sorts:

BLUSHING BEAUTY—clear day-break pink
BOREATTON—rich velvety maroon
EMILY HENDERSON—purest white
COUNTESS OF RADNOR—soft lavender
VENUS—a grand salmon buff

together with our

1896 Seed Catalogue,

which is handsomely illustrated by direct photographs, for **12 cents in stamps.**

1 oz. each of the above with Catalogue for 40 cents. ¼ lb. each of the above with Catalogue for $1.00.

Send now.

Johnson & Stokes,

217 and 219 Market Street, Philadelphia, Pa.

WHITE SCHONEN OATS Prof. W. A. Henry, of Wisconsin Experiment Station, says: "For productiveness, stiffness of straw and thinness of hull the White Schonen stands at the head of the list." In a letter dated Dec. 28, '95, Prof. Henry says: "The White Schonen have no superior." Write for circulars to J. L. ALBERT, Paw Paw, Ill.

GARDENER'S SEED AND PLANT GUIDE from experience, tells about gardening for profit or pleasure and about The Flower and Vegetable Garden. Postpaid 5c. JNO. BAUSCHER, JR. Box 465 Freeport, Ill.

HIGH CLASS SEEDS.

Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

DREER'S RELIABLE SEEDS PLANTS and BULBS

Are everywhere known as **The BEST.** Why risk poor ones when the best cost no more. Send postage stamp for **Dreer's Garden Calendar for 1896**—richly illustrated; two colored plates on cover, of popular flowers. It describes everything **New** and **Old, of Merit.** HENRY A. DREER, 714 Chestnut St., Phila., Pa.

ESTABLISHED 1822.

Has an Index, enabling its readers t readily find any **Flowers, Bulbs, Plants or Vegetables** by both *Common and Proper Names.* Its 170 beautifully illustrated pages contain complete descriptions of all new and standard varieties, valuable cultural directions, information how to prevent and destroy insects that injure plants, revised list of approved agricultural and horticultural implements, particulars of our unique offer to duplicate first prizes offered by all agricultural and horticultural societies in the United States, and **FREE DELIVERY. We Mail It Free,** *and with it to those who mention this paper, either of the following selections for 15c. or the five for 65c*

(1) 1 oz. Breck's Boston Mixture Sweet Peas (60 kinds), 1 pkt. Breck's Dwarf Rainbow Nasturtium, 1 pkt. Breck's Tall Nasturtium. (2) 1 pkt. New Red Mignonette. 1 pkt. New Red Pansy, 1 pkt. Marguerite Carnation. (3) 3 Begonia Bulbs, distinct colors. 3 Gladioli Bulbs, distinct colors. (4) 1 pkt. Breck's Belmont Tomato. 1 pkt. Breck's Golden Celery. 1 pkt. Breck's Wakefield Cabbage. (5) 1 pkt. Breck's New Life Pea. 1 pkt. Breck's Premier Sweet Corn.

Everything for Farm, Garden and Lawn.

JOS. BRECK & SONS, BOSTON, MASS.

IF YOU WANT THE BEST GARDEN

in your neighborhood this season

PLANT OUR FAMOUS SEEDS AND PLANTS

all of which are described and illustrated in our beautiful and entirely **New Catalogue for 1896.** A new feature this season is the **Free** delivery of Seeds at Catalogue prices to any Post Office. This **"New Catalogue"** we will mail on receipt of a 2-cent stamp, or to those who will state where they saw this advertisement, the Catalogue will be mailed **Free!**

PETER HENDERSON & CO.

35 & 37 Cortlandt St., New York.

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well begun is half done. Begin well by getting Ferry's Seeds. Don't let chance determine your crop, but plant Ferry's Seeds. Known and sold everywhere.

Before you plant, get

Ferry's Seed Annual

for 1896. Contains more practical information for farmers and gardeners than many high-priced text books. Mailed free.

D. M. FERRY & CO., DETROIT, MICH.

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Prettiest BOOK ever Printed.

SEED ONE CENT A PACKAGE, and up. Cheap by oz. and lb. A lot of extra packages with every order. Send for catalogue.

R. H. SHUMWAY, - Rockford, Ill.

SEEDS SEEDS SEEDS

50 CENTS WORTH OF SEEDS FOR 10c.

To anyone sending us 10 cents in stamps or currency, we will send FREE, by mail, one packet each of the *three* very popular FLOWERS illustrated in our colored plate, and also one packet each of the NEW IMPERIAL TOMATO, the finest variety yet introduced, and the NEW PINK PLUME CELERY, also illustrated in our GARDEN AND FARM ANNUAL for 1896. A copy will be sent free to every address.

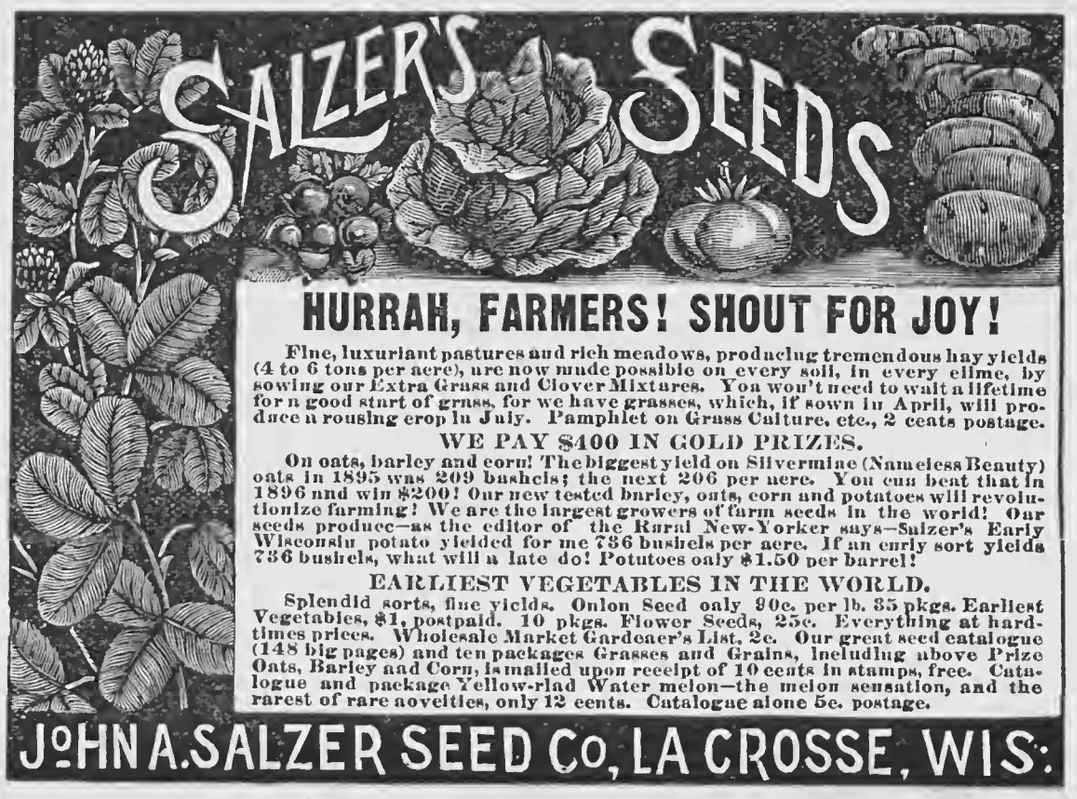
CROSMAN BROS., Rochester, N. Y.

SEEDS SEEDS SEEDS SEEDS SEEDS SEEDS

A FLOWER GARDEN FOR 25c.

Our bargain collection of 10 pkts. of **Choice Flowers** contains: Pansy Large German; Cosmos Giant Perfection; Candytuft Empress; Calliopsis Gold Wave; Petunia best mixed; Sweet Peas Eckford's Large Flowering; Marigold Legion of Honor; Mignonette Machet; Phlox Grandiflora; Zinnia Giant Mammoth. This fine collection contains many novelties, for only 25 cts. in stamps or silver, worth three times the price. Our Handsome GARDEN ANNUAL, FREE. Write for it.

COLE'S SEED STORE, - PELLA, IOWA.



HURRAH, FARMERS! SHOUT FOR JOY!

Fine, luxuriant pastures and rich meadows, producing tremendous hay yields (4 to 6 tons per acre), are now made possible on every soil, in every clime, by sowing our Extra Grass and Clover Mixtures. You won't need to wait a lifetime for a good start of grass, for we have grasses, which, if sown in April, will produce a rousing crop in July. Pamphlet on Grass Culture, etc., 2 cents postage.

WE PAY $400 IN GOLD PRIZES.

On oats, barley and corn! The biggest yield on Silvermine (Nameless Beauty) oats in 1895 was 209 bushels; the next 206 per acre. You can beat that in 1896 and win $200! Our new tested barley, oats, corn and potatoes will revolutionize farming! We are the largest growers of farm seeds in the world! Our seeds produce—as the editor of the Rural New-Yorker says—Salzer's Early Wisconsin potato yielded for me 736 bushels per acre. If an early sort yields 736 bushels, what will a late do! Potatoes only $1.50 per barrel!

EARLIEST VEGETABLES IN THE WORLD.

Splendid sorts, fine yields. Onion Seed only 90c. per lb. 35 pkgs. Earliest Vegetables, $1, postpaid. 10 pkgs. Flower Seeds, 25c. Everything at hard-times prices. Wholesale Market Gardener's List, 2c. Our great seed catalogue (148 big pages) and ten packages Grasses and Grains, including above Prize Oats, Barley and Corn, is mailed upon receipt of 10 cents in stamps, free. Catalogue and package Yellow-rind Water melon—the melon sensation, and the rarest of rare novelties, only 12 cents. Catalogue alone 5c. postage.

JOHN A. SALZER SEED CO, LA CROSSE, WIS.

RURALISMS—Continued.

Zig-Zag, a variety which resembles the Ne Plus Ultra in the irregularity of the rows, in the shape of the ears, in plant, and in the time of the plant's maturity. But it is a better kind of sweet corn. The kernels are deeper and more closely set; it is a more prolific variety, and ripens somewhat earlier. The quality is better. Try the Zig-Zag and discard the "new" Country Gentleman. Or, try them side by side that you may see whether our estimate of the two kinds is correct or incorrect.....

JOHNSON & STOKES, 217 and 219 Market Street, Philadelphia, Pa.—Garden and Farm Manual of 96 pages, with many of the illustrations reproduced from photographs and all of them without the exaggerations which are so conspicuous in many catalogues. The last page of the book we call especial attention to, showing as it does, the result of photographic engraving in colors true to Nature by a recently discovered process.

The Dwarf Essex rape, it is claimed, is of so rapid a growth that the crop is ready to feed in 10 weeks from sowing. As a fattener for all kinds of live stock "it is without a rival in point of cheapness and effectiveness." Thirty full-sized packets of the choicest vegetable seeds (a complete vegetable garden) are offered for $1. Among many novelties, the Crown Prince pea is commended as quite eclipsing the Stratagem, Telephone, etc. The vines grow 15 inches high. See Fig. 48.

WE have the following interesting note from Mr. H. M. Stringfellow, of Galveston, Texas:

In commenting on my method of root pruning, you say that it is likely "evergreens, magnolias, hickories, etc., could not stand it at all." I have tried it fully on peaches, plums, pears, apples, grapes, sycamores, pecans, English and Japan walnuts and persimmons, and find it entirely successful on all these deciduous trees, and equally so on the orange, the only evergreen tested. A tree thus treated is practically a seed, and will grow just as readily, with this advantage, that instead of one, it strikes several deep, tap roots. Your experience with the naked-rooted pear trees, I dare say, can be duplicated by all of your readers, who must, at some time, have been surprised at the superior growth of certain "butchered" trees which they were tempted to discard. Again, referring to your notes on Prof. Bailey's bulletin on unproductive trees, a long experience has convinced me that no fruit trees should be propagated from young trees that have never borne. If continued long, it results in barren trees long after they should begin to fruit. In my own LeConte pear orchard, trees propagated from bearing ones fruited full the fifth year, while those grown from cuttings taken from young trees that had been grown several generations from young trees, never bore at all until nine, and bore full only the 10th year. I have had oranges propagated from bearing trees to fruit full the third year, while those from young trees took seven and eight years. I never noticed in the end, however, any difference in productiveness. Continuous propagation from young nursery trees is a great injustice to the fruit grower.....

No wonder that florists and nurserymen of the country have been making a great fuss over the Crimson Rambler. It is worthy of a big fuss, and is, we think, entitled to all the good things we have said about it. Last spring, plants were sent to us by Storrs & Harrison, of Painesville, O., Ellwanger & Barry, Rochester, N. Y., and Henry A. Dreer, of Philadelphia, Pa. Most of the plants made a vigorous growth of from two to three feet, though the season was unfavorable and the plants were neglected on account of the unexpected work which the tornado made necessary. A week or so ago, Ellwanger & Barry sent us a box of the flowers with stems perhaps a foot in length. There were six of these stems, each one of which bore secondary stems or pedicels forming panicles, having each from 25 to 35 buds and open flowers. The buds are small and roundish, the flowers 1½ inch in diameter when fully expanded, semi-double or bearing about 26 petals to the flower, which are of an intense crimson color, much like that we see in the colored plates which have been so freely distributed. Now, as each pedicel consists of from four to ten buds and flowers, and as there are from six to ten of these secondary stems or pedicels, the main stem gives us a perfect little bouquet. The main stems bear large, stiff thorns. Each leaf consists of from seven to nine leaflets of ordinary ovate shape and rather thin texture. Probably no rose is more prolific of bloom than the Crimson Rambler. Covering a trellis, or supported in any other way, the beauty of this splendid novelty when in full bloom may not easily be described. There is just one thing to be said against it—it is an odorless rose .....

Two Hundred Thousand Farmers in the United States know from practical observation what the "ACME" Pulverizing Harrow, Clod Crusher and Leveler is—how efficiently and cheaply it does the work—and how its use increases the wheat crop by thoroughly pulverizing the soil. The remaining farmers should post themselves in reference to this valuable implement. See ad. on page 146.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Potatoes,

Tomatoes, Melons, Cabbage, Turnips, Lettuce, Peas, Beets, Onions, and all Vegetables, remove large quantities of Potash from the soil. Supply

Potash

in liberal quantities by the use of fertilizers containing **not less than 10% actual Potash.** Better and more profitable yields are sure to follow.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
92 Nassau St., New York.

FERTILIZE TO ECONOMIZE

and add to the fertility you already have stored up in the soil. That's a bank that will honor every draft you make upon it if you are only liberal in your deposits. Every crop you grow can be increased in quantity and improved in quality by a liberal use of our High Grade Commercial Fertilizers. They are honestly prepared with a view to meeting the requirements of every variety of plant life. Ammoniating material, acid phosphates and Potash always on hand for those who desire to mix their own fertilizers.
The Cleveland Dryer Co., Cleveland, O.

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

POTATO FERTILIZER

$25.00 per Ton.

GUARANTEED ANALYSIS: Ammonia, 4 per cent; Available Phosphoric Acid, 7 per cent; Potash, 7½ per cent. Nothing but high-grade materials used. Fertilizers and Agricultural Chemicals at prices to suit the times.

RUNYON FIELD, Bound Brook, N. J.

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BEYMER-BAUMAN, Pittsburgh.
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ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION } New York
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CORNELL, Buffalo.
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THE KIND THAT PAYS, the kind that lasts. In painting, labor is three-fourths the cost; and with Pure White Lead and Tinting Colors more work can be done in a given time than with inferior materials. It makes—with Pure Linseed Oil—the best paint and the kind that lasts. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands). Any shade or color desired can be easily obtained by using NATIONAL LEAD CO.'s brands of Pure White Lead and Tinting Colors.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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1 Broadway, New York.

FERTILIZERS FOR SPRING CROPS

Are a necessity. To obtain proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the CHEAPEST and BEST plant-food known. Our brands are compounded on a scientific basis to supply a constant source of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Special Potato Manure for Potatoes.
Special Corn Fertilizer for Corn.
Standard Brands for General Use.

Write for our circular giving analyses of goods and testimonials from those who have used them.

Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO.,
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SOME STOCKBRIDGE CROPS.

384 Bushels Potatoes per acre for 8 consecutive years on the same land, on Stockbridge Potato Manure exclusively.

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738 Bushels Potatoes on 1 acre on Stockbridge exclusively in the great potato contest conducted by the "AMERICAN AGRICULTURIST."

The 20 Largest Crops in the "AMERICAN AGRICULTURIST" competition for the 2 years were raised on the Stockbridge exclusively.

897 Bushels Onions per acre on Stockbridge exclusively in 1894.

963 Bushels Onions per acre on Stockbridge exclusively on the same land in 1895.

And there are others noted in our catalogue. The

Stockbridge Special Complete Manures

are manufactured "Double Strength," of first quality materials only, by the

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston, 27 Beaver St, New York

Waste on the Farm.

Around the farm there is at least *a ton or two* of materials, such as **Ashes, Hen Droppings, Wood's Earth, Marl** and other things, which, if mixed with

Powell's Prepared Chemicals,

make fertilizers rich in Ammonia, Potash and Phosphoric Acid, which will be quick acting, producing large crops and at the same time permanently improve the soil. *A fertilizer made in this way is certain, but costs very little*—only about **$12 per ton.**

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POWELL FERTILIZER & CHEMICAL CO., Baltimore, Md.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

Established 1850.

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HERBERT W. COLLINGWOOD, Managing Editor.
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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, FEBRUARY 29, 1896.

THE term of the present New York State Commissioner of Agriculture will expire on April 1. If Governor Morton does not appoint a man to succeed him who is in full sympathy with the farmers of this State, he will give agriculture the worst sort of an April fool's joke.

⊙

WHY handle the harness more than is necessary? There are some good hints in that article on page 134. Many of us lose time and steps in not having things handy for feeding the stock. At some of the so-called "quick lunches" in New York, they feed 1,000 people in a wonderfully short time by having the food close to the table. A few simple articles are served, and the waiters walk but a few steps to deliver them. It is a great object lesson to a farmer to see how many people can be fed in this way between twelve and one every day.

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IN a popular restaurant of this city, hundreds of people eat dinner or lunch during the noon hour. The food is always clean and well-cooked, and the waiters are polite and attentive. Apparently the business would run itself without any hitch, yet, all through the hour the proprietor stands where he can see every table, and notice any mistake or evidence of dissatisfaction. The people who work for him are the best of their kind, yet they cannot help doing better work when they feel that the master's eye is constantly on them. The mere fact that the proprietor stands there without saying a word, but eyeing every detail, gave confidence to patrons, and made the waiters more careful than they would otherwise have been. Many a farmer loses money by leaving important details to others. No matter how painstaking or careful they may be, they do not feel the responsibilities of ownership, and they need the restraining influence of the master's eye which, as the old saw has it, "makes the fat ox."

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THE Ohio plan for conducting farmers' institutes is very popular in that State. The attendance at the institutes grows greater every year, and in many towns is limited only by the size of the halls. This success is attributed by observers to the fact that the farmers in each county are largely responsible for their conduct. Both a State and a county levy are made to provide funds. The local officers of two institutes in each county are permitted to draw from the county funds to pay all local expenses of the institutes. The State Board of Agriculture sends two lecturers to assist in conducting the meetings, and they may be required to supply one-half of the lectures upon the programme. The remainder of the work is expected from local talent, or men supplied by the local officers. The State lecturers, so far as practicable, are men whose services have been requested by the institutes. This is a democratic plan, and suits the people. The State maintains supervision, and sees that the true object of the institute is not perverted. If the people at any point fail to appreciate its true character, and do not make the meeting a success, State aid is not granted the next year. Usually there are more than two points in a county desiring State aid, and there is rivalry in the attempt to show the largest attendance and best interest. When three or more good institute societies are formed in one county, State aid is granted all in turn, being given to only two in one year. The societies failing to get State aid, frequently hold an "independent" institute, employing their own lecturers, and make an admission charge to meet expenses. Including "independents," over 200 institutes are being held in Ohio this season, and in scores of instances, standing room in the halls is at a premium. This is a good showing for Ohio.

⊙

A DANGEROUS and insulting bill has been introduced in the New York Legislature. It is in the form of an amendment to the present laws regulating the sale of milk. After prohibiting the sale or exchange of adulterated or unclean milk, or of any article of food made therefrom, the following absurd clause is inserted:

> The doing of anything prohibited by this section shall be presumptive evidence of the violation thereof, but such presumption may be overcome by proof on the part of defendant of the absence of criminal intent. This act shall take effect immediately.

If this were to become a law, it would be almost impossible to stop the sale of adulterated milk. The Board of Health would be forced to prove, not only that the milk was adulterated, but would be forced to produce witnesses who saw the adulteration performed, and also prove a "criminal intent." This would be an impossible task, and impure milk would go to a premium. It ought to be enough to prove that milk is below the legal standard, or contains injurious drugs.

⊙

THE State of Mississippi claims to have solved the convict labor question by working the convicts on large farms where they are made to produce cotton, corn, meat and other products. The State has really made a profit by this system, and many of the evils of leasing the convicts are avoided. One argument advanced in favor of this plan is that "organized labor" does not oppose it because the production of these raw materials and food does not compete with the labor of those who organize. How about the farmers? Suppose the State of Mississippi were to produce, on these convict farms, half a million dollars worth of cotton and corn and sell it all in the regular market; would not that interfere with the farmer's business just as the same values in shoes, rope or tools would interfere with the labor of factory hands? This idea that farmers can stand anything, and that competition is a good thing for their health, is about worked out. It is high time that farmers organized if for no other purpose than that of securing the considerations that are given to "organized labor."

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BOTH houses of Congress have been debating the "free seed" question of late. As our readers know, last year, Secretary Morton refused to send out the immense quantities of seeds that were distributed in former years. He claimed that the law demanded only the distribution of new and rare seeds for testing or experimenting, and was backed up in this position by a legal opinion from Attorney-General Olney. Congress is now attempting to force the Secretary to go back to the old farce of broadcasting turnip and carrot seeds all over the country. It is proposed to appropriate $150,000 for this purpose, and it is even hinted that the Secretary may be "impeached" if he does not yield. The whole thing is a disgrace to the country. Secretary Morton is just right in his position, and we hope that he will stick to it. There are good arguments to show why the Government should distribute new and valuable seeds or plants, but none to prove why it is a good thing to peddle out old varieties and worthless seed to help a man plant his garden. Some of the arguments (so-called) advanced by United States Senators in favor of this farce, are unworthy of the consideration of grown-up men; and it is a cause for regret that such people will pose as the champions of American agriculture.

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SELLING produce is just as much a trade of itself as growing it. Many of the most successful city salesmen would, probably, be completely at sea if they attempted to grow the products they sell so well. Conversely, many of the best growers might make lamentable failures in trying to sell their products in our city markets. A large mushroom grower was selling his crop through a first-class commission firm. This firm got good prices for him, but he got the idea that he could save the commission he was paying; so he tried peddling a part of his crop to some fancy restaurants. They would buy of him only on condition that he make the price lower than they were paying the commission merchant who supplied them regularly. This done, he was competing directly with his own goods sold by his own agent. The result was a demoralized market and lower prices. A few years ago, a single large firm handled the larger part of the hothouse lambs that came to this market. They were able to realize fancy prices. Their shippers began to divide their shipments, and competition resulted in lower prices. Of course, the larger supply had something to do with the reduction, but not all. The point is not that farmers should not seek to market their own products to consumers, but that they should go about it in a businesslike manner, and be tolerably sure that they will better matters before they overturn existing conditions. Especially is this true in markets situated beyond their own personal observation.

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IN Delaware and the eastern shore of Maryland, the question of providing a substitute for stable manure in order to keep up the fertility of the soil, is a very important one. Probably in no other section of the country has a combination of chemicals and green crops been tried with more general success, than on this peninsula. To understand the feeling of many farmers in that part of the country, let us read this note from one of them:

> We people here, as a whole, are on one extreme of this fertilizer question (depending almost solely on commercial goods) while New England and the North, in this feature as it pertains to the enrichment of soils, have been so long dominated by the German idea that animal excrement alone is manure, that it looks to me as though the average Northern farmer would rather forsake his church—or, perhaps, his political party—than to undertake to substitute anything for stable manure.

That is very true. These Delaware farmers, with their crops of Crimson clover or cow peas, and bone or dissolved rock and potash, *have* found a perfect substitute for stable manure. You couldn't make some men believe it until you took them down there and showed them the actual results from such farming. Then they might not admit it, though they would go home and experiment with it in a small way. Don't think that you *must* worship a manure pile because there is nothing to take its place!

⊙

BREVITIES.

AN APOLOGY TO KEIFFER PEAR.

Oh, Keiffer, I apologize for all the words I've said.
I take back every name I've hurled at your devoted head.
I only knew the way you taste when eaten out of hand,
I hadn't had the privilege of eating you when canned.
I think 'twas Brother Packard—he who called you "Business Pear"
Sent me a peek of Keiffers—they were lovely, I declare
With yellow face and crimson cheek—believe me when I say
I took one bite—it was enough—I threw the rest away.
But Madame gathered up the fruit—as is her wont to do.
She washed and pared and cored and sliced and put them in a stew.
She sugared it with liberal hand to suit her cultured taste,
And in her calm, methodic way, without unseemly haste,
She canned and sealed her ensilage and laid it safe away,
Then brought it out to garnish forth our feast on New Year's Day.
Oh, Keiffer, I apologize! Mere words are mean and small,
And RURAL lines are all too short for me to tell it all.
The odor of long summer days—the dream-days of the South,
The flavor of a thousand sweets seemed melting in my mouth.
Go brag and sing of other fruits from quince to *eau de vie*
A dish of Keiffer ensilage is good enough for me.

How's the Crimson clover looking?

Is your henhouse a jail or a drawing-room?

JACK FROST is the chap that has a cold snap.

ANOTHER big flock of poultry kept in one room—page 150.

ARIZONA is evidently not to be a State yet. Why should she be?

BRING in a few apple boughs and set them in water in a warm room.

YOU may breed out some diseases by crossing yourself with a scrub brush.

THE man who stands for something well despises the fellow who forever compromises.

A REAL conversation. "Why did Jones give up his separator?" "Oh, he soured on the *whirled*."

How does the silver question stand? The Senate says free silver, and the House says *freeze* silver.

WHEN you growl you show your *bear*ings. Some people wear their house bare of happiness with their bearings.

Do the bulbs begin to peep above ground? Wait till the ground freezes, and then cover them with a thick coat of manure.

NEVER, never, pick your ear—all you folks who hope to hear right along—with solemn tone we say—let your ears alone!

POTATOES are cheap this year, yet we never had so many "soggy" ones served in the restaurants as we find this season.

A TEXAS reader speaks of hauling oats 60 miles to sell at 20 cents a bushel, sacked, in order to raise *cash* for needed expenses!

IT is not impossible that the result of the Cuban rebellion will be to give the world two new republics—one in Cuba and another in Spain!

A SIEVE is always a wholesome device, because it will help some and let others escape. Anything is wholesome that lets out a cull.

A BARREL of swill has been known to kill, and for sickness it has no superior. When you leave what you spill, it undoubtedly will grow into a nest of bacteria.

MR. HALLADAY'S plan of saving tomato seed is like the Southern scheme of giving negroes all the watermelon they can eat on condition that they will leave the seeds in a dish by themselves.

THE old question of rock *vs.* bone as a source of phosphoric acid, is up again. Our opinion is that where one can buy at wholesale rates, one can obtain more fruit for a dollar with bone than with rock and some form of nitrogen. Yet this does not answer the real question. Who can answer it?

"UNDECORTICATED" is a big word which, when used about cotton-seed meal, means that the seed was ground up shell and all. It is worth only 60 per cent of the seed ground without the shell, but is often palmed off on those who do not know, at the same price. To test it put a handful of the meal into a glass of water, and stir it up. If the ground shells are there, they will fall to the bottom and show black "grounds."

ARE POTATOES INJURED BY SOAKING?

To what extent will potatoes be injured (*a*) for seed, (*b*) for eating, by being submerged in water, as in case of a flooded cellar? How long submersion will they stand without serious injury? How should they be treated?

The only experience I have had bearing on the above, is that in soaking seed potatoes in a solution of sulphate of copper (one part to 500 of water), last spring, two or three tubers were found in the solution some two weeks after continuous submersion, and they sprouted as readily as others. If the tubers remain hard and solid, I would expect that they had not lost their qualities for eating, but I cannot say from personal knowledge. DR. JABEZ FISHER.

I have had very little experience with potatoes submerged in water, but from what I have seen, I conclude that much depends upon the condition of the potatoes and the temperature. If the tubers were at all affected by rot, they would be very likely to be badly injured, if not ruined, especially if the cellar or pit be warm. On the other hand, if the potatoes were perfectly sound, they would not be injured by soaking for a week, either in quality or vitality. If they were very cool, so that there would be no danger of sprouting, the vitality would not be materially injured for a longer time, but the quality would be impaired. In case of submersion, I would wish to have the potatoes removed as soon as possible from the water, and spread out so that they would dry.

C. R. WHITE.

From our experience, we conclude that potatoes are not injured either for seed or for eating purposes, by being submerged in water, if they haven't been immersed more than from 12 to 48 hours. Two years ago this spring, we had one cellar in which the drain was stopped up, and the water flooded it two feet in depth. We had in it at the time, several hundred bushels of potatoes in sacks. The sacks were wet fully two feet up from the bottom. We drew them out as soon as we could, which occupied the best part of a day, and spread them out on the floor to dry. It so happened that we ate some of them ourselves, and part of them we planted. The eating qualities were not injured, and they grew equally as well as those that were not soaked. We would say that it will not hurt potatoes to be in water for a week, if they are thoroughly dried afterwards.

EDWARD F. DIBBLE SEED COMPANY.

SOME NOTES FROM IOWA.

I FILLED one mow or bin in the barn, 12x16 feet and 8 feet deep, with cut fodder corn, that is, fodder, ears and all were cut into two-inch lengths and elevated into this mow. Seventy good shocks, each 12 hills square, filled it heaping full, so that it was, when settled, at least 10 feet deep, and there has not been the least sign of heating, sweating or molding about it. This fodder corn settles together, on account of the weight of the corn, much more solidly than the pure fodder, and, consequently, is more likely to heat. My success this time has proved again that it can be cut and bulked up successfully.

THE Deacon was looking at my corn in the crib, and, noticing some red ears, said, "I'd get rid of those red ears in the seed if I were you. They are not much good, as there seems to be no substance in them. Hogs will hardly eat them. Of course, they can be starved down to them, but they don't like them and will always leave them till the last, and will root and wallow them around, and, may be, will not eat them then." Well, that was a new idea, so I resolved to see what the pigs said about it, and watched when red ears were thrown out to them, but could not see that they made any difference on account of the color. Then I took four red ears and gave them to a pig shut up by himself. He ate them as readily as he ever ate any corn. Though, of course, corn varies a great deal, I am loth to believe that there is any difference in feeding value owing to color.

TIMOTHY SMALL is a shiftless fellow, and if it were not for his pension, it seems that he would have either to take to pilfering, or else go on to the county. As it is, he manages to live and keep one cow, but he thinks that he can not afford to hire pasturage for her, so he turns her into the road. Now it is against the law for stock to run at large here, but on account of the good nature of his neighbors, and also because they fear to arouse his displeasure, not knowing what he might do under cover of the darkness, his cow is allowed to roam. One of his frugal German neighbors, wanting to use the grass growing in the yard in front of his house, and not having a fence to divide it from the road, tethered a calf out there. That worked all right, and seemed much better than putting up a fence, until Timothy's cow chanced along, and immediately made friends with the calf. The calf, of course, was willing, and not knowing or not caring that it was forbidden fruit, sucked the cow, and that made Timothy mad. He came over and told the German that he thought it was the most unneighborly trick he ever heard of. As Josh Billings says. "There's lots of human nature in folks," and this illustrates that it is human nature, after a short indulgence, to claim our privileges as our rights. E. B. WATSON.

Iowa.

All Sorts.

BITTER TASTE TO MILK.—If R. E. L., Factoryville, Pa., page 99, will feed less fodder and use clover hay in its place, his milk may lose its bitter taste. I was feeding the same as he is, and the milk and cream were so bitter that we could not use them. We changed to clover hay, and they lost nearly all the bitter taste. I know that the professors will laugh at this, but it is so. Perhaps the drought caused the fodder to give that bitter taste. J. H. S.

Brooklandville, Md.

BUILDING CEMENT FLOORS.—I put in a cement floor two years ago, and it is just as cheap as a wood floor; it costs about 2½ cents per square foot for a floor 2½ to 3 inches thick. A farmer can put it in just as well as a mason. At first put in the stones about six inches deep or more; place them as even and as level on top as possible; then they are ready for the cement. No sand is needed to fill up the stones. The floor will dry from the bottom up. I commenced to use my floor in less than a month after I finished it; it is just as good as it was the day I finished, and I draw all kinds of loads on it. But where I drive through, the cement and gravel are about four inches thick. One can put in all at a time, or by spells, just as he likes; the thicker the mortar, the sooner it will dry, but the harder it will work. H. S. L

Pennsylvania.

PLANTING FIVE-YEAR-OLD APPLE TREES.—Some years ago, I set 400 trees of the same variety, about equally divided between one, two and three-year-olds; three years after setting, no perceptible difference could be detected between those of different ages as to size, all showing that they might have been of the same age at the time of setting; and there was not 15 minutes' difference in their time of fruiting. The one-year-old trees bore as much fruit as any of the others. Since this experiment, my decided preference has been for the vigorous, one-year-old tree. Nurserymen will furnish them at less cost, and with care, they can be lifted with scarcely any loss of roots. If not injured by exposure, and if carefully set with a favorable season to follow, the first year's growth will be but little less than if they remained in the nursery row. Again the ground being in good condition, 15 or 20 one-year-old trees can be set in the same time required properly to set one five-year-old. No staking is necessary. The head can be formed at any desired height with but little use of the knife; I regard it an error that many entertain that the older the tree the sooner the fruit after setting.

Kentucky. A. D. WEBB.

A SUBSTITUTE FOR ENSILAGE.—The use of ensilage is undoubtedly the true theory for that class of dairymen keeping 10 or more cows; but what would you advise for those keeping from one to eight? I have had a dairy for nearly 50 years, formerly keeping from 12 to 20 cows, but of late years from five to eight. In the early history of silos, I had so nearly concluded to build one, as to estimate the cost, and found that it involved an amount not warranted by my number of cows; I, therefore, began to look for a substitute at less cost, and have solved the problem to my own satisfaction. Give the same care in cutting, curing and storing corn and straw, that you do to grass. In storing, pack the stalks in alternate layers with straw. Build a box with at least three compartments with close covers, each compartment to hold three cubic feet for each cow; use for the front of box short boards, to be removed when taking out the contents—cut stalks, straw and coarse fodder, and fill one compartment each day, thoroughly packing and using a pail of water for each three cubic feet. On the evening the last compartment is filled, feed one-half the contents of the first, and the rest the next morning, with such grain ration as desired. The contents of each compartment standing three days, furnish two warm and succulent rations free from the sour and disagreeable smell of ensilage.

Massachusetts. S. A. B.

VALUE OF KAFFIR CORN.—I notice your brief paragraph concerning Kaffir corn. I would not advise its cultivation in regions in which Indian corn can be relied on, but I have a very high estimate of its value for the "semi-arid" regions of the West, and for much of the intermediate country—with somewhat deficient or badly-distributed rainfall. It is estimated that over 200,000 acres of Kaffir corn and other non-sweet sorghums were grown in Kansas last year, and Secretary Coburn thinks it not improbable that the acreage may be doubled in 1896. In Oklahoma, Kaffir corn is largely grown. Extravagant claims have been made as to its ability to withstand drought, etc., but it is a valuable plant here. We have been feeding cattle of different ages on an exclusive grain ration for a number of weeks, and they have done well. The fodder is fairly palatable. Yesterday we had cakes for breakfast made of about two-thirds Kaffir flour, and one-third wheat flour, which were well liked by all at the table. I have eaten cakes made of Kaffir flour alone which were passably palatable. If Kaffir corn seed sells at seven cents a pound in New York, there must be "a reasonable margin of profit," as thousands of bushels have been sold in Kansas and this territory at 15 to 20 cents per bushel, or three or four pounds for a cent. I believe that seedsmen should be well paid, but I see no reason for the high prices often charged by some of them for easily-obtained seeds. G. E. MORROW.

Oklahoma Experiment Station.

IT is reported that English railroads are prepared to meet the demands of farmers for cheaper freight rates. The Great Eastern Railroad, for example, offers to carry small packages by passenger train, and to deliver them—all for a very low rate. For a 20-pound package, the rate is eight cents, and so on up to 60 pounds for which 25 cents are charged. This company has also started a box or crate factory, and will sell these empty packages at very low rates. In this way, it is hoped that farmers will be able to pick up a more direct trade with consumers in town or city, as the railroad company will deliver the goods. This remarkably low rate for carrying goods 80 or 100 miles, ought to prove a great advantage to farmers. If we could have such rates in this country, the middleman would be obliged to play second-fiddle—that is, after the farmer learned how to pack and sort to suit the producer.

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MR. WM. GRIFFITH, who is quoted as a high authority, states that the transportation trade in anthracite coal really began in 1820, in which year 365 tons were carried to market—mostly by canal. In 75 years, this trade has so increased that 46,000,000 tons were hauled last year. The managers of canal and railroad companies saw how valuable this trade promised to be, and took early steps to control it. They now practically control the entire output—either owning and working the mines, or having a monopoly on the transportation. Last year, they were anxious to make a great showing in the amount of coal hauled, and ended by mining too much, so that prices to the consumer were dropped. Now, they realize their mistake, and will combine to regulate both output and price. It is one of the greatest shames of this century that any body of men should have the power to create a monopoly in the people's fuel. This country seems to be getting on a *coal* standard.

BUSINESS BITS.

IF you are in need of an ornamental and durable picket fence, write to the Hartman Mfg. Co., Ellwood City, Pa., for circulars and prices. The posts are steel. There's nothing about it to rot.

IT will soon be time to build fence. Adams wire fence can not sag, it is claimed. It is also claimed to be the best farm fence made. Send for free catalogue and learn about it, to W. J. Adams Joliet, Ill.

AT this time, it is well to remember that several fruit growers who sent money to the Disbrow Mfg. Co., Rochester, N. Y., for berry baskets in years past, were not able to get baskets or money back.

AN all-steel, "Handy" farm truck, with wheels four inches wide, and guaranteed to carry two tons, sounds well. It's a good-looking wagon, too. No loose tires there! Better write to the Bettendorf Axle Company, Davenport, Ia., about it.

WHEN getting an engine or other implement, you should get a good one. M. Rumely Co., Laporte, Ind., make them and thrashers, horse powers, seed mills, etc. They say theirs "are equal to all." Their free illustrated catalogue tells about them.

C. N. BOWERS, Dakota, Ill., sends his illustrated poultry annual descriptive of a large number of different breeds which he has for sale, for 10 cents, and the money back to any one not suited. It contains many hints on the care and feeding of poultry.

LAST year, it will be remembered, we discontinued the advertisement of the L. B. Silver Company, of Cleveland, O., giving our reasons for doing so. We are now inserting it because the manager has guaranteed to make us referee in any difference that may arise between him and our subscribers.

ON another page, a correspondent tells of a man who sawed off his old peach trees level with the ground as the quickest way to get rid of them; but he still had the roots to bother him. Had he used a Hawkeye grub and stump machine, he would have saved all that trouble. Write to Milne Mfg. Co., 250 8th Street, Monmouth, Ill., for catalogue telling all about it.

ON page 135, you will find a conservative and practical article on the value of dried brewers' grains as a food for stock. These grains are often used as substitutes for oats, and under certain conditions, are very useful for this purpose. They must not be confounded with the sour and sloppy mass that some farmers feed. These grains are thoroughly dried before they turn sour, and may be stored and handled as easily as oats. The next question is—where may they be bought? F. E. Otto, 15-25 Whitehall Street, New York, has these grains—dried under a new process. Our advice to you is to write him for prices and further information.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

HERE is a practical question for discussion, and one that can't be helped much by theories. Give us facts and figures:

What is the most convenient, economical and comfortable fuel for the kitchen stove the year around, prices being as follows: 18-inch, dry, hard wood, $1.50 per cord; chestnut coal, $4.50 per ton; gasoline, eight cents per gallon, by the barrel; kerosene, 160 test, five cents per gallon, by the barrel?

*

DON'T write and ask a question with instructions to print the answer in the paper, and sign no name, only "Subscriber" or "Reader." There may be reasons why the editors prefer to send the information rather than to print it. No doubt the writers think that they have the advantage of the editor by omitting their names. However, time may reveal to some of them that there is at least one waste basket in every office.

*

SOME contributors wonder why they are slighted. That is their way of speaking of it. But, in truth, the last place for showing favoritism is in the editorial chair. In that position, the conscientious and sympathetic person constantly has to make decisions against which his sympathies rebel. To allow the personal side of the matter to appeal to one, is to be in danger of falling into a prejudiced way of doing the work. The person who is practical and prompt, who, when he sees a need of some little bit of information, or some niche which his thoughts would fill, straightway sends his contribution, is a coöperator with the editor; and it is his adaptability to the needs of the paper that gives him an advantage, not favoritism on the editor's part.

THE FARM CHILD'S VACATION.

HOW TO MAKE THE MOST OF IT.

MANY country schools close about the middle of February, and do not open again till May. This long vacation and others which occur in these schools, may be so used that the children will not suffer, in fact, they may learn as much as while they are in some country schools. First, have the children read something every day. You have a Bible and THE R. N.-Y. Well, if you have nothing else for the children to read, you are very well off. The Bible is a wonderful book; there are stories and history and poetry in it; wise sayings and wonderful truths. You might go the world over and not find a better book for the children to learn to read in.

As to the paper, can you not see of how much benefit it will be to your children to learn to read a paper that will be a help to them in all they do on the farm? It is vastly better to read such matter as you will find in THE R. N.-Y., than to read the stuff that fills so many of the papers which go into farm homes. But what is needed in farm and other homes is the formation of the reading habit, and a taste for good reading by the children. Good reading is so low in price that poor people need not be without good books. In many towns, there are free libraries; farmers should patronize these. Where there are no free or good circulating libraries, let a few neighbors club together and buy one, two, three, or more good books, and pass them around. The same can be done with papers and magazines. I would get some books on nature like Julia McNair Wright's Seaside and Wayside books, or Nature Readers as they are called. There are three volumes suitable for the children, and they are just what farmers' children need.

There are the classics, the old pieces and books that have lasted for years, literature that has stood the test of time, wheat that has been winnowed from the chaff. The farmers of to-day know too little of this literature. There are so many "cheap" papers and magazines, and farmers do not know what the best books are. One way to get the cream of classical literature for the young is to get the Heart of Oak Books, edited by Charles Eliot Norton. There are five volumes containing about 1,400 pages of classic literature selected for the young of different ages. There are also several pages of notes, indexes, etc. These Heart of Oak books are just the thing for farm homes, the five volumes and the three Nature Reader volumes making a better library than some collections of hundreds of books.

Reading is really the most useful part of education. The more good books you put in circulation among farm children, the better educated will they be. The series called Ginn's Classics for Children supplies other famous books in excellent shape at a moderate price. Get books of this series, and you may be sure they will be the best of the kind. As to the other studies, spelling and writing are, perhaps, the most important, and with the modern copy books children may follow both at home.

Many children do not learn to sing at school, as music is not taught in most rural schools, but many farmers and farmers' wives know how to sing and to read music. Such ought by all means to teach their children at home. The great trouble is to find suitable books, as nearly all of the school music readers are accompanied by costly charts. But the John Church Company have lately published a series called the Model Music Course which requires no charts, and may be used by any one having a slight knowledge of music. There are a primer and four readers, and by their use country mothers can easily teach their children to sing and to read music at sight.

I would impress upon farmers the need of helping their children in every possible way to get a good education. If your child likes to read, do not count it a vice or a bad habit. If a child gets into a habit of reading cheap novels, that is bad, and the best way to prevent and cure such a habit is to supply good books. The information and mental power gained by right reading are of the greatest value. If the child desire to learn music or drawing, do not count it a weakness, but help them to it, if you can. A neighbor's daughter or some one living nearby may be able to

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It will be the man Washington—the son, the husband and neighbor—that will be presented in three popular articles by General A. W. Greely. No history will be interwoven. Washington will stand alone—not as a General, Statesman nor President, but as a man, showing his religious, moral and domestic side. One of the many features for 1896 in

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One Dollar per Year

* * *

"Girls Who Have Push"

A twenty-eight-page illustrated pamphlet, tells the story of how forty bright girls won their college course and education in music, without expense. It will be mailed FREE to any girl sending her address to

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help them. Give the children your sympathy, take an interest in their affairs. Encourage them to study at home, to use their spare time in learning by observation, study and reading. J. W. NEWTON.

FROM THE KITCHEN WINDOW.

OUT-OF-DOORS, the ground is snow-clad, and there is a stillness in the air, while sunshine glitters on every tree, and sparkles on the window pane. Suddenly we hear a "tap," "tap," and on a tree close by, I see four black and white birds with long beaks. "Woodpeckers!" I exclaim, and we can notice how they have thrown off pieces of bark on to the snow, and are penetrating into the tree trunk in search of borers, or "gnawing worms," as I heard some one call them lately. It is a sign, I am sorry to say, that our pet tree is infested by these enemies, else the birds would not be so diligent, and they are faithful friends, indeed.

Looking around the pleasant kitchen, I am reminded of the description in a late R. N.-Y. of a convenient kitchen. It always seems to me that women should design this room; a man does not know the needs as to cupboard and pantry convenience, and is sure to blunder.

"There are so many things nowadays to help our work," I said to a neighbor, and he answered, "Yes, you women want them all, and when you get them, that's enough. Why, we have no less than three abandoned washing machines in our cellar, and I don't know how many more kitchen helps; they use them awhile, and then go back to the old plan." Just now we are trying the Quaker dishwasher, and it has been a pleasant surprise. A prudent neighbor advised us to try it on tin plates first, for fear that it would break the dishes; but it stands the test well, and especially for a large family, where there are many dishes, it is invaluable.

We have a slide between the kitchen and diningroom, and I often wonder how we managed so long without it. For the dishes are put through so easily, it is only a step from it to the table and the same to the sideboard, and steps count in strength as one grows old. And so the little kitchen helps become more valuable, and one is glad that the brain and ingenuity of man, as well as woman, are turned to lessening that labor.

We have been looking for a successful potato parer, but as yet have not found one. Paring potatoes is a task that would be very much easier if by some simple machinery, the potatoes could be pared and eyes taken out without staining the fingers.

As I look from the window, sparrows are flocking about the tree tops. I wonder whether they find something to eat that makes them useful like the woodpeckers! It is a question not yet settled as to whether the good they do overbalances the evil, in that they try to banish all insectivorous birds from the domain where they establish themselves. ANNIE L. JACK.

ODDS AND ENDS.

IMPROVED BUCKWHEATS.—Raise with yeast in the usual way, but let about one-quarter of the whole thickening be of oat-flakes. It doesn't make much difference in the taste, but they will be lighter and more tender. The muscle-makers of the oatmeal will balance the fat-formers of the buckwheat. E.

SPRING BLOSSOMS.—I gathered a bundle of cherry and pear twigs to-day for blooming in the house. They are so easy to manage, and are such an interesting study for the children, and, in fact, for any one fond of looking into the mysteries of Nature. Given coolness, light and moisture, they bloom as contentedly as on their native trees. Select small, well-shaped twigs, and put into a pitcher or can of water which must always be kept full. Keep in a cool place, but do not allow them to freeze. Every day, take into the kitchen and sprinkle freely with cool water; soon the little brown buds will begin to swell, and in a few days their outer coat will fall off and reveal the pale green little knob soon to be a blossom. How the children watch them and wonder over them, and what a jubilee there is when the white blossoms begin to open! They will serve to lighten many a dreary hour for the invalid shut in from the beauties of the outdoor world.

Apple and peach bloom almost as well indoors, and I have had lilacs do fairly well, but the cherry and pear seem to adapt themselves most readily to a change of surroundings. They can be brought in at any time from now on till spring, and the beauty and freshness they bring with them are abundant reward for the little care they require.

LINDA WILTON-MCNEIL.

PRINTED PATCHWORK.

What if thy yesterdays be sadly fraught
With disappointments, heartaches, failures, sins?
Touch not thy gloomy past with word or thought,
To-day another chance for thee begins.
—*Emma C. Dowd.*

....PLAIN DEALER: "It is no trouble to see that wealth is a curse—as long as the other fellow has it."

....RAM'S HORN: "Isn't there a strong touch of hypocrisy in thanking God for the bread and finding fault with the cook?"

....J. STUART MILL: "The common opinion is that, whatever may be the case with the intellectual, the moral influence of women over men is almost always salutary."

....THE OUTLOOK: "In spite of the terrible need of work which weighs upon the masses of men, and in spite of the superior processes of education which are offered to the fortunate few, it remains true that society is filled with incapable or only partially trained people, and that when the thoroughly trained man or woman, perfectly fitted to do a specific thing in a superior way, is needed, a candle must be lighted and a long search begun. The great lesson to be read to boys and girls to-day, is the need of some kind of absolute competency, some kind of ultimate superiority."

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"Pearl top" is nothing.
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from maker, and save intermediate profits and have the maker's guarantee—a difference of 40 per cent. in your favor. Freight paid both ways if not as represented. **Carriages, Buggies and Spring Wagons.** Our 1896 Bicycles are marvels of beauty. You pay for the wheel and not for a fancy name. Send for Catalogue, free.

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None genuine unless name and price is stamped on the bottom.

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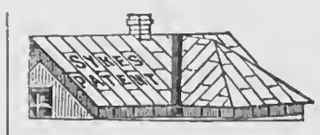

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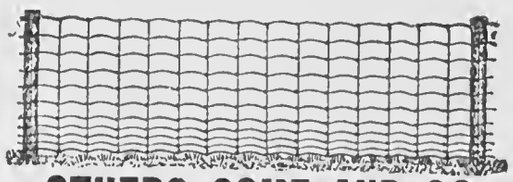

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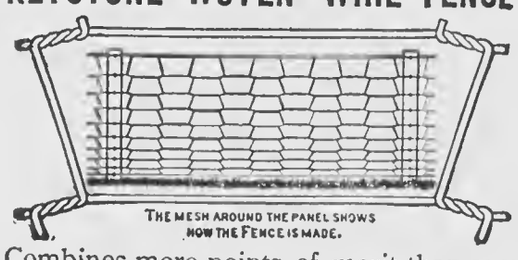

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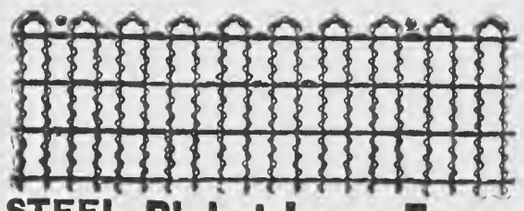

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ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

"STICKY AND SWEET."

As a sort of prelude to our sermon this week, we wish to present the names of the 17 persons who won the cash prizes in the last contest. You will see the application of our head line as you read on. These 17 persons found themselves stuck to a very sweet thing when that sum of $175 was divided up. Here are the names:

W. S. Moore	New York.
Geo. H. Pearson	Connecticut.
W. J. Bills	New York.
S. F. Johnson	Ohio.
J. H. Woodburn	Illinois.
R. R. Gage	Ontario.
Parker Bristol	New York.
J. L. Chase	Michigan.
Jas. W. Higgins	New Jersey.
Chas. M. Lesher	Pennsylvania.
Jos. Morris	Michigan.
John A. Newhall	Massachusetts.
R. R. Hunter	Ontario.
Aaron I. Weidner	Pennsylvania.
E. P. Morgan	Connecticut.
G. E. Kephart	Ohio.
A. W. Sterling	Maine.

Ten different States were represented. Mr. Moore secured 67¼ yearly subscriptions, and received $50 in cash besides his commission and several dollars for largest clubs. Mr. Sterling sent five subscriptions, and received $5, besides his commission. Where in the world were *you* while this was going on? Maybe you were something like the Indian in the following narrative:

*

THE writer once filled various positions from "printer's devil" to editor, in the office of a small paper printed in Mississippi. The foreman of the office was an old Confederate soldier—an officer in Barksdale's riflemen. These riflemen covered the river at Fredericksburg, Va., while my father, and other Union soldiers worked to lay a pontoon bridge across. When this fact was known to the old soldier he became quite communicative. I have often sat till far into the night, before the big wood fire, while he told, between the whiffs from his pipe, stories of old days—things long since lost and buried in the rush of this restless age of ours. There was one story the old fellow always told with great glee. A friend of his followed the army with a printing press and a small outfit of type. His work was to print the bombastic "orders" that were issued by the leaders and once in a while he got out a paper. One day he had some printing to do, but when he got his press ready he found that his rollers were good for nothing. As most of you know, the ink is put on the type by a soft roller which runs first over a mass of ink and then over the type. Our friend was an inventive genius who could make his own rollers. So he hired an Indian to go to a distant town and buy several pounds of glue and a jug full of molasses. That was what their rollers were made of. In order to make the Indian understand, he told him to keep saying to himself, "Something sweet and something to stick!"

The Indian started off on his mission. He swam rivers, toiled through swamps and climbed hills till he finally reached town. He tried to explain to the storekeeper but that individual could only guess at it. He thought something sweet and something to *drink* would be the most probable thing, so he weighed out five pounds of brown sugar and filled the jug with whisky! Back came the Indian in great feather. When the poor printer saw what he was expected to make rollers out of, his heart sank, and not being much of a Prohibitionist he mixed the sugar and whisky and sat down with the Indian to make a "high-roller" of himself—so to speak. You take a white man, a red man and a blue situation and you have the national colors; and sure enough, while the printer and the Indian were enjoying their "rollers," a squad of Yankees captured the press and used it to print Lincoln's emancipation proclamation!

*

Now, it so happens that last year we offered a fine piano as a subscription premium. A number of women had an

(*Continued on next page.*)

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THE DAVENPORT
POTATO Cutter and PLANTER

It marks, furrows, drops and covers all in one operation. **Does away with cutting seed by hand**—only one piece in a hill, never misses, no seed wasted.

Cuts the potato as if done by hand and leaves the field with its work completed.

Thoroughly tried and successful. Won first Prize Medal in field contest at Iowa State Fair in 1895.

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when planting with the **Improved-Robbins** Potato Planter. Result: 100% of the seed planted correctly, instead of 75 to 90%. No bruised seed. No packed soil. No misses. No doubles. Send for catalogue No. 3.

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STRAWBERY PLANTS 30 best varieties. Prices low. Free Price List.
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STRAWBERRY PLANTS.
Originator and Introducer of PLOW CITY and GERTRUDE Strawberry. Price-List free.
C. C. STONE, P. O. Box 1270. Moline, Ill.

The OLD BLUE-BACK SPELLER

was erstwhile thumbed by how many who read these words! And the old familiar picture! —each heart recalls a different scene, but all remember well how, cribbed cabined and confined while sunshiny afternoons dragged their slow length along, the feeling akin to pity grew into real admiration for the "young saucebox" who would NOT come down, either for words or grass.—It TAKES stones and bull-dogs to drive boys out of STARK Trees!

STARK TREES BEAR FRUIT STARK TRADE MARK —not leaves only Tested 70 Years

When you plant a Stark tree, you can depend upon it—you have the BEST THERE IS. You can't afford to take chances. No man wants to lay the ax to the root of a tree, or dig it up, just when old enough to bear.

A TREE IS KNOWN by its fruit. Stark trees bear fruit—the finest science has ever produced. For instance—

Gold ($3,000) Plum.—The chiefest among, not 10,000 but 26 MILLION!

A child of science, sprung from crossing our hardy fruitful American plums and the beautiful and exquisite plums of Japan. "It is four times larger than its parents, and tree wreathed and smothered with gloriously handsome golden globes—nothing on earth as beautiful or good." No marvel, then, that such a jewel of purest ray serene is worth a small fortune; nor that we were glad to pay full $3,000.00 for a single tree! A rare ornament, needs but small space—6 feet square. Bears in two years. Controlled by us under patented trade-mark.

Salesmen and club-makers wanted—cash pay weekly. Millions of trees! Write us—Louisiana, Mo., Rockport, Ill.

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BAUCH & SONS COMPANY,
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ANIMAL BONE **$25** PHOSPHATE
GENERAL CROP GROWER
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The highest prices and most profit go to the farmer who markets his crops before his neighbors begin to harvest theirs. This requires quick and constant growth, which are impossible, even with abundant plant food, unless it is of the right kinds for each stage of growth. Bradley's Fertilizers furnish just the plant foods needed, so that there is rapid and healthy growth every day from germination to maturity. With judicious cultivation, therefore, they produce the earliest as well as the largest crops. Convince yourself of this by trying Bradley's Fertilizers this season.

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THE WORLD'S BEST

BINNER CHI

ache in every finger at that announcement, and they proceeded to spur up the men who were nearest and dearest to them to go forth and capture the needed club of subscriptions. Many of these women possessed fine types of musical natures, but they made small music because they needed rollers—or musical instruments. Now we want to say that our friend, Pearson, who won that piano, didn't go out like the Indian and forget what he went for. "Something sweet and something that sticks!" That's it. He went out and talked honey about THE R. N.-Y., and he honeycombed the country for miles around. The mud stuck to his boots, or the dust stuck to his hat, but through it all he stuck to his task and brought home the glue and molasses that made that piano.

Now our press has not been captured like that of the old Mississippi printer, but we are right here doing business at the same old stand. We have offered three more elegant musical instruments worth nearly $1,000 all told, and some three of our agents will have them on May 1. "Something sweet and something that sticks!" Glue and molasses! That's the story. A fair statement about the paper and a ton of "stick to it." That's what the rollers are made of. Now, madame, we suggest that you urge upon your home brave the importance of marching out in his brightest war paint to bring home the glue and molasses needed to make that piano roll into your home.

You will hear from us again about this. In the meantime—"small favors are thankfully received," and we want to say that we have some more of those books left to give as rewards for new subscriptions.

By the way—here are the names of five Indians who have captured a dollar's worth of glue and molasses this past week by securing the largest daily clubs:

Feb. 17.—Ralph Evans, Erie Co., N. Y.
18.—C. A. Hamilton, Bergen Co., N. J.
19.—P. H. Parker, Wyoming Co., N. Y.
20.—E. M. Wood, Jefferson Co., Ind.
21.—W. S. Moore, Chenango Co., N. Y.

CROP AND MARKET NOTES.

The first Charleston asparagus has arrived, and sales are reported at $1.75 per bunch.

The first Havana potatoes have appeared, and are of only fair quality, and are offered for $4 to $4.50 per barrel.

The extreme cold waves to which we have recently been subjected, check shipments of fruits and vegetables.

The Hebrew Purim holiday, February 28, is creating an extra demand for live poultry; turkeys are somewhat scarce.

Cabbage from North Carolina is too young and poor to attract attention. That from Florida is improving, but the price continues low.

From reports, a large crop of watermelons in Florida is likely. Growers are trying to make up for their losses on oranges and vegetables.

The New Jersey Game Commissioners have agreed to allow dealers to sell game for 25 days after the legal time for selling expires, in order to clean up their stocks, and to keep the trade in the State.

So far this season, sales of strawberries from Florida have been extremely high, considering the poor quality of the fruit. It seems almost impossible to bring them so far in good condition. Reports from the producing sections of the South indicate a large acreage, and an unusually heavy crop is expected if conditions be favorable.

Farmers' institutes occur during March in New York State as follows:

Place.	County.	Date.
Alfred Centre	Allegany	Mar. 2, 3
Richfield Springs	Otsego	Mar. 2, 3
Unadilla Forks	Otsego	Mar. 3
Angelica	Allegany	Mar. 3, 4
Booneville	Oneida	Mar. 4, 5
Canaseraga	Allegany	Mar. 5
Cohoeton	Steuben	Mar. 6, 7
Truin	Lewis	Mar. 6, 7
Bath	Steuben	Mar. 9, 10
Lowville	Lewis	Mar. 9, 10
Denmark	Lewis	Mar. 11
Nichols	Tioga	Mar. 11, 12
Depauville	Jefferson	Mar. 12
Lacona	Oswego	Mar. 13, 14
Owego	Tioga	Mar. 13, 14
Berkshire	Tioga	Mar. 16
Spencer	Tioga	Mar. 16
Jefferson	Schoharie	Mar. 16, 17
Dryden	Tompkins	Mar. 17
Odessa	Schuyler	Mar. 17, 18
Freeville	Tompkins	Mar. 18
Gilboa	Schoharie	Mar. 18, 19
Lodi	Seneca	Mar. 19
Margaretville	Delaware	Mar. 19
Locke	Cayuga	Mar. 19, 20
Dresserville	Cayuga	Mar. 20
Reynoldsville	Schuyler	Mar. 20, 21
Walden	Orange	Mar. 20, 21
Sennett	Cayuga	Mar. 21
Ira	Cayuga	Mar. 23, 24
Tyrone	Schuyler	Mar. 23, 24
Sherwood	Cayuga	Mar. 25
Albion	Orleans	Mar. 25, 26
Middleport	Niagara	Mar. 27, 28

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	20 @20½
Seconds to firsts	18 @19½
Elgin and other Western, extras	20 @20½
Western, firsts	19 @19½
Western, seconds	15 @17
Western, thirds	13 @14
Western, June, extra	17 @18
Western, June, seconds to firsts	12 @15
State dairy, half tubs, fresh, extras	17 @18
Firsts	13 @14
Seconds	10½@11
Dairies, firkins and tubs, extras	15 @15½
Dairies, firkins and tubs, firsts	12 @13
Firkins, extras	15 @—
Firkins, seconds to firsts	10½@13
Welsh tubs, extras	16 @17
Welsh tubs, firsts	13 @15
Welsh tubs, seconds	10½@11
Tubs, thirds	9 @10
Western imitation creamery, firsts	14 @15
Seconds	11 @12
Western dairy, firsts	12 @13
Seconds	10½@11
Thirds	9½@11
Factory, Fresh, small tubs, extras	12 @—
Fresh, small tubs, firsts	10½@11
Fresh, large tubs, firsts	10½@11
Fresh, large tubs, seconds	10 @—
Fourths to thirds	8 @ 9
Old Western factory or dairy	8 @10
Rolls, fresh, fine	11 @11½
Rolls, fresh, common to good	8 @10

EGGS.

New-laid, fancy (nearby)	14 @ —
N. Y. State, country marks, fresh gath'd.	13¼@ 13½
Pennsylvania, country marks, new laid.	13¼@ 13½
State and Penn., fair to good	13 @ —
Western, fresh collections, fancy	13¼@ —
Western, fresh collections, fair to good.	12¾@ 13
Southern, fresh collections	12¼@ 12¾
Western, refriger., short holdings, choice	9 @ 10
Western, refriger., defective, per case	1 00 @2 00
Western limed, per 30-dozen case	2 00 @3 00

FRUITS—GREEN

Apples, Northern, fancy, winter, per bbl	2 50@3 50
Winesap, Va., per bbl	3 50@4 50
York Imperial, Va., per bbl	3 00@4 00
Other Va., red	2 00@3 00
Baldwin, per bbl	2 25@3 00
Spy, per bbl	2 25@3 25
Greening, per bbl	1 75@2 75
Ben Davis, per bbl	2 25@3 50
Poor to fair, per bbl	1 00@1 75
Grapes, State, Catawba, per 5-lb basket	6@ 12
Oranges, Fla., per box	3 00@6 00
Grape Fruit, Fla., per box	10 00@12 00
Strawberries, Fla., fancy, per quart	50@ —
Poor to good, per quart	20@ 40

GRASS SEED.

Clover, per 100 lb	6 25@ 8 25
Timothy	3 65@ 4 75

HAY AND STRAW.

Hay, No. 1 Timothy	90@ —
No. 2	80@ 85
No. 3	70@ 75
Clover, mixed	70@ 75
Clover	60@ 65
Salt	45@ 50
Straw, long rye	75@ 90
Short rye	50@ 60
Oat	50@ 55
Wheat	45@ 50

MEATS—DRESSED.

Veals, country dressed, prime	10 @ 10½
Fair to good, per lb	9 @ 9½
Com. to med., per lb	7 @ 8½
Small, per lb	4½@ 6
Barnyards, per lb	5 @ 6
Spring lambs, each	4 00 @8 00
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 12
Pork, country dressed, 40 to 60 lbs., per lb.	6½@ 7
60 to 80 lbs, per lb	6¼@ 6¾
80 to 120 lbs., per lb	5¾@ 6¼
120 to 180 lbs., per lb	5¼@ 5¾
200 lbs and up, per lb	4¾@ 5¼
Rough, per lb	3½@ 4½
Tenderloins, per lb	15 @ 17

POTATOES.

Bermuda, No. 1, per bbl	4 00@5 00
No. 2, per bbl	2 00@3 00
Havana, per bbl	4 00@4 50
Houlton Rose, per d. h. bbl	1 50@1 75
Maine Rose, per d. h. bbl	1 50@ —
State Rose, per d. h. bbl	1 25@1 50
Maine Hebron, per sack	90@1 00
Long Island, in bulk, per bbl	65@ 85
State Rose and Hebron, per 180 lbs	85@1 10
Burbank, etc., per 180 lbs	60@ 75
Jersey, in bulk, per 180 bbl	60@ 75
State and Jersey, per sack	65@ 70
Common, per sack	50@ 60
Sweets, Vincland, fancy, per bbl	3 75@4 75
South Jersey, per double-head bbl	3 00@3 50
South Jersey, cloth top, per barrel	5 25@3 75
Jersey common, per barrel	2 00@3 00

POULTRY—LIVE.

Fowls, local, per lb	10 @ 10½
Western, per lb	10 @ —
Southern, per lb	10 @ —
Chickens, per lb	10 @ —
Western, per lb	9½@ 10
Southern, per lb	9½@ 10
Roosters, old, per lb	5 @ 6
Turkeys, mixed, per lb	11 @ 12
Ducks, local, per pair	80 @1 00
Western, per pair	75 @ 90
Southern, per pair	70 @ 75
Geese, local, per pair	1 50 @2 00
Western, per pair	1 25 @1 62
Southern, per pair	1 12 @1 25
Pigeons, old, per pair	35 @ 40
Young, per pair	30 @ —

VEGETABLES.

Asparagus, Cal., per bunch	10@ 20
Charleston, per bunch	1 50@1 75
Beets, New Orleans, per 100 bunches	4 00@5 00
Florida, per crate	1 25@1 50
Brussels sprouts, per quart	5@ 15
Cabbage, domestic, per 100	1 50@3 50
Florida, per barrel-crate	1 50@ —
Foreign, per 100	4 50@5 00
Carrots, washed, per bbl	1 00@ —
Unwashed, per bbl	75@ 90
Cauliflower, Fla., per half bbl	2 00@4 00
California, per case	2 00@3 00
Celery, State & West'n, fancy, large, per doz.	70@ 90
State & West'n, average, prime, per doz.	30@ 60
State & West'n, small, per doz	15@ 25
Jersey and L. I., per dozen flat bunches	1 00@1 50
California, per doz	50@1 25
New Orleans, per doz	25@1 00
Cucumbers, hothouse, per doz	75@1 50
Egg plant, Florida, per bbl	3 00@7 00
Horseradish, per lb	3@ 5
Kale, per bbl	1 00@1 50
Lettuce, Florida, per half bbl basket	2 00@4 00
New Orleans, per bbl	3 00@6 00
Boston, hothouse, per doz	—@ —
Bermuda, per crate	1 00@1 50
Onions, Orange County, red, per bbl	60@ 85
Orange County, yellow, per bbl	1 00@1 12
Eastern, white, per bbl	1 00@1 75
Eastern, red, per bbl	75@1 00
Eastern, yellow, per bbl	1 00@1 25
Bermuda, per crate	2 00@2 25
Peppers, green, Fla., per crate	1 00@1 50
Radishes, hothouse, per 100 bunches	—@ —
Spinach, per bbl	1 50@2 50
Squash, Marrow, per bbl	50@ 75
Hubbard, per bbl	75@1 00
Florida, per crate	—@ —
String beans, Florida, per crate	2 00@4 00
Tomatoes, Fla., per carrier	1 25@2 25
Per crate	1 00@2 00
Key West, per carrier	1 00@2 00
Key West, per peck box	25@ 40
Turnips, Jersey, Russia, per bbl	50@ 65
Canada Russia, per bbl	65@ 70
Watercress, per 100 bunches	1 00@2 00

MILK AND CREAM.

The total daily supply has been 21,002 cans of milk, 192 cans of condensed milk and 400 cans of cream. The average price paid for the surplus on the plat forms has been $1.40 a can of 40 quarts.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

wasting

Children should be happy and plump. A child of seven should not be thin and pale, with the aged look of twenty. No aches; no whines; no house-plant. Running, jumping, laughing. Children should grow in weight and strength; eat heartily and show plump cheeks.

Scott's Emulsion of Cod-liver Oil with Hypophosphites fills out the sunken cheeks and gives color to the lips. It furnishes material for the growth of bone, and food for the brain and nerves. It lays a strong foundation for future growth and development.

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (Ask your Doctor.) This is because it is always palatable—always uniform—always contains the purest Norwegian Cod-liver Oil and Hypophosphites.

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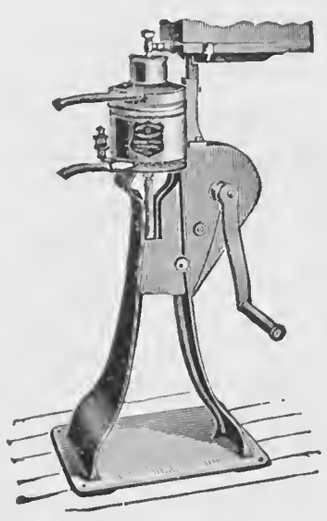

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As just published in Bulletin No. 105 of that Station; **the United States Separator excelling all competing dairy machines,** and repeating again the history of the tests recorded in Bulletin No. 66 of the same Station.
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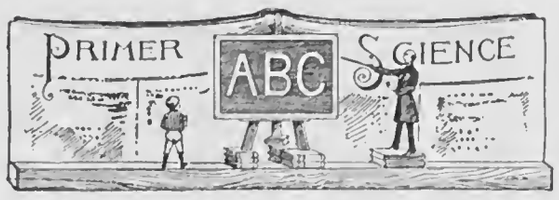
Our Readers who are in want of a Thresher, Horse-power, Engine, Dog power, Ensilage-cutter, Saw machine, Feed mill, Fanning-mill or Land-roller, will, we believe, be **sure to get the best,** and at the **lowest price** consistent with quality and value of goods, if they deal with the old and reliable manufacturer, **EINARD HARDER,** Cobleskill, New York; who sends free his beautifully illustrated and plainly and clearly descriptive catalogues to all applicants mentioning this paper.



FEEDING A HEN.

PART VIII.

On page 110, we gave the ration fed by Mr. Brewster. We purposely avoided figuring this out in detail, because we wished to see whether any of our readers would pick up our statement that this ration was somewhere near one part muscle-makers to four or more parts fat-formers. The first correction is from Mr. Mapes, as follows:

I think that you went astray in figuring on Mr. Brewster's ration. His three quarts of fine wheat feed will welgh about three pounds, three quarts of corn, about six pounds, and one-half pint of meat scrap, about three-fourths pound, making a ratio of 1 to 5½, about. The cabbage and potatoes would not change it much.

Then comes this note from a friend in Westchester County, N. Y.:

I figure C. H. Brewster's hen ration, on page 110, as follows:

	Muscle-makers.	Fat-formers.	Pure fat.
3 pounds wheat feed	27.	165	7.5
½ pound beef scraps	22.5	0	1.
3 pounds corn	50.4	366	28.8
3 pounds cabbage	3.3	18	4.5
1 pound potatoes	2.1	22	1.5
Totals	105.3	571	43.3

This makes the ratio about 1.6½. Nothing very stimulating about this ration. Were not these pullets hatched very early? Or was not the henhouse artificially heated? I have made egg production a study for 25 years, but never approached Mr. Brewster's record in winter, even remotely. WM. PICKHARDT.

On page 138 Mr. Brewster tells us how these houses are built. They must be fairly warm, especially when the snow drifts around them. As to that ration, we think that Mr. Mapes is nearer right than Mr. Pickhardt. The former discards the small amounts of cabbage and potatoes that are fed, and gives a little heavier weight to the meat scrap. We doubt, after further investigation, if the analysis for the "wheat feed" was a fair one. Our opinion now is that this feed contains a greater per cent of muscle-makers than this analysis indicates. These feeds vary considerably. The valuable thing about this illustration is that it shows the necessity of being exact if we are to make use of the chemistry of foods. You see how easy it is to make different stories out of one set of figures, if we are to guess at any part of the figuring. We still think that a ration of about one part of muscle-makers to four parts of fat-formers, is the standard for laying hens when they are kept warm and good-natured. In cold houses, we would wish to widen this ration to 1:6 or even a little higher. An illustration of the effect of feeding too much fat, is shown in the note on page 137. These hens were fed on hotel swill which contained a large amount of grease. At first they laid well (this is often noticed with any sudden change of food), but gradually they stopped laying because they were too fat. An "all-corn" ration—which means one part of muscle-makers to eight parts or more of fat-formers, is too wide, but this greasy swill was worse yet.

Here is another note about an article that has created lots of discussion:

I have been much interested in Revolutionary Poultry Keeping, and it has given me, as I presume it has many others, much food for thought. If each hen would make use of her seven square feet of room, I see no reason why fowls of any breed should not do well under the conditions stated by J. A. W.; but I doubt whether he, or any one else, would dare undertake to manage any of the larger, lazier breeds as he is doing with his grade Leghorns. He says, "It doesn't require much intellect to see that there is just as much profit in producing eggs at a cost of 10 cents a dozen, and selling them for 20 cents, as there is in producing them at a cost of 20 cents, and selling them for 40 cents." Let us see. If a dozen eggs can be produced for 10 cents, and sold for 20 cents, there is a profit of 10 cents; but if it costs 20 cents to produce a dozen eggs, and they can be sold for 40 cents, it seems to me the profit would be 20 cents for each dozen. Anyway, a profit of $1.74 per hen is hard to beat. A. R. S.
Massachusetts

Another man, out in Ohio, has this to say about it:

I can testify from my experience years ago, that J. A. W. is substantially right in all he has written about poultry. The great reason for his success is, that he has thoroughly studied and taken care of his business, leaving out all the nonsense. I notice what you say, "expect they will fire away at this target." Well, let them fire! I will stand by him; and J. A. W. will go on with his poultry and reap the profits. J. R. S.

J. A. W. will not look for backers, and we hope that those who think that they see flaws in his methods, will throw the light on them. That is the way to learn something. One person has undertaken to figure out the cost of J. A. W.'s winter ration of grain, and hopes to show that a cheaper ration could have been made. We will give any one a chance to prove that.

As to keeping heavier or lighter breeds in large flocks, that is a question that has much to do with profit in poultry keeping. Sometimes we hear two men arguing about the profits in poultry, or whether the hens should be kept in large or small flocks. If one man keeps Brahmas, and the other Leghorns, it is hardly fair to compare the two methods of feeding or keeping without allowing for the difference in the breeds. Take a French farmer and an English farmer. There are general principles of agriculture that both may follow with success; but when it comes to details such as arrangement of buildings, every-day life, etc., you will find great differences, and the different methods are based on national characteristics of temperament and surroundings. While the Leghorn man may learn much from his Brahma neighbor, in order to reach the fullest success, he must realize that the Leghorn is lighter, more active and built on a different principle generally from the Brahma. Therefore, she must have special treatment in some particulars. Thus you see that it all comes back to the fact that Primer Science can only suggest experiments, and verify results by giving the basis for comparison.

Our friend says that J. A. W.'s article suggests some excellent thoughts. There may be one-sided thoughts as well as those that are well-balanced. The latter are the ones we are after, and they teach a person to assume that new ideas or theories are for experiment only and are not to be put into extensive practice until all the facts have been tested and made to fit into your conditions.

Live Stock Matters.

A FRIEND TO THE FARM—THE BERKSHIRE.

Referring to the question of E. B. W., as to what breed of swine to raise for a farmer's use to fatten for market, I can say, without any injustice to other breeds, get the pure, recorded Berkshire, of the type the best breeders are using. In purchasing, do not get the cheap run of stock from those old-fashioned breeders who are against improvement; but buy from the "up-to-date" man who is always endeavoring to improve his herd, and, as a result, the public receive the benefit of these experiments. Economy of production and quality of the product, are the principal objects to achieve, for which the Berkshire stands without a peer.

If proper strains be procured, this breed will prove prolific to the extent of giving litters large enough for one sow to suckle; and, as they are excellent milkers, the youngsters grow from the start. The sows are quiet. One feature of the breed is that you can always be

(*Continued on next page.*)

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ALL STEEL "HANDY" FARM TRUCK And it is GUARANTEED to carry TWO TONS.
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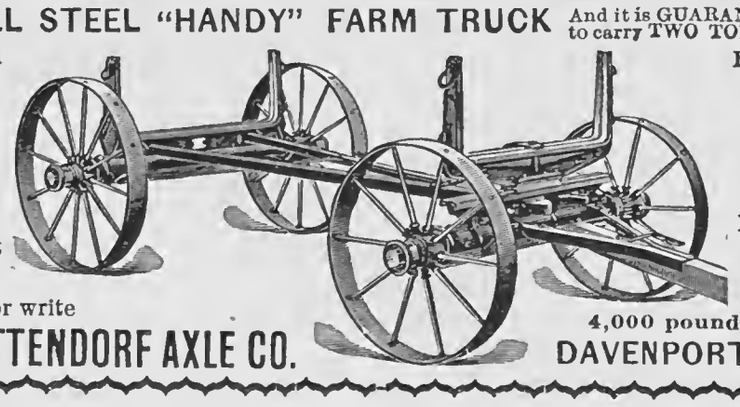
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4,000 pounds at a load.
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THE CHAMPION PIVOT AXLE WAGON
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Catalogue free If your dealer does not handle our goods, we will on application name bottom prices.
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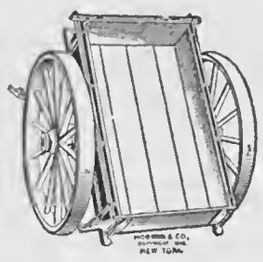
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THE RURAL NEW-YORKER, NEW YORK.

LIVE STOCK MATTERS.

(CONTINUED.)

assured of having pork to sell at immediate notice, either for roasters or at any age, always provided that the best of attention is given to the feeding. While vigorous and growthy, they retain flesh, and are always heavier than inexperienced persons will allow when guessing weight on foot. The percentage of offal is very low, as I have killed pigs of nine months that have lost less than 15 per cent, and were not fat, but nice meat. The meat is the choicest, and all butchers give an advance for this breed. In my experience, when good breeders of other breeds say, "If I could get a ham like a Berkshire, or a head, or a side, or in fact, use this breed as the standard," I assume that it has qualities combining all the best, and, therefore, have never regretted that I became a breeder of the oldest pure breed of swine. The breeder who has the most improved and prize-winning type of Duroc-Jersey pigs, said to me on a fair ground when looking at his pens, "Do you think I am improving and getting nearer your Berkshire type?"

In the report of the Cheshire meeting, they advocate reducing the length of leg and also nose. Where do the Poland-Chinas get their best points from, except from the Berkshire? And see how close they are being bred to this style. The Chester White and Large Yorkshire are slow feeders, and the offal loss is large. Small Yorkshires are nice for roasters, but there they end. Essex are fine, small-boned pigs, but small, the flesh is of only medium quality, and they are also nervous. The Tamworth! Oh! what a perfect cartoon they are of a profitable hog. They require "two to cast a shadow, and three to make a squeal."

The remark that the average farmer cannot prevent his herd of swine "running out," is only an excuse for laziness and neglect, in fact, a lack of brains. The ordinary farmer can readily purchase from the best breeders and exhibitors, a class of pigs that are not fancy enough for show, or those who breed for breeders only, at a reasonable price. These are well grown, as no respectable breeder will sell scrubs. They likely will be "off on marks," or some minor point. From these, the farmer can always get enough young stock to replenish his breeders, and by purchasing a new boar, there is absolutely no reason why the herd should not improve. As an example, buy a sow in farrow, or a pair when young; the first litter will supply brood sows, and let them farrow not sooner than 12 months; then every year, when the sows become two years old, turn them off in the fall, or at 2½ years, and as he has kept enough young sows to take their place, the herd is always in prime condition. In my personal herd, I have established strains of large milking brood sows, and this is as marked as in a dairy herd of cattle. While I may be "called down" by the champions of other breeds, let them give the objections to the Berkshire, and to answer them will be the aim of C. K.

A CALVING COW.—Many are troubled with cows that retain the afterbirth. I have had the same trouble, but have had none in the last 15 years. An old cow doctor, now nearly 90 years old, told me how to manage. I always salt them about three times during the last 10 days before calving. As soon as the calf is dropped, I give the cow about two-thirds of a pailful of lukewarm water with a stove-shovelful of live coals and ashes in it direct from the stove. Leave the calf with the cow, and give the cow absolute quiet for the next three or four hours. She will generally lie down and rest, and the afterbirth is sure to come away. C. D. K.

Stannards, N. Y.

HOGS AT STRAW STACKS.—Mr. L. M. Van Auken gives the Breeders' Gazette this opinion about the practice of letting hogs run at straw stacks:

I do not consider it healthful for young hogs to sleep around or in a straw stack of any kind, especially in very cold weather. The more hogs, and the colder the weather, the worse it is for them, as they bury themselves in the straw in as small a space as possible for mutual warmth and protection, and the weaker ones are liable to be smothered or killed by being overlaid. But if none gets killed, they will work in the straw so deep and pile up so closely, they will come out steaming like a coal pit on a cold morning, and are very likely to take cold. But a wheat straw stack is preferable to a manure pile from the horse stable, or to the south side of a board or wire fence, especially if the snow is deep.

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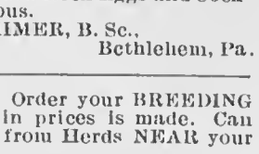

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ORATOR F. WOODWARD, Le Roy, Genesee County, N. Y.

Market Hunter Worse Than Pot Hunter.

W. A. F., HOMEWOOD, PA.—I see that THE R. N.-Y. is after the millionaire pot hunters again. My experience with these city sportsmen of means is that they will not run over ground that is posted, and when they come to the country, are willing to pay for whatever they get; in fact, they belong to the most liberal class that come to the country. Pot hunters, indeed! Who are the sportsmen if these people are pot hunters? Are they the class that are found in every neighborhood, and hunt and destroy game before the season opens and after it closes, hunt through all the open season for market, dig up your fields for skunks, and leave holes that a horse can fall in, run your farm over at night, cut your timber when you are in bed, swear at game laws, hunt rabbits with ferrets for market, and clean them all up before the farmer gets time to go out hunting, shoot down trespass signs, and if you prosecute them can not pay their fines, go to jail, and when they get out, destroy something for spite? Something was said some time since about farmers' boys hunting game to get a little money for Christmas. Nonsense! I pity the farmer's boy that would stand any show with the class I have just described. Again, every farmer's boy should be in school at this time of year, and the father that can not give his boy a little spending money for Christmas, is to be pitied, after the boy has worked all summer. No wonder the boys are leaving the farm.

But after all, is not the farmer like Robinson Crusoe, monarch of all he surveys? If he does not want these city sportsmen, let him post his farm, and that ends it. Again, is it not a fact that in every country where game is to be found in any quantity, there are farmers that make some money entertaining their friends from the city, and are very glad to have them come? Let us have the opinion of other farmers on this question. I admit that there is a class that come to the country from the city, no better than the class I have described; but they are not millionaires, or men of means. Something will have to be done here in western Pennsylvania, to stop this wholesale destruction of game, or we shall soon have none for any one to fight over. If these city sports are on the wrong track, will THE R. N.-Y. give us something better.

Hens in Large Flocks.

F., ALLENTOWN, PA.—There are several good points in Hens on Grain and Pasture, page 97. The cost of meat and green bone in this city, is one-half cent per pound, and the cost of collecting and cutting will not exceed two cents per pound, which makes the total cost less than three cents per pound. One pound of green cut bone will feed a hen for 16 days. If J. A. W. will make a trial with two flocks of hens of equal merit, feeding both alike, except the green bone which is to be given to one flock, the flock that gets the green bone will lay more eggs than will pay for the extra expense. Of course, if a man pay 30 cents per pound for beefsteak, it is a question whether the production of eggs will pay for the meat.

About keeping 200 hens in one flock, we had three houses seven feet high in front, three feet back, 10 feet wide, and over 300 feet long. They were divided off into 10-foot sections, each with a yard 75x10 feet front and back. Each pen had 12 hens and one male. The yards were cultivated and sowed to grain, and the fowls were changed from one yard to the other at intervals of 10 days. I was not satisfied with the result, and resolved to try 400 Leghorn hens in one plot of 10 acres, which had a wire fence eight feet high all around it, putting the males with them. In about two weeks, they commenced to lay again: they laid about double the eggs they did before, and the eggs hatched much better. Out of 300 eggs, I got 272 fine chicks which looked like young quails. Did the males fight? Yes, they did at the start, and about six lost their lives, and some were wounded so badly as to necessitate killing them. After the first skirmish was over, they seemed to live in peace. About five acres of the plot were covered with brush and an abundance of leaves. They seemed to mate up and scatter all over this place, and all roosted

(*Continued on next page.*)

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POTATOES We have an extra early potato that catches the Silver Dollar. We know it, because we grow it. It's a *paying* hustler. *Yield* and *quality* are both there. Our list tells the truth about *it* and other good ones. Honest potatoes at very reasonable prices. Send for list.
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2ND-CROP SEED POTATOES double the returns. Hebron, N. Queen, Thorburn, Puritan, Early Norther, Rose, Freeman, Burpee's Extra Early. Free Pamphlet. **JOHN C. PEARCE & CO.,**
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Seeds and Potatoes Carman No. 1, $2.50 Carman No 3, $4.00 33 varieties, true stock, our growing. Rural New-Yorker No. 2, Orphan, Dutton, Irish Daisy, Am. Wonder, $1 per barrel. Write for free catalogue of Seeds, Grains, Plants, etc. Everything at special low prices.
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Two-year Plants. 60 cents per 100; $2.50 per 1,000; or $2 in 5,000 lots. A. R. NORTON, Selden, L. I., N. Y.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

in one house 160x16 feet, with seven-foot posts in front and three-foot posts in the rear, and a shed roof covered with paper. One hundred feet of this house had perches, and 60 feet were for a scratching and laying house. The house was never closed in the daytime, no matter what the weather was, and at night the doors were closed with a wire screen. The condition of the hens in the large house was far ahead of those in the small yards.

Shall Poultrymen Stamp Eggs?

O. W. MAPES, ORANGE COUNTY, N. Y.—On page 104, you say that "retailers object to the practice followed by some producers of fancy eggs, of stamping the name and date on each egg. They object to the name because they are thus advertising another man to their own customers." I am sorry to see you add, "This is reasonable." It seems to me that such objectors are running on an extremely narrow-gauge road. Is it not about time a producer be given an equal footing with a manufacturer? These same retailers would have no scruples about serving their customers with a bottle of ink, for instance, or a cake of soap with the manufacturers name stamped on it. Or if it happened to be a can of tomatoes, or of fish, he would point with pride to the name on the package and remark "Mr. So-and-So never puts up inferior goods." There is no use "kicking against the pricks." The day is coming when farmers will step up and take their place on an equal footing with other classes, and it is coming fast.

The other objection that in case of a glut when eggs have to be held, the date gives away the old eggs, has more force; but it would also protect the producer and hasten the eggs out of the hands of speculators. Any method which will shorten the journey between producer and consumer will be hailed by the latter with delight.

R. N.-Y.—If you are buying eggs to sell with your own would you wish to let those from whom you bought, use their own trade-mark?

J. V. C., SPARKILL, N. Y.—Why, if a man wish to create a trade on his special quality of eggs, would it not be well to stamp a design such as a star, hen or other trade-mark, which would neither interfere with the commission man's trade, nor give away the date? If they were found of extra quality, that brand would be asked for.

Crimson Clover in Wisconsin.

C. A. S., WHITEHALL, WIS.—I sowed some Crimson clover in corn on light soil July 24; some came up the third day. Also some about August 15, which came up quickly. It did not grow very well until after the corn was cut, owing to the weather being so dry; but it made a fair growth late, and went into winter quarters looking green and nice. I sowed one-fourth acre on low, black muck land in September, when I sowed some rye. The piece is sheltered, and snow stays on till late. I thought that I might get some seed from that, as it looked nice when the snow came; I will report in the spring.

Some Potato Points.

G. M. B., NEW FRANKLIN, PA.—My little Carman No. 1 potato did well—a level full half-bushel is the crop, and fine potatoes they are, too. I noticed in a paper recently that some one urged that the potato is the cause of seven-tenths of the cases of dyspepsia; the trouble is likely to be found in the manner of preparing them. I know people who would risk a little dyspepsia, could they earn the potatoes. Our good old physician used to say, "Let your children eat all the raw potatoes they want; keeps 'em healthy, ma'am." Five-cent potatoes would rule me out; our land is good, but stony, and they cost me several times five. I sold at 25 cents in October, and they retail at 50 to 60 cents now. The R. N.-Y. No. 2 is a good potato to sell by weight.

FAKE ADVERTISING.

The reader may recall the advertisement of the manufacturers of the so-called U. S. Separators, which appeared in a recent issue of this paper.

A couple of years ago this U. S. concern scattered broadcast a circular asking, "Who was the son of Annanias and Sapphira?" This question, it has been said, was answered, when a conspicuous official of that Company testified a few months ago in the trial at Newfane, Vt., of an action to compel Francis Batchelder & Co., of Montpelier, Vt., to pay for certain U. S. separators which could not be made to do what had been claimed for them, and in which suit Batchelder & Co. were, of course, successful, largely by reason of the curious testimony of this conspicuous witness, who is said to claim such ancient, if not enviable, ancestry.

One might be uncharitable enough to assert that the author of this advertisement to which reference is made as having appeared in this paper two weeks ago was this same scion of Annanias and Sapphira.

The Vermont Farm Machine Company tries to belittle the effect of the Decree of Infringement of the De Laval patents given by the United States Courts against Samuel Hotchkiss, and publishes what purport to be letters from said Hotchkiss, his financial backer in illegal infringement (whom it terms "the largest merchant in Downsville," and both of whom are at this time agents for the sale of the U. S. machines), and from a user of one of such infringing machines whom the De Laval Company, in the enforcement of its lawful rights, enjoined from the further use of such machines.

The statement purporting to have been made by Hotchkiss that his lawyers assured him that the De Laval infringement claims could not be sustained if contested, is untrue, and we challenge Hotchkiss (or any one else—except the person who testified at Newfane) to make this statement under oath. Hotchkiss' attorneys were the well-known firm of Risley, Robinson & Love, of Utica, N. Y. Hotchkiss abandoned the further and final contest of the case against him because he was assured by his attorneys, after a thorough investigation by them of the state of the art, that it was a waste of money to proceed further, and that he was sure to be beaten. These attorneys also assured other infringers of the same patent who were equally interested in the result with Hotchkiss that they could do nothing, and finally actually refused the proffered financial support of an outside infringer, so hopeless did they consider any attempt to answer the De Laval testimony which had been put upon record.

After Hotchkiss and Hulbert, his financial backer, had begged and pleaded with the De Laval Company, for better prices and greater consideration than the De Laval Company gives to the honest and direct buyers of its machines, they went to the Vermont Farm Machine Company, and, it is said, obtained from it a lot of machines at *less than half the price* it charges to other buyers of its machines, and in this way some few of the previous users of the infringing Hotchkiss machines have been induced to try the U. S. *at about half price,* with the further consideration presumably of such untrue and misleading statements as those now published—while Hotchkiss and Hulbert are active agents for the sale of U. S. machines.

We leave the public, including the few who have been deluded into buying U. S. machines at full prices, to judge of these matters for themselves, and we challenge the denial under oath (by any one—except the person who testified at Newfane) of any of these assertions.

And since the Vermont Farm Machine Company introduces the subject, we avail of the opportunity to announce for the information and caution of whomsoever it may concern, that we are assured by counsel, including the most emininent patent attorneys in this country, *Harding & Harding,* of Philadelphia, and *Banning & Banning & Sheridan,* of Chicago, *that the so-called U. S. machines do infringe the De Laval patents;* and that we have only delayed prosecuting the makers and users of such machines from the fact that other suits are now pending which equally affect the so-called U. S. machines, and also from the fact that the present U. S. machines have been apparently but temporary and unsatisfactory makeshifts in style of construction, since the makers have devised and applied for patents upon various new and presumably improved forms of construction, which still more broadly and openly infringe certain of the De Laval patents. Their machines most recently shown at the Experiment Stations are newer in style, but while further infringing do not embody the extreme encroachments upon the De Laval patents, which it is their apparent purpose to attempt.

Makers and Users of all infringing machines may depend upon our sustaining and enforcing our just equitable rights in due season, and are again cautioned in this respect.

THE DE LAVAL SEPARATOR CO.

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FOR SALE. 30-acre farm, located on main road between Springfield and Hartford. Inquire of F. J. PEASE, 242 State St., Hartford, Conn.

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Humorous.

"My lips are sore, but camphor ice
I will not have," said May.
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'Twould keep the chaps away." —*Bazar.*

"I AM no prize fighter," said the laundryman, "but if any one gives me cuffs, I'll proceed to do 'em up."—*Rochester Democrat.*

"How do you pronounce the last syllable of that word, 'butterine'?" asked the customer. "The last syllable is silent," stiffly replied the grocer's clerk. —*Household.*

ETHEL had formed the very unbecoming habit of saying "H'm?" when she did not quite understand, and her aunt had been teaching her to say, "Beg pardon," instead. The following day, she was overheard talking with some of her little playmates. "My auntie says you mustn't say, 'H'm,'" she explained. "You must say, 'Baking powder.'" — *Credit Lost.*

IN an old-fashioned home of New Orleans there was company at dinner, and the ladies were discussing the woman question. A gentleman present, after hearing all the pros and cons, facetiously remarked that two preachers were discussing the same problem, recently, in his hearing, and they both agreed that it portended evil and "that women were responsible for most of the evil in the world—in fact, that women were worse than men." One of the ladies indignantly retorted: "Indeed, they are not; women are the salt of the earth." "Dat's so, honey," put in old Aunt Susan from the kitchen; "dat's de Bible truf, for shore. Women is the salt ob de earth. Just think ob Lot's wife!" And everybody laughed at the sudden and unexpected application of the old Bible story.—*New Orleans Picayune.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

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At **WHOLESALE PRICES,** Delivered **FREE** For Houses, Barns, Roofs, all colors, and **SAVE** Dealers profits. In use 54 years. Endorsed by Grange & Farmers' Alliance. Low prices will surprise you. Write for Samples. O. W. INGERSOLL, No. 246 Plymouth St., Brooklyn, N. Y.

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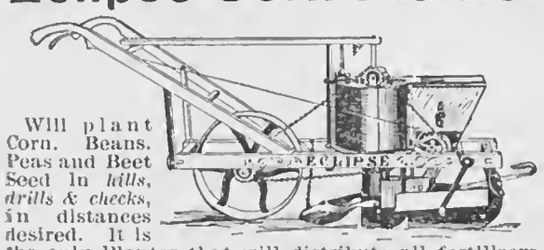
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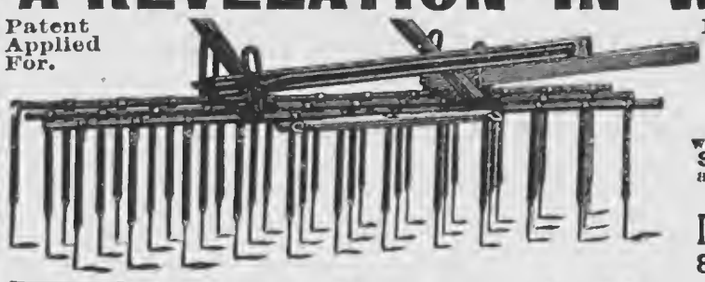
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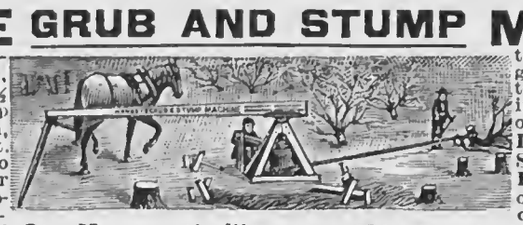
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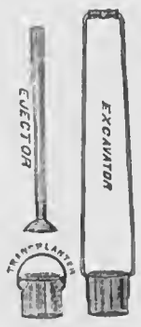

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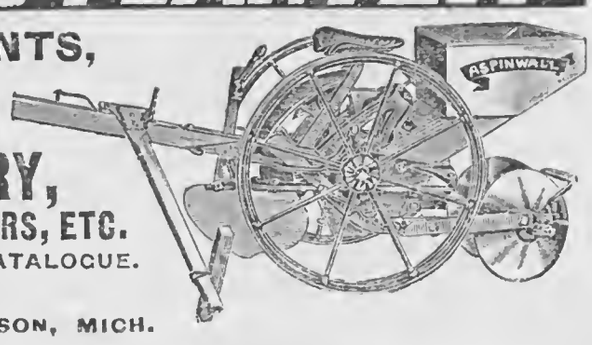

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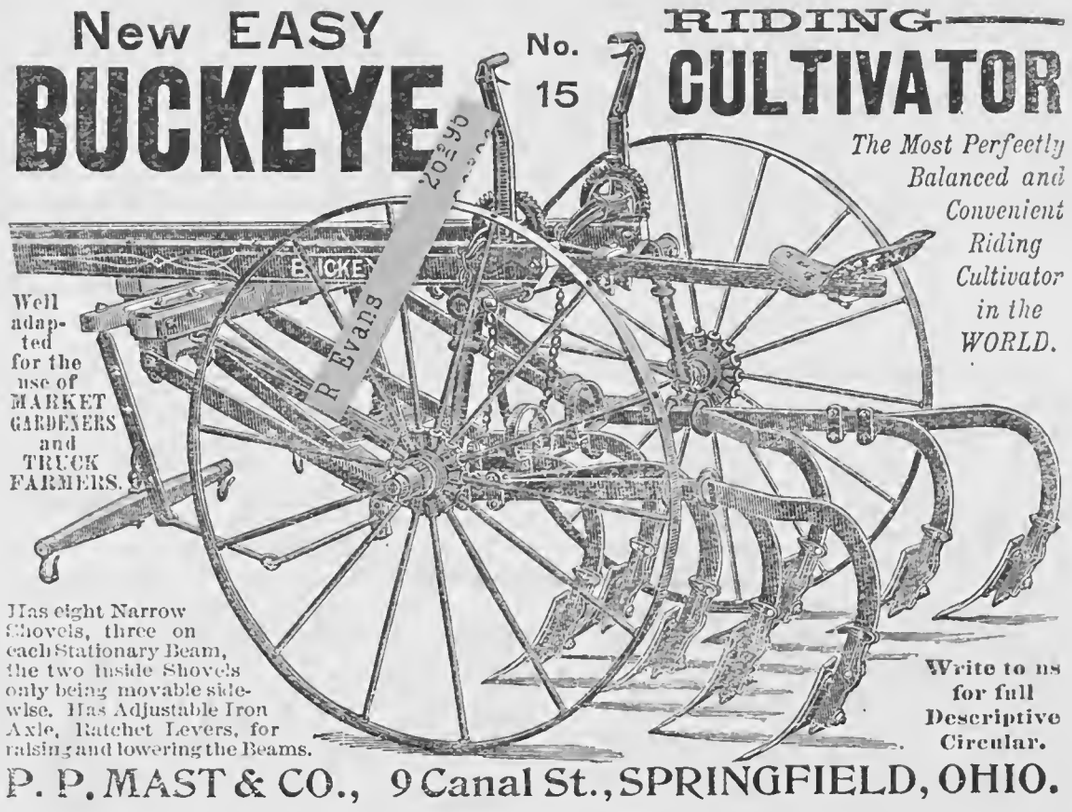

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THE RURAL NEW-YORKER

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FAMOUS HOLSTEIN-FRIESIAN CATTLE.

SOMETHING ABOUT THE "BLACK AND WHITE" BREED.

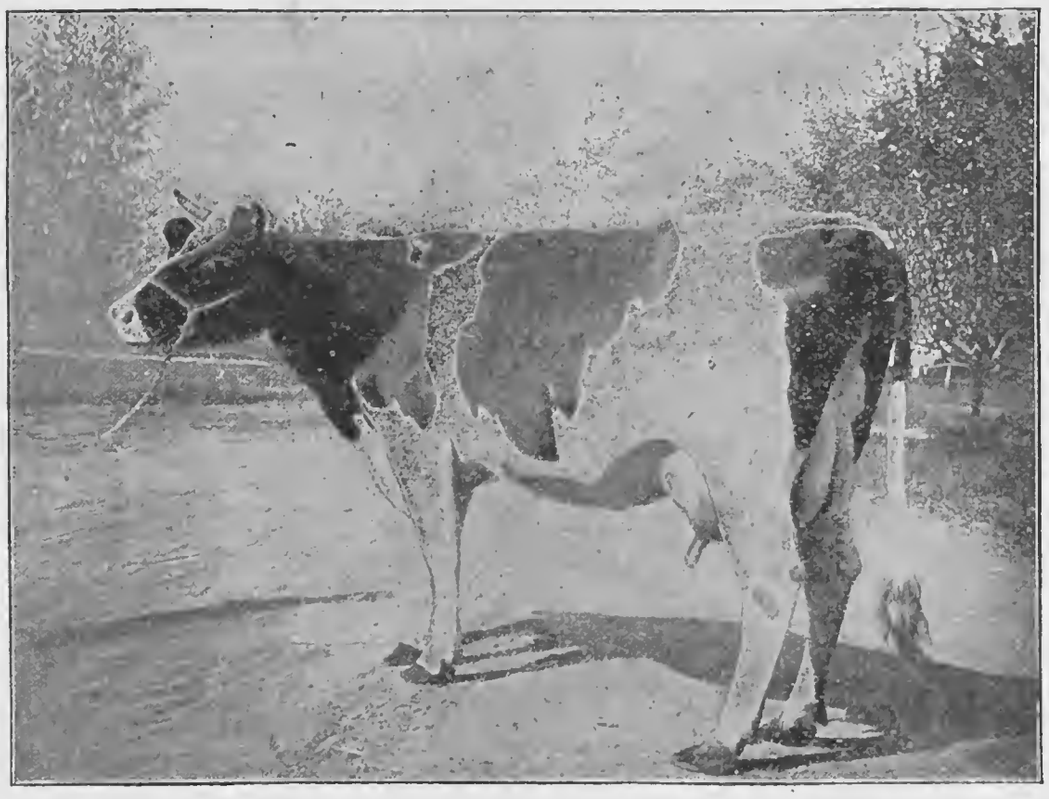
A Result of Skillful Selection in Breeding.

Two weeks ago, Mr. Edward A. Powell told us about the three methods of improving live stock. These were better care and food, selection and scientific breeding. Our illustrations this week, of animals from the herd of Smiths & Powell, are given with a view of showing the improvement that may be made in a herd when all these methods are employed to the best advantage.

Sir Netherland Clothilde 8517 stands at the head of this herd. He was put there because, for generations on either side, his female ancestors have been noted as milk or butter producers. For example, his 13 nearest female ancestors have weekly butter records which average 19 pounds 15 4-13 ounces of butter, while their milk yields average 16,052 pounds 3 5-13 ounces. Nine of the nearest of these ancestors averaged 21 pounds 8 1-9 ounces of butter per week.

The theory of breeding is that a bull with such ancestry must, when mated with good cows, transmit the milking habit to his heifer calves. Let us see how the facts accord with theory. Twenty two-year old heifers from this bull have been tested for butter and milk. They gave average weekly records of 12½ pounds of butter, and average yearly records of 10,000 pounds of milk. The mixed milk of 16 of them averaged 4.08 per cent of butter fat. Fig. 53 shows a group of eight of these heifers. See how closely they resemble the bull. The fact is that the form, color and good qualities of this bull have been bred into him through long years of selection. He has also received the best of food and care. The result is that these good qualities are fixed, and are sure to appear in his offspring.

The same theory works out when applied to cows. We have an illustration of this in the cow Netherland Monk's Aaggie Constance 20556 (see Fig. 51. This cow, in her two-year-old form, gave, on winter feed, 62 pounds 6 ounces of milk in one day, and for the whole year 11,201 pounds 7 ounces. When two years old, she made 15 pounds 8½ ounces of butter in a week, and when three years old, 20 pounds and one-half ounce. This result is what one might reasonably expect from her pedigree, for her six nearest female ancestors have yearly milk records averaging 15,381 pounds 6 ounces, and weekly butter records which average 21 pounds 4½ ounces.



HOLSTEIN COW NETHERLAND MONK'S AAGGIE CONSTANCE. FIG. 51.

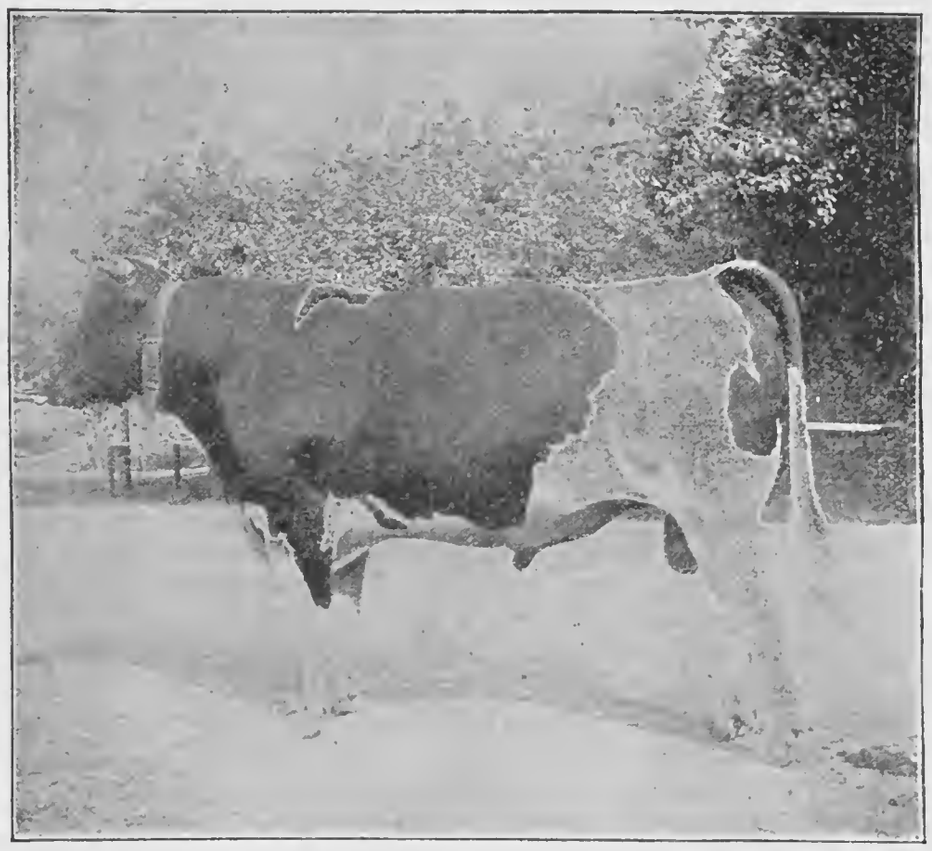
Of course it is not expected that the average farmer can breed such cattle in a few crosses from his common stock; but the principles of breeding are fixed and sure, and even in the humblest herd, careful selection and the introduction of improved blood, will surely improve the cattle. Some one has said that "blood" is the concentrated extract of years of selection and care. A child is the reflection of its parents. It is the mission of the bull to reproduce, in his daughters, the good or bad qualities of his mother and grandmother.

Most dairy farmers will naturally fill their herds with grades—the cows from which their heifers are to come being of no particular type. Their wisest plan will be to get as good a bull as they can afford, and save the heifers each year from the cows that come nearest to the type they have selected for the improved herd.

We have taken the Holstein breed for this illustration, because these famous "black and white" cows show, in a remarkable degree, how skillful selection and proper mating can be made to reproduce and improve desirable qualities.

The Holsteins have long been famous for milk production, and of late years, certain families have been fed and bred so skillfully that the quality of the milk has been greatly improved without reducing its quantity. Holsteins are a prepotent breed, and well-bred bulls are sure to show their characteristic size, color and qualities in any ordinary herd. These cattle are also strong and rugged. They eat heartily, but will dispose of an immense amount of roughage. The cows are quiet and docile. We can readily see that each of the recognized breeds of cattle has a certain place in the agricultural economy of this country. We would select the Holstein of improved strains for milk farming—preferably on rich, level lands, where a large amount of cheap forage is to be turned into milk.

The Holsteins came originally from the low meadows lying along the North Sea in Europe, and, for their best development, have always demanded rich pasture, and plenty of food. No one would select the Holsteins to graze on scant and rocky pastures. The Ayrshires, Devons or Jerseys would climb hills and travel about for food, but the heavier Holstein was not built for such wandering, and will not thrive on it. Many of the cattle at Cornell University are Holstein grades, and they are well liked. The best cows in the herd carry more or less Holstein blood. They are called "best" because they give the most milk for a dollar's worth of food. It is good milk, too—good enough for college boys, who are better than Babcock testers for sampling it.



CHAMPION HOLSTEIN BULL SIR NETHERLAND CLOTHILDE. FIG. 52.

EIGHT YOUNG DAUGHTERS OF SIR NETHERLAND CLOTHILDE. FIG. 53.

WILL MANURE INCREASE PEACH YELLOWS?

How to Replant Missing Trees.

THE QUESTIONS.

Of an orchard of 2,000 peach trees, three years old, 600 are missing. These trees have been replanted three times, the last time last autumn. The missing trees are seattered all over the orehard. Where the trees have started, they have made a good growth, but the replants have nearly all died in the same places. We have tried commereial fertilizers lacking nitrogen, and black soil which came from the bottom of a ditch, and now we wish something new for the third trial. Plenty of old and well-rotted manure is available, but we have never used manure on peach trees in any way, being under the impression that manure produees yellows. Would it be advisable to use manure as muleh for peach trees newly planted on rather poor, sandy land? Has any one proved that manure produces, or, rather, makes peach trees more suseeptible to the yellows? J. S. L.

Goldsboro, Md.

THE ANSWERS.

Would Certainly Use Manure.

After an experience of 20 years, I have never been able to detect any inerease of peach yellows from the use of manure. The disease seems to attack a tree of slow growth as quiekly as one of rampant growth and to appear on the sterile sand bank and the rieh bottoms equally as destructively and as soon. I would unhesitatingly recommend mulehing newly-set peach trees on poor, sandy soil, with barnyard manure—well-rotted preferred. I have never used nitrate of soda on peaeh trees, but when the foliage started in the spring, would try it sprinkled on top of the manure around the trees, one small handful to several trees; I would repeat the application a month later, if good results seem to follow the first, but not afterwards, as too late and unripened growth might result. I would look for some other eause for trees dying as deseribed—perhaps the aphis eauses the trouble. If not able to detect any eause, I would inform the Maryland Agrieultural Experiment Station, whieh would promptly render any assistanee in its power, and sit up nights with the case if need be.

Delaware. SAMUEL H. DERBY.

Put New Soil Around the Trees.

We have found by experienee that the best thing to do in replanting peaeh trees, is to dig large holes, throwing the earth entirely away, so that none of it eomes in eontaet with the new trees, and fill up around the roots with entirely fresh earth taken either from the middle of the rows, or hauled in from a distance In the most sueeessful trial we ever had with a case of this kind—and it was a perfeet success—we hauled the soil from a head row that was old and rich. When we set the trees, we eovered the roots entirely with the fresh soil, and filled up the rest of the hole with earth taken from the middle of the tree row. It is not right to let the manure eome close to the roots of the trees, but to broadeast it on top, and work it well in; neither is it a good plan to use manure as a muleh for peach trees. It never has been demonstrated that manure makes peach trees more suseeptible to yellows. J. S. L. ean use manure heavy or light, if it be well-rotted, broadeasted on top, and then well worked in.

Delaware. SLAYMAKER & SON.

A Fight with the Bark Louse.

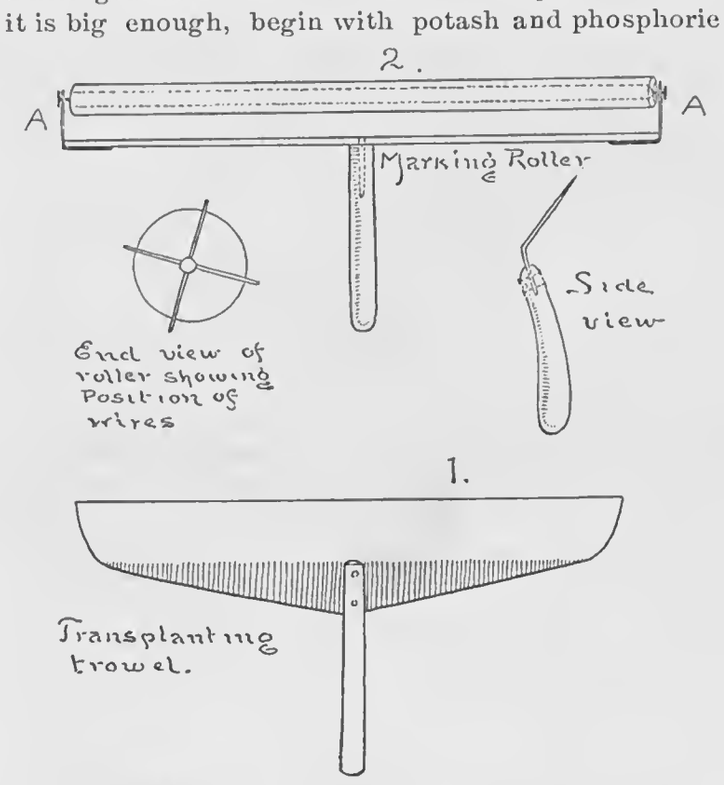
From the description given by J. S. L., I would say that his young peaeh trees are being destroyed by the bark louse or aphides feeding on the roots. Such eases are not uneommon. I have been aequainted with many peaeh orchards during the past 30 years, that have suffered in this way when first set. In 1883, I had to replant over 700 peaeh trees that were killed by the blaek louse on the roots. Following the advice of old and experienced nurserymen, I dipped the roots of the replants in tobacco water, and dusted over them powdered tobaceo; also mixed with the soil when plaeed about the roots, powdered tobaeco, but without avail; all or nearly all died. Before planting the third time, I dug holes four feet square, down to the subsoil, and filled them with top soil from portions of the orehard where the trees had, from the first, grown well, and in this soil planted the new trees, being eareful to examine the roots for liee, as they are occasionally found already established on the roots of trees just taken from the nursery. This last experiment cost mueh labor, and proved sueeessful, nearly all the replants growing well and making fine trees.

In regard to using fertilizers, partieularly those eontaining nitrogen, I am able to give one instanee of apparent sueeess. One of my neighbors who had witnessed my fight with the blaek louse, and who proposed setting a peaeh orehard, at my suggestion mixed with the soil around each tree as set, two handfuls of ground tankage, my idea being that the stimulant (organic nitrogen and bone phosphate) contained in the tankage would push the young tree so that the sap-sueking louse eould not materially injure it. As a result, the trees grew finely, and none was lost. I have never mixed rotted manure with the soil about newly-planted peaeh trees, but have used it as a muleh for peaeh trees newly planted where the soil was thin or sandy, and found it an advantage, not, however, as overeoming the depredations of the louse. Previous to the advent of the yellows in this section, peaeh trees of good old age—20 or 30 years—adjoining gardens or truek patehes that reeeived heavy dressings of manure, thriving greatly and bearing heavy crops of poorly-eolored fruit, were not an uneommon sight. From my experienee and observation, I am almost eertain that this class of trees proved to be more suseeptible to yellows than those cared for in the usual manner. Finely-ground animal bone and muriate of potash are my reliance in the fertilization of my orehards—apple, pear or peaeh. A erop of Crimson clover plowed under early, is of great use in lightening soils that are inclined to bake, and supplies almost too much nitrogen; but potash and phosphoric acid are needed, both for elover and trees. GEO. H. MURRAY.

Delaware.

How to Start Young Trees.

If I were J. S. L., I would replant those trees and use some fresh soil from an old fenee row if I eould get it. Then I would use, at least, a shovelful of good ashes in the hole, a handful of fish scrap or ground fish, and after the trees were set, put a good shovelful of rotted manure around eaeh tree *on* the surface. An orehard only a few miles from me, behaved in the same way. but the man now has a niee stand of trees by persistent replanting, Sometimes young trees die from root aphis. It is not a bad idea to use some tobacco dust around the roots, as this will kill any aphides that may be in the ground or on the roots. What makes these trees die, I can't tell; but on light land, I would always give a tree a good start by using a nitrogenous manure for the first few years. When it is big enough, begin with potash and phosphorie



ROLLER AND TROWEL FOR LITTLE PLANTS. FIG. 54.

aeid for fruit. For a young tree, this ground fish seems to give it a start that nothing else will, and if the tree will live for one year, it is not so likely to die. There is no proof that manure induces yellows, and many a young peaeh orchard gets stunted in its growth from lack of manure. Use it around the trees, not in the holes. Peaeh trees have yellows on all kinds of land, and with or without all kinds of manures. Pull up the first tree you see with it, and burn it, and keep this up if you wish to be free from it. Many trees that turn yellow, merely have aphides about the roots. CHAS. WRIGHT.

Delaware.

Give the Trees Some Tobacco.

I would suggest that J. S. L., examine earefully the roots of the trees with which he intends to fill up the vaeaneies in his orehard, before setting them out. The dying may, possibly, result from aphides—or as eommonly known, peaeh lice. If any traee of these be discovered, the roots should be immersed for one hour before planting, in a *strong* decoction of tobaeco. If, however, the trees are already planted, it would be well to proeure 200 pounds of tobaeeo dust (eost, about one to one and a-half cent per pound), remove the soil from about the trees, down to the spread of the roots, and distribute immediately about eaeh tree, a good handful; replaee the soil, and muleh the tree with a good-sized forkful of stable manure. For two or three years after planting, a muleh of old (or new) stable manure, annually, will not likely tend to produee any yellows, on the average of land devoted to peaeh orehards, on the eastern shore of Maryland. It has been satisfaetorily demonstrated that nitrogenous manures, excessively used in disregard of what might be termed a balaneed ration, for the sustenance of the trees, make them suseeptible to the yellows. High culture—forcing extremely vigorous growth—and the yellows, as a rule, are not long separated from eaeh other. This has been my observation. The yellows resulting from the lack of proper eulture, and intelligent feeding, is a wholly different disease; but about as prevalent in most peaeh-growing distriets as the former.

Maryland. J. W. KERR.

Would Avoid Nitrogenous Manures.

J. S. L. does not say in what kind of soil the orehard is set. If it is very sandy and poor, it may be that the trees fail to start from that eause; although he says, "Where the trees have started, they have made a good growth," which would lead one to believe that poverty of the soil is not the cause of this trouble. The fact that the replanted trees have nearly all died, would lead to a suspieion of the unsuitability of, at least, a part of the soil in the orchard to peaeh eulture. He does not say whether or not peaeh yellows has been, or is now, in his orehard. It may be, that the young trees were affeeted by this fatal disease when they were planted, whieh, if true, would, perhaps, be the solution of the question. Why not replant this orchard hereafter with Japan plum trees, whieh are seldom affected with any disease? I would continue to use potash and phosphoric aeid instead of stable manure or any nitrogenous substance. However, it might do to try a little of the latter. Well-rotted stable manure used as a mulch for newly-set trees, would be no better to retain moisture about them than other trash, which would be less nitrogenous. Dr. Erwin F. Smith, after going over the whole subjeet of manures as related to peaeh yellows, says, "I am inelined to think that, in infeeted distriets, nitrogenous manures have a bad influenee, but to what this is due, I am unable to say." This is, perhaps, the best authority extant.

Virginia. H. E. VAN DEMAN.

WHAT THEY SAY?

TRANSPLANTING TOOLS.—Fig. 54 shows two home-made tools which I find very useful. They are designed to save time in transplanting small plants like celery, and they have proved almost indispensable. The flats whieh I use are 12 inches wide inside, by two feet long, with the rows running across. Then with the trowel shown at 1, I take up a whole row of plants, and space them farther apart in other flats, or set them into cold frames. With eelery, this will save entirely all hand transplanting, except the final field work. But in order to use this tool sueeessfully, the rows must be perfectly straight, and to aeeomplish this, I use the marker shown at 2. This spaces the rows three-fourths of an inch apart, which is right for celery. When the seed is well up, thin so as to leave 25 or 30 plants to the row. This makes 500 or more plants to the flat. These may be sheared off once or twiee before they become "drawn," and then set into eold frames, four ineches between the rows to grow on. I prepare the rows to receive the plants, by opening them with the trowel, then rake the soil up to the plants, and press down firmly.

The trowel is made of an extra heavy piece of galvanized iron, 11½ inches long, and 3½ inches wide, and bent at the top of the shaded lines. The handle is extra heavy galvanized strap iron, one inch wide and 12 inches long. This is folded with the ends together, lapped on both sides of the first piece, and riveted or soldered. All may be done with a hammer, eold chisel and punch, if one have the materials. The edge need not be sharp, but may be thinned with a file.

The roller is a round stick one ineh in diameter, and 11 inches long. Saw into each end two shallow euts at right angles, forming a eross, which will coincide with that of the other end. Then wind a soft copper wire or even a hard cord around through the saw cuts, and fasten it; then aeross the other way and fasten it, and it will look as at 2 (end view). Drive a wire nail in the center of eaeh end, and mount in the handle, of whieh the ends A, A are of thin iron with holes for the nails in the ends of the roller. Pass this over the soil which should be sifted and smoothed, and it will paek the soil leaving tiny marks just right for the smallest seeds. D. M. ANDREWS.

Colorado.

INTEREST AT FARMERS' INSTITUTES.—A note in a reeent R. N.-Y. says that institutes are growing in interest in the West, while in the East they are barely holding their own, and asks the question, "What is the matter?"

My observation leads me to eonelude that the institute foree are trying to cover too mueh ground for the material they have. Like fertilizers, they sometimes spread it too thin to be of any perceptible benefit. Not that the speakers do not know by actual experience what they are talking about, for I believe that most of them are praetical men, and sueeessful in their line of work. But there is a wide difference between knowing a thing, and being able to tell it so as to interest and eonvinee others. To be a sueeessful public speaker, either at the bar or in the pulpit,

or on the lecture platform, a man must possess a certain force, power, magnetism, call it what you will, that commands attention and convinces fully as much as correct ideas, even though they be based on experience.

Further, a man who is sent by the State to instruct the people, should be willing to answer questions outside of the institute proper. One of the New York State force, who has a State—yes, a National reputation on a certain line of fruit-growing—was asked some questions, in his hotel, by a farmer who was interested in his specialty, and he refused to answer. Such men as Bailey, Roberts, Powell, Willard, Fenner, Woodward, Eastman, Van Alstyne, Rice, Snow, and some others, are above criticism as institute instructors, being full of knowledge, zeal and magnetism. But for the past three years, since the number of institutes has doubled, multiplied in number, the supply of such men has not been equal to the demand. The farmers themselves are also to blame for the poor attendance at some institutes. The last one held in this county was in a village of 500 people. There are over 200,000 acres of land in this little county, yet there were present at nearly every session less than 100 persons. The absence of men under 30 was particularly noted. E. C. GILLETT.

Yates County, N. Y.

SOME CONNECTICUT FARM TALK.—Here are some points brought out in a discussion at a recent meeting of the farmers' club: This matter of crying down the cost of producing agricultural products, was severely condemned as exerting a bad influence on those who were ignorant of the facts, thus misleading people into the business by the great profit which looms up before them. The consumer also finds fault with paying 40 or 50 cents for a bushel of potatoes, saying, "Why, it costs only six cents to raise them; I've read it somewhere!" It is thought to be wrong to charge a crop for only the few hours one may be at direct work, when, in fact, the whole season is spent in planning and laying out for the crop. Another point discussed was whether a man's house is included in his stock in trade, the same as his barn and implements. It was claimed that a merchant does not count in his residence when computing the interest to be charged to his investment. The decision reached was that his house is included, in so far as the cellar was used for storing vegetables and fruits. J. A.

Westport, Conn.

TREE AND BUD NOTES.—The indications are now that the low temperature of February 17 has nearly, if not quite, finished the peach buds in this locality. I have examined them to-day, and find but a very few showing any signs of life—perhaps one in ten on the Hill's Chili, Crosby, Smock, Stephen's Rareripe and Alexander, while the Elberta, Crawfords, Mountain Rose and Wheatland seem to be all dead. The mercury registered from zero to 15 degrees below during the day, being the lowest at sunrise. I presume that it was not over 10 degrees below at the lake where our orchard is, but the conditions seemed to be favorable for destroying the vitality of the buds.

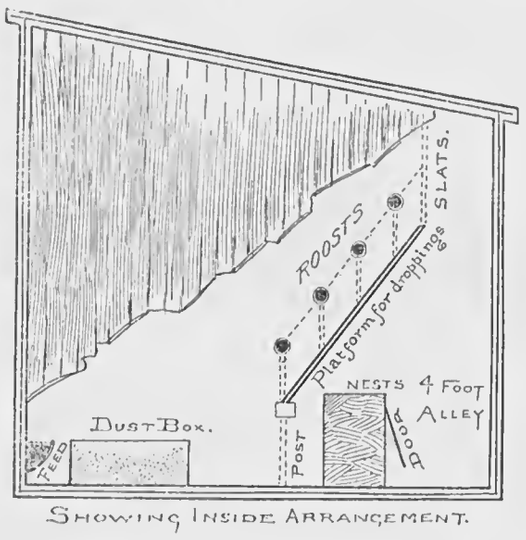
One feature of much interest to us now is the banking up of our trees. The snow over most of our peach orchard, is now from four to eight inches deep; in going over the ground, I noticed a good many mice tracks, but they have no chance to work at the trees, as there is not over one tree in a hundred that the banking does not show through the snow. We banked our plum and apricot orchard also. Another good feature about this: there has been considerable ice on the ground this winter among the trees, and the banking has kept it away from the bodies. The expense is very little, as it cost us only one-fourth of a cent per tree. T. H. K.

Tompkins County, N. Y.

KILLING MAY BEETLES.—In regard to the White Grub question, page 116, I, some years ago, adopted the suggestion on page 76 of Mrs. Treat's "Injurious Insects of the Farm and Garden." When the beetles first make their appearance in the warm evenings of the last of May, or first of June, we place lanterns having strong reflectors over tubs partly filled with water, and place them in the yard and garden. These beetles, commonly known as the May beetle or June bug, are readily attracted by light, and frequently fly in at the open windows, buzzing about the rooms, knocking against the walls, etc. When they strike the lantern glass, they fall into the water on which is a film of kerosene oil and this quickly stops their careers We find that this treatment has materially decreased their numbers. Mrs. Treat claims that the best method of extermination is to kill them while in the perfect or beetle state, and it seems important to use the remedy suggested as soon as they appear, as the female after pairing returns to the earth in a short time, lays 40 or 50 eggs and then dies. They are dormant during the day, and having this fondness for light, bonfires could be built when the beetles are numerous, and many destroyed by flying into the flames. It will be found that many other injurious insects will be killed in this way, and since trying it, there has also been a noticeable decrease in the number of the corn worms in our garden. F. C. C.

Bath, Me.

SOWING SMALL SEEDS.—Mr. Cranefield's manner of sowing small seeds, page 98, is good so far as it goes; but I prefer the method set forth below. I believe in a thoroughly fine seed bed, and, therefore, sift the box full of barely moist earth. This is then firmly pressed down, and, if necessary, more soil added. the object being to have the surface of the soil reach to within half an inch of the top of the box. This is important for, if it is much lower, the plants will have a tendency to grow spindling; besides, they will not come up uniformly because the light cannot reach all parts of the soil in equal proportion. I next give the soil in the box a thorough watering. After allowing



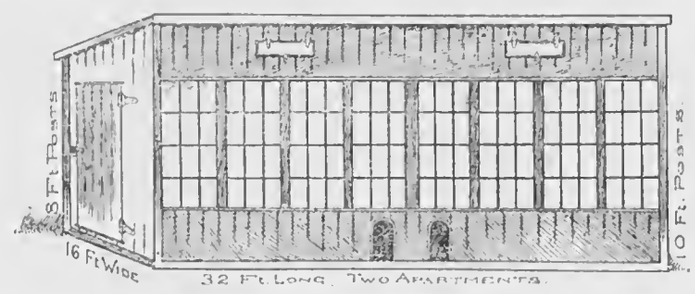
A HENHOUSE FOR THE DAUGHTER. FIG. 55.

the surface to dry somewhat, I now sow the seed and sift a little fine soil over this. Then I press down the top with a fire shovel or light board. Under these conditions, no immediate watering will be necessary, as the seed rests firmly on moist soil, and capillary attraction will bring up more moisture from beneath. If at any time before the plants come up, the surface indicates the need of water, I spread a piece of cloth smoothly over the entire surface, letting the edges hang over the sides of the box. With this precaution, fairly warm water may be applied to the cloth in any desired quantity without fear of disturbing the seeds. Percolation does the rest. The cloth must, of course, be promptly removed. If one object to surface watering, let a small pipe coupling extend a little above the surface. By inserting a funnel, one may sub-irrigate at any time. In a small box, one coupling near the center is enough. In a large box, more couplings should be used. Before the plants are up, I much prefer using the cloth, as there is little chance of running any risk with it. Moreover, the watering can be done more uniformly. J. C. SENGER.

THE DAUGHTER AND THE POULTRY.

LET HER HUNT HENS RATHER THAN HUSBANDS.

Much has been said and written on "keeping the boys on the farm," and many pleas have been made urging farmers to give their boys an interest in some kind of stock or crop, and thus make their labor of some pecuniary value to themselves. Every boy likes to have a little money that he may call his own,



A CHEAP AND SIMPLE HENHOUSE. FIG. 56.

and that he can spend as he likes. But how is it in regard to the girls? Have you ever seen anything written in regard to "keeping the girls on the farm"? Or are they of so little account that the only thought is to get them married off as quickly as possible, so that some other fellow can support them, and so save that item of expense? I say to farmers, give your girls a chance, and they will beat the boys all "hollow," not only in the thoroughness of their work, but in their enthusiasm for results, and in the results themselves.

But you ask, Shall I set my daughter to planting potatoes, or hoeing corn? Or would it be better to start her in business, by breaking the two-year-old colt, or the brindle steers, or feeding and caring for the hogs? No, my dear sir; while I have no doubt she would be successful if she undertook to do any of these things, and would surprise you by the results obtained, still it is not necessary for her to engage in any such masculine labor.

Again you ask, What, then, would you have her do? Let me whisper in your ear, the one little word, poultry. Now don't shrug your shoulders, and exclaim, "Bosh!" for if you but knew it, there is more profit in the "hen business," for the amount invested, than in any other stock. And who is more fitted to attend to such "stock" than the daughters of the family? Just try it, if you have one or more daughters that have nothing to do, and are just eating their heads off; invest $150 in poultry, and a house to put it in (the interest on this will be but $9 a year); or perhaps you already have some building that, with a few dollars expended for repairs, would answer. Let her keep strict account of all eggs used in the family, sold, or used for setting, all young chickens raised, either for home consumption, or market, figuring the value of droppings as worth 25 cents for each mature fowl for the year. Also keep a strict account of all feed used, whether bought or raised on the farm. If you are not surprised at the result, then I would consider you beyond all hope of redemption, and be willing you should jog along in the "good old way," letting the hens spend the winters in idleness, and the girls hunting husbands.

At Figs. 55 and 56 are pictures of a convenient henhouse, which will accommodate 100 hens, and at the same time is not expensive. It may be constructed of matched boards, or of unmatched, and lined with tarred paper, the smell of which is not offensive, and tends to keep away vermin. If your daughter is not well posted on the "hen business," get for her some good book on poultry. THE R. N.-Y. can supply you. Give her what help you can by advice, etc., and then let her go ahead. By the time she is ready to buy her wedding outfit, she will have the money to pay for it, and thus save you the expense. G. M. W.

Trucksville, Pa.

WHERE THEY FARM AT WHOLESALE.

HOW AN IOWA MAN HANDLES CROPS.

Railroad-Iron Drag; Homemade Potato Planter.

Perhaps some of our Eastern farmers will be interested in knowing how we farm out here, west of the Mississippi. In the spring, we begin about March 15, to break corn stalks for our small grain; this is generally done with a railroad rail 32 feet long, by hitching a team on each end, which makes a clean sweep of them. Two men and two teams can break 80 acres of stalks in a day, in this way. Then, with a two-horse hay rake, we rake them into windrows and burn them, after which we are ready to seed.

It makes no difference what kind of small grain we intend to sow, it is all put in in the same way. With a 12-foot broadcast seeder, we finish sowing before stopping, then with a cultivator we cross the rows of corn in the direction opposite to that in which it was cultivated when it was laid by, and thus cover the seed. We then harrow the ground two or three times. We use a two-horse tongueless cultivator altogether; some farmers use a disc with four horses to disc in the grain, instead of the cultivator. We use from three to four-section 16-foot harrows and four horses. It is seldom that one sees a farmer at work in the field with less than three horses. It is just as easy to drive three or five horses abreast, as it is two. All farmer boys from 12 years old up, are taught to drive four horses abreast, with two lines and jockey sticks.

After we have our small grain in, we haul out the manure on the ground we intend for corn, and then plow for corn, using a 16-inch plow. It is nothing in this country to see three or four teams plowing in one field for corn. After plowing we harrow once, and then plant the corn, commencing about May 1 and trying to get all in by May 20; this all depends upon the season. If we have a favorable, early season and not too wet, all get through by that time; although the western farmers are like a hive of bees, we have some drones who don't get through with their work from one year's end to the other.

After our corn is planted, we harrow it three or four times according to the season and condition of the weeds. While corn is getting ready for the cultivator, we plow and plant potatoes. We have a big job of it in this vicinity, as almost every farmer raises from 10 to 40 acres each year. We generally commence while one man or boy is planting the corn with a two-horse planter and wire check rower, to cut our seed potatoes, and have them ready to plant. Then we take off the corn boxes from the corn planters and fasten on large boxes holding one bushel of potatoes each in their places, with chutes or tubes that run from the large boxes to the ground, the same as the corn chutes do except that they are larger. We then put four horses on the planter tongue, one man to drive, and two boys, one on each side by the large boxes. The shoes make the furrow for the potatoes, and the boys put the seed down the chutes I have described, and the wheels cover them the same as they do the corn when planted with a planter. If

any one down east wish to try that kind of a potato planter, he must be sure and get two good boys, for it is no slow job to get the seed into the ground as fast as the horses will walk, and have them from eight to twelve inches apart.

After our potatoes are planted, we start to plow the corn, and always plow it three times, and generally get it laid by on July 4, then we all take a holiday.

We cut our grain with twine binders, stack when dry, and thrash just as soon as we can. When our grain is in the stack, and we are waiting for a machine to thrash, we plow the stubble for next year's corn ground. We use the cultivators or disc harrows on this ground in the spring.

In the fall, we have our corn to gather, and potatoes to dig. About one in every ten farmers has a potato digger, and after his own are out, he digs for his neighbors at $1 per acre, and they furnish pickers and teams. We can dig with the Dowden digger, six acres per day easily, and can pick them up, if not too big a yield. Farmers always have help enough to keep up with the digger, as they change works to get the help. After the potatoes are out, we husk the corn. With one man to a team, we husk two rows on the left side of the wagon; we have a big throwboard on the right side to keep the corn from going over or out of the wagon. A man can get out from 60 to 120 bushels of corn a day in that way. We fill our cribs, then pile on the ground; one can go through this country to-day and see thousands and thousands of bushels piled up on the ground. Farmers haul this off after they get all through husking. Some shell it before, for the cobs to burn as fuel. If there is snow in the winter, they shovel snow, corn and all into the wagon or sled, and take it to town to sell. It looks like a great waste, and so it is, to see corn piled in the shape it is; but renters will not build cribs, as they stay only about one year on a farm.

Here is what we get for our produce: Wheat, 32 cents; oats, 11 cents; barley, 18 to 22 cents; rye, 25 cents; corn 15 in the ear, 14 shelled; potatoes, 10 to 13 cents. We grow mostly Mammoth Pearl and Northern Spy. Our crops on an average are good. Oats yield 60 bushels per acre, corn 50, rye, barley and wheat just fair, as there is not much sown here. Rye is mostly sown for pasture. We get many new ideas from reports of Eastern farmers and, possibly, some of our methods may help them. J. W. RILEY.

Shelby County, Iowa.

WHAT SAY?

MANILLA ROOFING.—I would like to hear through THE R. N.-Y. from those who have used Fay's manilla roofing. For what can it be used, and what is the best and most economical way to use it? A. L. W.

BLANCH CELERY IN TILE.—I am a market gardener, and would like to know if the raisers of celery have had any experience in blanching it in drain tile. If so, what size is recommended? Also what variety?

Rockville, Ind. H. B. B.

CORN *vs.* POTATOES.—This question has arisen in our farmers' club, Which is the hardest crop on land, corn or potatoes, and which is the most profitable to raise? I would like the answer from some experiment station, as to the real nutrition each of these crops takes from the soil. L. C. H.

Middleton, Mich.

R. N.-Y.—Here is a chance for practical men as well as scientists.

CUT BONE FOR HOGS.—Is any benefit derived from feeding hogs cut bone as cut by Mann's bone cutter? If so, in what quantities? How often should it be fed?

Columbia, Pa. C. D. S.

R. N.-Y.—In theory, this is a good practice. We would prefer to cook the cut bone, and would feed one pound per day to begin with. We shall be glad to hear from those who have actually tried this.

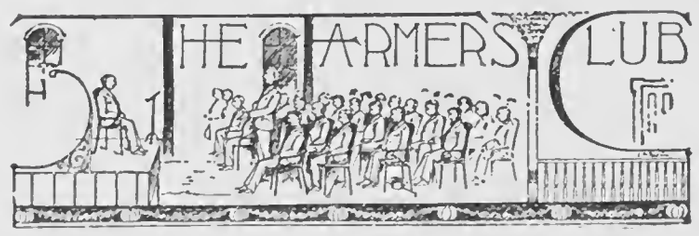
A STONE SILO.—I intend to build a silo this next summer, 14x16 feet inside measure, about 25 feet above ground, on the end and outside of a barn. I have plenty of stone handy, and am thinking of using them for the purpose. Would the corn keep as well in stone as in wood? How thick should the walls be made to stand the pressure? Should they be laid in cement or lime and sand? With rough lumber at $11 or $12 per M, which would be best for me to use?

Jermyn, Pa. M. D. C.

WILL A SILO PAY.—Will it pay for me to build a silo to feed my cows? Will it increase the flow of cream? I am at present feeding a ration of grain and cut corn fodder, with hay, oats and straw for variety occasionally. The cows eat the fodder quite clean now. Will a silo pay by increasing the amount of butter fat in the milk? W. L.

Utica, Pa.

R. N.-Y.—Here is a chance for some one to display a little knowledge. If there are any ex-silo men, let's hear from them.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

A Cow That Does Not Breed.

E. A. D., Reading, Mich.—My cow dropped a calf the first of September, and has not been in heat since. As she is a valuable cow, I would like to get her with calf. Can anything be done to produce the desired effect?

It is not uncommon for cows to go three or four months after calving before coming in heat again. If she does not breed this winter, she will be quite likely to after turning to pasture in the spring; especially if a good bull be allowed to run with her.

Is this Heifer Sterile?

T. C. R., Erin, N. Y.—My Jersey heifer 20 months old fails to breed. She is in heat every three weeks, and has been served by several different bulls to no purpose. The only thing I can see wrong is the discharge of a little blood immediately after service. She is fat enough for beef, and of good size.

It occasionally happens that a heifer fails to breed because of the closure of the neck of the womb. In other cases, it is disease of the ovaries, or some of the other generative organs. Have the heifer examined by a competent veterinary surgeon; and if the neck of the womb is found closed, it should be dilated or opened just before service when next in heat. If there is any chronic vaginal discharge, injections may be necessary. If the veterinarian can find no removable cause, the heifer is probably sterile, and your only course will be to beef her.

How to Treat a Foundered Horse.

H. W., Fairfield, N. J.—I bought a horse in New York that had been foundered, and his "feet have come down," one quite badly. Will they ever go back or grow out again, and what can I do for him? He is eight years old.

He may be benefited by treatment, so as to be useful for farm work; but a cure cannot be effected. Have the horse shod with broad-webbed bar shoes, beveled towards the inner sides on the upper surface, so as to remove the pressure from the sole. Apply a "fly" blister around the coronet, and repeat three or four times, if necessary, making a second application as soon as the scabs from the first have been shed. Also dress the sole and wall two or three times a week with hot tar. When not at work next summer, turn him on to a low, damp pasture, if you have one; or on any pasture at night.

Swine Plague in Shotes.

W. F., Troupsburg, N. Y.—My two shotes about five or six months old, are in bad condition; they cannot get around the pen enough to get to the trough. When they first began to be ailing, they were stiff in their hind legs, and in a short time they were so stiff in their front legs also that they could not move around. They breathe hard, so that one can hear them a long distance. They grew well for four or five months, but since then they have grown poor rapidly. Do bad effects result from black teeth? These pigs had four on each side, but one of my neighbors said that they caused the trouble, so I pulled them out, but it did not help any.

Your shotes are apparently suffering from chronic pneumonia or swine plague. Place them in a warm, dry stall, preferably on an earth floor, with sufficient dry litter for a good nest. Feed the slop as hot as they can eat it, so as to steam them while eating. Rub both sides of the chest every two or three days, with strong aqua ammonia and sweet oil well shaken together. The black teeth have nothing whatever to do with the trouble.

No Abortion in These Cows.

G. W. P., Ardena, N. J.—Three of my cows have aborted two years in succession; they are well cared for by myself, fed good corn fodder once per day, and good clover hay once per day all they will eat clean. They receive a grain ration of two quarts of corn-cob meal, and two quarts of wheat bran, and five quarts of finely-cut beets every alternate day. Salt is by them at all times, and water also. They are stabled at night in warm, well-ventilated stables, are dried off for six weeks before the time of calving, and the grain ration is reduced one-half. In summer they have clean running water, good clean pasture, and two quarts of corn meal per day. They abort some in summer, some in winter, apparently about two or three days before the time due to calve.

Abortion cannot be said to occur in the cow unless the fetus is expelled, at least 30 to 40 days before the normal period. If a cow calves within this period, but before the normal time, it is known as premature parturition. The usual period allowed by cattle owners for cows, is nine months; but from a large number of observations, it has been found that the average period of gestation in the cow is 10 to 15 days longer, or 280 to 285 days. The average for male calves is a few days longer than for females. There is, however, a wide range of variation in the length of the normal period, which varies from 240 to 300 days, or even longer. Births are most common between 270 and 290 days; but they are quite common between the 260th and 270th days, and after the 290th. Those births which occur before the 260th day, may be considered as premature. In your case, if the cows calved only two or three days before the usual period of nine months, there is nothing in that to indicate that they are premature. It is, probably, the normal period for those particular cows.

Peat Moss as a Fertilizer.

J. B. L., Oradell, N. J.—What is the value of peat moss as a fertilizer, especially in top-dressing grasses, and for use in drills with fodder corn?

ANS.—Prof. E. B. Voorhees, of the New Jersey Experiment Station, gives the following facts about peat moss: "Peat moss is superior to straw as a bedding, in being a better absorbent and a deodorizer. Its content of fertilizing constituents, as compared with straw, is shown in the following tabulation:

POUNDS CONTAINED IN ONE TON.

	Nitrogen.	Phos. acid	Potash.
Peat moss	13	5	3
Wheat straw	10	2	14
Rye straw	10	6	16
Oat straw	13	4	24

It is quite likely, too, that the fertilizing constituents in straw would become available more quickly than in the peat moss, owing to the greater tendency to decay." According to this, peat moss is inferior to straw as a manure. It makes good bedding, but costs too much to buy for its fertilizing value.

Crops to Suit the Manure.

J. W. W., Quincy, Pa.—I have one-half acre of sandy soil, and plenty of pigeon droppings and tobacco stems to fertilize it. What shall I plant to realize the most that the soil and fertilizer will produce? The land would not be considered high or low, but has good drainage.

ANS.—That combination of pigeon manure and tobacco stems is best suited to growing vegetables and fruits. We do not know what will sell best in your market, but in our own case, we would set that land to small fruits—strawberries, raspberries, blackberries and currants. The tobacco stems will make an excellent mulch around the vines—to be spaded in each spring. We would keep the pigeon manure well dried by the use of plaster, and, in the spring, crush or grind it fine and rake or harrow it in between the rows and around the plants.

Which Fertilizer for Potatoes?

H. R. T., Riverhead, L. I.—My soil is a sandy loam, underlaid at a depth of two or three feet by sand and gravel. Which fertilizer is better for potatoes: one which has five per cent of ammonia, eight per cent of available phosphoric acid, and 10 per cent of potash, or another which has five per cent of ammonia, five per cent of available phosphoric acid, and seven per cent of potash? The former is sold for $28 per ton, the latter $25.50. Considering the needs of the potato plant, which one would it pay better to buy? Agricultural writers tell us that all plants with a large leaf development, are potash plants, for example, potatoes and tobacco. Do cabbages and cauliflowers come under that class?

ANS.—There is something needed besides a mere statement of the analysis to guide us in selecting a potato fertilizer. We ought to know of what it is made, and from what the ammonia, potash and phosphoric acid are derived. The facts are more necessary in selecting a fertilizer for the potato crop than for many others. As between these two fertilizers, the first at $28 is the cheaper, because it contains 60 pounds of phosphoric acid, and 60 pounds of potash more than the other, and this is worth more than $2.50. Yes, special fertilizers for cabbage and cauliflowers are made with a large per cent of potash.

Value of Different Cuts of Pork.

J. C. H., Fairview, Ga.—If a hog weigh 200 to 250 pounds net, and sell for six cents per pound, for what price should the back bones, ribs, head, feet, hams, shoulders and jowl sell separate per pound to make it equal six cents for the whole hog? When made into bacon, what is the difference in price per pound on jowls, shoulders, side pork and hams? For what price does this bacon have to sell per pound, to equal a whole hog at six cents?

ANS.—The following is the result in reference to weight and price, of the several parts of a hog, when ready for market. Not having any fattened hogs, one was used in only fair, growing condition, a recorded Berkshire sow pig, taken from the pen without being kept away from her food a few hours previous which will account for the large percentage of loss in offal. As a rule, the waste is almost worthless, so I figure as follows:

	Pounds.			Value.
Live weight	273	at 5.10	cents.	$13.92
Dressed weight (24 hours after killing)	232	at 6	"	13.92

Loss in offal including liver, heart and lungs, 15 per cent or 41 pounds.

	Weight of different parts, pounds.			Estimated Value.
Offal, including liver and lungs	41			$00.00
Waste bones, ribs, etc	28			00.00
Waste meat for sausages	18	at 4	cents.	0.72
Jowls, two pieces	8	at 4	"	0.32
Leaf lard fat	14	at 4	"	0.56
Two back pieces for salting	23½	at 6	"	1.41
Four side pieces for bacon	44½	at 7½	"	3.35
Two shoulders	48	at 7½	"	3.60
Two hams	48	at 8½	"	3.96
Total weight alive	273	at 5.10	cents.	$13 92
Total weight dressed	232	at 6	cents.	13.92

In obtaining the above, it was more trouble to give an exact value to each part than one would suppose, as it was necessary to allow for the difference in

value of the several parts, and also make up the loss on others. If one wishes to get the price after the meat is smoked and pickled, simply add the cost of labor to the parts thus smoked, etc. W. A. S.

How to Start Early Melons.

W. H. H., Mo. Valley, Ia.—How can I start melons in a hotbed? What is the least amount of space to be occupied? I wish to plant about April 1; would oiled cloth do instead of glass if I have good straw mats? How much dried blood can I use in a hill?

ANS.—For starting melons in hotbeds, pieces of good, firm sod should be cut four inches square and two inches thick; these should be handled carefully so as not to break them. First place a layer of about an inch of soil over the manure in the hotbed, then place in the sods, grass side down, in even rows, until the whole frame is filled. Place four or five seeds on each sod, and press them in to hold them in place. Sift fine earth over the sods to about half an inch deep. When the melons come up, give them plenty of light and air, but do not let them get chilled. Oiled cloth is not so good as glass. The melons need light all the time, or they will get weak and "leggy." I think about April 1 is rather early to start the plants, as they should not be set out until danger of frost is over. Two ounces of dried blood may be used to a hill, but should not be applied until after the plants are set out; then mix it well with the soil. I find that a mixture of two parts superphosphate, two parts nitrate of soda, and one part sulphate of potash, scattered around the hills and well raked in with a steel rake, gives the most satisfactory results. I use a large handful of the mixture to each hill, besides manuring the ground with stable manure. S. M. HARRIS.

How to Sow Peas and Oats.

T. F. K., Carmel, N. Y.—How should peas and oats be sown together to get a good crop? When they are ready to cut, can they be stacked together like hay for winter feeding? About how many bushels of peas to the acre are sown, and should they be harrowed in together?

ANS.—Peas should be "ganged" or plowed in about two inches deep. The oats may then be sowed on the surface and harrowed or drilled. This will give a far better crop than to plant the peas shallow as is the usual practice. Sow about 1½ bushel of oats and a bushel of peas per acre. Use some stiff-strawed variety of oats, and the Canada field pea. Cut with the mower and cure as for hay. Since the pea vines will be full of water, they will need to be cured more than ordinary hay. Peas and oats make a most excellent soiling crop. For winter feeding, one can get twice as much food per acre for animals by raising corn instead of oats and peas. True, the cost of raising will be slightly more per acre with the former than with the latter, but it should be kept constantly in mind that corn is the greatest of all grass and forage plants. I. P. R.

Will Potash Benefit Grass?

D. P. A., Bullville, N. Y.—If potash in the form of muriate, be sown on sod this spring, will it benefit the grass? If sown this spring on rye or wheat, will it benefit the grain and help the grass seed sown on it? If so, in what quantity should it be applied?

ANS.—The chances are that, on most sandy or light soils, potash, will benefit the grass; but it is not a good practice to use potash alone, unless you know by experiment that it is specially needed. Suppose a man *blew* out the gas in a hotel room, and went to bed! If they found him weak and helpless an hour later, they would not give him food, but would bring him into the *fresh air* at once. If you found a man wandering on the desert, almost insane from thirst, you would not give him air and food, but *water*. A man drifting on a raft in the middle of Lake Michigan, would not need water, but food. There must be some special need for potash, nitrogen or phosphoric acid, before we can hope to obtain a good crop by using any one of these substances alone. We recommend bone and muriate of potash together for grass or grain, as this combination will supply all three elements.

The Snowy Tree Cricket on Raspberries.

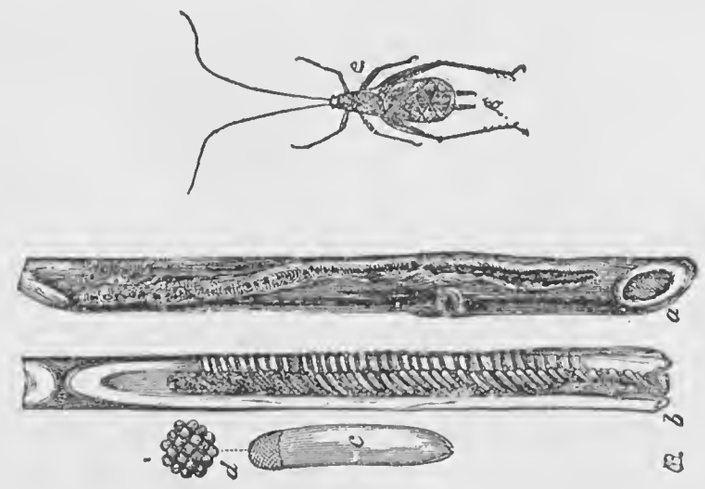
A. H. M., Louisville, O.—I send a portion of a raspberry stem that contains an insect; I would like to know its name. Is its work destructive to the raspberry stalk? The portion above the sting dies off.

ANSWERED BY M. V. SLINGERLAND.

Scarcely a week passes here at the insectary, that we do not receive raspberry canes, grape vines, or the twigs of various fruit trees which bear the long, ragged-edged wound shown at *a* in Fig. 57. The attention of the fruit grower is usually first called to this peculiar injury by the death of the part infested. If the rough surface of the wound be cut away with a knife, the injury will be found to consist of a longitudinal series of punctures placed close together. By splitting the cane, the nature of the injury may be seen even better. Such a section is represented at *b*. The punctures extend through the woody part of the cane or twig into the pithy portion, and here there is in each an oblong, yellow, cylindrical egg. One of these eggs is represented enlarged at *c*.

The insect which thus seriously injured A. H. M.'s raspberry canes in preparing a safe receptacle for its eggs, is a delicate, greenish-white cricket. On account of its color, and its habit of living among the foliage of trees and shrubs, it has received the popular name of Snowy Tree cricket. In the male insect, shown at *e*, the wing-covers are broad and transparent, so that the folded wings can be seen through them. The oblique thickenings or ribs which cross these wing-covers, form a part of the musical apparatus of this insect. The female differs somewhat in appearance, as her wing-covers are closely wrapped about the body, making the insect much narrower than her musical mate; the females are not musicians. The chirp of this cricket is a very familiar sound in many parts of the country during the latter part of summer and early autumn. It is a monotonous repetition of a cry, which, with a little effort on the part of the listener, may be made to sound like Katy-did, Kady-did. This cry is begun early in the evening, and is continued unremittingly till late in the night, all of the males in one region chirping in unison. This cricket's chirp is very different from that of the much larger insect known as the true Katy-did, being less rasping and much more monotonous. In those sections of the country where the true Katy-did does not occur, the chirp of the Snowy Tree cricket is usually the most prominent of all sounds made in the night by insects.

Except for the injury caused by the female in laying her eggs, this cricket is not regarded as an injurious insect. Its diet is said to consist in part of plant lice and other small insects. It is also said to feed later in the season on ripe fruits, but not injuriously. The eggs are laid late in the summer or in the autumn, but they do not hatch until the early part of the following summer. It is thus a simple matter to cut out the infested canes or branches in the spring after the



THE SNOWY TREE CRICKET AND ITS WORK. FIG. 57.

other canes or twigs have put forth their leaves, but before the eggs have hatched, and by burning these prunings, to check the increase of the insects.

Various Foods for Stock.

W. A. C., Lakeside, N. S.—What are the comparative values of linseed and cotton-seed meals? Which is the cheaper at same price? How much linseed could be safely fed to grown animals for fattening? How do corn bran, and wheat bran compare as to feeding value?

ANS.—Here is a table showing how these foods compare—from the chemist's standpoint:

	Muscle-makers.	Fat-formers.	Pure fat.
Cotton-seed meal	35¾	22¼	11½
Linseed meal (old process)	26	26½	7
Corn bran	6	55	3½
Wheat bran	11¾	45	2½

These figures show the averages of many different samples. Of course, different lots bought at random in the market, will vary more or less. From a mere statement of analysis, it appears that cotton-seed meal is more valuable than any of the other feeds. This is only one side of it, however. Cotton-seed meal is a constipating food, and is dangerous when fed in large quantities to animals that are not used to it. We would never feed it without pasture, roots, ensilage or other succulent foods. Linseed meal has a somewhat laxative effect on the system, and makes an excellent addition to dry stalks or other roughage. Beginning with a pound a day, you may safely increase to a daily ration of four pounds of linseed. We prefer wheat to corn bran.

What to Feed With Brewers' Grains.

W. F. R., Stamford, Conn.—What grain should be fed with brewers' grains to increase the quality and also the quantity of the milk, the cows having all the good hay they will eat. The brewers' grains are pitted (or ensiloed) and have kept perfectly. Some of my customers complain that the milk is not creamy enough, and that there is not enough body to it. How much of the grain should be fed, each cow getting a large scoopful of the brewers' grains twice a day? I have large quantities of potatoes, and on account of the low price, wish to feed them to my cows. How many may be fed to each cow per day along with the brewers' grains, and what grain should be fed with them to keep up a high quality of milk?

ANS.—I have personally had but little experience in feeding brewers' grains, but from their known effects upon the milk, I would recommend the following as a grain ration likely to be followed by good results: Equal parts by weight of wheat bran, cotton-seed meal and corn meal, four to six pounds per cow per day in connection with the brewers' grains. If the hay is largely Timothy, reduce the proportion of corn meal one-half. I would not recommend the use of potatoes in any considerable quantity in connection with brewers' grains, as they have a similar effect upon the character of the milk.

H. H. WING.

Bad Water in a Well.

T. M., Florence, N. J.—My well is 43 feet deep; 28 feet were dug through a black mud which looks like marl. At the bottom of the well, is a hard crust which the water comes through rapidly; there were 16 feet of water in the well in two days. The water has a dark look, and bad odor. About three weeks ago, I put 11 feet of gravel in the well; it made the water clearer, but it has the same bad odor.

ANS.—The water which comes into the well, without doubt passes through the undecomposed mud, and somewhere dissolved mineral matter may have become mixed with it in its onflow to the well. It would be impossible to put anything in the well which would make the water sweet. If much water were pumped out frequently, it would, probably, improve the quality of the water, but I have little hope that by any such method it could, in the near future, be made potable. Better dig a large, deep cistern, arch over the top, and cover it two or three feet deep with soil, leaving only a little neck 20 to 30 inches in diameter at the top for ingress and egress. Fill this cistern during the winter months when the roofs are clean, and the water cold, and turn the spouts off early in the spring. This water will keep cold during the entire summer, and it is safer to drink than hard water. This is the method which is so successfully practiced all through Mississippi, and it is surprising how cool and pure this body of water will keep thus sealed up.

I. P. ROBERTS.

Rooting Hogs on a Clay Soil.

J. C. M., Wynn, Ind.—I have a 12-acre field that I use exclusively for a hog pasture. About seven acres of this are rolling, set with Blue grass, while the remaining five acres can be cultivated. What is the most profitable root crop I can raise on the five acres for stock hogs? The soil is fairly good clay. How about artichokes? Where can seed be purchased, and at what price?

ANS.—For the number of hogs the seven acres will pasture, J. C. M. will not need five acres of roots of any kind. To grow mangels, the land needs to be very rich naturally, or else made so by the use of manures. This land in its present condition, would not yield a profitable crop of roots of any kind. Clay soil is the poorest kind in which to plant artichokes; they will grow in it, and probably, yield a good crop, but the hogs can never make a good job of harvesting them. Clay soil is not the kind for hogs to root in at all seasons of the year. Rooting while wet ruins it, and in the severe weather of winter, when the hogs most need the artichokes, they will be frozen into the soil. At other seasons, they soon tramp the land so solid that they cannot root. I write this from experience. They are easy to plant and to grow, and as easily cultivated as corn; but the trouble comes when they are to be got rid of. The hogs cannot root them all out, and it requires more care than the first-class farmer wishes to give them, to get rid of them in one or, possibly, two years. Much better rotate the five-acre plot with corn, clover and rye, and let the hogs harvest them when possible. As the land grows better, try, in a small way at the start, some of the roots grown for stock. Kaffir corn will stand much greater heat and drought than Indian corn, but in experimenting with it the Indiana farmer will do well to go slow.

JOHN M. JAMISON.

Grasses for a Dairy Farm.

A. T. M., Glendola, N. J.—I am a dairy farmer, and would like to know the best grasses to sow for hay and pasture after haying—some that will ripen with clover, or nearly so. I have been sowing Timothy, but it is a poor pasture grass, and hard on the land. My soil is loam, with some low, dark spots, and is fairly productive.

ANS.—Many of the best grasses for hay do not form the best pastures. Orchard grass ripens with clover, and Tall Meadow Fescue is not far behind it. The former seeds can be easily procured; those of the latter are somewhat expensive, and cannot always be secured easily. Would it not be better to sow with clover the grasses named above, and practice on the best fields a short rotation? By the tone of the letter, it is implied that much forage is desired. Since you are in a fine corn country, why not use the large grass, corn, for forage instead of Timothy or clover. You can get three or four times as much feed for animals from the corn as you can from the smaller grasses or the clover, and if one learn to raise corn properly, the problem of both grain and coarse foods is solved easily. The poorer lands, or those situated far from the buildings, would better be seeded to permanent pastures, using both Red and Alsike clover freely in seeding down, and Timothy, Orchard grass and Tall Meadow Fescue. Wherever land is low and damp, Alsike clover and Red-top will do admirably. I. P. R.

New Forage Plants for Oregon.

H. B. S., Paulina, Ore.—Where can I get a block of the roots of Phalaris arundinacea var. pieta; also of the Japan Eulalias? I am looking for something that will stand a dry atmosphere, scorching sun, and frosty nights, a deep rooting plant, suitable for forage both green and made into hay. Rye answers our purpose very well. In fact, it would be nearly first-class if the beards did not make the animals' mouths sore, that are fed upon it. The beards work their way into the flesh of the cheeks, and root of the tongue, causing very painful sores.

ANS.—H. A. Dreer, of Philadelphia, Pa., offers the grasses. The rye-wheat hybrids have passed out of our hands and will not be introduced in less than two years.

Suitable Varieties of Fruit.

C. B. A., West Carlisle, O.—1. What are the best four varieties of plums to plant on a limestone clay soil? 2. What are the best varieties of apples, of at least 10 varieties? 3. What are the best varieties of strawberries?

ANS.—1. Apples: Ben Davis, Early Harvest, Grimes Golden, Jonathan, Maiden's Blush, Oldenburg, Rambo, Rome Beauty, Red Canada, Smith's Cider, Yellow Bellflower. 2. Plums: Bradshaw, Lombard, Shropshire Damson, Reine Claude, Fellenberg. 3. Strawberries: Beder Wood, Parker Earle, Warfield, Bubach, Haverland, Lovett.

Fertilizer for Strawberries; Shavings Manure

W. E. R., Ogdensburg, N. Y.—THE R. N.-Y. of February 8, says, "Better broadcast a strawberry fertilizer before the plants begin to grow." My strawberry patch is a sandy loam, fairly rich from applications of stable manure for some years. What commercial fertilizer would you suggest for use this spring, and in what quantity? I have a quantity of horse manure from horses bedded with pine shavings (not sawdust) this winter; will it pay me better to keep this over till another season, handling the pile over three or four times during the summer, or would you advise using it this spring?

ANS.—We referred more particularly to the best *time* for using the fertilizer should it be necessary to use one. Any of the special mixed fertilizers for fruits will answer. If you prefer a home mixture, we recommend three parts fine ground bone and one part muriate of potash, or equal parts ground bone and wood ashes. Use as much as you can afford. We would use, at least, 1,500 pounds of the mixture per acre. We would prefer to rot the horse manure and shavings before using, and would, therefore, keep it through the summer, working it over and not letting it get dry.

Catalogue Reviews

R. H. SHUMWAY, Rockford, Ill.—There are 44 pages of this remarkable catalogue, but these pages are just 16 inches by 10½, and we would say that the proportion of engraving to reading matter is as three or even four to one. The outside pages show in colors many kinds of vegetables and many kinds of flowers. Among the plain illustrations, are cuts of Kaffir corn, Brazilian corn, several kinds of oats, millet, etc. There are 28 cuts of tomatoes, natural size, 27 of peas, 24 of onions, and so on through the long lists.

PETER HENDERSON & Co., 35 and 37 Cortland Street, New York.—A work of 166 pages (9x11 inches) with about 500 wood cuts and eight colored pages, including the covers. It is, indeed, a "Manual of Everything for the Garden" and the farm, costing more to produce it, we judge, than any other similar publication. It is sent postpaid to regular customers without charge; to others for 20 cents, which amount may be deducted from the new applicant's first order. The last cover is a charming picture of the "Memorial" rose, Rosa Wichuraiana, which, together with the Crimson Rambler, is the most captivating hardy trailing or climbing rose ever introduced. Could we have but one, however, we would prefer the former. We do not think that Art can ever improve upon this rose of Nature. The flowers are little, to be sure, but perfect in their way; the leaflets are very small, too, but they are perfection in their texture and glossy freshness. A new potato, the Uncle Sam, is offered for the first time with superlative claims which this old firm would not care to make, were they not founded upon their own careful

(Continued on next page.)

EARLIEST ONIONS PAY.

There's a market gardener in Minnesota. He is prosperous, makes his money on earliest vegetables, gets his seeds from Salzer, follows Salzer's instructions how to grow 1,000 bushels per acre and sells Salzer's King of the Earliest onion already in July and gets $1.50 a bushel! Catalogue tells all about it and of lots of other seed for garden and farm! 35 packages earliest vegetables $1.

If you will cut this out and send it with 12 cents stamps to John A. Salzer, La Crosse, Wis., you will get free his catalogue and a package of yellow watermelon sensation.

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LEAD ALL.
If you wish to purchase the coming spring, **Garden, Field or Flower Seeds, Small Fruits, Fruit Trees, Flowering Plants, Bulbs, etc., etc.,** and wish the most complete American Seed Catalogue, you should send your address to
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P. O. Box 1296. Philadelphia, Pa.

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Shrubs, Roses, Grape Vines, etc. Apples. 10c. Catalogue free. Rochester Nursery Co., Rochester, N. Y.

1,000 Peach Trees with freight prepaid to any Station east of the Mississippi River, two to three feet, for $25. Other sizes in proportion. List of varieties or samples sent on request
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before you know it your reward comes in fruit & shade. Begin NOW by writing for our low prices.
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BURBANK'S EXPERIMENT FARMS,
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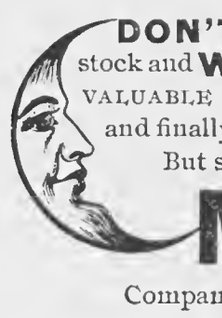
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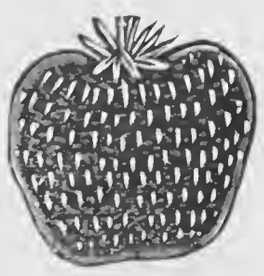

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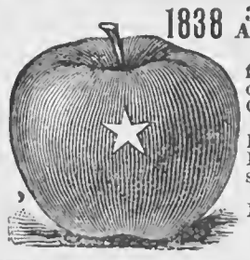
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You can't afford to buy trees heeled in over winter, and lose them, when you can get FRESH-DUG TREES from ROGERS for less money. REMEMBER
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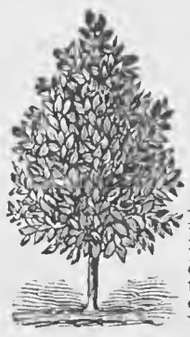
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CATALOGUE REVIEWS.

(CONTINUED.)

trials. It is shown as a medium-sized tuber of perfect form, netted in every part. The claims are: "It outyields all other varieties nearly two to one. Its shape and size are wonderfully uniform; it is the handsomest potato grown; its cooking qualities are unequaled; it is a luxuriant grower, free from disease, blight, rust, or rot. What more can be said? Note what is said regarding Henderson's Early Spring cabbage, the Pink Plume celery, the Crimson Cushion tomato, Henderson's Succession cabbage, Henderson's Early Snowball cauliflower. The ornamental plant specialties of this firm are roses, carnations, chrysanthemums, cannas, dahlias geraniums, palms, hardy herbaceous plants of many kinds, shrubs, etc. It also offers a select list of strawberries and small fruits in general.

HARRY N. HAMMOND, Decatur, Van Buren County, Mich.—Seed potatoes, seed corn and seed oats. A valuable part of this catalogue is the result of a trial of 100 different kinds of potatoes made last year on "rich, new muck land that had never been cropped before, well drained, and withstanding drought." Here are the largest yields: Carman No. 3, 565 bushels; Carman No. 1, 494; Early Fortune, 450; Early Michigan, 437; Livingston's Banner, 395; New Queen, 356; World's Fair, 321; American Wonder, 225; Lightning Express, 210. Other kinds yielded as follows: White Elephant, 138; Sir William, 102; Peerless, 92; Pearl of Savoy, 143; Irish Daisy, 193; Burpee's Extra Early, 165; Burbank, 95; Early Six Weeks, 193; Early Rose, 87; Early Ohio, 94; Early Puritan, 94; Everett's Six Weeks, 97; Freeman, 154; Great Divide, 185, and Sunrise, 103. The smallest yields were from 68 (Blue Victor) to 75 (Acme) bushels per acre. The best of these varieties are put up in trial lots ("two good tubers of each") for 75 cents a box. There are five different kinds in each box. We call special attention to what is claimed for the Early Fortune.

HENRY A. DREER, 714 Chestnut Street, Philadelphia, Pa.—Dreer's Garden Calendar, being a catalogue (160 pages) of seeds and plants of all kinds, inferior to none and equaled by few. The front page is an exquisite presentation in colors of carnations; the last Nymphæas, white, crimson and blue. These water lilies, by the way, are of the easiest cultivation and may well rank as garden plants with the choicest orchids as greenhouse exotics. Some idea of the dimensions of this establishment may be gained when it is considered that an addition of one acre of glass houses has been made to the plant given up just to palms alone. Seventy-five pages of the catalogue comprise the lists of vegetable, farm and flower seeds; the rest (85 pages) to plants of all kinds, including hardy shrubs and small fruits. The lists of cannas, roses, hardy water lilies and other aquatics, ferns, carnations, begonias are especially comprehensive and up to date. Sixteen pages are devoted to novelties and specialties among plants, seeds and vegetables. It is an exceedingly interesting catalogue.

THE ROGERS NURSERY CO., Moorestown, N. J.—A catalogue of apple, pear, peach, plum, apricot, cherry, and quince trees; also small fruits. A specialty is made of nut trees and the Japan plums. Among the latter, Willard is regarded as the earliest of the Japan plums, and Paragon the best, largest and latest. It is said to be entirely distinct from any other. The trees bear young and so bountifully as to require thinning. The flesh is fine grained, firm, and delicious. The color is yellow, nearly covered with light red, purple on the sunny side. An engraving shows a three-year-old Paragon chestnut tree in full bearing. This company is the introducer of the new Angel pear, regarded as the largest and handsomest of the earliest pears. All stock is guaranteed to be "free from all disease." This is the old Rogers Nursery which has been long established at Moorestown, N. J., and should not be confounded with the Isaac Rogers Nurseries recently established in western New York.

E. W. ALLEN, Wolverton, Wilkin Co., Minn.—This catalogue, chiefly of a very select number of potatoes, pleases us because of its illustrations, which are all photographic and show the *characteristic* shape. The potatoes offered are just these: Acme, American Wonder, Freeman, World's Fair, Early Vaughan, New Queen, Early Harvest, Irish Daisy, Early Norther, Irish Cobbler, Polaris, Carman No. 1, Carman No. 3 and Early Ohio; and each one is illustrated. Car lots of Early Ohio are offered, and the stock is guaranteed to be true. We are assured that every bushel of seed potatoes sold by Mr. Allen is grown on his own farm. He believes that the Acme is the earliest variety we have, and possesses more points of excellence than any other kind, new or old.

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possesses all the nutritive elements requisite in plant food. Being rich in ammonia, phosphoric acid and potash, combined in just the right proportions, they are highly efficacious for all crops, but especially adapted for corn, potatoes, grain, root crops, and top dressing for grass land.
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Our 1896 Catalogue contains important information on the fertilizer question which every grower should know. We send it FREE.
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PRESIDENT WILDER combines qualities that make it the most valuable market and table Red Currant that has been put upon the market. For prices apply to
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Largest yielding and most profitable. Extra fine plants; very cheap. Write for prices on quantity wanted. Address
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A large and well-rooted stock of this variety; also, of everything to be found at the largest, up-to-the-times small fruit nursery. Prices low; quality high. Catalogue free. W. B. FULTON, Kirkwood, Ohio.

PLANTS Ohio and Gregg Raspberry Plants for Sale. Send for prices.
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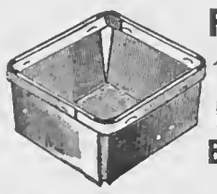

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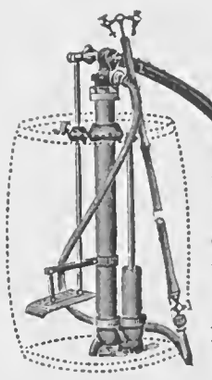

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CATALOGUE REVIEWS.

(CONTINUED.)

THE STORRS & HARRISON COMPANY, Painesville, O.—One of the best catalogues published, and one of the most trustworthy firms. The catalogue comprises 170 pages with colored covers of roses and fruits, and a colored page of the Gault Perpetual (blackcap) raspberry. Fifty-six pages are given to vegetable and flower seeds, 44 pages to a general collection of house and bedding plants, 22 to roses, a specialty with this firm, and the rest to fruits, large and small, and ornamental shrubs and trees. Note what is said about the Logan Raspberry-blackberry, the Strawberry-raspberry. Of the Borgeat quince, which we are trying, it says that the tree surpasses all others in vigor of growth, yielding immense crops, even in nursery rows, at the age of three or four years. The quinces keep well, it is claimed, until February. The firm offers special collections of fruit trees, small fruits, grapes, etc., at very low prices. The popular palms are offered for from 35 cents each upwards. Twenty large greenhouses are devoted to the growing of roses alone. This firm owns and cultivates over 1,200 acres of land in the home farms, and employs from 150 to 300 hands to do the work. They are the introducers of the first hybrid Rugosa rose ever produced—the Agnes Emily Carman, and control the new Carman gooseberry which they are propagating for introduction—we hope, at an early day.

JOSEPH BRECK & SONS, 51 and 52 North Market Street, Boston, Mass.—Established in 1822. A first-class catalogue (144 pages) of seeds of all kinds, plants, garden and farm implements, etc. Breck's "Chance" potato is a sport from the Pearl of Savoy, which this firm introduced about 10 years ago. The Chance is as early as the Pearl, a larger yielder, a better keeper, and of better quality. In quality, they are said to be unsurpassed. The Harvard sweet pea, of a deep crimson color, has become a great favorite. "It excels all others in color, fragrance and quantity of blooms." Breck's New Life pea is of the Stratagem type, a wrinkled, green-seeded variety of vigorous growth, the vines growing to a height of two feet. Attention is called to the complete list of insecticides and fungicides, with a spraying calendar that covers the experience of the experiment stations throughout the country. Attention is further called to the firm's offer, "We Double It," a proposition to duplicate all first premiums offered this year by horticultural or agricultural societies in this country, under conditions set forth. The firm will send this excellent catalogue to those of our readers who apply for it.

PIKE & ELLSWORTH, Jessamine, Pasco County, Florida.—Here we have an illustrated catalogue of Florida flowers and fruits, tropical, semi-tropical and some hardy plants which will surely interest many of our readers. Most of these plants are offered at surprisingly low prices. For instance, small plants of the popular palm, Cycas revoluta, are mailed for 35 cents each. So, too, the well-known palms, Phœnix reclinata, Latania Borbonica, Kentia Fosteriana, Areca lutescens, etc., are offered for from 15 to 25 cents each. Banana plants are priced at 20 cents each, figs at 25 cents, Rhododendron maximum, 20 cents each, cacti, 15 cents, Eulalias, 15 cents, the Hardy Orange (Trifoliata), 15 cents each, etc.

THE introduction of the newer varieties of Japan Plums bids fair to revolutionize plum growing, inasmuch as they withstand the attacks of the curculio to a greater extent than the older cultivated sorts. The President of the Michigan State Horticultural Society, who is up-to-date in fruit culture, says of them: "The Abundance and Burbank Plums have done well this season. They stood the many freezings better than Peaches, and produced enormously on three-year-old trees. The Burbank is the grandest Plum I have ever seen." Similar reports of the great productiveness of these and other Japan sorts have been received from various sources. They appear to thrive from the Lakes to the Gulf, even where the European sorts fail. For home use and market they are equally valuable. The Storrs & Harrison Company, Painesville, Ohio, who advertise with us, are large growers of these Plums, as well as other new and rare trees, plants and seeds. They offer to send their valuable catalogue free. Send for it.—*Adv.*

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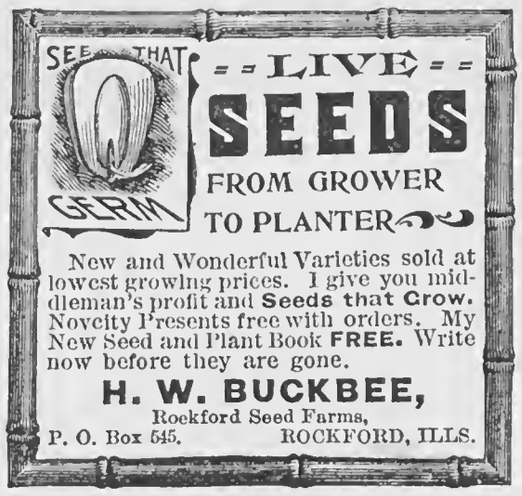

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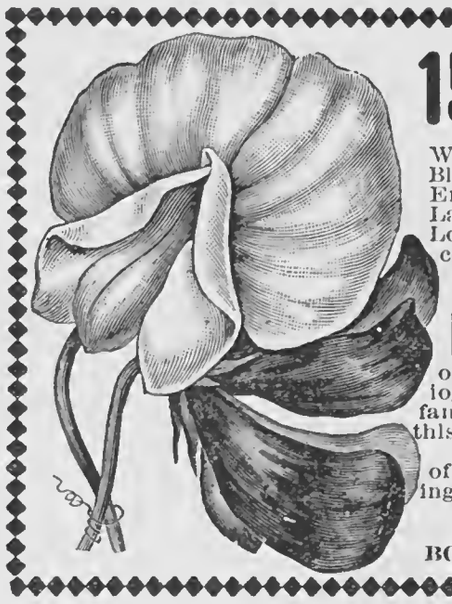

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FOR FIFTY CENTS

or two collections for 75 cents. The retail catalogue price of above is $1.20. To introduce these famous Arlington Seeds to new customers, we make this special offer to all mentioning this paper.

Sent anywhere, postpaid, together with a copy of our 1896 Catalogue, which is specially interesting this season.

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JOHN A. SALZER SEED CO. LA CROSSE, WIS.

D. S. MARVIN, on page 97 of THE R. N.-Y. reports a 13-petaled gladiolus flower as a rare novelty. In my experience, "double" gladioli are more common than is generally supposed. I have grown annually, for the past 10 years, from 3,000 to 10,000 gladioli, all from hand-pollenized seeds, and have seldom failed to find some flowers with duplicate petals among the successive batches of seedlings as they came into bloom. At first, I was disposed to regard them as unwelcome monstrosities, and discarded them; but latterly I have preserved some of the best, which are not without a special attractiveness. I have never seen all the flowers on a particular spike double; neither, as in Mr. Marvin's case, are the number of petals equal in all the abnormal blooms. The petals may number from 8 to 20, but the most pleasing and symmetrical flowers always have 12 petals, two stigmas and six stamens, in truth, a "double" bloom, as there are twice as many of the conspicuous organs as in normal blooms. If the flower happens to be large, and of good, clear coloring, the effect is very pretty; to some extent resembling a richly tinted water lily. The flowers with duplicated petals seem to form, in most instances, near the end of the spike, where the development of buds begins to be arrested.

Twin, or double buds, growing side by side, are very common on the spikes producing abnormal blooms; indeed, the attractive "double" form seems to result from the coalescing of two such buds. The flowers with an odd number of petals usually result from the petaloid transformation of stamens, and are seldom regular or pleasing in outline. As Mr. Marvin fears, it is difficult to fix the character of these forms. When grown for a series of years, the corms and accompanying offsets are found to be as likely to produce racemes having all the flowers single, as to reproduce the "double" forms. I find the abnormal blooms more often developed when a dry spell occurs at blooming time after a period of warm, wet weather. I have grown for two years the double varieties originated by Luther Burbank, of California. They do not appear to have the doubling tendency much better fixed than many of my own seedlings, though many fine, perfect flowers appear on most of the plants each season. The type "California," and the varieties originating from it, are in my estimation, much more valuable for their peculiar, dense, hyacinth-like formation of the spike, and the dwarf, compact growth, than for the characteristic of producing double flowers.

Several years ago, an amateur in Belgium originated and sent out a gladiolus more truly "double," in the popular acceptation of the term, than any other I have yet seen. It is known as "President de Seydewitz," and is a strong-growing variety, producing flowers having from 10 to 30 petals, many of which are transformed stamens. The spikes are usually more or less abortive, only a few blooms being developed, while the tip fades. The flowers are fairly large, but irregular in form and of a rather unpleasant, ashy rose color. It remains the most constant double-flowering gladiolus yet sent out.

Complaint is made in "Ruralisms," page 86, by Rev. Dr. Garlick, of Virginia, that the new rose, Crimson Rambler, is worthless because it did not grow with him last year. Reports of this nature are very common, and the large majority of plants under my own observation, acted in the same provoking manner. This I cannot attribute to any defect in the rose itself, but in the manner the plants were propagated, or, rather, over-propagated. Seeing that the rose was of great value, and that a large demand would be created, the growers forced its propagation to the utmost limit, to the consequent injury of the resulting plants. Plants of the Crimson Rambler rooted from wood that had not been unduly forced or stimulated, have grown vigorously, both in the open air and under glass, while the others have apparently remained at a standstill. However, another season may show strong development of these resting plants. Dawson, Multiflora and kindred varieties, often act in the same manner. I have a fine Crimson Rambler about to bloom for the third successive year. I know of no rose of such tough and enduring texture in bloom, or of such deep and lasting color-effect. Would that it were of the "ever-blooming" character.

W. VAN FLEET.

[Seedling gladioli raised at the Rural Grounds, have often borne more or less double flowers, especially seedlings of Shakespeare. But the new corms from these would rarely bear double flowers. EDS.]

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"of five bushels increase per acre with "one dollar's worth of extra pulverization of the soil, of $4 above cost, the "great benefit conferred on farmers by a "general introduction of the 'ACME' "Pulverizing Harrow becomes obvious. "If the 500,000,000 bushels of grain raised "annually in the United States, on 40,000,000 acres of land could be so easily "increased but three bushels per acre "above cost, it would add more than "100,000,000 bushels of wheat to the product of the Union above actual expense. "By assisting in the wider introduction "of this efficient implement, enterprising farmers and citizens would promote "the substantial interests of the whole "country." See adv. on page 166.—*Adv*

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Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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GENERAL CROP GROWER
Bone & Potash Compound
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More Vegetables,
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USE LAKE ERIE FISH GUANO

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THE

The Rural New-Yorker.

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A National Weekly Journal for Country and Suburban Homes

Established 1850.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MARCH 7, 1896.

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American Grape Training	"	.75
The New Potato Culture	"	.75
The Business Hen	"	.75

They are all *the best of their kind.* Why do we name them here? Because we are ready to send any one of them as a reward for a new subscription (not your own). Book your neighbor's name at once, and thus secure the book. Start *now!*

⊙

THAT is an interesting statement on page 156, as to the dressed weight of a hog, and the per cent of this weight found in the different parts. This Berkshire hog gave a heavy weight in hams and shoulders, as might have been expected from the reputation justly earned by this breed. Now we shall be pleased to have specimens of some of the other breeds cut up and weighed in like manner. Let's hear from the Cheshires!

⊙

UNDER "Live Stock" this week, a reader tells us what one good cow has done for him during the past year. Too much of the live stock in this country is dead stock so far as yielding any profit is concerned. The cow owned by this workman is of more practical value than many of the "blue bloods" which are forced to make a great record. Do you know the chief reason why this cow was so profitable? She was *well cared for*—treated like a member of the family. How it does pay to be careful with stock!

⊙

LAST week, a fine-looking farmer was seen at work with a hoe in his barnyard. The water from the eaves had soaked through the manure, and now stood in a pool of brown-colored liquid. The man was making a channel so that this liquid could run away. He didn't "want the cows to stand knee deep in soft manure," so the brown fluid went trickling along under the fence to the next farm. The neighbor of this man was once asked what fertilizer he liked best. His answer was, "The O. P. brand." "What brand is that?" "Other peoples'!" No wonder, when he got it for nothing with delivery thrown in.

⊙

MR. BIRGE, a Connecticut dairyman, brings up an interesting question in the following letter. We would like to obtain statistics and figures from other milkmen if possible :

Between September 1, 1894, and September 1, 1895, we sold practically what milk we made, milking from 14 to 18 cows. That is, although sometimes we needed to buy a little, this was offset by a small surplus at other times; so that, taking the year through, the sales were as close as could be to production. The production was as small as could be to furnish the trade. Our books tell the number of pounds produced in that time, and the number of quarts sold. The estimated amount of milk used in the house was added to quarts sold, and we found that it was necessary to produce 2.56 pounds of milk for each quart sold. What is the experience of others in the shrinkage of milk between the stable and the consumer? There was a minimum of waste, as the whole process, from milking to delivering, was under the eyes of the owners.

The standard quart of milk weighs 2.15 pounds. In producing by weight and selling by measure, there was a loss of two-fifths of a pound in each quart. Our impression is that this is under rather than over the average shrinkage. We would like to have other figures if they are to be obtained. Some butter dairymen test their milk with the Babcock tester, and then estimate the amount of butter that should be made from it. We would like to have some comparisons of estimates and actual sales from such dairies.

THE old cider-barrel philosophy warns us against bung-hole extravagance in connection with spigot economy. An extensive peach grower whom we know, saved much at the beginning in removing a debilitated peach orchard by sawing off the trees close to the ground. Subsequent cultivation among the stumps, however, taught him the unwisdom of his method. Hereafter he will grub up condemned trees. When the frost is coming out, or after a rainy period when the ground is soft, a good yoke of oxen will easily pull up a peach tree. Hitch the oxen to a cart, fasten one end of a chain to the axle, and the other end to the body of the tree near the ground. The oxen will pull well hitched to the cart, and can be easily geed or hawed for a side pull.

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THE use of a wash consisting of two pounds of ordinary whale-oil soap dissolved in one gallon of water to destroy the San José scale on fruit trees, has not proved an effectual remedy the past season in Delaware and Maryland. Very much depends upon the quality of the soap used. That which has been refined and freed from all its impurities, proves less effectual than that made from the unrefined whale oil. In treating infested pear trees in Chestertown, Md., various proportions of the soap were used, two pounds, 2½ and 3 pounds to one gallon of hot water and the hot mixture was applied to the trees. Either strength of the mixture destroyed the scales; but that containing 2½ pounds of the impure whale-oil soap to one gallon of water, is recommended as an effectual remedy, if thoroughly applied while it is hot.

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At the great Poultry and Pigeon Exhibition at Madison Square Garden, February 4 to 8, were upwards of 6,000 birds. There were nearly 100 different breeds of fowls, not to mention the turkeys, ducks, geese and pigeons; but those which may be classed as business hens for the average poultryman or farmer, might be counted upon the fingers of the hands, if not upon those of one hand. Thousands of breeders are raising poultry of dozens of different breeds because of the variety thus secured in exhibitions, and because some purchasers are seeking the odd and unusual, and that which is new and rare. Some new breeds (?) are brought out every year, and of course, great claims are always made for every newcomer. We must not decry these new breeds without trial, for our most useful breeds of to-day were once new; neither must we be carried away by the extravagant claims in their favor. The question for the man who keeps poultry for profit, to decide, is as to which will best meet his needs under the circumstances surrounding him. This done, his chances of success are better than they would have been had he chosen at random.

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ON page 155, our friend makes a good plea for a partnership between the hen and the farm daughter. We agree with him that the hen is a better companion than, at least, 50 per cent of the average husbands that are "hunted." That suggested house needs a word or two of suggestion. Maybe it is built for the special convenience of young women. That is not quite right, for in a case of this sort, the hen's comfort should be considered above that of her mistress. We think that there is too much glass in that house—four windows instead of eight would be better. On some of these clear and cold winter days, the hens will roast in the forenoon and chill in the evening. The glass will give too wide a range in temperature. We also think it a mistake to have the roosts placed one above the other. We would prefer to have them all on the same level, with the platform underneath hinged, so as to let it drop down when cleaning is desired. Less glass and a hinged platform are two things that modern poultry keeping seems to have decided necessary for the hen's comfort. Anything that comforts the hen is worth the attention of the hen man—or woman.

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THE veterinarian of the Vermont Experiment Station reports a singular case in a diseased cow. Early in 1894, the station herd was slaughtered because of tuberculosis, and a new herd was purchased subject to the tuberculin test. Among the animals thus tested, was one which took cold on the journey, and became quite sick. Not long after, one of the cows began to cough. Her breathing was unnatural, and she failed in flesh. She was tested with tuberculin, but failed to react. On pasture, she improved, but when taken into the barn she gradually failed so markedly that visitors were prompt to point her out as a consumptive cow. Now, here was a cow that came from a herd where consumption was known to exist. She gave all the outward signs of consumption, yet she failed to react when tested with tuberculin. Here was a case where the ordinary observer would say that the tuberculin test had failed, and the cow was slaughtered in order to test the theory. It was found that a part of one lung was a solid mass—the result, not of consumption, but of catarrhal bronchitis resulting from a slight pneumonia. Nine out of ten persons, on a physical examination of that cow, would have called her a consumptive; yet she had no trace of that disease. Dr. Rich, the station veterinarian, says that, during the past two years, many such animals have been destroyed. Those that were tested gave no reaction, but were killed because the owners requested it. He concludes that bovine consumption has really existed in Vermont but a few years, and that the cases reported from old times were not consumptive at all, but were afflicted with other lung troubles that are not contagious.

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MR. RILEY, on page 155, gives us a glimpse at some of the farm practices employed by Iowa farmers. It may seem strange to some of our readers to think of snapping off the ears of corn and leaving the stalks to serve as pasture during the winter, and to be broken down with a railroad iron in spring; but that is wholesale farming, or, rather, primitive farming. It is like the old-time cotton mill turned by the water wheel which utilized but one-third of the power of the falling water. The developments in electrical science have given the manufacturer control of 90 per cent of that water, and, in like manner, the day is coming when the immense feeding value in those stalks will be saved and applied to the production of meat and dairy products. When the whole stalk is saved, those Iowa farmers will be conducting a wholesale business in the truest sense of the word. The perfection of corn-harvesting machines, and of devices for husking and shredding the stalks by machinery, will operate like the developments of electrical force to make useful what was formerly wasted. This saving of the wastes in wholesale farming will be likely to make itself felt in lowering food prices all over the country.

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BREVITIES.

MODERN LEGISLATION.

The Senate votes for silver, and the House declares for gold;
The House lets out a tariff, and the Senate votes to hold.
The Senate makes up faces, while the Congressmen but scoff;
One side puts out a measure, and the other saws it off.
The people sit and suffer, with no cash to pay their debts,
While Grover in the White House for another bond sale frets.
That's Yankee legislation, in a presidential year;
One party lacks the courage, and the other's filled with fear.
There's nothing but economy to which your steps should turn,
We need economy of *you*, adjourn! Adjourn! Adjourn!

FILLED cheese must be killed.

HE that smattereth surely scattereth.

AIM to be thorough from harvest to furrow.

WHERE does the cow keep her milk? Page 163.

WHERE has the bottom of the egg market dropped to?

BRING the financial discussion to a dollars-and-sense basis.

DON'T you wish you had 100 eggs to sell every time you go to town?

Is there any work on *your* farm that could be done by use of a railroad iron?

WHAT do you think of the conclusion of those Connecticut farmers—page 155?

"THE best all 'round berry" at your place may be the burial of half a dozen scrubs.

THE man who mortgaged his home to buy drink was a victim of "home consumption."

A HEN or a hunted husband! Which is the better companion for your daughter—page 155?

PROF. W. H. JORDAN, now of Maine, will probably be the next director of the Geneva Station.

THINK of a hog trying to root artichokes out of a clay soil—page 157. Grass is the best crop for clays.

THE man who signs a bogus contract twice may be said to have resigned. He would better be resigned to his fate.

WILL those who have fed raw potatoes to cows, please tell us how they affect the color and quality of the butter?

ONE way to increase the wealth of this land is to pass a law compelling people to take you at your own estimate of your value to society!

MR. DERBY says that the Maryland Experiment Station people will sit up nights with a sick peach tree. That is heroic devotion to the cause of horticulture.

"MR. & MRS. HEN"' That is a suitable sign for the business of the surplus rooster and family. It gives the "man of the house" more credit than he deserves.

THE R. N.-Y. has a letter from "the department of *ancient* and modern languages" of an *agricultural* college. That must mean the cultivation of agricultural chestnuts.

THE recent picture of a swill barrel has stirred up a dozen men who claim to have something better. Do you realize what an encouraging sign it is when men are ready to put frills on a swill barrel?

F. S. PHOENIX, of Illinois, gives THE R. N.-Y. this little pat on the back: "I wish you abundant success; you deserve it. You give more essence to the square inch than any three papers of the class." We hope that S. sense stands for sound sense!

THE National Hay Association claims that in the past 17 months, $2,571,298 worth of foreign-grown hay has been shipped into this country against an average of $708,455 a year under the former tariff rate. The tariff is now $2 a ton instead of $4. It might be well to ask if the lower tariff on hay makes the higher price? Hay prices haven't averaged so high in years.

DOGS WORTH THEIR WEIGHT IN SILVER,

EVEN AT A GOLD-STANDARD RATE.

To many, a dog is a dog—to be feared, shunned or despised, as the case may be; to others, a faithful companion, a trusted friend. In some parts of the country, he is a semi-wild depredator and midnight marauder. It is safe to say that, so far as the farmers are concerned the country over, the dog is more of a curse than a blessing. But at the recent show of the Westminster Kennel Club, were dogs valued more highly than are many of the horses and cattle on our farms. They are not mongrels, but belong to established breeds, bred to perpetuate certain characteristics. The larger part of them are bred to satisfy fashions' demands. The number adapted to utilitarian purposes, from the farmer's standpoint, was small. The classes that embraced hunting dogs of various kinds were numerous. The small dogs that delight the hearts of the women and children were in considerable numbers, and it was a noticeable fact that the larger the woman, the smaller the dog she delighted to fondle.

Of greatest interest to farmers, were the Collies. These always attract the attention of visitors to these shows, because of their intelligent appearance and friendly disposition. The standard requires that a Collie should present an elegant and pleasing outline, and exhibit strength, speed and intelligence. The head must be moderately long, covered with short, soft hair. Skull flat, moderately wide between the ears and tapering to the eyes. Muzzle must be of fair length, tapering to the nose, which should always be black. Teeth, level. Ears, small. Eyes, fair size, of any shade of brown, the darker the better. Neck, long, arched and muscular. The color is immaterial. In size, dogs should weigh 45 to 60 pounds, and bitches, 40 to 50 pounds. The height of a dog is 21 to 24 inches, of a bitch, two inches less. The most of the Collies shown were rough coated. The smooth-coated ones do not seem to be popular. The best Collie in the show was Sefton Hero, exhibited by J. Pierpont Morgan. He was imported two years ago, £500 having been paid for him.

The little Fox Terriers are the noisiest and most active of any breed. The color of these is largely white. They are strong and muscular, and are built for endurance. They are excellent as watch dogs, not so much for their power to capture and hold an intruder, as for their ability to raise the alarm.

One of the newer breeds shown, and fine specimens they were, too, were the Boston Terriers. They are something between a Bulldog and a Bull Terrier. They are not fighting dogs, and are said to be of excellent disposition, though brave and plucky. They are active and intelligent, and affectionate in disposition. There are two classes—light and heavy weight, the former ranging from 15 to 25 pounds, and the latter from 25 to 35. It is said that the Bull Terriers were frowned upon in Boston because they turned up their noses at pork and beans. As these have in a measure taken their place in favor, it is probable that they have taken kindly to that delectable New England dish.

The Russian Wolfhounds do not increase in numbers from year to year in these shows. They are among the fleetest and most powerful of dogs, but are of little practical value. In their native country, they are used for coursing wolves. They have excellent dispositions.

The old Newfoundland breed seems to be going out of existence, as only three dogs were shown. The Mastiffs, Great Danes and St. Bernards are the popular large breeds at present. These might be utilized on the farm, on the tread power for churning or similar work. One Great Dane, Major McKinley, was sold during the show for $1,000. Many of these dogs are valued at prices far beyond those for which a stylish horse may be purchased.

In small dogs there was great variety, many of them being shown in glass cases, resting on silken cushions, and with a maid constantly in attendance. Many women are engaged in breeding these, and if they find many purchasers at prices asked, should find it very profitable. The show was a big success. Never were so many or so fine dogs brought together before. The attendance was large and the financial results must have been most satisfactory.

A VERY finely packed basket of Catawba grapes caught the eye of the scribe. The cover was ornamented with a lithograph label in colors, which stated that the contents were choice Lake Keuka Catawba grapes, warranted to be thoroughly ripe and of first quality. It also contained the grower's name and address. The grapes were ripe and nice, large clusters of choice fruit—on top. Below they were refuse, trimmings, small clusters, and some that were imperfectly matured. It was the finest looking basket of grapes purchased this year, so far as cover and top layer were concerned, and the poorest so far as quality of the most of the contents was concerned. Why will people continue such practices? The buyer who is once deceived, will shun the goods of that packer in future.

BUSINESS BITS.

IF you want pig forceps, or book on pigs free, write J. N. Reimers, 1900 H. Street, Davenport, Ia.

A SMALL city family wishes a neat country girl to do genera housework. Reference, THE R. N.-Y. Address Good Home, care THE RURAL NEW-YORKER.

MR. C. C. ASFOHL, P. O. Box 358, Riceville, Ia., raises mammoth pumpkins which he says weigh from 60 to 70, and sometimes over 100 pounds. He is offering the seed of these pumpkins for sale.

THE spring shovel is an entire success on the Buckeye cultivator. For particulars about it, address P. P. Mast & Co., 9 Canal Street, Springfield, O. When this house puts an implement on the market, it has a guarantee of excellence.

"CUPID" is the latest as well as the most popular novelty of the season in flowers. It's a dwarf sweet pea—only five inches high. It will be a popular home favorite as well as a garden plant. W. Atlee Burpee & Co., Philadelphia, Pa., are the introducers.

DURING the season, we are often asked where to buy berry baskets in New York. We can refer such inquirers to A. H. Montague & Son, 120 Warren Street, New York City. This firm make all desirable sizes of boxes and crates, and are prepared to fill orders direct to the consumer.

DERRICK OIL COMPANY, Titusville, Pa., are doing country people a service in offering to sell them refined oil at wholesale rates. It comes in barrels or tanks. The tank is a most desirable convenience, with pump, cover and lock. Particulars in their advertisements or by mail on application.

MR. H. C. PRATT, manager of the Standard Wire Fence Company, Canandaigua, N. Y., writes us that he will make a special price for his fence to the first customer in any neighborhood. This is a perfectly legitimate way of introducing and advertising an article of real merit. The later buyers lose nothing on account of the first one getting a bargain.

THE New England Conservatory of Music, of Boston, Mass., is an excellent institution at which to acquire a musical education. Here one may find every facility for studying music that is to be found in the great European universities. This is an American institution, and one well worthy the support of American students. All music-loving people will be glad to learn more about the conservatory. Write to Frank W. Hale, general manager.

ALMOST any farmer ought to get an inspiration to better and newer efforts in his business methods by observing the progressive methods of the advertisers in farm papers, who bid for the farmer's trade. We are led to this thought by a novel method adopted by Mr. Willis Whinery, Salem, O. When he receives an application for stock, he takes the photograph of such stock as he thinks is nearest the applicant's wish, and sends it to him. This gives the intending purchaser a good idea of the animal for which he is bargaining.

WHAT harrow shall I buy? That question comes up every spring for answer. In these hard times every dollar counts, and when a farmer buys a tool, he wants to get the right one—a tool that will actually do the work he has laid out. If a man wants a *harrow*—one that will break up clods and sods, and smooth and level the surface, he can't do better than to buy an "Acme." The Acme will not dig or plow, and you can't use it to cultivate corn—but it will *harrow* and leave the seed bed in better shape than any other tool you can get. Send to Duane H. Nash, Millington N. J., for catalogue, and also for two excellent articles by Henry Stewart and Waldo F. Brown.

"In Swampum, Up Stumpum, Railo."

Excuse our Latin; but, if not quite classical, it is to the point, as the above return made by the sheriff on the writ when his prisoner took refuge in the swamp exactly expresses the condition of the De Laval Separator Company as disclosed by their latest advertisement.

Nearly one-half of that "ad." is entirely foreign to the patent matters, and on personalities with no foundation in fact. Everybody realizes that when any one stoops to personalities to cover up the main issue as the De Laval Company does, they have no valid arguments, and are cornered.

NOTICE.—1st.—The De Laval Company in referring to Hotchkiss and Houston, whom that company advertise the court decreed should not use the Hotchkiss Separator, does not deny that they do use the Improved United States Separator.

NOTICE.—2nd.—If the claims of the De Laval Company that the United States was an infringement were true, the court would have immediately granted an injunction against Hotchkiss and the others who were using the United States whom it had already decreed could not use the Hotchkiss machine; but the fact that the De Laval Company did not get an injunction against the United States is conclusive that the United States Separator does not infringe, and the fact remains that Hotchkiss and the others are using them without molestation. This is prima facie evidence that the claim that the United States Separator infringes their patent is false, and is only put out for the purpose of frightening persons who prefer the United States. The patent that they claim a decree on covers only the internal construction of the bowl, comprising a series of discs or inverted pie plates or pudding dishes, with a hole through the bottom, numbering from 27 to 45 of these plates in each bowl, according to the size of the bowl. The United States Separator has nothing of the kind, and only three parts to the bowl. The simplicity of the United States and its perfect work is what is "knocking the De Laval Company silly."

NOTICE.—3rd.—The De Laval Company advertises that two firms of lawyers say the United States Separator infringes their patents. Two years ago they advertised as they do now, for the purpose of bulldozing and frightening persons who prefer the United States, the opinions of four firms of lawyers. They have now dropped one-half the number, and in two years more the other two will drop out and be ashamed that they ever made such a statement. The court does not so decree, and it is the decree of the court that carries authority with it, and not the opinion of lawyers who are paid large fees.

NOTICE.—4th.—The De Laval Company has claimed for more than ten years that every separator was an infringement, yet in all this time they have never sustained their claims except against Hotchkiss, who made no defense; and Houston and all the other users of Hotchkiss' machines were assured that if they would only allow a decree to be entered against them, the De Laval Company would pay all costs and damages themselves. It therefore cost the users not one cent. Everyone knows the De Laval Company would not have paid the costs themselves had they had any confidence in their case.

NOTICE.—5th.—The De Laval Company say in their "ad." that "they have only delayed prosecuting the United States from the fact that the number of such machines in use is hardly sufficient to justify the legal expense." How false and ridiculous this statement, after the case against Hotchkiss, who had made less than three dozen machines, when every one knows there are thousands of the United States Separators in use. But this admission of the De Laval Company rather confirms the statement that Hotchkiss makes that his attorneys advised him he could win if he had the means to fight the case, and shows that they jumped on to a poor man like Hotchkiss, knowing that he had no money to protect himself with.

NOTICE.—6th.—The De Laval Company state that Hotchkiss is our agent. This is another false statement—he is not, and never was. Mr. Hulbert is the largest merchant in Downsville, which the De Laval Company do not deny. We sell him many goods, and are pleased to do so. We have never sold him at half price—another false statement of the De Laval Company—but the De Laval Company were so anxious the Hotchkiss patrons should have the De Laval Separators that their county agent visited Downsville several times to make the trade, and the De Laval Company offered to trade their No. 2 Baby Separator, price $125, for $75 and Hotchkiss infringing machine. "We leave the public, including the few who have been deluded into buying the De Laval machines at full price, to judge of these matters for themselves, and we challenge the denial under oath."

NOTICE.—7th.—The De Laval Company, after trying so hard to make the sales to Hotchkiss' patrons, and upon finding that they had decided to buy the United States Separators, wrote threatening letters to them, trying to frighten them and prevent their purchasing the United States Separators, but did not succeed.

NOTICE.—8th.—The De Laval Company deny Hotchkiss' statement of what his attorneys advised, and say his attorneys advised "that it was a waste of money to proceed and that he was sure to be beaten." We challenge the De Laval Company to make this statement under oath. The De Laval Company say further that Hotchkiss' attorneys assured other infringers of the same patent * * * that they could do nothing, and finally actually refused the proffered financial support of an outside infringer." This is so flagrant a falsehood that it provokes a smile from all experienced litigants. We challenge the De Laval Company to make this statement under oath, using the firm name of the lawyers in the oath.

NOTICE.—9th.—The De Laval Company have got so desperate because the Improved United States Separator is taking the trade away from them that they go so far as to warn the public that they fear the United States will be still further improved, evidently realizing that this progressive machine will be still further in advance of them in the future than it is to-day. Did any one ever hear a more childish and humiliating whine than that?

NOTICE.—10th.—The De Laval Company use considerable space to explain the Experiment Station records of tests of separators which show that their separator was beaten in the tests—and utter another whine. It is too bad for them that their separators are beaten by the United States at the Stations, but how fortunate for the dairy public that the superiority of the United States Separators has been so clearly demonstrated at these stations.

NOTICE.—11th.—The De Laval Company intimate that the United States Separators are run at stations under the supervision of experts. Now let us see what the facts are: At the Vermont Station Creamery Course just closed, the United States had one man only to look after them. The De Laval had their county agent, the general agent for New England, an expert from the factory in New York, and an expert direct from the main factory in Stockholm, Sweden, to look after their separators. The De Laval Company always have more men at the Stations to look after their machines than any other separator company, and yet they complain that others are allowed even one representative, and he not an expert. They whine because the United States had one man to their four!

NOTICE.—12th.—The De Laval Company, not being satisfied with having more operators and experts than any other separator company to look after their separators, in addition to this had the impudence to issue and send to the Experiment Stations a circular letter, the burden of which was that the stations should not make the mistake of trying new and improved machines, but should give the De Laval the preference, with the hope, no doubt, of having the officials run the stations in the interests of the De Laval Company rather than in the interests of the dairy public.

In the foregoing we have stated the case truthfully, and we believe fairly, and we think every reader will concede that we commenced our article with a proper quotation, and agree with us that if the De Laval Company's slippery hold upon the stump should give way, they would go clear out of sight in the mire.

We have been incorporated and doing business for twenty-three years, owning many valuable patents, and manufacturing under them. We employ the best patent experts in the United States, and never have infringed other patents, and never expect to; and neither will we allow the De Laval Company, nor any one else, to infringe our patents with impunity. In all this long period no purchaser of our manufactures has ever had to pay one cent of costs or damages for any claimed infringement. We have always protected our patrons from all annoyance of this kind, and always will, so that our name has become a synonym for protection to our patrons.

FEBRUARY 28, 1896.

VERMONT FARM MACHINE COMPANY, Bellows Falls, Vt.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

We need another punctuation mark in order to avoid misunderstandings when we write. Without something to distinguish them, jokes are sometimes taken in real earnest.

*

The side combs which have been so much worn are likely to result in some unpleasant accidents, as all of the cheaper ones are made of celluloid which takes fire easily. Many a girl has had the experience of singed hair, when bending too near the lamp, and this simple accident may be much graver in its results if celluloid combs are worn. One girl learned how easily they burn, as she attempted to straighten the bent teeth as one would those of a rubber comb, by heating them over the lamp. They exploded in a flame, almost at the moment they were placed in the heat. So, keep a cool head if you are wearing side combs that are not real shell.

*

The variety of cereal foods offered indicates that the right kind of nutriment is gaining appreciation. Yet are not the farmers' families almost strangers to most of these nourishing grain foods? Of all people, they should enjoy them most, for they are provided with the best milk and cream, without which the oatmeal, etc., is incomplete. But let the cook bear in mind that the manufacturer's guarantee that his oatmeal will cook in five or ten minutes, is to be given no consideration. Thorough cooking is necessary. Mrs. Rorer says: "Oatmeal is a valuable food if cooked three hours."

*

A spoilt child will meet with a great deal of discomfort that will be avoided by the child of sensible parents. Perhaps the most trying time is in sickness when the doctor's prescription of plain and nourishing food is declared impossible by the mother of the youngster who "can't" drink milk, or eat any of the simple and wholesome foods suitable for an invalid. Such a state of affairs is trying to the doctor's patience, and sometimes makes the patient's recovery tedious. While the children are well, drill their appetites until there is a respectable list of foods which they will not refuse should sickness make it necessary to deprive them of their preferences.

OUR RELATIONS TO OUR CHILDREN.

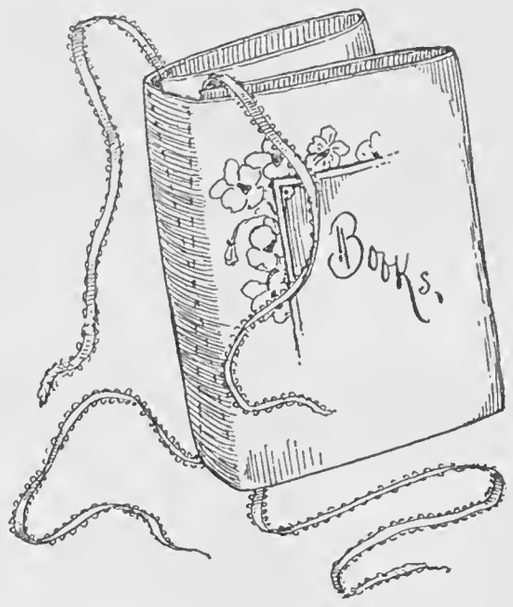
Many are the ways of making home pleasant. So long as we have the full confidence of our children we may feel certain that home is to them the best place of all. I hope that the day will never come in which my children will no longer confide in me. Not long since, a mother and her three children were visiting us; one of the children told our little girls of some naughty words herself and brothers said when mamma wasn't around, adding, "Don't you tell mamma, for if she knew, she would whip us awful hard." Those children, though only ten and eight years of age, already had secrets from their parents; this is almost sure to end in heart aches for that mother by and by.

If a child be whipped for every dish broken, every bad word spoken, every quarrel it has, or for other trivial things, he is driven from home and confidence. And worse still it is to be scolding continually. The mother who has acquired the habit of scolding and fretting, should try one week of quiet firmness, combined with gentleness and praise, and note the change. It's our nature to love honest praise, and nothing spurs one on to better action more than to know that his labors and efforts to do right are duly appreciated.

All of our children dearly love mosses, ferns and flowers; they are continually coming to me with some thing to admire. Very often it is pebbles and pretty stones. They call them agates, and once in a while they do find a real agate. Were I to keep in the house all the things they find to admire, we would have to move out ourselves to make room for them; so when they bring something pretty, I admire it, and if a stone I tell them we haven't room for it in the house, but it is just the thing for the mound or rockery by the front porch. If they bring mosses, I arrange some of the prettiest around our house plants, and press some in books to send to eastern friends; for our mosses are exquisitely beautiful, the prettiest known, I believe.

In summer, we arrange them in shallow dishes, wet thoroughly, then stick pansies, daisies or other flowers all over them. I do not keep all the children bring in the house, but I do admire the pretty things they find, be it stones, mosses, leaves or flowers.

I think that, when children see that we are working for their best interests, they will, sooner or later, acknowledge it and profit by our teachings. Early training will surely tell in the end, even though children seem sometimes wayward and willful. Do trust your children! Don't doubt their words unless compelled to do so! Don't be all the time accusing them of going contrary



A DAINTY BOOK COVER. Fig. 58.

to your wishes! Another thing, don't educate the children with the idea in mind that they must pay it back, and continually tell them that they can never repay what you have done for them! We don't expect them to! They must go out into the world as we have done, and battle for themselves, and we must take our comfort from our children as we go along. If they have been properly trained, they will repay us the more quickly for our not expecting it. Let us not spend our time in vain regrets, but look ahead with our minds not on self, but on what we can do to make others happy. Sighing over might have beens, will not make us rich, healthy or happy, neither will it cure hidden heart aches. I do not believe that there is a skeleton in every closet, but I do believe that there is likely to be if we do not do our duty nobly, bravely and wisely. Lack of firmness on the part of parents, is sure to cause future trouble.

MABEL H. MONSEY.

A GOOD CLEANSER.

A SPOT on the front breadth of one's best, black wool gown, or unexpected guests arriving at an inopportune moment, when there's "nothing for dinner," are among the grievances of life that many women fail to accept philosophically. The best "klenzer" for the wife's black gown or the husband's soiled coat collar, costs little and is easily prepared at home. Six cents worth of soap bark, slowly boiled two hours in two quarts of rain water, and then strained through a fine cloth and poured into a large bottle or glass preserve jar, with the addition of four tablespoonfuls of ammonia, furnish a "klenzer" that one can depend upon, and that at the usual price of patented cleansers would cost dollars.

A soft black woolen cloth, for instance cashmere, is best for cleaning soiled spots; white cloths leave a lint, and sponges crumble and leave bits to be brushed off. Wet the spots thoroughly, rub well, then stretch the wetted surface and place in an airy spot to dry; it will look "sudsy," but do not rinse off, only wipe with another dry, black cloth as dryly as possible. Above all, never "wring" a spot that has been cleaned. If the stretching has not smoothed the place sufficiently, when it is dry, wet again with clear water, and lay over it a black cloth, and gently press with a well-warmed, but not hot, sadiron. A hot iron will leave its shape imprinted upon the surface. Never place a sadiron on ribbons, silks or woolen without a dry cloth between.

Ribbons are best renovated by first removing all dust, then wetting thoroughly with two parts alcohol and two parts water; then stretch and roll tightly around some large, smooth surface, either bottle or clean stick. I have an old rolling-pin discarded from the cook's department, covered with soft cotton cloth; on this, sashes and bonnet strings, laces and many other things are often refreshed. Leave till thoroughly dry. Black laces are treated with alcohol and water, the same as ribbons. White laces are washed, but squeezed —not wrung out—and then rolled and dried.

KEZIAH SHELTON.

A DAINTY BOOK COVER.

No daintier gift could be devised for a friend than a pretty book cover to hold the new book while it is being read. It is a gift, too, into which one can put some of her own deft stitches or drawing, giving it a personality much more pleasing to the recipient than a gift from a store or shop—made by unloving fingers. The particular book cover shown at Fig. 58, is made of colored linen with dainty ribbons to match or harmonize. The decoration on the front is done with a coarse pen and liquid sepia. This cover folds about the cover of the book, bringing the ribbons at the back, where those at the top are tied with bows to those at the bottom, the ribbons being crossed as suggested by the dotted lines, to hold the cover on firmly.

A. H. D.

THAT IS BEST WHICH ENDS WELL.

Economy is not rightly esteemed by most people. It is called "meanness" or "stinginess." It is neither, but is admirable and necessary. Most of the successes in life have been achieved by persons who studied and practiced economy. Years ago, two young men "went West." Each had a little money. They bought land within two miles of each other, and both were obliged to incur debt. One built quite a pretentious house and barn, with other outbuildings, farming implements and stock on the same scale. He soon married, and the young couple lived well and dressed well. Both kept hired help much of the time; they drove their buggy, attended entertainments, and, in short, "enjoyed life." The result was that, after children came to them and they needed their property more than ever, they were sold out by the sheriff. They are now living hand-to-mouth lives, as they near old age, with nothing laid by to keep them when they become too infirm to work. The same lack of economy has followed them through all the years, and charity stares their helpless old age in the face.

The other one, with no better opportunities, has succeeded beyond his expectations, but his beginning was very different. The buildings he put on his farm were only what necessity demanded. He married at about the same time, but the clothing, food and other things were only what health and creature comfort called for. He paid off the indebtedness, bought more land, and now has a house so convenient and roomy as to gladden the heart of any woman so happy as to be its mistress. They drive their own carriage, and are so situated as to enjoy their declining days. Who would not "skimp" at the beginning to attain the prosperity that surely comes by good management and economy? No young person who will reflect, can fail to see the advantages to be gained. A. M. W.

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ODDS AND ENDS.

LEARNING BY EXPERIENCE.—Can it be true that we never profit by any one's experience but our own? So many women lay the foundation for numerous "aches and ills" in girlhood when they will not heed the counsel of those older who have learned the dangers of carelessness. Sometimes mothers are much to blame that they do not teach their daughters the laws of health more thoroughly. Wet feet, damp skirts and late hours, will bring ills not easily cured. It has been my lot to have had under my roof and care, at various times, a number of young girls. Often when I tried to warn them of the dangers of carelessness, they would only laugh at me, but more than one afterward confessed that they had paid dearly for their neglect. It is never pleasant to have one say, "I told you so;" yet what we learn surest, is what we learn, not from some one else, but from our own experience, and oftentimes it makes us sadder, as well as *wiser*, and we wish that we had heeded what was told. MOLLIE WIGGINS.

EXPRESSING AFFECTION.—How glad I was to see the words of Aunt Rachel in a recent R. N.-Y. I well remember the starved heart of my childhood in New England, that land of repressed affection—only repressed. That the love is all there with, perhaps, greater strength, none can deny who has lived long enough to understand the nature of the Plymouth Rock descendants. But, alas! Little children judge us by our everyday looks and actions. Every need of food and clothing is supplied, and that seems to some good, practical souls to be enough.

One of the most vivid of memory's pictures, is the expression of unshed tears in my father's face when he stood by to see me married, and I was to leave for a distant western home that day. The thought rushed upon me with overwhelming force, "He *does* love me, and is sorry to have me go." I had previously thought that he would be pleased to be relieved of such an expensive portion of his family! What else can a sensible girl think when a man groans over the cost of most of her things? E.

FOR THE SCHOOL LUNCH.—Sandwiches may be varied as often as there are days in the week, says Harper's Bazar. They may be made of finely chopped meat, of Swiss cheese, of minced potatoes, salted and flavored with parsley, of chicken, of plum jam, of crab apple jelly, or quince marmalade. When they are nice, they are very nice, and a hungry child can dispose of a generous supply of them over the merry talk of the recess hour. Sugar wafers, spiced gingerbread, drop or sponge cakes are better for luncheon than richer cakes. On a very cold winter's day, but only then, a homemade cruller or one of mother's doughnuts, may be added to the luncheon. As a rule, fried cakes are not so digestible as baked ones, and, school work following swiftly the school luncheon, nothing should be included in the repast which will cause headache or disturb the stomach. That little organ is often to blame when scholars are stupid or idle. Ask what they have had to eat before they are reproved, and often the children will be excused for faults they cannot help. Fruit should form part of the daily luncheon of the growing young person, and it is well that a taste for it be cultivated.

KITCHEN REFUSE IN WINTER.—In summer all sorts of precautions are taken in the handling of kitchen waste. This seems to have become the custom on account of the disagreeable odor that emanates from the collection of refuse, says the New York Ledger. A few shovelfuls of earth may be thrown over it, or the ashes may be emptied upon it, or almost anything may be done to get it out of the way; but in winter, when the ground is frozen, such care is neglected, and an unsightly pile accumulates in some out-of-the-way corner, growing to prodigious proportions by spring. Then when the first warm days come, the air is filled with a sickly and unpleasant odor. This is not, perhaps, so annoying as to necessitate any active measures to remove it, consequently it continues, and is added to from day to day until warm weather. There are physicians who attribute much of what is called spring fever to the accumulation of garbage that is found in almost every back-yard. It is quite worth while to make some provision for the utilization of this waste. A few boxes or barrels of earth put in some place where they will not freeze, or so dried that they can be easily handled at any time, would do much to remedy this serious evil. All of this has its value as a fertilizer, and it seems a pity that so little care is taken to apply it where it will do good.

NO NEW WOMAN.—The illustrations on page 10, brought to mind a laugh a baby man caused the same week. Five-year-old's baby doll was to be christened, and six-year-old was to be the minister and had been told what to say. When the christening was in progress, the elders quietly filing in so flustered the minister that he stopped short. Then suddenly turning to the wondering doll-mother he said emphatically, "Here! Take this child, and bring it up right; but not a new woman." So saying, he ran off upstairs. B. B. G.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

CRUMBS FROM DIFFERENT TABLES.

I like the man who faces what he must
With step triumphant and a heart of cheer;
Who fights the daily battle without fear;
Sees his hopes fail, yet keeps unfaltering trust
That God is God; that somehow true and just
His plans work out for mortals; not a tear
Is shed when fortune, which the world holds dear,
Falls from his grasp; better, with love, a crust
Than living in dishonor; envies not,
Nor loses faith in man; but does his best
Nor ever mourns at his humbler lot,
But with a smile and words of hope, gives zest
To every toiler; he alone is great,
Who by a life heroic conquers fate.

—*The Youth's Companion.*

....PHILLIPS BROOKS: "How good it is that there are years at the beginning of every life when it is the most easy thing to believe in an absolute right and goodness."

....DORA BRADCLIFFE IN LADIES' HOME JOURNAL: "Time past is irrevocably gone, let it alone; time future will inevitably come, lose no moments waiting for it; time present is irredeemably yours, use it."

....HARPER'S BAZAR: "The only real question as to eminence ought to be whether or not one is better fitted or better able to lead his fellow citizens upward, or to afford instruction, amusement, or enjoyment—especially so in this land, where, for the first time in its existence on this earth, the human race has had its opportunity."

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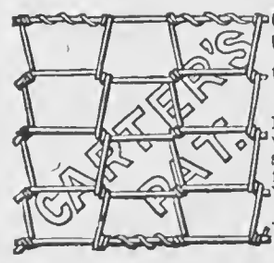

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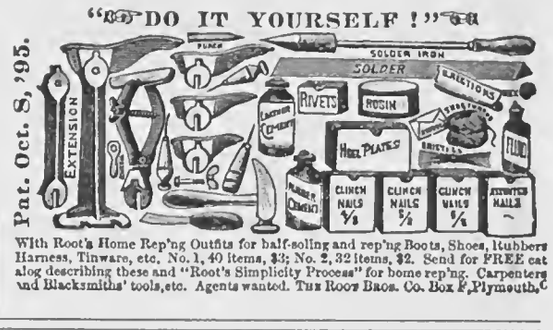

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"COMFORT."

THE R. N.-Y. has readers in all classes of society, and in about all the occupations known to man. The stage as well as the pulpit and the plow is represented, and this week we are to listen to the remarks of one who has earned for himself the title of "actor-farmer." We told our readers some years ago how Mr. Wylie bought one of those abandoned farms in Massachusetts. He went to look at it in the spring, and there was a beautiful lake on the premises which the agent praised most eloquently. When they came to the farm in dry weather, the wonderful lake had disappeared. It was only an overflowed meadow. But in spite of this and other disappointments, our friend started in to play the part of a farmer—with everything to learn. Let us now read his letter—written from a town in Canada:

DEAR RURAL: Having left the farm in old New England, and gone on the road *acting* for the winter, I find that I have too much leisure time on my hands for comfort, and long for the springtime to come when I will return to my old-fashioned New England farm again. I miss the farm life in many ways, most of all in the way of living on the road. I am up all night very often on the cars, never get to bed until 12 or 1 o'clock at night, and do not get up until 9 A. M., and then walk in to breakfast with no appetite at all, to dinner and supper the same way, no matter how good a hotel I may be at, or how fine a table they set. On the farm, it is so different; to bed at 9:30, and no sooner is the pillow touched by my head, than restful sleep comes. And at 6 A. M., I arise refreshed, and outdoors I go, fill my lungs with pure ozone, and, as I open the barn door, am greeted by a welcome from my four-legged friends. The horse neighs, the cows low, all in unison (you don't get a welcome like that anywhere else on earth). Then comes feeding and milking, and, at 7 o'clock, when I go to the house for breakfast, how good everything tastes; instead of a frowsy waiter and, perhaps, a soiled tablecloth, everything is fresh and clean, and my better half is smiling on the other side of the table. And last, but not least, is that good, sharp appetite which is requisite to make those hot cakes and maple syrup taste so good. How the bacon and eggs (you know they are fresh, not limed) do tickle your palate; and that coffee and cream (not dealer's milk watered again by the hotel man to make it go further)! Doesn't it taste good! Then a smoke and a chat with the wife, and at 8 o'clock out to work, to come in to dinner feeling as though I could devour an entire market full of provisions. And at supper, the same thing over again. After supper, smoke, read and chat till bedtime. Perhaps a neighbor drops in, or I drop in on the neighbor, and the women folks chat over big sleeves, etc., while neighbor and I discuss the merits of some new farm tool. I tell you that is life—quiet, peaceful and healthful, and any man who has good sense, would never forsake it! I only leave it in the winter, so as to make money to make more improvements on the farm, and when I get it exactly as I want it, I will take my theatrical wardrobe out in the dooryard and set fire to it, and as the flames rise from the burning pile, the wandering spirit that has possessed me for 30 years, will pass away with the smoke and flame, and leave me to rest till my time comes to go from this world, and the ruler above drops the curtain on me for the last time. WM. WYLIE.

"The Actor-farmer."

Now then, my discontented friend, there is something for you to ponder. Before you decide to run away from the farm, make sure that you have done your best to be happy on it. "*There are many worse off than you!*" Don't forget that.

The writer was something of a "barnstormer" in his day. In earlier years, he belonged to a theatrical company, and undertook to "hold up the mirror to Nature," with not much success, it is true, except that he got some "wild oats" planted before it was too late to put in some better crop. We had some sad and some funny experiences on that trip. We once played in a little Michigan town. At one part of the play, a young woman was on the stage alone. At the end of her speech, she was supposed to faint away—falling over backwards, and the man who was playing the part of her lover, was expected to rush in just at the right time and catch her before she fell. This man had only one eye, and he stood so that the blank side of his face was turned to the stage. He could not see what was going on, and his mind was wandering. The young woman gave a very dramatic flourish and fell backward, but her lover could not see with his bad eye and did not run forward in time. The result was that she fell back over a chair and he, when he did run in, tripped over the same chair and fell flat. A table fell down over them and there was such a knot in the rope that we could not let the curtain down! The audience thought it was a regular part of the play, and they applauded till the plastering fell on us.

Now then, in the great drama of our last subscription contests, many of our agents were just like that one-eyed man. They turned their bad eye in the direction of those prizes and didn't seem to know what was going on until it was all over. Instead of catching the beautiful young lady as they might have done, they just went sprawling over the stage. Now then, turn that "good eye" on the present list of premiums, and get ready! Be right on hand for your part so that your partner may play on one of those musical instruments.

Here are some people with "good eyes," who caught the falling dollars last week:

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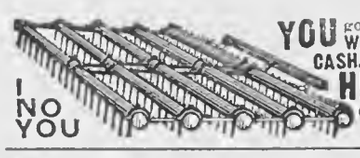

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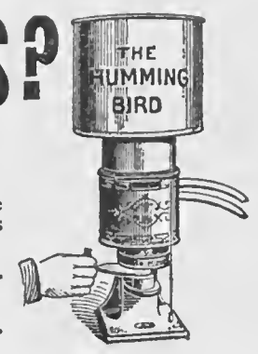

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Thirds	9½	@10
Factory, Fresh, small tubs, extras	12	@12½
Fresh, small tubs, firsts	10½	@11½
Fresh, large tubs, firsts	10½	@11½
Fresh, large tubs, seconds	10	@11
Fourths to thirds	8	@10
Old Western factory or dairy	8	@10
Rolls, fresh, fine	11	@12
Rolls, fresh, common to good	8	@10

EGGS.

New-laid, fancy (nearby)	13	@	—
N. Y. State, country marks, fresh gath'd.	12	@	12¼
Pennsylvania, country marks, new laid.	12	@	12¼
State and Penn., fair to good	12	@	—
Western, fresh collections, fancy	11¾	@	12
Western, fresh collections, fair to good.	11¼	@	11½
Southern, fresh collections	11½	@	—
Western, refriger., short holdings, choice	8	@	9
Duck eggs, Md., per doz	30	@	—
Duck eggs, Southern, per doz	25	@	27

FRUITS—GREEN

Apples, Northern, fancy, winter, per bbl	2 50	@3 50
Winesap, Va., per bbl	3 50	@4 50
York Imperial, Va., per bbl	3 00	@4 00
Other Va., red	2 00	@3 00
Baldwin, per bbl	2 25	@3 25
Spy, per bbl	2 25	@3 50
Greening, per bbl	1 75	@3 00
Ben Davis, per bbl	2 25	@3 50
Poor to fair, per bbl	1 00	@1 75
Grapes, State, Catawba, per 5-lb basket	8@	14
Strawberries, Fla., fancy, per quart	50@	—
Poor to good, per quart	20@	40

GRASS SEED.

Clover, per 100 lb	6 25@	8 25
Timothy	3 65@	4 75

HAY AND STRAW.

Hay, No. 1 Timothy	90@	95
No. 2	80@	85
No. 3	70@	80
Clover, mixed	75@	80
Clover	65@	70
Salt	45@	50
Straw, long rye	75@	95
Short rye	50@	60
Oat	50@	55
Wheat	45@	50

MEATS—DRESSED.

Veals, country dressed, prime	9½@	—
Fair to good, per lb	8½@	9
Com. to med., per lb	7 @	8
Small, per lb	4 @	5
Barnyards, per lb	5 @	6
Spring lambs, each	3 00	@7 00
Roasting pigs, 10 to 25 lbs. each, per lb	8 @	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½@	7
60 to 80 lbs. per lb	6 @	6½
80 to 120 lbs., per lb	5½@	6
120 to 180 lbs., per lb	5 @	5½
200 lbs and up, per lb	4¼@	5
Rough, per lb	3½@	4½
Tenderloins, per lb	15 @	17

POTATOES.

Bermuda, No. 1, per bbl	4 00@	5 00
No. 2, per bbl	2 00@	3 00
Havana, per bbl	4 00@	4 50
Honlton Rose, per d. h. bbl	1 50@	1 75
Maine Rose, per d. h. bbl	1 50@	—
State Rose, per d. h. bbl	1 25@	1 50
Maine Hebron, per sack	90@	1 00
Long Island, in bulk, per bbl	65@	85
State Rose and Hebron, per 180 lbs	85@	1 10
Burbank, etc., per 180 lbs	60@	80
Jersey, in bulk, per 180 bbl	60@	75
State and Jersey, per sack	65@	75
Common, per sack	50@	60
Sweets, Vineland, fancy, per bbl	3 75@	4 75
South Jersey, per double-head bbl	3 00@	3 50
South Jersey, cloth top, per barrel	5 25@	3 75
Jersey common, per barrel	2 00@	3 00

POULTRY—LIVE.

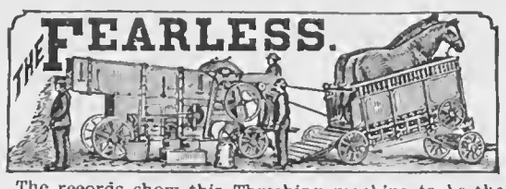
Fowls, local, per lb	10½@	11
Western, per lb	10½@	11
Southern, per lb	10 @	10½
Chickens, per lb	10 @	10½
Western, per lb	10 @	10½
Southern, per lb	9½@	10
Roosters, old, per lb	5 @	6
Turkeys, mixed, per lb	12 @	13
Ducks, local, per pair	80 @	1 00
Western, per pair	75 @	90
Southern, per pair	70 @	75
Geese, local, per pair	1 50 @	2 00
Western, per pair	1 25 @	1 75
Southern, per pair	1 12 @	1 25
Pigeons, old, per pair	35 @	40
Young, per pair	30 @	—

VEGETABLES.

Asparagus, Cal., per bunch	—@	—
Charleston, per bunch	—@	—
Beets, New Orleans, per 100 bunches	4 00@	4 50
Florida, per crate	1 50@	1 75
Brussels sprouts, per quart	5@	15
Cabbage, domestic, per 100	2 00@	4 00
Florida, per barrel-crate	2 00@	2 50
Foreign, per 100	5 00@	5 50
Carrots, washed, per bbl	85@	1 00
Unwashed, per bbl	75@	—
Cauliflower, Fla., per half bbl	2 00@	4 00
California, per case	1 50@	3 00
Celery, State & West'n, fancy, large, per doz.	70@	85
State & West'n, average, prime, per doz.	30@	60
State & West'n, small, per doz	15@	25
Jersey and L. I., per dozen flat bunches	1 00@	1 50
California, per doz	50@	1 25
New Orleans, per doz	25@	1 00
Cucumbers, hotbouse, per doz	1 50@	3 00
Egg plant, Florida, per bbl	3 00@	7 00
Green peas, Fla., per crate	1 00@	3 00
Horseradish, per lb	3@	5
Kale, per bbl	1 00@	2 00
Lettuce, Florida, per half-bbl basket	2 00@	4 00
New Orleans, per bbl	2 50@	5 00
Boston, hothouse, per doz	—@	—
Bermuda, per crate	1 00@	1 50
Onions, Orange County, red, per bbl	50@	80
Orange County, yellow, per bbl	1 00@	1 12
Eastern, white, per bbl	1 00@	1 75
Eastern, red, per bbl	75@	1 00
Eastern, yellow, per bbl	1 00@	1 25
Bermuda, per crate	2 00@	—
Peppers, green, Fla., per crate	1 00@	1 50
Radishes, hothouse, per 100 bunches	—@	—
Spinach, per bbl	1 50@	3 50
Squash, Marrow, per bbl	50@	75
Hubbard, per bbl	75@	1 00
Florida, per crate	—@	—
String beans, Florida, per crate	1 50@	4 50
Tomatoes, Fla., per carrier	1 25@	2 25
Per crate	1 00@	2 00
Key West, per carrier	1 00@	2 00
Key West, per peck box	25@	40
Turnips, Jersey, Russia, per bbl	50@	65
Canada Russia, per bbl	65@	70
Watercress, per 100 bunches	1 00@	2 00

"BROWN'S BRONCHIAL TROCHES" are an effectual remedy for all Bronchial Affections.—*Adv.*

THE FEARLESS.



The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-thresbers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

MILK AND CREAM.

The total daily supply has been 21,349 cans of milk, 190 cans of condensed milk and 392 cans of cream. The average price paid for the surplus on the plat forms has been $1.40 a can of 40 quarts.

CROP AND MARKET NOTES.

Hay prices are slightly higher.

Cranberries are about out of date.

Spring lambs are in large supply.

Dry beans are going a trifle higher.

Receipts of asparagus have been light.

There is an active demand for cabbage.

There is a good demand for choice lettuce.

Fancy Catawba grapes have a good demand.

Receipts of tomatoes run very poor in quality.

Receipts of dressed pork have not been heavy of late.

Most of the receipts of green peas are poor in quality.

Arrivals of apples are light, and are cleaning up closely.

Most of the Florida strawberries arriving are very green.

The last Bermuda steamer brought 1,200 barrels of potatoes.

Potatoes are far in exess of the demand, hence drag at low prices.

The fur market is dull under heavy arrivals, and a light demand.

The recent severe weather has materially improved the prospects for a good ice crop.

Butter prices have an upward tendency, under fair receipts, a market in good shape, and some export demand.

Onions are away down in the scale. One can go into the market and buy a single barrel of fine red onions for $1, perhaps less.

Eggs are in heavy receipt from the West, and the tendency of prices is downward. Still fancy, fresh laid eggs are not in large supply.

The annual meeting of the Pennsylvania State Jersey Breeders' Association will be held at the Seventh Avenue Hotel, Pittsburgh, on March 11, at 10 o'clock A. M. Important business to every breeder will be transacted. Notice is given of contemplated changes in requirements for admission to membership. Addresses on important subjects are expected by Dr. Leonard Pearson, State Veterinarian, Messrs. Sibley, Armstrong, Thompson, Boyle and Eicke. R. F. Shannon, secretary-treasurer, Pittsburgh.

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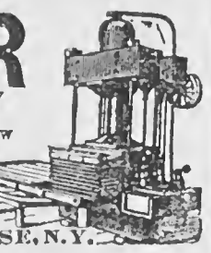

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The "Pass-It-On-Society."

Probably many of our readers have already heard of this society and its work. It was started on a suggestion made by the Rev. J. M. Farrar, D.D., of Brooklyn, who writes, on February 8, 1895: "My Dear Sir: Booth's Pocket Inhaler works like a charm. The first inhalation gave relief. It is a blessing to humanity, and I am sorry it is not better known. *I add my name to the 'Pass-It-On-Society.'*" On December 5, 1895 (ten months later), Dr. Farrar writes: "I believe it is a real blessing to the afflicted." If you are suffering with **Catarrh, Asthma, Bronchitis, Catarrhal Deafness, Hay Fever, Rose Cold,** or any similar disease of the respiratory organs, send for **HYOMEI,** the new and wonderful *Australian "Dry-Air" treatment* comprised in

Booth's "Hyomei" Pocket Inhaler Outfit, by mail, $1.00.

Your friend would not "pass-it-on" to you unless convinced of its merit. In **ASTHMA** Hyomei gives *instant relief,* stops the cough, the wheezing and gasping, and makes breathing easy in a few moments time. In **CATARRH** it removes the offensive accumulations, clears the head, removes catarrhal deafness and purifies the breath. It cures **BRONCHITIS** permanently and robs **CROUP** of its terrors.

HOW THE "PASS-IT-ON-SOCIETY" GROWS.

Griffin, Ga., July 8, 1895.
Like Dr. Farrar, I want to join the "Pass-It-On-Society." I am so grateful for the good results that I have received from the use of Hyomei, and I have already spoken of it to a number of my friends.
C. I. STACY, Sec'y Y. M. C. A.

Buffalo, N. Y., Aug. 21, 1895.
In thirty years' experience in the practice of medicine I have never given my name in support of a proprietary remedy, until I met with Hyomei, which I indorse with all my heart (professional ethics to the contrary notwithstanding). Since testing Hyomei in Laryngitis, Bronchitis, Catarrh, Asthma, Hay Fever, I believe in it for itself, for what it has done, and I gladly add my name to the "Pass-It-On-Society."
S. H. MORRIS, M.D., 159 Franklin St.
P. S.—You are at liberty to use this as you may deem best.

Pass Christian, Miss.
I have been a sufferer from Catarrh and Bronchitis ever since last August; my pastor, Rev. O. W. Flowers, advised me to try your remedy. He has been using one of your Pocket Inhalers ever since last Spring, and has derived much benefit from it.
MISS BERTHA B. STEWARD, Harrison County.

New York, Feb. 1, 1895.
I have been troubled with Bronchitis for about four years. No medicine helped me. About two weeks ago I tried one of your Pocket Inhalers, which gave me immediate relief. Sunday evening our pastor, the Rev. Dr. Farrar, spoke with great difficulty, apparently from a heavy cold settled in his chest. I sent him one of your Pocket Inhalers. I inclose his reply.
HALSEY FITCH, 170-172 Chambers Street.
(*Dr. Farrar's reply is given above*).

Greensboro, Ala., Sept. 15, 1895.
Your Hyomei cured me of Catarrh after other remedies failed; will add my name to the "Pass-It-On-Society."
Yours truly,
W. M. SEAY.

New York, Sept, 20, 1895.
I take pleasure in adding my name to the long list of those whose lives have been made happier by the use of Hyomei. It is not only an instant relief to Catarrh sufferers, but will cure this disease entirely. I have been the instrument of inducing many friends and acquaintances to seek relief through its use. I have yet to learn of one who has not been benefited I want to "pass-it-on."
A. G. THOMPSON, 33 Wall Street.

AMERICAN UNION LIFE INSURANCE COMPANY, 44, 46, 48, Cedar St., New York, February 19, 1896.
Please find enclosed one dollar for which send one Pocket Inhaler Outfit to my friend, D. S. Walton, 134 Franklin St., City. It has done me so much good that I never cease recommending it to my friends and as you know have bought as many as 12 or 15 which I have given to personal friends, and have influenced more than twice this number to buy them, and I have yet to meet one who has not thanked me for recommending it. It has completely cured my little daughter of Catarrh, from which she has been suffering for years.
Very truly yours,
J. S. NUGENT (Treasurer).

Albany, N. Y., July 3, 1895.
I will tell you candidly your remedy has given me more relief from my Asthma than anything I have used, and really I have been so enthusiastic over it that I have made a great many converts, not only in Albany, but West Troy. The effect Hyomei has on me is very pleasant; when I am oppressed for breath, I inhale a short time, and the great desire to cough is gone. The little Inhaler is my constant companion.
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HYOMEI is a purely vegetable antiseptic, and destroys the germs and microbes which cause diseases of the respiratory organs.

The air, thoroughly charged with **Hyomei,** is inhaled through the Pocket Inhaler at the mouth, and, after permeating the minutest air cells, is slowly exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It stops all spasmodic coughing instantly, clears the voice, expands the lungs, and increases the breathing capacity.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, consisting of pocket inhaler (made of deodorized hard rubber, beautifully polished), a bottle of **Hyomei,** a dropper, and full directions for using. If you are *still* skeptical, send me your address, and my pamphlet shall prove that **Hyomei** does cure. Consultation and trial treatment free at my office.

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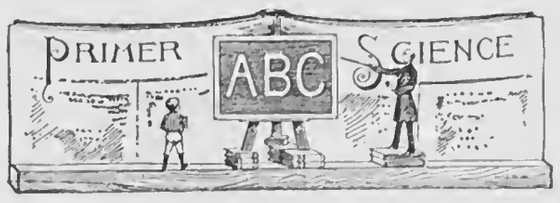

FEEDING A HEN.

PART IX.

As our readers know, we have advocated the use of meat or cut bone as a part of the winter ration. In many instances, the meat ration is the cheapest and aside from that it is hardly possible to obtain the needed proportion of muscle-makers without using some strong food. It is evident that our readers hold different opinions on this point. Here, for example, is a note from the boy who told us about his little poultry experiment, on page 89.

THE R. N.-Y. says In relation to bone cutters, "How is it with you?" In our town, one of the leading butchers bought a Mann's power bone cutter, runs it with a water motor, and sells green cut bone at two cents per pound. It is the only power cutter in town, and I think that it will pay, both the butcher and the poultrykeepers of the vicinity. My egg account has increased since I commenced feeding green cut bone. H. W. GILLETT.

Most of our reports are to the effect that a moderate ration of meat helps the hens, both as regards their egg yield and their general health. The trouble is that most of these reports are mere guesses with no actual statistics to prove anything. It is very easy to deceive ourselves with the results of an experiment, when any part of it is left to guess or estimate. Here is a report more in the line of J. A. W.'s "revolutionary" methods:

I am beginning to doubt that meat is so essential in the make-up of the winter ration for eggs, as most poultry authorities would have us believe. Here is the ration I have given 43 P. Rock pullets since January 1. Mornings, one peck of oats; at night, corn and oats, one quart of each; milk from a creamery separator during the day. Wood ashes and finely broken up crockery are kept in good supply. With the addition of oat straw to scratch in, this constitutes their full ration. The house is 12x20 feet, built of common lumber with battens over the cracks, with two glass windows at the south side; not a warm house by any means. Here is the egg record: Average number of eggs per day during January, 14; first two weeks in February, 18; the six days following, 16, 26, 21, 22, 18, 26, respectively, with the mercury below zero each morning. Considering the breed and the lack of warm quarters, it seems to me that this record indicates nearly a balanced ration. DWIGHT HERRICK.

That is certainly an excellent record. The oats and corn, as we know, would make a wide ration—about one part muscle-makers to 6¼ parts fat-formers. A full feed of skim-milk will reduce this to a little below one part to six. You will remember that, some time ago, we had a discussion as to whether skim-milk would take the place of meat in a hen's ration. Opinions were divided, but the general conclusion seemed to be that if they could have access to plenty of milk or curd, hens needed little, if any, meat. Whether an increase of meat would increase the egg yield, can be answered only by experiment. It is chiefly a matter of providing an economical ration, and certainly where one has plenty of skim-milk, it would be foolish to buy expensive meat. The P. Rock breed in that house will, we think, stand a wider ration than should be fed to Leghorns in a warmer house.

As we are having a sort of experience meeting this week, let us see what this man has to say about flocks and winter eggs:

I have been much interested in Mr. Mapes's Hens by the Acre, but have been looking for some comments on keeping 40 hens in a house 12x10 feet. I keep hens in about the way he does, except that my houses are 12x20 feet—just twice the size of his. I commenced by keeping 50 in each house, but have reduced the number to 40 and think that number do better than 50, and they have none too much room. Has Mr. Mapes ever tried smaller flocks, or larger houses? I have found that my breeding flocks, with 10 to 15 in a house, lay better than larger flocks. A word in regard to winter eggs and their cost. The statement is frequently made that winter eggs cost too much to be profitable. There are several ways of looking at the subject, and it is very hard to get at the exact cost. If we get eggs in summer, the hens must be wintered; the cost of winter eggs is the difference in the cost of wintering them on corn, and in keeping them on egg-producing food, and the addition of labor required to care for them. In the article on the first page February 15, J. A. W.'s hens averaged only about 11 eggs in the 90 days of winter. My hens average between 30 and 40 every winter. At two cents each, his hens gave 22 cents each, and calling mine 30 each, they gave 60 cents; a difference of 38 cents each. As he seems to have taken good care of his, the difference would be only in the cost of their feed, and I think 10 cents per head would pay that. As to forcing them in winter, causing them to lay less the next summer, I do not think that it will. I have compared notes with some of my neighbors who did not wish their hens to lay in winter, for if they did they would not lay in summer. In March and April, they would be a little ahead, but I would be ahead all the rest of the year. A hen will lay 75 or 150 eggs a year, according to the feed and care she gets; she is a machine, and if properly run, she has got to lay at any time unless she be moulting.

Bedford, N. Y. W.

You see that they are all firing away at J. A. W. He certainly gave us some strong ideas to think over, and we hope that he will "come again" and reply to some of his critics. Here is a letter that will stand a second reading:

Is that "Revolution" a Success?

It is of no possible use to "try to shoot that profit of $1.74 per hen out of sight." It's a good profit; but I don't see why our friend, J. A. W., did not use oats almost entirely instead of wheat during open weather, at least, and thus further reduce his grain bill at least one-half, adding the difference to his $1.74 per hen! He could have claimed science as well as common-sense (too often looked upon as diametrically opposite) on his side. For, with a judicious mixture of about two parts oats to a little more than three parts pasture, he would have had a ration running about one to four; and that's just about what he got with, say, half wheat and half pasture, isn't it?

Of course, we don't know what his "sundries" amounted to; but calling them the odd $32, his expenses per hen, on this "cheap" system, were $1.50 per year for grain! For ourselves, we feed as nearly as possible on the scientific plan, buying everything our fowls eat, except what green food their moderate yards can supply and the garden waste. We pay the highest prices for grain, yet our fowls have never cost us for feed more than $1.25 per year, each, besides the meat, and if we fed a full supply of meat for 365 days in the year, it would not bring the average cost to us to more than $1.50 per hen!

On the other hand, if his sundries include the cost of that netting to inclose five acres, the feed bill would be less, perhaps, but he would fall afoul of an expense for fencing quite as heavy as would be incurred in inclosing small yards. I confess that I can't figure the thing out in any way to show that J. A. W. proves the points that he set out to prove. However, I have a large bump of curiosity. First, I am anxious to know what J. A. W. calls the cold months, when he says that eggs "do not (according to common error) bring the highest prices on the average in cold weather." The months of lowest prices which he gives are March, April and May. Surely eggs are not lower from October to December than in the four preceding months? If not, then the months of highest prices are, with him, as elsewhere, October, November, December and January. Aren't these generally considered to belong to the season of cold weather? My curiosity led me further to look over the market reports in THE R. N.-Y. file for 1895. Taking the price as near the middle of each month as the date of a weekly would allow, the range of prices, April to September, was from 13½ to 17½ cents, and

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This Mill **GRINDS CORN** and Cob, rye, barley, oats and wheat; fine, *and does it all on one set of grinders without injuring them.* Different from others. The Best.
(I also make 5 sizes of belt power mills.)
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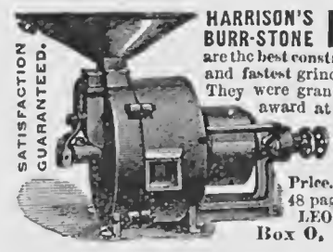

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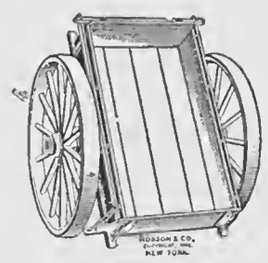

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(CONTINUED.)

for four months below 16 cents; from October to March from 20 to 34 cents, and for four months 25 cents and higher. It strikes me that the "common error" has some small foundation in fact, outside of Massachusetts, at least.

I am curious, too, to know what became of the houses and fencing in use while this new iconoclast was housing and yarding "as generally recommended by the poultry papers." Were they thrown away to add to the cheapness of the cheap system?

There are several more things I'd like to know, besides the cost, etc., of these "sundries." Does "cared for at one-fourth the expense," refer to time, to housing, to feed, or to all three? Where did the saving of three-fourths the expense come in? Was it in the value of barn space, 27x45 feet, allotted to the flock? If so, how much cheaper is that amount of barn space than the small houses would be? J. A. W. has said just enough to make it necessary for him to say more. MYRA V. NORYS.

Live Stock Matters.

FORKFULS OF FACTS.

AYRSHIRE CATTLE.—How did the Ayrshire breed of cows compare in milk and butter records with the others at the Columbian Exposition or at any other place? H. T. J.

Bradford, Vt.

R. N.-Y.—The Ayrshires were not represented at the Columbian Exposition. Only Jerseys, Guernseys and Shorthorns competed there. Ayrshire breeders have been too modest in showing up the good qualities of their breed. Write to C. M. Winslow, Brandon, Vt., for published information about Ayrshires.

HOW ARE EGGS WITHHELD?—Dr. Foster (page 123), explains how the secretion of egg material may be prevented or delayed, still I do not think that a hen can withhold a perfectly formed egg; but those in process of formation may, as the doctor points out, be delayed, or even destroyed according to their stage of development. This may be seen by examining the excrement for a day or two after the excitement which causes the falling off in egg yield. That is why the effect may not be immediately noticed. Hens may sometimes lay two eggs before stopping. A. M. A.

Morton, Pa.

WHAT ONE COW HAS DONE.—December, 1894, found me living in town working for wages. I had formerly worked on a farm, and as times were dull in town, I came to the conclusion that farm life was the most congenial occupation for me; accordingly I bought a cow and subscribed for THE R. N.-Y. The cow came in milk April 6, 1895. I allowed the calf to remain with her one week, then began saving the milk. My family consists of my wife, two children and self.

I have kept no account of milk or butter used in the family, but the year previous we used two pounds of butter per week. To date, February 10, 10 months after, we have sold 211 pounds of butter. The week ending February 1, the cow gave 134 pounds of milk, and made seven pounds and one ounce of butter. The cow received pasture in summer. I am now feeding six pounds of corn-and-cob meal, and three pounds of bran on one-half bushel of sliced potatoes, at two feeds at the time of milking, with stalks and bean straw, at a cost of 11 cents per day. The cow will be fresh early in May next. The butter was sold at our local market, at an average of 17 cents per pound.

On the skim-milk and buttermilk, I kept two pigs that dressed nearly 600 pounds when killed. Also the calf, a grade Jersey, that will begin giving milk at 18 months of age, for which I refused an offer of $20 a few days ago. Of course I fed the pigs and calf bran and meal. Is that doing well for a beginner? Next season, I intend to keep three cows and sell butter to regular customers. W. L. M.

Reynoldsville, N. Y.

A POULTRY RECORD.—The following shows the actual amount of business done by Hen, Pullet & Co., from November 1, 1894, to October 31, 1895—our poultry year:

	Dr.	
11 bushels corn		$6 50
6½ bushels wheat		4 47
2 bushels oats		68
Grain from previous year		2 00
20 pounds bones, scrap meat, etc		33
10 pounds corn meal		15
4 pounds linseed meal		05
Total		$14 18
	Cr.	
Sold 71 7-12 doz. eggs, at 24 cents		$17 68
Ate 126 3-12 doz. eggs, at 12 cents		15 15
Ate 22 chickens, at 39 cents		8 58
Total		$40 91

Average number of hens, less than 16.
Total eggs laid, 2,338.
Average price for eggs sold, 24 cents.

The largest number of eggs in any one month was laid in March, with the weather at zero much of the time—number, 340. The least number was five, in November. Nine hens died between April and September, owing to too concentrated food and confined quarters The poultry have rather small quarters, and no "run." Profit, about $26. Not so bad for a few confined biddies! They receive excellent care from an expert—my wife—though I make some bad mistakes with them at times.

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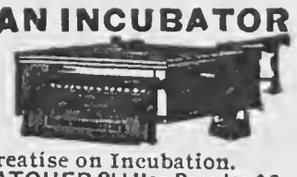

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ORATOR F. WOODWARD, Le Roy, Genesee County, N. Y.

Are Soaked Potatoes Injured?

H. N. H., DECATUR, MICH. — About eight weeks ago, we had some very heavy rains which raised the water on our low lands where potatoes were pitted, so as completely to soak the potatoes in these pits. It was thought by many that these potatoes were ruined; but during a mild spell of the past week, several of these pits were opened and the larger part of the potatoes were found to be all right—perhaps 10 per cent had rotted. Upon removing to cellars, and after lying a few days, it was discovered that they were rotting badly, and again about 25 per cent of them were assorted and thrown out. Now whether or not they will keep until spring, I cannot say, and to what extent they are injured for seed I cannot say. Nevertheless I shall procure a quantity of this seed from my neighbor, and test it and learn for myself to what extent they were damaged. One grower here who has 4,000 bushels pitted on this low land, will lose nearly all, as they still remain in the pits. He says that potatoes are too cheap to go to the expense of removing and sorting. I just learned to-day that on examination of these pits yesterday, a large per cent were found to be rotten.

Celery Blight Cured.

M. G., KINGSTON, PA. — Apropos of what Mr. Slingerland says on page 18 regarding celery blight, I may say that a small patch of our celery containing about 2½ acres, was affected with all the indications of so-called blight. As soon as we got our pump rightly started, these symptoms disappeared, the plants regained their normal color, and made a fine crop. The plants in question were about 10 inches high when we began to water. I have come to the conclusion that much of "blight" is often due to lack of favorable conditions. I wonder if that doesn't apply to human lives!

Tarring Seed Corn.

G. E. H., LAYTON, N. J.—I have often thoroughly coated seed corn with pure coal tar, and after drying it with land plaster, planted with a hand planter. The crows never fooled with it to any extent, neither did the squirrels; but the cutworms cut it just as bad as they did that not treated with the tar.

J. A. C., WATER VALLEY, N. Y.—Regarding the use of coal tar for seed corn, as a preventive against cutworms, A. H. C. can have the subject fully answered by sending to the Cornell Experiment Station, Ithaca, N. Y., for bulletin No. 107.

B. K., TEWKSBURY, MASS.—I have used coal tar for keeping the crows from pulling corn, but not for keeping the cutworms off, with the best of results. I also think that the corn is less liable to rot in the ground. I use the tar full strength, put in enough to blacken the corn after it has been thoroughly stirred, then add enough dust or plaster to take up the surplus tar, which makes it cleaner to handle. By the way, I had a piece of muskmelons and tomatoes alongside a field of corn, that was treated that way, and the cutworms about ruined the melons and tomatoes in spite of all I could do. I do not believe that they cut off a single stalk of the corn. I never thought of it until I saw A. H. C.'s query, that, perhaps, it was the tar that kept them from cutting the corn; but I shall try some melons planted that way this season, and note the results.

W. P., PORT CHESTER, N. Y.—I have practiced using coal tar on sweet corn seed as a protection against crows and hens, as follows: I place the corn in a vessel and pour on enough boiling water to cover it, stirring meanwhile; in 15 to 30 seconds I drain off the water, immediately add a teaspoonful of coal tar for every two quarts, and stir briskly; this coats the corn sufficiently, without injury to its vitality: then I mix with enough plaster to dry it. It germinates perfectly, but I am not of the opinion that it will stop cutworms from eating off the blade. Clear coal tar, as A. H. C. proposes, would, no doubt, kill the germs. Cornell Bulletin 107 pronounces such remedies against cutworms futile.

A Kansas Man on Alfalfa.

J. E. H., EMPORIA, KAN.—Wherever soil and climate are suitable to this plant, it should be grown. One acre of it is worth two of corn, and three of Timothy hay. It is a plant having more good qualities and less objectionable ones, than any other to my knowledge. It has become so common in the West, that the papers and writers have dropped the subject, thinking that every one knows about it, and how it should be handled. The only excuse I can give for

(*Continued on next page.*)

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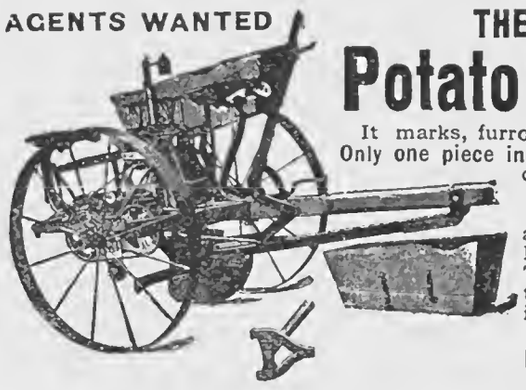

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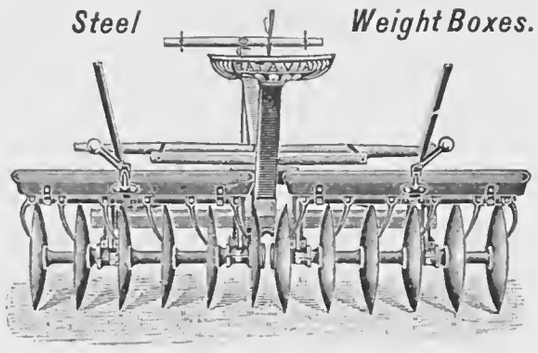

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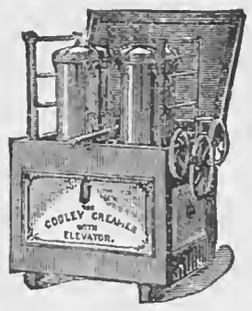

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

referring to this subject, is the laek of knowledge regarding this plant by the people east of the Mississippi. It has already notably lessened the consumption of eorn in the West, and will eontinue to do so to a greater extent in the future.

Cows, at this writing, fed eorn fodder of a morning, out all day and stabled at night, with all the Alfalfa they ean eat, look as well in flesh as when on grass, and give from one-half to three-fourths as mueh milk per day as when on the best of pasture; not a mouthful of ehop feed or grain of any kind has been fed this winter. For horses, it is exeellent if fed moderately; oat straw or hay at night, with this through the day, aeeording to the needs of the animal, give exeellent results. If worked moderately, no grain is needed. Fed alone and too freely, it is too laxative in its effeets. A horse will turn from the best of oats for a nip of this, when placed within his reach.

An aere of ground made rieh adjoining the stable, to be mown with the scythe and fed green, gives wonderful results, and is better than the interest of a few hundred dollars in the bank. It is rather delicate the first year, and needs ground free from weeds, and especially foxtail and other grasses, and needs clipping or eutting, according to the season and growth, at least two or three times the first year. Fifteen pounds of good seed, evenly sowed and lightly harrowed in, are sufficient for one acre. The ground should be plowed in the fall or early spring, and harrowed well two or three times to settle it; a roller or slab eompletes the job. Sow about the time of good eorn-planting weather, or about the time of the last-looked-for frost.

A "Mortgage Lifter" and Five-Cent Potatoes.

M. W. H., GLOVERSVILLE, N. Y.—I, like G. R., do not like the five-eent potato statements, and cannot believe it truth. I cannot grow them for less than five times five eents. I think it worth five eents a bushel to draw from the field and deliver to eustomers. I want something for my labor, and when I hire a man to work for me, I want to give him living wages. I have used a harrow on corn and potatoes, and now have a one-horse weeder. The trouble is with the weeds that grow in the hill, after the potatoes are too large to use a weeder, and then we must weed by hand and hoe to do justice to the erop.

I think that THE R. N.-Y. is a better paper for the money than it was 5 or 25 years ago, and like it as well as, or better than, any other farm paper that eomes to me, and I receive seven of them; but such statements seem to me to be the chaff of the paper, more or less of whieh is expeeted. We farmers must sift the grain from the chaff, and then we shall get many times our money's worth. This potato statement is somewhat like the statements of mortgage lifters printed in some papers; while they are telling the story, they want to make it as startling as possible. Being a mortgage lifter myself, and having done extra well with a run down farm (in the estimation of the people of these parts), and a small eapital, and having grown potatoes in many different ways, plowing under in every third furrow, in hills, in drills, in shallow and deep furrows, I ought to know something about the above subjeets. But my story would be tame compared with the statements mentioned, and I, like many others never heard from, shall plod along and in the end, be there just the same, and, perhaps, make as much or more money from our poor eastern farms as those of the West on their rieh farms raising five or ten-eent potatoes.

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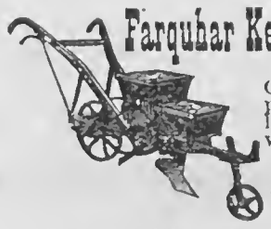

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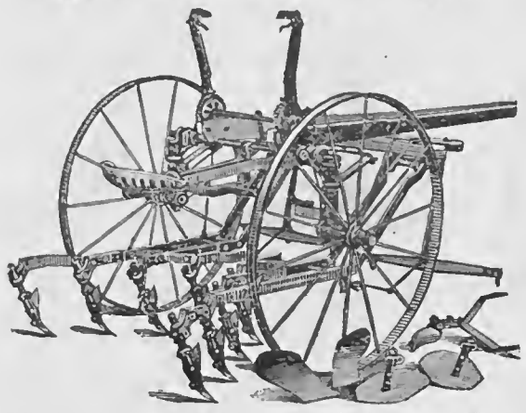

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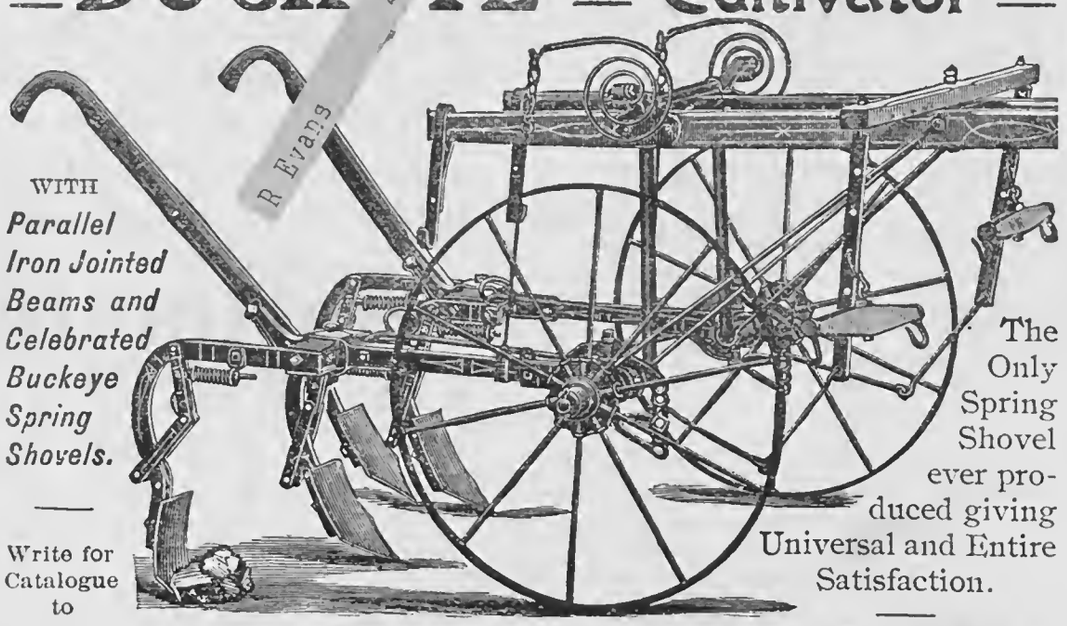

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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THE WINTER WINDOW GARDEN.

SOME SIMPLE RULES FOR PLANTS.

Plenty of Water Now.

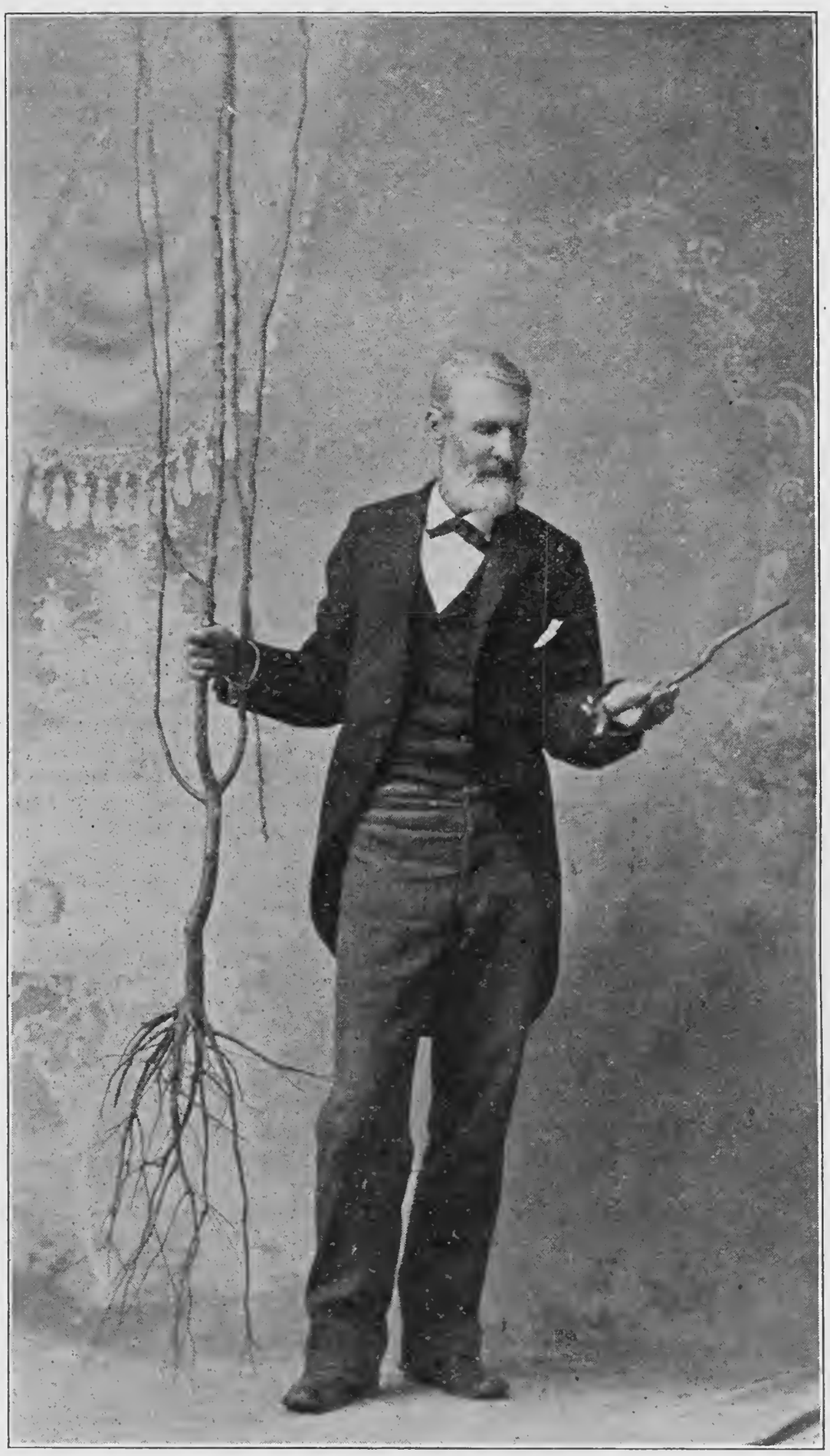
The window garden should be at its best during the closing weeks of February, and no feature of home adornment contributes more to lighten the gloom of this usually most depressing month. It is a long time since our eyes have been gladdened by gay flowers and verdant fields, and the fresh foliage and brilliant blooms in a well-kept window are doubly grateful. The increased sunlight of these late winter days, is a powerful stimulant to growth and evaporation, and with the exception of protection from inevitable "cold waves", the main point to be looked after is a sufficient supply of water.

At a recent gathering of practical florists, a discussion was started regarding the chief causes of failure in the cultivation of ordinary house plants, and the general consensus of opinion gave a lack of care and thoroughness in watering as the most common defect. It is not as easy to injure a healthy plant in full growth by over-watering as is generally supposed, providing the drainage of the pot is free, and there is no great disparity between the relative sizes of pot and plant. Of course, different species of plants vary in their requirements of moisture at the roots, but it may be safely asserted that all plants adapted to living-room culture, require a thorough soaking of the earth daily during sunny weather at this season. The ancient and familiar rule of watering only when the ground dries out on top, is entirely safe during dull weather, and in early winter, when the plants are not entirely established, and have not filled the pots with roots; but at this period of full growth and bloom, it is seldom sufficient for the rapid development of leaf and bud. If there is a space of half an inch or more between the top of the earth and rim of the pot, it will usually contain water enough thoroughly to moisten the roots; but if sufficient space is lacking, the only satisfactory way is to immerse the pot in a tub or pail of water until the earth is thoroughly soaked; indeed, the latter method is of great benefit to most plants that have been long potted and are becoming "root-bound"." Don't use soapy water; while it is often not lacking in fertilizing matter, it has the faculty of combining with the lime in the soil, forming a sticky, insoluble coating over the surface, which quite effectually keeps water from penetrating and gives a very unpleasant look to the soil. Use clean water, slightly warmed, or an occasional dose of liquid fertilizer of some kind. If you wish your plants to thrive especially well, and look fresh and cleanly, spray them often, or take them to the kitchen sink and treat them to a good shower bath. This is all old and well-worn advice, but we must not forget that we always have multitudes of beginners with us, to whom even the elementary principles of plant culture are strange, and they are the ones whom we must endeavor to instruct.

PLANTING HARD-SHELLED SEEDS.—In recent numbers of THE R. N.-Y., the subject of starting seeds in the house has been well treated by several correspondents, but no allusion was made to the special treatment of hard seeds. We are advised to pour very hot water on canna seeds in order to split the shells by sudden expansion. While this is effective to a limited degree, it is not altogether safe, neither does it put all the viable seeds in a condition to germinate readily, as many have such a tough, bony covering that they are proof against such treatment, and even against weeks of soaking in warm water. I have grown tens of thousands of canna seedlings, and after trying all methods of treatment, have settled on the following plan, which insures the germination of these hitherto refractory seeds, as readily as corn or peas: File or cut a small opening through the side of the hard shell (canna seeds sprout from one end and the germ should not be injured), and plant immediately, or better still, soak 24 hours in water at 70 to 80 degrees Fahrenheit, changing the water once or twice, and then plant in sandy soil, covering an inch deep. If kept moist and warm, they will begin to come up in less than a week, and a plant will quickly be secured from every good seed.

"But how shall we cut these hard shells?" is the question often asked. I have had a despairing correspondent write that she had ruined her husband's best razor, and then had failed to chip the refractory seed! This would very naturally be the case, as the flinty covering will turn hard steel. If only a few seeds are to be treated, a small three-cornered file, will prove effective: but for a large number, it is best to bed them singly in a small hollow cut in a piece of hard wood, and chip the shell with a soft, strong-bladed "jackknife." This is rapidly done, as after a little practice, some thousands of seeds can be prepared in a day.

The seeds of most of the hardy water lilies, including the Nelumbium, or Sacred lotus, are large and hard, resembling, to some extent, bony acorns. They would best be drilled or filed through the outer covering, and immediately planted in soil covered with water. The Zanzibar and other tender water lilies have small, soft seeds which may be at once sowed in a vessel of mud and water, kept at a temperature of 70 degrees. Some species of ipomeas, notably the Brazilian morning-glory (I. setosa), and the various moonflowers, have large, hard seeds, of uncertain germination, when planted dry. The small ends of these seeds, which are somewhat triangular in shape, may be cut off with a penknife, and moisture will easily penetrate the opening if sown at once; but they are more sure if treated to a 24 hours' bath in warm water after cutting. FAIRFAX.



H. M. STRINGFELLOW OF TEXAS. FIG. 59.

His Theory of Root Pruning Illustrated. See Ruralisms Page 181.

ROOT PRUNING.—H. E. Van Deman tells us that he has successfully tried Mr. Stringfellow's suggestion of cutting the roots of transplanted trees back to a small piece. For making apple-root grafts, he says that he would much rather have a three-inch piece than a whole root—12 inches long. It seems like a rash and dangerous doctrine to preach—but it pays well with those who have tried it, and is well worth the attention of practical orchardists. The picture on this page is certainly a striking one, and tells its own story. Certainly the picture of that little tree describes it better than could be done in a column of mere type. Photographs cannot help being true.

PREPARING THE SOIL FOR PEACHES.

HOW TO GET IT READY.

I have a piece of land which I wish to get into the best possible condition for setting peach trees and currant bushes in the spring of 1897. Part of it is corn stubble, and part sod, both plowed late last fall. It is a stony clay loam with a hardpan subsoil, in fair condition as to fertility. I wish to get as much vegetable matter in the soil as possible before the fruit is set, and while it is young, as I use only fine bone and muriate of potash on my young peach orchards in which I also grow currants. My idea is to harrow and cultivate thoroughly the coming spring as soon as the ground is fit to work, and sow field peas and oats together, or either one or the other alone, and plow under deeply in July. Then, after thoroughly preparing the surface soil, sow Crimson clover, which either plow under very late in the fall, or early the next spring. Or would it do as well or better to harrow and cultivate the ground until July, and then sow with Crimson clover, as, perhaps, it might insure a better catch of clover, especially if the weather were dry? Do you think that it would be a benefit and a profit to subsoil this ground, and when would be the better time to do it—this next summer or fall, or when I set the fruit? Of course, in the spring it is hard to do any extra work. A. B. C.

Milton, N. Y.

What W. F. Taber Would Do.

A. B. C. has outlined, in my opinion, the proper course to pursue in the preparation of his land for the planting of a peach orchard. In fact, it would fit even quite poor land so that it would produce a paying crop. Vegetable matter is what most of our soils lack, and I am very much in favor of plowing under green crops for such a purpose, as I have had excellent results by so doing. I do not think it necessary to subsoil his land. I would plow as deep as I could the coming spring, which would, probably, turn up some of the clay soil not heretofore disturbed, which only needs the action of heat and moisture to liberate the mineral elements that have accumulated in it. I would fit the ground thoroughly, and apply a dressing of wood ashes or 300 pounds of a good fertilizer per acre; then sow the oats and peas, getting the peas covered two or three inches deep, to insure germination. I have found that it pays well to apply fertilizer to such a crop, for such a purpose, giving a quick, rank growth. Plow under this crop before the grain has hardened (as this takes from the soil), as deeply as possible, and if the weather be hot and dry, or the ground quite dry, be sure to roll, so as to compact the green matter plowed under, else it might dry out the moisture in the soil above it, and do the succeeding crop more harm than good. Having compacted this green matter, harrow and fine the surface, sow the Crimson clover, harrow and roll. If the surface soil be very dry and light, the roller will cover the seed without harrowing. As the object is to get all the value possible out of the crop for green manuring, it is necessary to sow more seed than when it is grown for hay, and I have found that double the quantity is required, and have sown from 12 to 15 quarts per acre. Do not plow this under in the fall, but keep the ground covered to prevent the loss of nitrogen by exposure during the winter. If the clover live through the winter, it will add much to its growth before you need to plow it under. If the top should die, you still have the roots and the nitrogen which they have stored up, which will repay you well for your labor. If A. B. C. follow out this course, I would like to hear from him as to the results in the spring of 1897 or before. WALTER F. TABER.

Dutchess County, N. Y.

Messrs. Barns, Wygant and Dwyer Talk.

In preparing the soil for a peach orchard, if the land was plowed last fall, harrow it thoroughly the coming spring, cross-plow as deep as possible (not subsoil) then sow it with some quick growing crop such as buckwheat, oats or peas, and turn this crop under just before it blooms. Then sow again and turn under the same as before. This is to get as much humus as possible in the soil and grow other crops between the trees. If I intended to plant an orchard, I would set the trees this spring, and keep the ground in good order up to the first of August; then I would sow it with Crimson clover and plow this under the following June (or before it bloomed). Then some other green crop may be sown and plowed under in the fall. J. F. WYGANT.

Ulster County, N. Y.

I think that A. B. C. is right in getting as much vegetable matter into the soil as possible, before the trees are set. With the weather as dry as it was the past two summers, there is danger that the Crimson clover might fail to make a satisfactory growth. Rather than take the risk of depending on it alone for adding humus and nitrogen to the soil, I would grow a crop of oats and peas. When this crop is plowed under, if the weather continue dry, probably it would be unwise to incur the expense of seeding with Crimson clover. But if the soil be moist at the time the first crop is plowed under, the growth would soon decay so that the soil could be brought into good condition for seeding with the clover. Unless the crop of oats and peas be well decomposed, the surface soil would be so porous and dry that the clover could hardly be expected to succeed. Therefore, I think that it would be advisable to sow oats and peas early, as they would be reasonably sure to make a good growth, and depend on circumstances to decide whether to follow with Crimson clover. Subsoiling in a stony clay loam is a tedious and expensive operation. If the surface soil above the hard pan is eight or ten inches deep, I would not incur the expense of subsoiling. For I know that in similar situations in the Hudson River Valley, peach trees make a fair growth and bear good crops where frequent shallow culture is given. If the surface is of such shape that the water collects on any part of the ground, and it remains too wet for working, a few underdrains judiciously located would, in my opinion, pay better than subsoiling the whole. In opening these drains, A. B. C. will find a ditching plow a great labor-saver. With a strong team, it will break the hard ground finer and faster than 10 men with picks.

Orange County, N. Y. W. D. BARNS.

I would harrow thoroughly as early in the spring as the ground is fit to work, sow the land to oats, then harrow and use a heavy roller to firm the seed in the ground. I would plow the oats under as soon as of the right size; then harrow thoroughly again, and sow with clover, using the roller again until the ground is well firmed. I would not subsoil such land as this man has; in fact, it is not profitable to subsoil any land for the purpose named. I would much rather use the money so spent in good stable manure.

Orange County, N. Y. T. J. DWYER.

THE COLUMBIAN RASPBERRY AT HOME.

HOW IT LOOKS ON ITS NATIVE HEATH.

During the past two years, THE R. N.-Y. has had quite a little to say about the new Columbian raspberry, and we have tried to make clear the exact points of difference between the Columbian and the Shaffer as grown at the Rural Grounds. In order to see the berry as grown on a larger scale, I visited the grounds of Mr. J. T. Thompson (the originator) at Oneida, N. Y., last August. The season was nearly over, but I was able to see the growth made by the canes, and the general characteristics of the berry, as well as to talk with those who have sold and used it for canning.

The original bush is still growing on Mr. Thompson's place. It is an immense affair—more like a tree than a bush. The berries had not been picked, but had been permitted to dry on the bush in order to show how tenaciously they hang on. This is one point claimed for the Columbian—that it sticks to the bush closer and longer than the Shaffer, and here were these berries dried to the canes in evidence of it. The value of the habit was quite evident when we came to the field and saw the dead-ripe fruit still clinging to the bushes. A light blow would have knocked Shaffers of equal ripeness off into the dirt; but the Columbians hung on for dear life. The Columbian is generally compared with the Shaffer because the two berries are much alike in several particulars. The Columbian appears to possess all the good qualities of the Shaffer, and, in addition, to be somewhat firmer in texture, to hang closer to the stem, and to be later in ripening. It is of a little higher flavor, and gives a heavier growth.

Mr. Thompson had sold over 20,000 quarts of berries at the time of my visit. He did not make personal shipments to commission merchants in New York and other cities, but went to a fruit dealer in Oneida, and made arrangements with him to handle the entire crop of Columbians at a fixed price per quart. All he does is to deliver the berries, and the dealer attends to all details of shipping and selling. This dealer told me that the Columbians had been in great demand. At first, people objected to them on account of their color; but after fairly testing them, especially for canning, they always wanted more. He said that he had not lost a quart through failure to "stand up" properly, neither had there been any complaints about those shipped in crates. He claimed that he could have sold three times as many if he could have secured them.

At the Oneida Community, I examined many cans of the Shaffers and Columbians for comparison. The contrast was quite remarkable. The Shaffers were, for the most part, crumbly or broken, while the Columbians were firm and solid. There was also a slight difference in color and flavor, both in favor of the Columbian. The superintendent of the canning factory promptly said that the Columbian is the best canning berry he had ever seen. In fact, the chief value of this fruit will evidently be for canning, for home use and for supplying a near-by market, where the berries can be promptly delivered and the grower can have a chance to "educate" the consumer's taste. It also does well for evaporated fruit, giving a sauce of rich flavor and high color. The odor of the dried fruit is quite remarkable.

Mr. Thompson has quite an ingenious raspberry sorter. It is like a miniature potato sorter, with a small wire screen over which the berries run. The berries are poured in at the top, and they roll slowly along over the screen, the operator using a feather or wing to push the good ones into the box. The fingers are used only to take out leaves, or soft and imperfect fruit. H. W. C.

THE PARKER EARLE STRAWBERRY.

A FAIR STATEMENT OF ITS MERITS.

For the past two or three years, much has been written in regard to the Parker Earle strawberry. On the whole, it has been very highly spoken of, and is giving pretty general satisfaction wherever planted. It is now one of the standard varieties, and the stock may be had at very reasonable prices. It is, therefore, within the reach of all. I have fruited the Parker Earle on light and heavy soils. It is a very strong grower, the plants having a tendency to make enormous stools or, rather, to grow in hills. Many of these hills will have as many as 300 berries and blossoms on them, rarely less than 100. In order that the plants may be able to bring this fruit to maturity, two things are essential: food and water.

The Parker Earle should be planted on heavy, rich, moist land. The plants should be set four feet apart between the rows. I do not recommend fruiting strawberries in hills, but if any variety will do better in hills than in matted rows, it is the Parker Earle. Whichever way it is to be fruited, the rows should not be allowed to be over 12 inches wide, for the reason that, in order to obtain moisture enough to bring all the fruit to maturity, shallow cultivation should be kept up at intervals of a few days until the berries have formed. Of course this cultivation must be done by a careful man, and the cultivator must not go near enough to the plants to disturb the roots. Where it is possible to irrigate, or where there is abundance of rain, this cultivation is unnecessary; but it is of absolute necessity in a dry season, and even in an ordinary season, it will materially increase the yield, and the berries will be larger and better in every way.

The foliage is compact and abundant, giving the plants a good appearance. The fruit is large and even in size, all the berries being much alike. It is exceedingly productive. The flavor is good, but not the best; as good as Bubach, Haverland or Downing. In shape, it is nearly round, with a short neck. The color is a glossy, light red, giving the fruit a very inviting appearance in the market. It ripens late in the season, and continues in fruit as long as any variety I have, with one or two exceptions. I do not wish to be understood as advising the planting of this variety in preference to all others; for those who can give it the requirements named, it will be one of the most profitable market berries of the day. T. J. DWYER.

NEW IDEAS IN CURRANT CULTURE.

Where in this country is an expert on currant culture? Where is the man who makes a specialty of growing currants, and is an authority on this subject? I confess that I do not know of such a man. Probably Jacob Moore, of this State, has given currants more attention than any other person, but not on a large scale for market. I am satisfied that there is something radically wrong in the treatment generally given to currant bushes. I have started experiments, and hope to discover some of the errors now practiced.

I saw not long ago in Belgium and Holland, currants of different varieties nearly as large as cherries. I had never seen anything to compare with them in size and beauty. They appeared to be twice as large as the Fay or Cherry currants grown in this country. Each cluster was intact, with scarcely any berries missing on the stem. At first I thought that these must be varieties of which I had never heard, and I spent some money in endeavoring to get scions for propagation. I wrote President P. J. Berckmans, who used to live in Belgium, and he tells me that the varieties I saw were, doubtless, ordinary varieties grown under special cultivation. I do not doubt that these currants were irrigated and mulched, and the ground fertilized to its highest capacity. Bushes were also, doubtless, cut back and thinned out in order to increase the size. After seeing these immense currants, I can but think that we in this country scarcely understand the question of growing large currants.

In olden times no one thought of planting currant bushes where they were to be cultivated. They were invariably planted along the side of the garden fence, where the ground was never disturbed. I can remem-

ber 40 years back when these currant bushes were invariably loaded down with an abundant crop of fruit. Every person had an abundance of currants until the currant worm came, then after a time, currant culture was abandoned; but now everybody has learned that a little hellebore sprinkled on the bushes when moist with dew at the first signs of leaf eating, will destroy that pest.

In modern times, we have all taken to growing currants in an open field, with thorough cultivation. Under this method, a portion of the currant blossoms seem to fail to develop fruit, and sometimes all the blossoms drop off. The question on my mind, is whether this might not be caused by disturbing the roots of the bushes with a cultivator or plow, since the currant roots feed close to the surface; in fact, all the ground around the bushes, is filled with the fine roots. Since the currant blossoms late in the spring, late spring frosts doubtless sometimes cause the blossoms to fall off.

Few have given much attention to pruning the currant. This bush has been supposed to be one that did not require pruning; but the fact is, it requires as much attention in this respect as other fruit. After the canes have borne four or five years, they should be removed and newer canes allowed to take their places. Cutting back the new growth nearly one-half each season, is also recommended. But I prefer nipping back the new growth in July, or when it attains the desired height.

I shall test currant culture with a heavy mulch and no cultivation; also with a thorough artificial irrigation. Doubtless currant bushes are planted too close together. Experience teaches that four, or even five feet apart, each way, on rich soil, is not too far. Currants are heavy feeders, and must be planted on rich soil.

Did you ever think of the beauty of the currant bush, heavily laden with its bright red berries? Surely, if we had never seen currants, or known of their usefulness, and had discovered one growing in some secluded place, we would consider that we had discovered a plant of rare beauty as an ornamental. What ornamental berry-bearing plant is more ornamental and attractive than the currant, when well trained and under good cultivation, and in full bearing?

C. A. GREEN.

A HOMEMADE FERTILIZER MIXER.

HOW A RHODE ISLAND YANKEE WORKS.

A number of farmers have tried home mixing of fertilizers in the usual way of spreading the different chemicals in layers on the floor, and working the mass over and over with rake and shovel. Most of them have saved money, but lost temper by the operation. It is a hard and dusty job, and many a farmer with nose and throat sore from the dust of bone meal, has longed for a cheap mixer that would enable him to discharge rake, hoe and dust.

Director C. O. Flagg, of the Rhode Island Experiment Station, seems to have found this much-desired device on the farm of E. G. Macomber, a Rhode Island farmer who has practiced home mixing for a number of years. The picture shown at Figs. 60 and 61 are taken from Bulletin 34 of the Rhode Island Station. Fig. 60 shows the machine in the first position. You will see that it is an octagonal or eight-sided box which is fitted on trunions so that it will revolve inside a heavy frame. This frame is also arranged to turn in the opposite direction from that of the box. In Mr. Macomber's mixer, this outer frame is made of plank, 2½ inches thick and 10 inches wide, securely spiked together. It is four feet five inches square, measured on the outside. Two upright 4x4 joists are securely braced at the bottom. These joists and the two sides of the frame (which, as the picture shows, are of double plank with short strips of board between) are mortised to receive the trunions which run through the frame, and revolve in the hollowed ends of the uprights. The box or mixer is made of tongued and grooved pine, seven-eighths-inch boards. Around the inside of each end is spiked a 2x8-inch plank, and a belt of the same is spiked around the middle of the mixer so as to make the trunions secure and to sustain the weight. The trunions for the *mixer*, as will be seen, run through the single-plank sides of the frame.

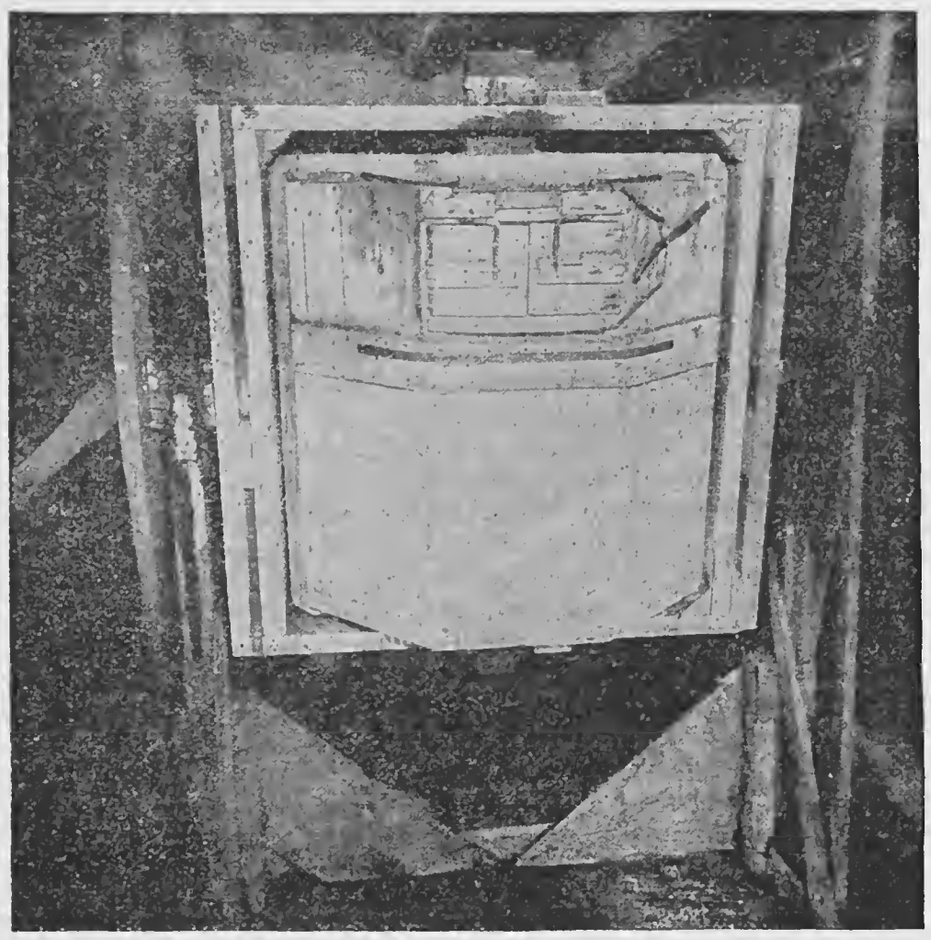
This mixer is kept in a cellar. In the floor above it, is a trap door through which the chemicals are dropped by means of a tunnel made of bags. The machine is in the position shown at Fig. 60. The box holds 500 pounds. The charge is dropped in through a sliding door in the upper end of the box. This door is closed and fastened, the bag tunnel pulled up, and we are ready to mix. Long levers made of plank shaped down at the ends to fit the hands, and with a square hole in the center to fit the trunions, are used to turn the mixer. The square hole is fitted over the square trunion so that, as the levers are pulled down, the whole thing turns around as at Fig. 60. After 10 minutes of this turning, the levers are taken off, and the machine turned down as shown at Fig. 61. A temporary leg at one corner holds the frame in position, and then the levers are put on the other trunions and worked in the same way. In this case, the box revolves *inside the frame* in an opposite direction from the first turning, so that, after six minutes more, the fertilizer is well shaken up and thoroughly mixed. When mixed, the fertilizer is drawn off at the bottom of the box through the sliding door shown in the picture. Of course, if one has power of any sort, the levers may be dispensed with. Similar mixers could be used for mixing Paris-green and plaster, or even for mixing dry cattle foods.

Mr. Macomber's mixture for general farm crops is as follows:

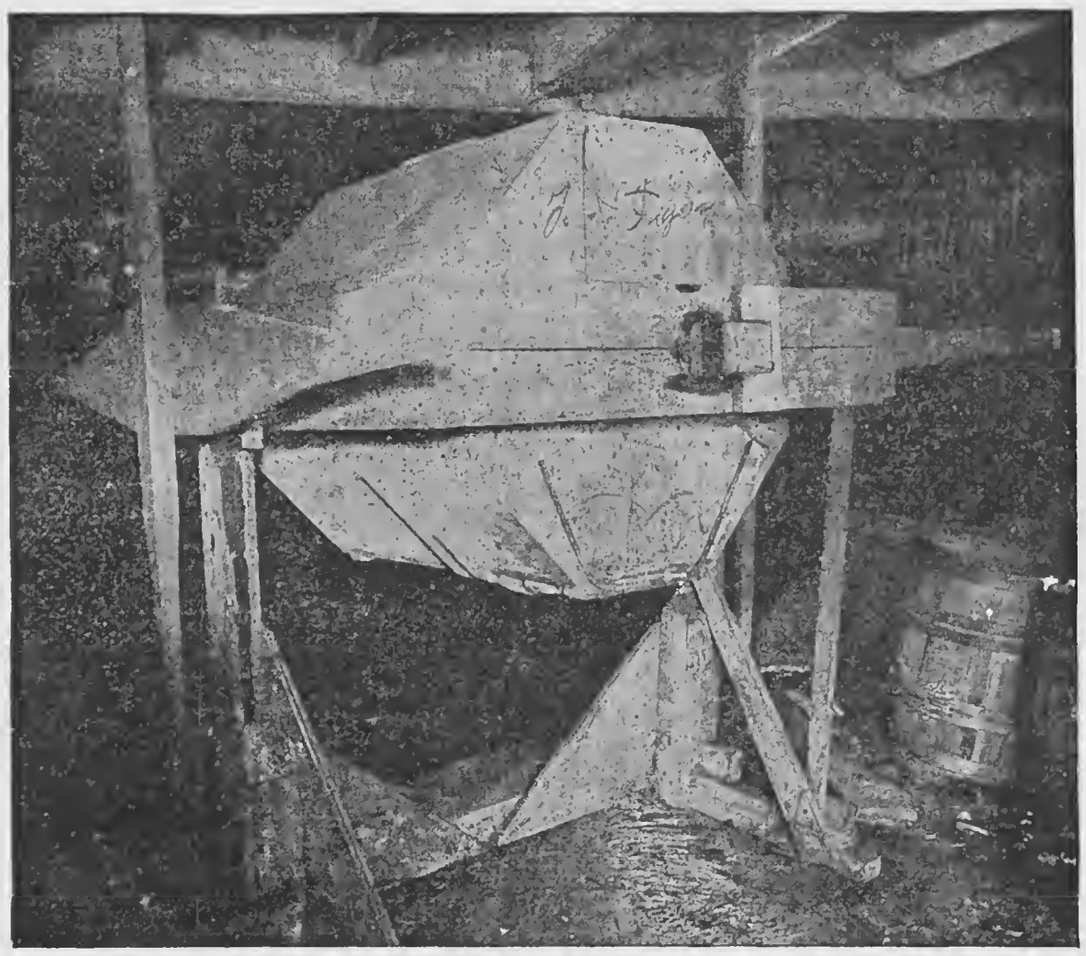
	Pounds.
Fine ground bone	400
Dissolved bone black	400
Dry ground fish	300
Cotton-seed meal	300
Nitrate of soda	200
Sulphate of potash	200
Muriate of potash	200
Total	2,000

At the prices in his market, this costs $32.90, and gives a mixture containing four per cent of nitrogen, 10 per cent of potash, and 6½ per cent of phosphoric acid. This has given exeellent results with potatoes and vegetables in rotation with grass and cereals. As we have said, 500 pounds of this mixture are put in the mixer at one time. Boxes are used which are gauged to hold the right weights of each ingredient, so that it is a simple matter to measure out the chemicals and pour them into the machine.

This bulletin (No. 34) contains a number of other formulas for home mixture for different crops. We notice two simple ones in which dry hen manure is used as a base. One is a mixture of 1,330 pounds of dry and ground hen manure, 530 pounds of dissolved phosphate rock, and 140 pounds of muriate of potash. This gives about two per cent of nitrogen, 4½ of potash, and five of phosphoric acid. The other is a mixture of 1,190 pounds hen manure, 710 pounds dissolved rock, and 100 pounds muriate of potash, which, of course, gives less nitrogen and potash and more phosphoric acid. These hen-manure mixtures are suited for corn planted on a strong sod. In case hen manure be used, it should be dry and thoroughly fined before mixing.



A HOMEMADE FERTILIZER MIXER. FIG. 60.
Revolving on the Frame.



A HOMEMADE FERTILIZER MIXER. FIG. 61.
Revolving Inside the Frame.

STEEL TRACKS FOR COUNTRY ROADS.

GOOD MEN ARE MAKING BAD ROADS.

Some time ago, an illustrated article appeared in THE R. N.-Y. headed, "Good Roads Made by Bad Men." Reading it, involuntarily the thought came to my mind, how unfortunate that there are so few bad men making good roads, when there are so many good men making bad roads; such roads as we are experiencing at this present time, mud and water axle-deep! The condition is simply so terrible that a meeting of taxpayers was called at the town hall at Youngstown, O, the county seat of Mahoning, by the trustees, to discuss ways and means of bettering the condition of the roads. As a result of the gathering, the legislature of Ohio will be called upon to pass a law that will result in better roads for every township in the county. Plans were presented at this meeting, and the probable cost of carrying them out discussed.

Mr. Lemuel T. Foster, of Fosterville, presented a most novel plan. The statement that the present age is an age of iron and steel, was his introductory remark, and gave a little insight into his plan. In detailing his plan, he proposes to build roads somewhat in the nature of a tram road or street-car line. He wishes to make a road of steel plates far enough apart to accommodate any vehicle; these steel plates are to be one-half inch thick and 12 inches wide. They will be concave, and thus the wheels of the vehicles will easily keep in their places. These lines of plates will be arranged the same as a double-track street-car or railroad line, the two lines to be eight feet apart, thus leaving ample room for any vehicle to pass between them. The steel plates will be bolted to steel ties, and the ties will be six feet apart, plates and ties tamped the same as in an ordinary railroad. The plates will have a flange of three inches on each side, and the ties and fish plates will be bolted on to these flanges. The space between the rails will be filled with gravel or some similar substance that will be available. The ties will be placed in such a position that the feet of the horses will not touch them as they pass over. The space between the tracks will be filled with the same substance as between the rails. This would be a much easier road on horses' feet than would a hard, Macadamized road. The steel plates would be easy on tires of vehicles, and would last, at least, 50 years. An estimate for Macadamizing the 172 miles of roads in the county, was $1,000,000; the steel-plate system for the same was estimated at $200,000.

Such a road, at the estimated cost, would increase the rate of taxation very little, and would save many

a dollar now paid out for repairs in wagon and harness. On a road of this description, one horse could pull as much as, or more than, 20, and with greater ease, than on roads of the present time. What a vast amount could be saved in freight charges! I know men that pass my place with loads of produce to Youngstown twice a week when roads are good, that live as far as 25 miles away. Now they haul their stuff to the nearest railroad station, from three to five miles over bad roads. It would be easier to drive the 25 miles on steel plates, than five miles to the station over bad roads. Now they pay freight, next car fare for themselves; when they get to town, they hire a livery rig to deliver the goods, and pay car fare home again. Little, if anything, is left for them, but they have to come to keep up their trade. Why good men will continue making bad roads, and pay good money and labor every year all to no purpose, in the face of such facts, is beyond comprehension.

Ohio. J. BOLLINGER.

CRIMSON CLOVER AND ENSILAGE IN MASSACHUSETTS.

I am trying Crimson clover under various conditions. In August, from five acres of light sandy loam, oat hay was taken. The ground was then harrowed with a spring-tooth harrow. Upon one-half, Hungarian and clover seed were sown, and upon the other half, Crimson clover alone. A good shower was timely, and the seed came forward in quick time. At the time of cutting millet, both lots of clover were of about the same height. In the one case the clover was cut off with the millet, and it could not recover from the shock. When winter appeared, both lots looked well, but the one with only clover, was much the better; the ground was almost entirely hidden from view, and the clover was over the shoe as one walked through it. Where this fine show of clover was, the soil is not good, and in 30 years of my crop growing upon it, I have never seen anything to compare with this.

Another field of 10 acres of stronger, gravelly loam which had been in pasture for several years, was treated as follows: One portion was planted to corn in May. At the last cultivation, Crimson clover seed was sown. A second portion was plowed in August and sowed to barley for fodder, and with it clover. Very soon after 2½ acres were well manured and sown with a mixture of Crimson clover and White Globe turnip seeds. In November, from 1,000 to 1,200 bushels of turnips were harvested, and strange as it may seem, after the turnips were taken off, the field at a little distance looked as green with clover, as an adjoining field of rye. It seems almost incredible that so many turnips left room for so much clover.

The corn field showed the least growth, for the corn grew so large as to leave little sunlight for clover. The field had been so long in pasture, that the crops had almost no weeds to contend with. And now, what next? We must wait till spring for a reply.

I have had many years' experience in feeding cows upon various foods. I am now feeding 40, and for the first time, using ensilage. I am greatly pleased with it, and intend to add another silo next season. It saves work and feed, and I think that it gives as good results as if corn were cut and fed as cut from the field. Heretofore, corn has been put in shock. Birds will waste some, mice not a little, the weather its full share, and cows ditto, if not more. Cows eat ensilage with a relish, are looking finely, and are giving more milk on account of the ensilage. The corn was of all stages of ripeness, as it was not intended for the silo. A portion was green field corn, some sweet corn nearly ripe from which many ears had been picked. Another lot was common sweet corn which had been shocked a week or more and intended for husking. It was mixed as much as convenient, and the result is good feed without waste. G. W. H.

Rochester, Mass.

THE MAKING OF A SMOOTHING HARROW.

A LITTLE OF GRUNDY'S "TINKERING."

An enthusiastic advocate of drag-harrow cultivation persuaded me that a young crop of corn, even though torn into ribbons by cruel harrow teeth; would rise, Phœnix-like, from the ash-like soil of the veriest drought, such were the advantages of drag-harrow adversity. He claimed that potatoes liked the discipline even better. By studying the quotations on smoothing harrows, and examining the mucous membrane of my pocketbook, I discovered a deficiency of gastric juice. But I had on hand a small supply of skilled labor worth 25 cents per hour, some 2x3 chestnut lumber of home production, less the saw bill, and an old iron pile. An examination of some harrows owned by neighbors assured me that I could make a market for some of the raw materials on hand. I went on an exploring expedition to the city. One iron store, had no harrow teeth, but plenty of bar iron from which I could get teeth made, I was told. The first hardware store knew nothing about the subject. The second displayed a broken box of round Thomas smoothing harrow teeth at 15 cents each. While these teeth were just the thing individually, there were not enough of them, and 48 teeth would cost $7.20 with a very small discount. Hardware store No. 3 rose to the occasion, and offered me harrow teeth of half-inch square iron, nine inches long, at five cents a pound. We counted out 48 teeth, and they weighed 31 pounds. The dealer put in a ⅝-inch bit for 25 cents to bore the holes for the teeth.

Up to this point, my expedition had been one of non-committal investigation. Now I was in for it to the tune of nearly $2. Visions of young corn and potato plants torn into shreds, and bright new leaves springing from every shred, appeared before my eyes on the homeward journey Going into the shop after dinner, I cut eight 2x3 chestnut strips four feet long. My plan was for two sections of 24-tooth harrow to be jointed together, the teeth to be 8x9 inches apart. Four different visitors that afternoon deprecated the use of chestnut for a harrow frame; but I had no oak lumber for sale, and I sawed away. Four cross pieces of 2x4 chestnut, 30 inches long, were fastened to the former sticks by shallow gains. Four iron straps, each 33 inches long, with an eye in one half twisted end for hinge rod, and drilled to correspond with the bolt holes in the 2x4 cross pieces, cost $1 at the blacksmith's. Each section was bolted together with iron below, and cross piece above the four-foot 2x3's. To prevent racking, a brace was bolted cornerwise across each section.

Having settled upon the slant of the teeth and its relation to the line of draft, a carpenter's bevel was fixed at the required angle and a short pointed rod like a lead pencil, was tacked into the stick to be bored at a corresponding angle, and used as a "sight" in boring. With bevel, rod, and five-eighth inch bit, I passed rapidly from hole to hole previously marked on the stick. The half-inch square iron teeth drove snugly into the five-eighths hole, and in a year's wear, none has loosened. The timber was well seasoned. The teeth were driven so as to present a corner to the line of draft, that is, to draw cornerwise. The hinge rod was an old wagon rod, and the clevis came off from an abandoned one-horse plow.

I predicted a ten-hour job in the flush of beginning; cold figuring at the end, made it finished fairly inside of 11 hours, not counting the trip to the city. We raised 12 acres of corn last year, ranging in yield from seven or eight to over 20 tons per acre, 161 tons in all. On any ground well cleared up, this harrow drawn by one horse, has rapidly taken care of the crop until it was three inches high. And corn clean at three or four inches high, is well on the road towards cheap production. This harrow has done all I hoped for it. The expense account is as follows:

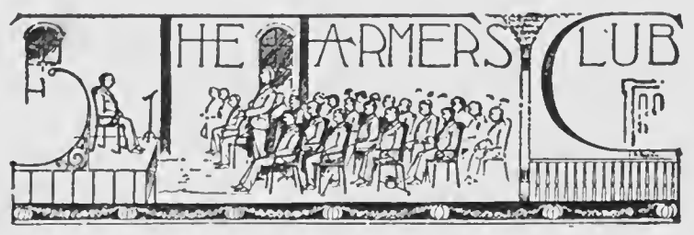
27 feet lumber at 3 cents	$ .81
48 ½-inch teeth, 31 pounds at 5 cents	1.55
20 4½-inch bolts at 1½ cent	.30
16 3-inch bolts (to prevent ends of sticks splitting) at 2 cents.	.32
4 iron straps	1.00
1 ⅝-inch bit	.25
11 hours labor 25 cents	2.75
Total cost	$6.98
Domestic material sold	3.56
Cash outlay	$3.42

One man who had used a round-toothed harrow, thought the round teeth less injurious to the corn. For heavy or rough work, the oak frame would, of course, be better, and by adding another section, one would have an excellent two-horse smoothing harrow for all work. The straight width of this harrow is 5½ feet, and when drawing obliquely, it works a little over six feet. E. C. BIRGE.

Connecticut.

THE DEAF HEAR.—On page 857, J. W. B., of Franklin, Tenn., inquires about the audiphone. About 12 years ago, I had what was then called the dentaphone, a word meaning, sound by the teeth. The present name signifies, hearing by sound, but I think that the instrument is used in the same manner, by placing against the upper teeth and giving it a partial spring, as described in the answer to the inquiry. I do not know whether the audiphone or auraphone is an improvement on the dentaphone or not; but the dentaphone gave me a good deal of satisfaction or benefit, as I could understand a great deal in that way which I could not without. Especially was it helpful where there was noise, as in a railway car, or on the street. In such place, I could hear or understand conversation as well as those with ordinary hearing, and some thought better. At that time, the large size cost $10, smaller size, $6. I think that the present price is $4 or $5. J. W. B. can ascertain whether the instrument will do him any good by placing his upper teeth against a table or other solid substance, and with pin or pocket knife picking against the piece at the farther end. If he can hear plainly in that way, the instrument will help him. Otherwise, I think not. A. M.

Moonlight, Kan.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Electricity From Windmill Power.

H. L. D., Morristown, Tenn.—Sometime since, I was informed that an electrical dynamo had been invented, the power being furnished by a windmill, the dynamo being sold for about $75. The electricity was generated for the purpose of furnishing light. Do you know whether anything of the kind is on the market, and where is it made?

ANSWERED BY PROF. R. C. CARPENTER.

It is practicable to generate electricity by a dynamo operated by a windmill. I have not at hand the cost prices of small dynamos; but it is quite possible that one of a size suitable for operation with a windmill could be purchased for the price named. The power which can be derived from a windmill is, however, much less than is usually supposed. I found, by actual tests, that a 10-foot mill running in a breeze of 10 miles per hour, developed about one-tenth of one-horse power. The power is believed to increase with the cube of the velocity of the wind, and with the square of the diameter of the wheel, so that with a breeze somewhat greater in amount than the rate stated, the power would be very much increased. A wind moving at 10 miles an hour, is termed a moderate breeze, and is probably equal to the average velocity, at least for places east of the Mississippi. With a 12-foot wheel, and with a breeze moving 12½ miles per hour, we would, probably, get one-fourth of a horse power. These powers seem very small, no doubt, to those who have not actually made any tests, and who have used the windmill simply for operating a pump. The work of a horse power, if applied in raising water, would lift 16½ tons of water one foot per minute, or it would raise a proportionately smaller amount a greater distance. I think that those who are familiar with the work of windmills will note that the actual work realized as compared with the standard expressed in these terms, is very small. It requires a great deal of power to produce an electric current of any service in lighting. It usually requires one-horse power for each 8 or 10 incandescent lights; hence the power of an ordinary windmill would, under ordinary circumstances, operate only one or two lights. It is, however, entirely possible to store electricity by use of a storage battery; this would receive the current produced by the generator, and hold the electricity until required. With this apparatus, it would be practicable to use a windmill of a very low power, since the current which may be produced by its operation throughout the whole day, would be available for use for a few hours during the evening. H. L. D. would have to experiment somewhat before his system would be entirely satisfactory; but there is no doubt that the system as outlined is feasible, and would, undoubtedly, give success if properly installed.

An Examination of Two Fertilizer Analyses.

M. Y. T., New Albion, N. Y.—1. In the analysis of fertilizer No. 1, what does ammonia actual and potential, mean? Would not potential ammonia be an uncertain thing to buy? Would not the ammonia in leather scraps answer that description? 2. In the same analysis, what does the K_2O after potash mean? Is it only to show the particular form of potash used, or does it express a combination of potash with something else, of which there are eight to nine per cent, leaving the per cent of real potash much less than the figures given? 3. Do the letters and figures after the word potash, in the analysis of No. 2, mean the same as in No. 1? They are given a little different. 4. Is muriate of potash good to put on potatoes? 5. From the analyses, which fertilizer would you think worth most? 6. How do crushed dry bones, burnt bones and egg shells, compare in value as food for laying hens?

POTATO FERTILIZER No. 1.

Guaranteed Analysis.

Ammonia, actual and potential, derived from animal matter	3 to 4 per cent.
Available phosphoric acid	7 to 9 "
Potash, K_2O	8 to 9 "
Equal sulphate of potash	14 to 16 "

POTATO FERTILIZER NO. 2.

Guaranteed Analysis.

Nitrogen—Derived from sulphate of ammonia, nitrate of soda and animal matter	1.81 to 2.47
Equivalent to ammonia	2.20 to 3.00
Total phosphoric acid (derived from animal bone)	12.00 to 13.00
Available phosphoric acid	9.25 to 11.00
Soluble phosphoric acid	7.00 to 8.00
Reverted phosphoric acid	2.25 to 3.00
Insoluble phosphoric acid	2.75 to 3.75
Potash (K_2O) (derived from high grade muriate)	4.00 to 5.00

No kainit used.

ANS.—1. "Potential," in this case, is a meaningless word, and is no guide to the value of the fertilizer. Certainly the ammonia in leather scraps may be called "potential," though it is also impotent so far as useful work is concerned. The description of the nitrogen in No. 2 is much better, though it is well to remember that leather is "animal matter." 2. K_2O refers to the form in which the metal potassium is found. Two parts of this metal and one part of

oxygen form the oxide of potassium, or "potash" as it is commonly called. It is on the same principle as saying "water H^2O." What we call water, is really a chemical mixture of two parts of hydrogen and one of oxygen. The law in many States compels fertilizer makers to mark their sacks in this way so that there can be no doubt about what they call "potash." The chemist, when he comes to analyze the fertilizer, looks for "potash" in its chemical form of "K^2O," so that this chemical sign is a proper thing when once understood. The words, "equal sulphate of potash," mean that if the "potash" were combined with sulphur to form the sulphate, there would be nearly twice as much by weight of the new substance though not an ounce more of the actual potash. This line has no meaning, and should be left out unless the potash *is* in the form of sulphate—which does not follow. 3. In No. 2, we are told that the potash is actually derived from muriate, which in No. 1 we are not told, but are left to conclude that the dealer would like us have us think that it came from the sulphate. 4. The sulphate will usually give potatoes of a little higher quality. So far as yield is concerned, the muriate is probably as good. 5. We would prefer No. 2 chiefly for the reason that there is a fairer statement about it and, from the face of the analysis, a better chance of obtaining good quality. 6. Crushed dry bones are to be preferred to either baked bones or shells.

Saltpeter, Bone Black and Bone Clippings.

J. F. L., Wilkes Barre, Pa.—I am able to purchase some bone-black and saltpeter, mixed, half and half (in barrels) at 75 cents per barrel. Are they of any fertilizing value? If so, how should they be used? Would they not be good to mix with pig manure? I can also purchase about two tons of bone clippings at $15 per ton, made by scraping and chipping the bone on knives and forks in a cutlery factory. Are they of any use for fertilizing?

ANS.—The crude bone black is not of much value, but the saltpeter will give considerable nitrogen and potash. If it can be crushed fine enough to spread, we would keep it under cover till spring, then crush and broadcast after plowing, on land intended for vegetables. The value of the bone clippings will depend upon their fineness. We could tell better by seeing a fair sample.

A "Balanced Ration" Without Clover.

G. R., Wayland, Mass.—Can I feed cows a profitable balanced ration without buying any grain, by feeding cob-meal, corn fodder, beets, carrots, pumpkins, squashes and hay (meadow or English, or both)? If so, what proportion and quantity of each is needed? I believe that a man selling milk for three cents a quart, must raise most of his feed, in order to have a living profit. Why is it that no one ever speaks of rye as a cattle or poultry feed? I fed it last winter to 25 hens, and they averaged one-half an egg a day each from January 1 to June 1, not allowing for the sitters. I have never heard any one say a good word for it; why is it? If it is necessary to buy grain for cows in addition to the above feeds, what would be the most profitable kinds to use?

ANS.—It will be very hard to compound what is called a satisfactory "balanced ration" from these foods. There is a great lack of muscle-makers with corn-and-cob meal as the only grain. We would not attempt to make a scientific ration from these materials. At the same time, with the present prices for milk and grain, it may be cheaper, at present, to feed what you have, and not spend cash for extra food. Much of your produce may not be salable, and you will have to feed it anyway. If a dairyman starts out to grow his food at home, there is one thing he must make up his mind to, and that is to provide a supply of clover hay. If you had a supply of good clover on hand, we could soon figure out a ration from home materials. Clover is the cheapest source of muscle-makers, and the clover-seed bag is the best grain bin on the farm. If we were to buy any grain to go with your foods, we would get both cotton-seed and linseed meals, and feed one pound each with, say, four or five pounds of the corn-and-cob meal with roots, squashes and hay to suit. We think most rye growers use the grain to feed to horses, rather than poultry or cattle.

"Fenugreek" and Its Use for Horses.

A. M., Bridgewater, N. H.—Fenugreek is often given as an ingredient of horse medicine, and has been used as a part of the famous cattle and horse foods which were sold at fabulous prices per ton, as compared with their real food value. Last spring, I saw the seed listed among medicinal herbs, sent for some and planted it; it grew readily and the plants ripened seed. Now that I find that I can grow it, I wish to know how to use it. What part of the plant is used for medicine? How much of it may be safely fed? If it is of any special value, I think that every animal owner should know how easily it may be grown, and also how to use it.

ANS.—Fenugreek is the common name for Trigonella fœnum-græcum, of the leguminous, or pod-bearing order of plants. It is allied somewhat to the clover and lupin family. The name Fenugreek, is a corruption of two Latin words in the botanical name, meaning Greek hay. The whole plant was largely cultivated by the ancients as a fodder for cattle and horses, and it is still grown to some extent in parts of southern Europe, and in Egypt and India. It is considered a coarse and inferior feed; not to be used when better forage is to be had. The seeds, however, which contain a pungent, bitter oil, are largely used as an ingredient of "condition powders," and high-priced-horse foods, as A. M. remarks. They, undoubtedly, have tonic and stimulating properties, and the moderate use is quite certain to give temporary fire and vigor to horses and cattle. Besides the tonic effect on the appetite and digestion, there seems to be an exciting effect of the generative organs. The value of the continued use of fenugreek is doubtful, and it may properly be considered as an occasional tonic, or flavoring for the feed; much as we use parsley or other herbs as relishes and flavoring in cooking. It is not actively harmful, even in quantity, and may be given according to judgment. The usual dose of the ground seeds does not exceed one-half ounce, mixed with ground feed. W. VAN FLEET.

Gasoline Engine for Pumping.

A. R. Y., Meriden, Conn.—I am situated near a large pond from which I wish to irrigate my berries by pumping, as no fall can be obtained. They are all located within less than 1,000 feet of, and not over 30 feet above, the water level. 1. Would a gasoline engine be best adapted for this purpose, and what horse-power would be necessary to pump a 2½-inch stream? 2. What style and make of pumps would give most satisfactory results?

ANS.—A. R. Y. will find the gasoline engine, either belted or direct-connected to a centrifugal pump, a very efficient one for the purpose mentioned. The size of the engine cannot be determined by the size of the discharge pipe, but a five-horse-power engine should raise about 300 gallons per minute and would, probably, be sufficient for the purpose required. Such an engine should be operated, if of fairly good construction, by about one gallon of gasoline per hour. There are numerous makers of both engines and pumps in this country. R. C. CARPENTER.

Starting a Dairy Farm in North Carolina.

S., Hot Springs, N. C.—I have 150 acres of land, and grow corn, clover, Timothy or anything suitable for this climate. I am going into the milk business, and wish to know which are the best cows for milk. Where can I buy the cheapest, or get best bargains? Are there not some herds of Holstein-Friesians in Tennessee and Kentucky? Would Holsteins shipped here from the North, live? What are the best rations for milk? What quantity should I feed twice daily? Would ensilage pay better than dry feed? What is the best way to build a barn to hold 30 cows? Should the floor be concrete or boards?

ANSWERED BY PROF. F. E. EMERY.

S. would probably do well to buy the best common stock he can find around him to start on, and go slowly into fine purebreds, unless he has means enough to purchase anything he may fancy. I would advise buying these by test. See the plan worked out by the North Carolina Agricultural Experiment Station at Raleigh, Bulletin No. 113. As he seems to have an inclination toward the Holstein-Friesian breed, he would, probably, do well to buy a few cows, and head his herd with a bull of that breed. He should provide for weighing the milk and making a record of the yield of every cow regularly, at every milking, in order to know which ones are profitable; and also to test for the per cent of fat, and specific gravity, occasionally, that he may know the quality of milk he is furnishing his customers. With the knowledge which will accumulate from his records, he will know which, if any, of his grade heifers to raise, to add to the herd, and which cows to dispose of, in order to keep his product up to a standard for both quantity and quality.

There is a chance to get the highest yields from the breed favored by S., but I have noticed that milk producers who use that breed, often have a sprinkling of cows of other breeds more noted for high quality with rather small quantity, in their herds, and this tends to give more nearly an average or standard quality in milk, because high yield is not compatible with very high quality in the same cow. There may be herds of Holstein-Friesians in the States mentioned, but I would look for stock of the desired kind wherever it is known to be for sale at prices and of the quality to suit my ideas. No trouble need be experienced with cattle from the Northern States if cared for when brought South. If they receive scrub care, and be allowed to become covered with ticks, and to run in swamps, there may be considerable mortality; but with good care, they thrive as well in North Carolina as anywhere else.

In feeding a herd, I believe that no one who has fairly tried ensilage, would consent to give it up, and that S. can feed his herd better and cheaper by putting up a good silo early, and harvesting enough of his corn, at the proper stage, to fill it. He should try to provide clover hay enough of good quality to supply a midday feed with ensilage twice daily. It may be better to feed the smaller amount thrice, as two feeds of ensilage and one of hay, than to give enough ensilage at one feed and hay at another to last the herd a whole day. Frequent feeding in moderate amounts, may induce the animals to eat more and waste less of the food, thus increasing the chance to realize more from the food and from the herd than would be possible if fed more at a time and at longer intervals. With ensilage, or ensilage and hay, enough wheat bran, cotton-seed meal, linseed meal, or cow peas boiled or fed as meal, should be fed to make a balanced ration. Every cow should receive as nearly as possible what she will eat up clean. As S. is in North Carolina, he is referred to Bulletin 100 of the experiment station in that State, for composition and methods of compounding rations, and the standards for guide to proper feeding.

In regard to the barn for 30 cows: If in one building, it will need to be large enough for 45 or 50 animals to include calves and heifers, or these provided for outside. Lumber is cheap with S., yet a cheap plan will, doubtless, suit him best. If he has a good location, with a moderate swell of land which can be easily graded, I would advise that he build a circular silo in the center of the location for the barn, and then build the barn around it. If the silo were 20 feet in diameter, and 20 feet high, it would just about hold food for the 30 cows which could be stabled in the circular shed round it outside of a five-foot walk, and 2½-foot manger, with four feet on opposite sides to enter the central walk from the stables. Ten feet higher would furnish room to store ensilage for teams and young cattle, too. A five-foot wide platform for cows, with one foot drop and a four or five-foot walk, would require 18 feet, which would give a circular barn 47 feet in diameter. Back of this, a square building 25 or 30 feet wide and as long as desired could furnish calf and lying-in stalls; or, at a suitable distance away from the barn for drive and yard room, on the side from which the prevailing wind comes, a shed in a segment of a circle, may be built, long enough for calves, young stock and work teams, and for tools and vehicles.

The floor of the barn may be of earth raised a little above the surrounding soil and compacted. For the gutters behind the cows, a cemented trough will be best. A square stick may form the edge of the gutter on the side of the cow platform. This will be held firmly in place by locust stakes driven firmly into the ground, and cut off level with the surface. The platform may be tamped clay sloping from one to two inches from manger to rear. A stanchion piece should be bedded and anchored at the proper place. It could be of a thickness to spring to the curve, yet be strong enough to receive two-inch stanchions, the tops of which will be held by a top piece about six feet high. The cows can be most easily held in place by tie-chains sliding on the stanchions. The mangers should be made of planed boards and put together tight.

There will be storage room for hay over the cows, and a walk around the silo and over the horse and calf-sheds. The hay that can not be thus housed, should be housed in a separate shed, or stacked in large stacks and covered from the weather.

What Money Crops for Maryland?

E. D. S., Hollywood, Md.—I bought this property of 175 acres last May, and found, practically, no fruit other than cherries and blackberries. Not a blade of cultivated grass. The tenant "owned" the property until January 1 of this year—a lazy oyster man. My share of the crops proved to be 70 bushels (by measure) of 28-pound black oats, and 95 bushels of ears of mixed corn. Last fall, fire consumed nearly everything I owned, including the entire crop of potatoes excepting some 40 bushels. I have left two horses, one of them a scrub, one cow, two heifers, two farrowing sows, four shotes and a $1,000 mortgage. I *must* raise an immediate money crop. What would you advise? The soil varies from a stiff clay to a sandy loam. The location is between two streams, making a point into the Patuxent River. Baltimore is the nearest market; there is no local market for anything I can raise at once. I am hampered for money, and must make the farm resources pull me through. Tobacco is not a money crop. I have thought that, possibly, the swine may be made to help me out, and designed planting an old orchard to chufas and Jerusalem artichokes, turning in the pigs alternately upon small plots. Early peas I suppose to be an excellent money crop, but as no help can be hired until May 1, when the oyster season closes, I fear that they are out of the question.

ANS.—After a careful survey of the situation of E. D. S., as depicted in his inquiry, it looks to me as though the chances for an immediate money crop, that will amount to much, are not by any means flattering. If the condition of the land is to be judged by the crops of last year, it must be badly run down. Then again, there is no fruit, and, of course, no hope of realizing any money from anything that could be planted—berries, etc.—in time to meet the exigencies of the situation. No labor can be hired until May 1? Why not import enough from some other section to grow and manage a crop of early peas if such crop is profitable? For early peas or early tomatoes, grown and handled on modern business principles, there is a market that affords a fair profit; but early peas in St. Mary's County, Md., should be in the ground now, in ground, too, that has been carefully prepared, to grow and make a crop of them. And it is far too late to begin preparations for early tomatoes. Sweet potatoes paid handsomely last year—better, perhaps, than they will again for some time to come, as every available acre will be likely to be planted this year. Still obstacles may intervene such as cannot be foreseen, and prevent a glut of the market. Two or three acres of sweet potatoes would be a crop suited to the labor conditions of the section, and as some of the land is a sandy loam, doubtless would, with proper fertilization and tillage, grow fine potatoes. In short, the late date at which operations can be begun—

under the circumstances described in the inquiry, leaves but little choice as to money crops that hold much of promise in them. The early peas and sweet potatoes, supplemented by the "swine," if pushed with a due degree of vigor and intelligence, ought to afford a fair chance of success. J. W. K.

Maryland.

To Cure Knotty Apples.

W. V. H., Deer Park, L. I., N. Y.—My Northern Spy apple trees bear quite well, but the fruit is very knotty—covered with small depressions or cavities having a hard, woody spot at the bottom, just under the skin, and extending into the apple. Many also crack open, and many speck and rot on the trees. The trees are about 30 years old, stand in dark, heavy soil, with yellow clay subsoil, on a southern slope, and have been well manured with the droppings of hens which roosted in them. They are thrifty and make a good growth each year; but the tops contain 50 per cent too much wood, the pruning having been neglected. I am cutting out the most flagrantly superfluous branches, and wish to know what else to do. What should I apply to make the hen manure a complete fertilizer for fruit? The ground has not been plowed in years, as it is a run for hens, and the limbs of the trees nearly meet.

ANS.—To me, it would seem best to plow the entire surface of the soil except very near the body of the tree, but nowhere deeply, and apply 10 pounds or more of muriate of potash or, at least, two bushels of unleached ashes, and 10 pounds of bone dust, around each tree. The soil should be frequently, but not deeply, stirred very often all summer. This will stimulate good growth, the potash and phosphoric acid balancing the nitrogen of the hen manure. Don't be too free with the pruning tools. If spraying with fungicides (Bordeaux Mixture is the cheapest), be thoroughly done, there will be little trouble about knotty and scabby fruit.

H. E. VAN DEMAN.

Something About German Prunes.

C. A. G., Lyons, N. Y.—On page 598 of THE R. N.-Y. for 1895, J. S. Woodward said that Fellenberg plums, under the name of German prunes, were selling for 6 to 6½ cents per pound. Are German prunes the same as Fellenberg plums? If I wish to set German prunes, must I buy Fellenberg plums at the nursery? What is a description of the Fellenberg?

ANS.—The name, German prune, is used rather vagnely by the people of the United States, and is applied to more than one variety. However, the one which is the more commonly called by this name, is known in Germany as the "Quetsche." It is of medium size as compared with other European prunes or plums; is of long, oval form, with one side decidedly larger than the other, and having a plain suture on one side; bluish purple with thick bloom, giving the fruit a blue appearance. Flesh, firm, greenish yellow, of sweet and pleasant flavor; a freestone. Fellenberg is a distinct variety, but is sometimes called Large German prune, because of its slightly larger size, but very close resemblance in every way to the Quetsche. Both are good varieties, and it matters little which the writer plants. H. E. V. D.

Grasses for Spring Seeding.

H. B. L., Laceyville, O.—I have four acres of ridge land which has been good for everything to which it has been planted. It is now covered with a thrifty growth of wheat. I wish to seed it down for permanent meadow, with a variety of grasses. Clover does not stay long in meadow. How will Timothy, Red-top and Orchard grass do? What is the best mixture, and the proper time for sowing? Will it be best to sow with the wheat, or wait till about September 1, and prepare a new seed bed?

ANS.—Before freezing has ceased in the spring, sow per acre one quart of Alsike, five quarts of Timothy, two pounds of Red-top, and two pounds of Tall Meadow Fescue, if the seed can be secured. Do not sow Orchard grass, as it ripens early, even before Red clover. If a good "catch" is not secured, then the ground may be re-plowed and sowed in September, with the same seeds, leaving out the clover, which should be sowed in the spring. The Alsike clover cures light colored, improves the quality of the hay, and is, I believe, a positive addition to the whole yield, for as much Timothy will be grown without the clover as with it. Then, too, the clover will, in time, furnish nitrogen for the grasses, which will be in need of it the second or third year after seeding. I. P. R.

(*Continued on next page.*)

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A new corn has appeared, the corn of our fancy and dreams, big ears, small cobs, deep kernels, enormous, yes, marvelous cropper! That's Salzer's Golden Triumph. 1,000 farmers tested it in 1895 and are sure that 200 to 250 bushels can be grown per acre! Where will it end? Salzer's catalogue is full of rare things for farm and garden.

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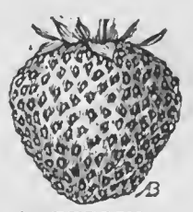

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Our finely illustrated catalogue sent free to all buyers mentioning this paper.

W. W. RAWSON & CO., BOSTON, MASS.

THE FARMERS' CLUB.

(CONTINUED.)

Value of Fish Pomace.

F. J. S., Charlotte, Me.—What is the analysis of fish pomace—that is, whole fish or scraps from sardine factories, with the oil pressed out leaving it quite dry? It costs from $8 to $12 per ton. We purpose to add muriate of potash.

ANS.—Such fish ought to contain about seven per cent of nitrogen and eight of phosphoric acid. By adding 300 pounds of potash to a ton of the fish, you will have a good mixture for corn, grass or grain.

English Rye Grass for Pasture.

F. S., Fleetwood, Pa.—Do you believe that English Rye grass will make good pasture before haymaking, on good limestone soil, when sowed this spring? How thick should it be sowed? Where can seed be bought and at about what price?

ANS.—English Rye grass would not be likely to get started sufficiently strong for pasturing so early in the season. I would not advise sowing it in any case. The seed is expensive, usually full of weed seeds, and is not so satisfactory as our common forage plants. I would prefer to sow barley and rye mixed half and half, 1½ bushel of each per acre as early as possible. True, these cereals will not furnish much, if any, pasture after July 1, neither will the Rye grass. Oats and peas, a bushel of each per acre, the latter plowed in two inches deep, will give a most excellent food for feeding in the stables, and some such provision as this is far better than to depend on pastures for August and September. The best grass we have is corn. It furnishes from five to ten times as much food per acre as does an ordinary pasture. Why not raise some corn, oats and peas, and partially or wholly soil the cattle during the hot summer months?

I. P. R.

A Talk About Strawberries.

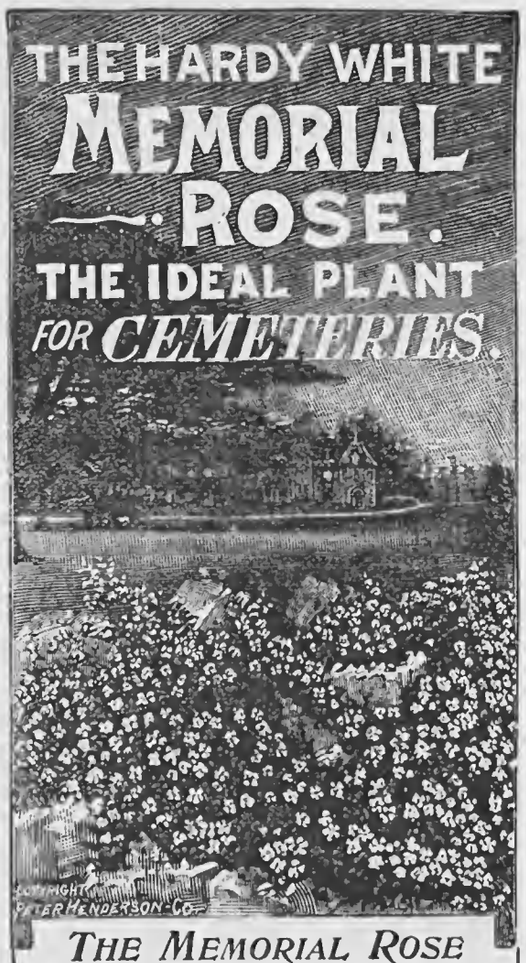
B. R., Meshoppen, Pa.—What is THE R. N. Y.'s best method for preparing the soil for planting and cultivating strawberries? Name a few of the best all-round berries for home use or market, pistillate and stamhate that go well together?

ANS.—THE R. N.-Y.'s best advice is this: Plow or spade (if a garden) the soil in the fall. If manure is to be used apply it in the fall. If fertilizers, apply them in the spring. In the spring, plow or spade again, then apply the fertilizers, and harrow or rake until the soil is firm and mellow. Set the plants one foot apart in the row—the rows three feet apart, or further for the field. The culture thereafter consists merely in keeping the soil free of weeds. The runners should be cut off unless desired to form new plants. It is well, too, to cut off the blooms the first season, but this may be more trouble than it is worth. The most popular kinds are at present Beder Wood (bisexual), Beverly (b.), Bubach (pistillate), Brandywine (b.), Crescent (p.), Cumberland (b.), Enhance (b.), Gandy (b.), Greenville (p.), Haverland (p.), Lovett's Early (b.), Marshall (b.), Parker Earle (b.), Sharpless (p.), Shuster's Gem (p.), Timbrell (p.). Beder Wood blooms in Bergen County, N. J., about May 1; Beverly and Bubach, May 5; Brandywine, May 7; Crescent, May 1; Cumberland, May 6; Enhance, May 7; Gandy, May 9; Greenville, May 4; Haverland, May 2; Lovett's, May 3; Marshall, May 3; Parker Earle, May 7; Sharpless, May 8; Shuster's, May 4; Timbrell, May 4.

A Talk About Raspberries.

J. S., Valley Mills, Ind.—What does THE R. N.-Y know about the Older blackcap raspberry? It is said to be more hardy and more prolific than any other raspberry, of large size, ripening a few days earlier than Gregg, berries jet black; but nothing is said about the firmness of the berry, which leads me to fear that it is soft. What about the Eureka, claimed to be as early as Souhegan, and as large as the Gregg?

ANS.—The Older berry is not quite so large as the Gregg, but it is of better quality and just about as firm. The plant is less prolific, but the canes are very hardy, while those of the Gregg are comparatively tender. We have not yet tested the Eureka.



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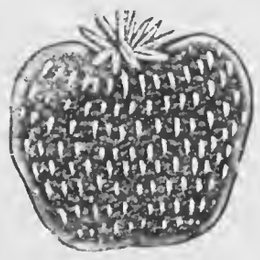

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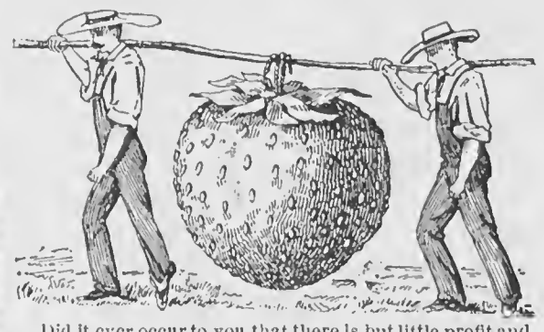

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1 Ridgely Chestnut, postpaid.....
Millions of plants. Peach, Apple, Plum, Pear and Nut Trees. CHAS. WRIGHT, Seaford, Del.

100 Collections By mail, $1 for 50 cents.
12 Miller Red Raspberry..... $0.50
One Detail Drawing of my new Display Flat .50
Total..... $1.00
SEND FOR MY CATALOGUE.
T. C. KEVITT, ATHENIA, N. J.

MARKET GROWERS in the Niagara district, are discarding all other Strawberries in favor of the WILLIAMS
By mail, 50 for $1; $4 per 1,000, by express. Wm. H. Bunting, St. Catharines, Ont

Strawberry Plants that Grow.

MILLIONS OF 'EM, CHEAP!
Write for Free Descriptive Catalogue.
C. E. WHITTEN'S NURSERY, Bridgman, Mich.

YOU WANT MY NEW STRAWBERRY CATALOGUE
Tells you what to plant; and about reliable Honest Plants that will grow and prove profitable.
Address WM. PERRY, Cool Spring, Del.

SMALL FRUIT PLANTS Large stock and well rooted. Catalogue free, which tells our varieties and prices. A. R. WESTON & CO., Bridgman, Mich.

BUTLER'S BERRIES

are true to name, fresh dug, reasonable in price, and Standard varieties. *No Circus Poster*, but honest descriptive list free. All fruits.
G. S. BUTLER, Box B, Cromwell, Conn

THE FARMERS' CLUB.

(CONTINUED.)

Winter Pears and Strawberries.

D. W., Short Creek, O.—1. What are two of your favorite winter pears? What about Winter Nelis? 2. What can you tell about some of the new strawberries THE R. N.-Y. fruited last summer? I have seen no report of them. Can you recommend Clyde, Glen Mary, Tennessee Prolific, Splendid, Woolverton, Isabella Fountain? I refer only to fertilizing sorts, as that is what I am in need of.

ANS.—1. Among early winter pears, Anjou, Lawrence and Winter Nelis. The Winter Nelis should be top-grafted. Josephine de Malines and Easter Beurre are the best winter pears; the latter succeeds best on quince. 2. Our strawberry report will be found in the issue of July 20, 1895, pages 485 and 490. Glen Mary is one of the most promising of the new kinds tried last season. We do not think much of the others mentioned.

Some New Fodder Plants.

T. M. D., Merchant, Ont.—1. In what latitude does Teosinte grow best? Of what country is it a native? How far north has it been known to grow sueeessfully? 2. Your paper is credited with having given a valuable testimony to Branching doura. In what year and in what latitude and longitude was it growing when it merited your indorsement? Would it be likely to grow on warm limestone soil in eastern Ontario? 3. Have you any knowledge of the sueeess of Saghalin? Has it been grown in New York or any of the northern States?

ANS.—1. Teosinte (Euchlæna or Reana luxurians) is a native of Mexico. We raised plants some 15 years ago, and again last season. It never bears seeds in the north, but makes a most luxuriant growth—more so than corn. There is more leaf surface to the stalk, and as many as 25 stalks often grow from one seed. If the plants be cut back, the stems will at once make a second growth. 2. THE R. N.-Y. introduced the Rural Branching sorghum or doura many years ago. It makes an immense growth of leaves and stalks which may be cut back at any time. A second growth will start at once. It does not produce seed reliably north of South Carolina. Some seedsmen afterwards gave it the name of Millo Maize. It will flourish anywhere that corn will, and endure more drought. 3. We have given our opinion, in so far as an opinion can be formed, of Saghalin many times. The plants will thrive anywhere, in wet or dry land, and spread from year to year. We doubt whether it will be prized where corn will thrive.

The Use of Plaster in Manure.

J. E. R., Moundsville, W. Va.—Is land plaster good to rot stable manure? How should it be applied? What is the price? Will it lose its strength with age? I have plenty of stable manure in which is a great deal of straw. I have been troubled in getting it to rot without fanging, and have been told that land plaster will rot it.

ANS.—Plaster will not ferment or "rot" manure. What it does is to bring about a chemical change so that the valuable ammonia contained in the manure is put in such form that it will not escape. Your manure, probably, "fire-fangs" because it is too dry, and because the pile is left too open and loose. To prevent this, tramp the pile down hard as it is made up and then keep it moist. It is a good plan to mix horse and cow manure together, as the latter is moister and colder than the former. If the liquid drainings from the stable can be run on to the pile, there will be no danger from fire-fanging. The place to use plaster is in the stable from day to day, in the stalls and back of the horses.

AMONG the new and rare things described in the spring catalogue of The Storrs & Harrison Company, Painesville, Ohio, is the "Logan Berry." A Raspberry Blackberry, which originated with Judge Logan of Santa Cruz, California. This is a most remarkable berry, a cross between the Red Antwerp Raspberry and the Aughinbaugh Blackberry. The plant itself is quite a curiosity, unlike either of its parents, and the fruit is a decided novelty, with the form of the Blackberry of large size, and the color and flavor of the Red Raspberry. It will be appreciated by berry eaters, who find the seeds of both blackberries and raspberries annoying, as in the Logan they are very small and soft and not abundant. It ripens earlier than either the Raspberry or Blackberry and brings a better price in the California markets. Its hardiness appears fully attested in Ohio, as fully exposed on the grounds of the above-named company it did not suffer in the least during the cold winter of 1894-5, and to their surprise fruited the past spring on one year plants. As you will see by their advertisement in our columns, they offer a large valuable catalogue free which contains a life-size cut and full description of this novelty. —*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Eat

Nourishing food, take Hood's Sarsaparilla to give you good appetite, purify your blood, steady your nerves and you will have perfect health. Dyspepties and nervous sufferers find cure in

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. $1.

Hood's Pills are the only pills to take with Hood's Sarsaparilla.

To Fruit Growers and Shippers!

Have you had a copy of our new 1896 Catalogue and Price List of **Berry Boxes** and **Crates, Plant Boxes, Climax Baskets**—for Peaches, Grapes and Melons—**Stave Baskets**, and all kinds of **Fruit and Vegetable Packages?** If not, send us your name and address on a Postal to-day, and get this valuable 32-page(4½x7 in.)pamphlet, *free*. It is fully illustrated with numerous photo-engravings, showing the packages filled with fruit, and as packed for shipment. When writing for catalogue, send us the names of other Fruit Growers.

The name of the greatest oat is
"ILLINOIS,"
Yields over 100 bushels per acre, rust proof, matures early, longest and heaviest straw, grain large and weighty. I control the entire Stock of "Illinois." Have also **Sunol** and **Leading Sorts.**
OATS
Send Postal Card for beautiful and instructive new SEED and PLANT BOOK. It's FREE if you write to-day.
H. W. BUCKBEE,
Rockford Seed Farms
ROCKFORD, ILL.
P. O. Box 545.

ESTABLISHED 1822.

BRECK'S

CHANCE POTATO.

We introduced this potato last year in nearly every state in the Union, reports received show it gave unqualified satisfaction and was invariably **Awarded First Prizes.** It is *of surpassing quality, very early, a heavy cropper, uniform size, free from disease and good keeper.* We send it (carriage paid in New England) for $5.00 per bbl., $2.25 bush., 75c. pk. Purchasers outside of New England may deduct 10 per cent. from these prices. Our Illustrated **Indexed Catalogue** (170 pages) contains news about novelties and standard varieties of **Flowers, Bulbs, Plants** and **Vegetables,** approved agricultural and horticultural implements, cultural directions, information how to prevent and destroy plant pests, particulars of our offer to duplicate first prizes offered by all agricultural and horticultural societies in the United States, and **Free Delivery.** *We Mail It Free,* and with it to those who mention this paper, either of the following selections for 15 cts., or both for 25 cts. (1.) 1 oz. Breck's Boston Mixture Sweet Peas (60 kinds.) 1 pkt. Breck's Dwarf Rainbow Nasturtium. 1 pkt. Breck's Tall Rainbow Nasturtium. (2.) 1 pkt. Breck's Belmont Tomato. 1 pkt. Breck's Golden Celery. 1 pkt. Breck's Wakefield Cabbage.

Everything for Farm, Garden and Lawn.

JOS BRECK & SONS, BOSTON, MASS.

DREER'S RELIABLE SEEDS PLANTS and BULBS

Are everywhere known as **The BEST.** Why risk poor ones when the best cost no more. Send postage stamp for **Dreer's Garden Calendar for 1896**—richly illustrated; two colored plates on cover, of popular flowers. It describes everything **New** and **Old, of Merit.** HENRY A. DREER, 714 Chestnut St., Phila., Pa.

The Earliest Potato in the Market
NEW WHITE OHIO
Makes its debut this spring.

The Earliest Tomato in the Market
VICK'S EARLY LEADER
Large Packet 25 cts. Half Packet 15 cts.

The wonderful new Rose Crimson Rambler 15c. each.

Choice Mixed Sweet Peas (not a cheap mixture), containing many of the finest named varieties, **40** cts. per pound, **25** cts. half pound, **15** cts. quarter pound.

And with either of the above a copy of **Vick's Floral Guide** (when wanted) which contains everything required for a good garden. Guide sent to any address on receipt of 10 cents, which may be deducted from first order. Box R. ROCHESTER, N. Y.

JAMES VICKS SONS

FERRY'S SEEDS

Ask for them—get them, plant them. They are the standard seeds everywhere; sown by the largest planters in the world. Whether you plant 50 square feet of ground or 50 acres, you should have **Ferry's Seed Annual** for '96. The most valuable book for farmers and gardeners ever given away. Mailed free.
D. M. FERRY & CO., Detroit, Mich.

$100.00 FREE

To the persons making the largest yield from VINELESS GOLD COIN PROLIFIC or SWEET POTATO this year. Here is a chance to MAKE MONEY EASY, besides getting the best Sweet Potato on earth. Send for 1896 Catalogue.

ONION Yellow Globe Danvers, postpaid. 70c. per lb. Red Wethersfield, 80c. per pound.

MELON SEED, all leading varieties. 35c. per pound, postpaid. Can you beat this?

RADISHES, 45c. per pound, postpaid. Peas, Beans and all Vegetable Seeds at correspondingly low prices. It will pay you to let us hear from you before you buy. We are the Market Gardener and Farmer's friend. OUR PRICES SUIT THE TIMES.

THE HUNTINGTON SEED CO. Indianapolis, Indiana.

A BARGAIN COLLECTION OF
FLOWER SEEDS

10 Choice Annuals, (everybody's favorites), all new, fresh seeds, sure to grow and bloom this season. **Pansy,** 40 colors and markings; **Phlox,** 20 colors; **Verbena,** 18 colors; **Pinks** 10 colors; **Petunia,** 10 colors; **Asters,** 12 colors; **Balsam,** 8 colors; **Sweet Peas,** 12 colors; **Mignonette** and **Sweet Alyssum.**

FOR 12 CENTS and the name and address of two of your friends who grow flowers, I will send, postpaid, the complete collection, one pkt. each of the ten varieties (enough for any ordinary garden.) This is a **BONAFIDE** offer, made to introduce my home grown flower seeds to new customers and which I guarantee to please you or the amount paid refunded and the seeds given as a present.

Miss C. H. LIPPINCOTT,
319 and 323 Sixth St. So., MINNEAPOLIS, MINN.

SEEDS All Varieties. Catalogues FREE
J. CHAS. McCULLOUGH Second & Walnut Sts. CINCINNATI, OHIO.

BLACK COW PEAS.

The great soil improver. For light or medium soil this crop is superior to clover as a green manuring crop to turn under. It also makes a splendid nutritious forage crop and enriches the soil, even though the crop is cut off. Write for Price and Descriptive Catalogue, giving full information.
T. W. WOOD & SONS, Richmond, Va.

DO YOU SEE THE POINT? *LINCOLN OATS—They are White, Heavy Big Producers, and Have No Equal.*

Farmers want facts. Here they are:
1st. Lincoln oat has produced one-third more than any other in same locality.
2d. They are early. Sown with others, ripen from six to ten days earlier.
3nd. They get the start of dry weather on account of their earliness.
4th. They have stout straw and don't lodge.
5th. They never have rusted. [meat.
6th. They are best for feeding on account of their thin hull, soft nib and heavy
7th. No oat in existence will produce more on light or thin land, while on rich soil 150 bushels to the acre is not uncommon. My seed was grown expressly for me under my own supervision. The cut shows the weight

Is it not economy to have the best? Your neighbors will want your crop at a big advance over feed prices to sow next season.

They are going fast. Orders coming now from all directions. Orders from New Jersey, Kansas, North Carolina and Canada, and lots from Ohio, Indiana and Pennsylvania already on my books.

PRICES—Pint, postpaid, 15 cents; quart, 25 cents. Express or freight, *charges paid by purchaser*—**Peck, 40 cents; half bushel, 70 cents; bushel, $1; sack of 3½ bushels, $3.30; 5 bushels, $4.50; 10 bushels, $8.50; 20 bushels and over, 80 cents per bushel.**

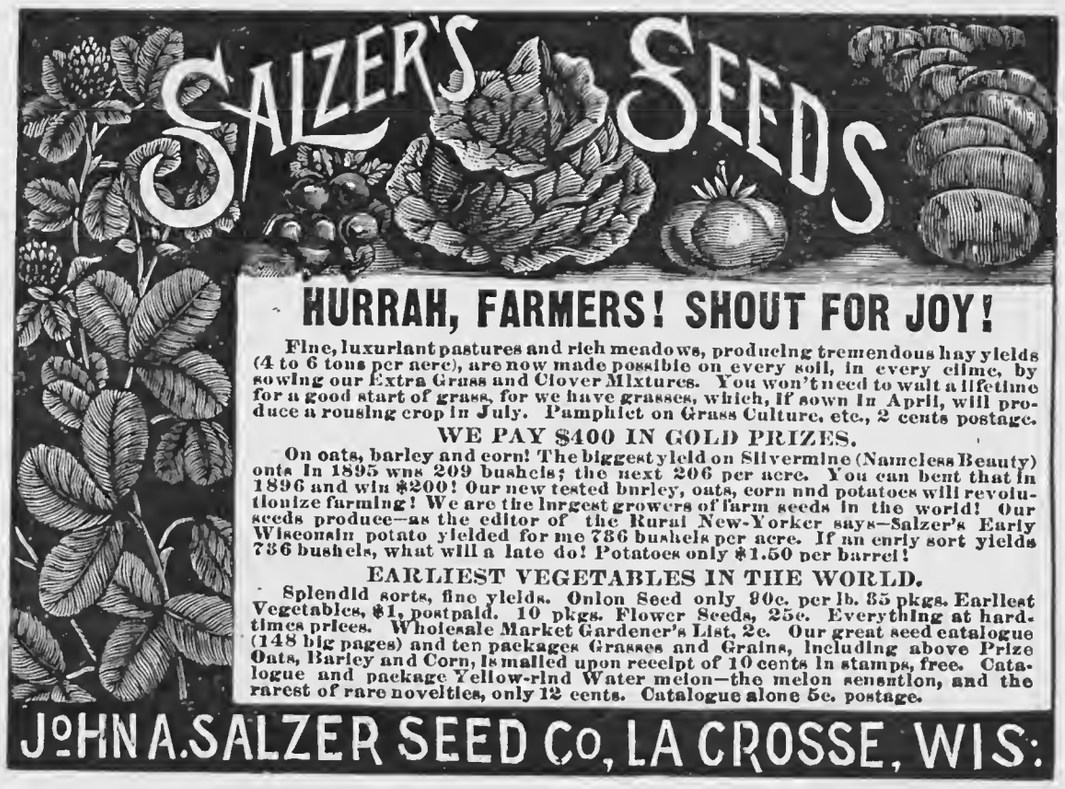
I have a nice lot of white **BONANZA KING, AMERICAN BANNER** and the **BLACK RUSSIAN** a winter oat. Prices see catalogue.

For further particulars see large advertisement in February 15th issue of THE RURAL NEW-YORKER.

100,000 Gregg, Palmer and other Raspberry roots at $7.50 per M.

30 varieties of Seed Corn. All kinds of Garden Seeds. DON'T FAIL TO SEND FOR LARGE NEW CATALOGUE NOW. **BIRMINGHAM, O.,** is my money order office. Address

S. P. SHEPARD, Henrietta, Ohio.



HURRAH, FARMERS! SHOUT FOR JOY!

Fine, luxuriant pastures and rich meadows, producing tremendous hay yields (4 to 6 tons per acre), are now made possible on every soil, in every clime, by sowing our Extra Grass and Clover Mixtures. You won't need to wait a lifetime for a good start of grass, for we have grasses, which, if sown in April, will produce a rousing crop in July. Pamphlet on Grass Culture, etc., 2 cents postage.

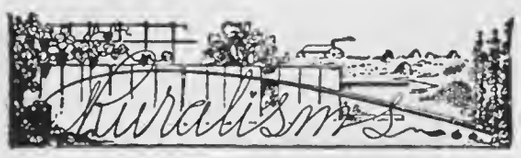
WE PAY $400 IN GOLD PRIZES.

On oats, barley and corn! The biggest yield on Silvermine (Nameless Beauty) oats in 1895 was 209 bushels; the next 206 per acre. You can beat that in 1896 and win $200! Our new tested barley, oats, corn and potatoes will revolutionize farming! We are the largest growers of farm seeds in the world! Our seeds produce—as the editor of the Rural New-Yorker says—Salzer's Early Wisconsin potato yielded for me 736 bushels per acre. If an early sort yields 736 bushels, what will a late do! Potatoes only $1.50 per barrel!

EARLIEST VEGETABLES IN THE WORLD.

Splendid sorts, fine yields. Onion Seed only 90c. per lb. 35 pkgs. Earliest Vegetables, $1, postpaid. 10 pkgs. Flower Seeds, 25c. Everything at hard-times prices. Wholesale Market Gardener's List, 2c. Our great seed catalogue (148 big pages) and ten packages Grasses and Grains, including above Prize Oats, Barley and Corn, is mailed upon receipt of 10 cents in stamps, free. Catalogue and package Yellow-rind Water melon—the melon sensation, and the rarest of rare novelties, only 12 cents. Catalogue alone 5c. postage.

JOHN A. SALZER SEED CO, LA CROSSE, WIS.



UNDER Ruralisms of December 28, we gave a pretty full account of Mr. H. M. Stringfellow's philosophy and practice as to pruning the roots of trees before shipment, and just before planting. He cuts all roots back to about an inch, more or less, sloping the cuts so that when the tree is set, the cut surface will "face downwards." Experience, he says, has shown that the roots will generally grow perpendicularly to the plane or surface of the cut. A final cutting back of the roots should be done shortly before planting so as to present a fresh surface for the callus to form. Only about a foot of top should be left. If the little tree is well staked, three feet of top may be left. Mr. Stringfellow insists that trees treated in this way will live longer and be far more vigorous. Of course, there is a great saving to the nurseryman in packing; the cost of transportation is lessened, and the purchaser is benefited, also. Fig. 59 shows Mr. Stringfellow with one of his close-pruned trees in one hand and the result of one season's growth in the other.....

NURSERYMEN have their trials, not only, as others do, because of general depression, but because, no matter how general the country's prosperity may be, they may not share in it at all, because of their utter dependence upon weather conditions which are quite beyond their guidance. We have naturally had inquiries as to when the Carman gooseberry would be offered for sale, a variety that, all points considered, we regard as better than any thus far introduced. The following excerpt from a private letter from the Storrs & Harrison Company will answer the queries of our friends:

As to the Carman gooseberry—we made a total failure in its propagation last season, as well as in many other plants, owing to the late spring freezes, and extremely dry season following. We estimate our losses at $10,000. This will delay its introduction a year or two.....

THE number of new kinds of potatoes for which astonishing claims are made, has never been so great as just now. We would say this to our readers: Do not even try any new variety if of inferior quality and shape, no matter how great a yielder it may be.....

TRY the new clematis, Edouard André. It blooms the same season it is transplanted, and it blooms all summer. The color is different from that of any other clematis. It is perfectly hardy.....

WE print the following note—one of several of the same tenor—called out by Dr. Garlick's remarks as to the Crimson Rambler:

It is to be hoped that the Rev. Dr. Garlick will not discard his Crimson Rambler rose without further trial. Mine, a one-year plant, set last spring just in time to be cut back by the frost that killed so many of our fruit buds and blossoms, finally sent out a thrifty shoot that reached a length of about two feet, after I had given it up for dead, as it started out again after the frost and then seemed to die out, but later took hold as I have said. L. A. PETERS.

Massachusetts.

THE SYNCHRONISM of variation in plants. The London Gardeners' Chronicle alluding to the ofttimes simultaneous appearance in widely different localities of the same "sport," says that at about the same time that the Cupid sweet pea (Burpee & Co.) was announced here, Mr. Eckford, the well-known sweet pea originator of England, had "the same dwarf variety in his grounds." There is now a pink dwarf reported by Mr. Burpee and, doubtless, we shall soon have a variety of colors.....

MR. J. H. HALE regards Sutton Beauty as about the best paying apple for market that we have.....

IN the opinion of Ruralisms, the catalogue makers make a serious mistake in not giving a full index. It doesn't matter whether the catalogue is arranged, as most are, alphabetically or not, one is, all the same, assisted by the index. It is out of the question to arrange all plants and seeds alphabetically. The vegetable seeds, flower seeds and so-called farm seeds are placed in separate departments. So, too, are the grass seeds, miscellaneous seeds and tree and shrub seeds, herbs, plants and so on. They present a dozen or more different classes of the matter offered, and the inquirer is often obliged to look through a considerable portion of the entire book to find just what he wants. An index saves all this trouble. It takes some space, to be sure, and adds a trifle to the cost. But it is our way when we wish to look up special offers, collections, field corn, Kaffir corn, Teosinte, buckwheat, sugar cane seed, tobacco, broom corn, oats, clovers, grasses, Soja beans, cow peas, ornamental plants, shrub and tree seeds, fertilizers and so on, to select the catalogue that always contains a comprehensive index.....

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Corn

is a vigorous feeder and responds well to liberal fertilization. On corn lands the yield increases and the soil improves if properly treated with fertilizers containing not under 7% actual

Potash.

A trial of this plan costs but little and is sure to lead to profitable culture.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

Genuine Peruvian Guano. Lobos

In original packages as imported. No manipulation. Limited stock. To-day's price, $37 per ton, cash, f. o. b. Camden or Philadelphia.

TAYLOR BROS., Market and Front Streets, CAMDEN, N. J.

WRITE US FOR A CIRCULAR OF

Bone Manures

SURE CROP MAKERS.

THE WESTERN UNION CHEMICAL CO.,

Cleveland, Ohio.

HOW TO BUY AND USE

PLANT FOOD

$10 to $15 per ton can be saved by buying fertilizers intelligently, and using

NITRATE OF SODA,

the cheapest and best source of nitrogen.

A Valuable Pamphlet, containing the results of experiments with fertilizers and directions how to use and buy fertilizers to the best advantage, sent FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

Acme Pulverizing Harrow, Clod Crusher and Leveler. "Its various qualities fit it for easy, rapid and efficient preparation of land and in cheaply working the broad fields of a large farm into as fine a condition as a garden." Will be sent on trial. See advertisement on page 190.

ARMSTRONG & McKELVY Pittsburgh.
BEYMER-BAUMAN Pittsburgh.
DAVIS-CHAMBERS Pittsburgh.
FAHNESTOCK Pittsburgh.
ANCHOR, ECKSTEIN } Cincinnati.
ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION } New York.
SOUTHERN, SHIPMAN } Chicago.
COLLIER, MISSOURI, RED SEAL, SOUTHERN } St. Louis.
JOHN T. LEWIS & BROS. CO Philadelphia.
MORLEY Cleveland.
SALEM Salem, Mass.
CORNELL Buffalo.
KENTUCKY Louisville.

NO MISREPRESENTATION on the part of our agents tolerated or of dealers or painters necessary. You know just what you are getting when you have painting done with

Pure White Lead

(see list of brands, which are genuine) and Pure Linseed Oil. Don't be misled by trying something else said to be "just as good." Any desired shade or color may be easily produced by using NATIONAL LEAD CO.'s Pure White Lead Tinting Colors.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
1 Broadway, New York.

RICHARDS TRANSPLANTING IMPLEMENTS.

Patented April 2, 1895. A cheap, sure and simple way to transplant all kinds of plants; guaranteed not to disturb their growth. The inventor has transplanted thousands of plants with these implements and is therefore qualified to say what they will do. Indorsed by many of the most prominent plant growers. Send for circular giving testimonials and directions how to use, and other interesting information, especially to strawberry growers. Price, per set of six transplanters, one excavator and one ejector, $2.50. Extra transplanters, 20 cents each. *Agents wanted.*

F. RICHARDS, Freeport, N. Y.

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

FERTILIZERS

Get in the swim! Ask for the Agency of **Royal Standard Fertilizers** before territory is taken. Sure winners and EASY to sell. ***HIGH-GRADE SPECIAL BRANDS*** for all soils and crops. Responsible agents wanted in unoccupied territory. *Catalogue Free.* Address

ROYAL FERTILIZER CO., No. 40 Wick Block, Cleveland, Ohio.

BAUGH'S

—ESTABLISHED 1855—

BAUGH & SONS COMPANY,
WORKS: Foot of Morris to Moore Sts.,
Address 20 S. Delaware Ave., PHILA.

SPECIAL **POTATO** *MANURE*
ANIMAL BONE **$25** PHOSPHATE
GENERAL CROP GROWER
Bone & Potash Compound
—High Grade Acid Phosphate—
PURE RAW BONE MEAL, &c.

Waste on the Farm.

Around the farm there is at least *a ton or two* of materials, such as **Ashes, Hen Droppings, Wood's Earth, Marl** and other things, which, if mixed with

Powell's Prepared Chemicals,

make fertilizers rich in Ammonia, Potash and Phosphoric Acid, which will be quick acting, producing large crops and at the same time permanently improve the soil. *A fertilizer made in this way is certain, but costs very little*—only about **$12 per ton.**

Many thousand farmers have saved fully half their fertilizer bills by the use of **Powell's Prepared Chemicals.** Circular giving instructions for mixing, with testimonials from every section sent free.

POWELL FERTILIZER & CHEMICAL CO., Baltimore, Md.

SOLUBLE

PACIFIC GUANO.

The Standard Guano Now in Use.

Almanac for 1896 now ready; sent on application.

PACIFIC GUANO CO.,

AGENTS WANTED. New York, Pittsburgh and Cleveland.

THE

The Rural New=Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

SUBSCRIPTIONS.
PRICE, ONE DOLLAR A YEAR.
To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

ADVERTISING RATES.
Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses. We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.
Address all business communications and make all orders payable to
THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MARCH 14, 1896.

THESE Rhode Island Yankees are ingenious people. Mr. Macomber's fertilizer mixer, and Mr. Birge's harrow, are two samples of what Fred Grundy calls "profitable tinkering." We have some more speeimens coming on the way. That fertilizer "mixer" is a good illustration of the way a balaneed ration is made out of thoughts. One of these "tinkers" will whirl a thing over in his mind one way, and then turn it over and whirl it in another direetion. If he turned it in only one direetion, it would never be anything but a one-sided idea. One-sided ideas are too narrow to fill a gap in any farmer's needs.

⊙

IN addition to what is said on page 188 about feeding cotton-seed meal to poultry, it may be stated that very small quantities of this substance are fed on large brooder farms to the little chiekens. The objeet in feeding it is not to seeure a cheap ration, but to prevent a looseness of the bowels which often troubles chieks when foreed with large quantities of meat and greeu food. The cotton-seed meal is eonstipating in its effect on the system. Our opinion is that the Connecticut hens mentioned in the article, were fed too much of this meal. We would never feed it to poultry except for its medicinal effect.

⊙

A SERIES of institutes, or "agrieultural sehools," is being held in Westchester County, N. Y., during the month of Mareh. The opening meeting was held at Mount Kiseo, Mareh 4, and similar meetings will be held in eaeh town in the eounty. This work has no eonneetion whatever with the State institutes, but is being carried on by the "Committee for the Promotion of Agrieulture," whieh eonsists of a body of wealthy men who desire to promote the eause of agricultural edueation. Mr. Geo. T. Powell has eharge of the meetings, and he will be assisted by a eorps of the ablest educators in the State. THE R. N.-Y. will have more to say about these meetings in a short time.

⊙

AN apple grower in western New York, according to a loeal paper, hit upon a novel plan for branding his apples. He seleeted a fine tree bearing apples of his prineipal variety. Then he prepared slips of sized paper, and in these steneiled his name. A eouple of weeks before pieking time, he bound a slip of paper around eaeh apple on the sunny side of the tree, having the part eontaining the name on the side toward the sun. When the apples were pieked, the slips were removed, and the name of the grower was plainly shown on eaeh apple. One of these apples was wrapped in tissue paper, and plaeed in the top of eaeh barrel. On the head was stenciled the advice, "Look for the name." The novelty of the thing has attraeted great attention to his apples.

⊙

IN a small neighborhood in the interior of New York State, a poor, erippled man makes a bare livelihood by keeping a little store. Last fall, a eustomer who owed him money, brought in a number of partridges whieh were to be sold to pay the bill. The hunter elaimed that the birds had all been shot in a legal manner. The game laws having been recently changed, the storekeeper decided to make sure of his ground before shipping. The birds were put into a box and left at the railroad station while he went to consult a lawyer with regard to the game laws. On his return, he found the box gone and was soon after informed that the constable had seized it. Later he found that he was practically under arrest for attempting to sell snared game, as one of the birds had a piece of wire on its leg—used simply to fasten the birds together. This man is to be tried in May, and, if eonvicted, the fine will ruin him, as it will require all his little savings, and more, to settle. The man has always borne a good reputation, and we do not believe that he is eapable of intentional wrong or illegal dealing. Here is an illustration of the injustiee that is possible under our game laws. This poor crippled man had no thought of breaking the law, yet, in order to "make an example" of some one, the authorities steal his birds and subjeet him to all sorts of annoyanee and expense. The whole thing is done at the instigation of town and eity men, who desire the game for a few weeks' pleasure shooting. It is high time that farmers reeognized the faet that they have some rights in this matter of game preservation. At present, the farmers supply the land and the food for game, while the eity men supply the laws. If the case we have mentioned be brought to trial, farmers should organize and push it through, or otherwise a precedent may be established against them.

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MR. S. S. BAILEY, of Michigan, points out the faet that most men are pretty likely to attribute sueeess in farming to the *man* of the house alone. He says:

> Most men, as they pass by a fine farm, well kept, showing good farming, will speak of the man of the farm as a good and successful farmer, never for a moment allowing or considering that the wife of the prosperous farmer has contributed to make the farm a credit to its owners. In my observation for over 60 years, I have found that, almost invariably, when you find a man that has the credit of being a first-class farmer and has a No. 1 farm, the wife has fully as much to do in bringing success as has the husband, who gets all the credit, and the wife is often the better farmer of the two. She has had more cares and made more sacrifices in the rearing of the children, in addition to the cares of the farm, and has carried heavier burdens that success might be won, than has the husband.

There is mueh truth in that, for it is a part of human nature for all of us to assume that man's work stands in its proportion of value to that of woman's in about the ratio of gold to silver. Not only that, but many of us are as little inelined to admit woman to her fair share of eredit as is the elosest "gold bug" to admit silver to privileges of "free eoinage." Somehow, there are men who appear to be afraid that, if fair eredit be given to the work and adviee of their wives, a great sliee of their own importance will be cut off. That is why there is a great contraction of the eireulating medium of eonfidence and respect in some families.

⊙

ONE of the annoyances, to the man anxious to learn, in visiting many of the exhibitions of live stock at fairs and elsewhere, is the large number of eattle shown without anything to indieate their breed or ownership. Exhibitors seem slow to take advantage of the facilities for advertising afforded by these exhibitions. At the different live stoek shows held at Madison Square Garden, in this eity, eatalogues are always prepared, giving the name and number of every animal, so that by referring to these, the breed, name of exhibitor, and other faets may be learned. At the recent poultry show, many of the exhibitors put up cards and posters, and distributed eireulars, and some were always on hand to explain the merits of their breeds, and to answer questions. The result was a large number of sales and many new eustomers. This was carried still further at the Westminster Kennel Club's exhibit than we remember ever to have seen it elsewhere. Many of the kennels represented had speeial men to give information, and cards were posted near many of the dogs, telling where all desired information eould be obtained. The result was a large number of sales. This is an admirable plan, satisfaetory to the visitor seeking information, and profitable to the exhibitors. We would be glad to see more of it done at our fairs.

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PROF. BROOKS, of the Massaehusetts Agrieultural College, has shown very elearly why soils that have been long under eultivation, are likely to need extra supplies of potash. The earliest fertilizers that were used eontained no potash. They were mostly superphosphates, fish, bones or guano. Even now the "phosphates" so eommonly used contain but little potash as eompared with phosphoric aeid. All of the important erops in elosely settled eountries, take from the soil mueh more potash than phosphoric aeid. In manures, the potash is far more subject to loss, as it is more liable to be leached out, and the greater proportion of it is voided in the urine. When we plan to inerease the fertility of our fields by buying bran, oats, cotton-seed meal or linseed meal, we may secure a manure rieher in nitrogen and phosphoric aeid, but we add but little potash, as these substanees contain but little of it. Thus it is that, by pursuing "natural" methods, we may readily increase our supply of two elements of fertility, yet lack the other. During reeent years, many tests to determine the speeial needs of eertain soils, have been made by those who hoped by the purehase of unmixed chemieals to avoid the expense of unneeessary fertilizer. In almost every case, on fields long in eultivation, potash has been found wanting. It is true that on many dairy or stoek-growing farms where the prineipal erops removed have been live stock and their produets, the greatest drain has been in phosphorie acid; yet even in these eases, we would always advise an experiment with potash in some form.

⊙

CONGRESS has ordered Seeretary Morton to distribute seeds as usual, and it is reported that he has received letters from Congressmen who desire certain of their friends appointed to positions in the seed-mailing departments. That makes evident one reason for their great zeal in behalf of the poor farmer. They have friends who are pushing them for some politieal job. The Secretary is said to have a little seheme that will upset these men. He will require all applieants to pass a civil serviee examination. Hereafter, those who paek the seeds, paste labels on the paekages, or even earry them to the post-offiee, may be required to answer questions in botany, horticulture or physiology, before they ean be aceepted. Secretary Morton has it in his power to seleet such questions for the examination that none of the usual applicants eould pass it. Ridieulous, you will say! Not a bit more so than the whole system of distributing the seeds.

⊙

BREVITIES.

Come, Uncle Sam, bestir yourself;
The eagle on your flag is screaming.
Drop business and thoughts of pelf
For once and shake yourself from dreaming.
Bring out the gun of Lexington
The "sword of Bunker Hill" so true, sir,
For Freedom's work is never done—
She has a mighty chore for you, sir—
Off yonder in the ocean blue,
Fair Cuba strives in freedom's battle,
She has a right to look to you
For manly words—not idle prattle.
We know your joints are somewhat stiff,
And yet, your heart is always skittish,
And it will be a pity if,
The arm that soundly flogged the British
At Bunker Hill, cannot reach out
And make fair Cuba's fears to banish,
When from her island in a rout
The Spanish dons go walking Spanish!

Do you till or kill the soil?

THE laying hen needs extra water.

Is your district schoolhouse a jail?

COMFORT is paved with steps saved.

GOOD cheese is not "set in its whey."

THE "profitable tinker" must be a thinker.

Two ways of spelling debt—fret and sweat!

A FAMILY talk is often a pow-wow for good.

ANY part of a loaf marks a man as being ill bred.

BUCKWHEAT cakes and sausage will "make your blood boil."

IT will pay you better to *care for* corn than to try Kaffir corn.

DON'T be too sure that you can mix your own fertilizer at a profit.

THE Parker Earle strawberry *must* have plenty of meat and drink.

Is a purely vegetable diet sufficient for a hen? J. A. W. (page 188) thinks so.

TURN the house plants frequently. Don't let one side face the window constantly!

THAT glass house will be just the thing for evaporating raspberries next summer.

WHAT is the best fertilizer to use on fruits with wood ashes? Fine ground boue of good quality. Use equal parts by weight.

SNIP the stems off cut flowers every evening. Give fresh water and put in a cool room overnight. They will keep longer for it.

THE United States Supreme Court has decided that a State may prohibit the shipment of game to any market outside the State's limits.

Now we hear of a man who argued that it was not a bad thing for his stock to drink filthy water because it made "richer manure!"

BUYING seed of Kaffir corn at 15 cents a bushel and selling it at seven cents a pound, is a more profitable business than buying gold bonds at 111.

Do you know of any cases where crushed and ground sunflower seed have been used to take the place of linseed meal? "They say" it can be done.

IT won't do you a bit of harm to read the opposition political paper this year. Read it carefully along with your own. Don't be one-sided in anything.

BY multiplying the per cent of ammonia by .82, you have the per cent of nitrogen, or multiplying the per cent of nitrogen by 1.21, gives the per cent of ammonia.

IT is one thing to *know* a thing but another to be able to *show* it properly. The lack of some school boards to appreciate this difference, has hurt many a country boy's education.

DON'T buy coarsely ground bone! You don't like manure full of big, thick corn stalks. If you had your choice, every load of manure would be fine and well rotted. Why? Because it spreads more evenly and is in a more available condition.

WHERE DOES A COW KEEP HER MILK?

A subscriber in New York State sends this question, which is one that has puzzled many a dairyman :

When a cow gives 12 quarts of milk at a milking, where, just before milking, is most of the milk stored ?

Prof. I. P. Roberts gives the following explanation : Cows, probably, make some milk while being milked, but the larger part of what they produce is stored in the udder until it is drawn. I have just measured the circumference of the udder of a Jersey and of a Holstein cow. The former is three feet and the latter four feet, four inches. The visible vertical height in the first case was nine inches and in the second 13. When the udder is distended, without doubt, a part of the udder is pushed up beyond a line drawn horizontally intersecting the abdomen where the udder is attached to it.

If we assume that these udders were perfect cylinders, and that the udder above the line described would make up for the deficiency in the perfect cylindrical form at the lower end of the udder, we would have the following capacities : The udder of the Jersey, if it were not filled up with the membranes, would have a capacity, in round numbers, of 16 quarts ; that of the Holstein 48 quarts. The Jersey is giving 6.4 quarts at a milking, while the Holstein is giving 16.2 quarts at a milking.

From the above, it will be seen that the milk really occupies about one-third of the udder. This allows two-thirds of it to be filled with tissue. It may not be generally known that this tissue is divided into many compartments, at the lower end of which muscles are arranged something like the puckering string in a purse. The cow has control over these "purse strings" and may, to a certain extent, close or relax them. It will be seen how necessary it is to keep the cow in good humor when milking, in order that the "purse strings" may be loosened and the milk allowed to flow freely from the smaller reservoirs in the upper part of the udder into the larger ones just above the teats.

A BATCH OF CONNECTICUT NOTES.

Fertilizer men in Connecticut are not selling as much fertilizer this season as usual, and so the farmer who buys for cash can, if he is shrewd, buy for lower prices than ever before. Home mixing is gaining in favor in spite of the endeavor of many manufacturers to kill the business. We have yet to find a man who has used brains in his mixture, who goes back to factory-mixed goods. Manufacturers talk plausible theories against home mixing, but haven't facts to back them up. Home mixing is surely an educator and a money-saver. I use high-grade chemicals, and save from $7 to $8 per ton over the same grade of factory goods sold at wholesale prices. Some farmers make the mistake of buying cheap chemicals. Part I. of the Annual Report of the Connecticut Experiment Station for 1895, will interest, and pay for careful study, the man who is interested in fertilizers.

Dr. Jenkins, at a recent farmers' institute, stated that there was being offered for sale in Hartford, for March delivery, cotton-seed meal that is a fraud. The hulls are finely pulverized and mixed with the meal so as to deceive the ordinary purchaser. This meal sells for about 75 cents per ton under prime meal, but is worth only about two-thirds as much as ordinary meal.

Seedsmen's catalogues describe many kinds of potatoes as of varying quality, from fine to fair. I believe that it is in the power of man to determine the quality of a potato. It is dependent on soil, manner of planting and fertilizer. I believe that I can take *any* potato and, by growing it one, or at the most, two years, make it of satisfactory quality, or by varying the conditions, make it unfit for human use. The Maggie Murphy, that immense yielder of large potatoes, is often set down as of poor quality. I have them weighing two pounds, that are as mealy and nice as can be asked for by any epicure.

Why farmers do not more often use plaster as a deodorizer and an absorbent for stable uses, is a puzzling question. It may be bought at the factory from $4 to $5 per ton, plus freight, and the escaping ammonia caught, will more than pay for the plaster, besides helping to keep stables sweet, healthful and clean. A large handful per cow per day is sufficient.

I shall not feed any more cotton-seed meal to the calves. I went on the theory that what was good for the cow, was for the calf, and that I ought to get her trained for her ration early. So a small allowance of the grain, equal parts cotton-seed meal, gluten feed and wheat bran, was given them once a day ; but three dying within two days, and so quickly that medicine did not seem to avail, stopped that feed immediately.

Grain was never so cheap before in this locality, and many farmers are laying in stocks for the future. Three years ago, I began keeping a daily record of each cow's product. I was milking 36, and soon found six that were not paying their keep ; I had been guessing before. They went for beef, and we were soon getting more from the 30 than previously from the 36. It is but little trouble to weigh ; we use a double-pointer scale. It pays in dollars and satisfaction.

H. G. MANCHESTER.

KILLING FILLED CHEESE.

A bill "defining cheese and filled cheese, 'and imposing a tax upon, and regulating the manufacture, sale, importation, and exportation of filled cheese,' " was introduced in the House of Representatives by Congressman Wilber, of New York State, the last of January. It defines filled cheese as made of milk or skim-milk with the admixture of butter, animal oils or fats, vegetable or any other oils or compounds foreign to such milk, and not the usual product of the dairy, and made in imitation or semblance of cheese. It imposes special taxes upon the business: upon every factory, $600 per annum ; upon every wholesale dealer, $360 per annum ; upon every retail dealer, $48 per annum. The penalties for doing business without paying the tax, are collection of the tax, and besides, a fine of not less than $1,000 and not more than $5,000 for manufacturers ; not less than $500 or more than $2,000 for wholesalers ; not less than $100 or more than $1,000 for retailers, for each and every offense. Manufacturers are subject to such rules and regulations as the Commissioner of Internal Revenue may require and the Secretary of the Treasury approve, and shall give bonds of not less than $5,000. Such cheese shall be packed in wooden packages only, which shall be stamped, as shall the cheese, top, bottom and sides in four places, in black-faced letters of not less than one inch in length, with the words "filled cheese," and also a statement showing the per cent of foreign fats or oils contained in the compound from which the cheese is made. Retailers must sell only from original stamped packages in quantities of not less than 10 pounds, in packages also branded "filled cheese." A retailer must also display a sign in large letters, "filled cheese." A tax of one cent per pound is also imposed. All imported filled cheese shall be taxed 15 cents per pound. Other bills defining "filled cheese," have been introduced, and a subcommittee of the Ways and Means Committee having all these in charge, have agreed to report a measure to the full committee to carry out the different measures on the subject. It will be offered as a substitute, and will extend the provisions of the oleomargarine law to this product. It has been clearly shown that the dairy interests, especially of the West and Northwest, have been severely injured by the trade in filled cheese which has not been sold under its true name, and not only every honest dairyman, but every consumer as well, should be interested enough in this subject to enforce upon his Congressman, the fact of the importance of this measure. *Now* is the time to act !

FREE plant distribution, a new departure in horticultural work, was introduced by the Wisconsin Horticultural Society five years since. The society agrees to furnish any pupil in the public schools of that State, six strawberry or three raspberry plants, or two spruce trees, upon the receipt of five cents and the promise to report on the condition of the plants the following autumn. Over 4,000 children took advantage of the offer last year. This strikes THE R. N.-Y. as an excellent thing. Who is the public-spirited citizen right in your school district, who will start just such a local distribution ?

BUSINESS BITS.

THE important part of a fence is the post. It is desirable to have a post that will not decay ; also one that will firmly support the fence proper. The Anchor Post Co., 13 Cortland Street, New York, has succeeded in producing such a post. Send for the farm circular.

DAVIS BROS., Washington, N. J., will send free to any address their handsome illustrated poultry catalogue. This firm has gained an enviable reputation as breeders of fine, purebred poultry, having 20 varieties of the most popular breeds, among them six new buff kinds.

A WESTERN stove concern has been sending stoves through the country on wagons, and selling them at high prices to farmers on time notes. The price and conditions in the note are not always the price and conditions agreed upon with the agent. Don't sign any of these notes without carefully reading them, if at all.

HAVE you stumps on your land ? If so, you know what a nuisance they are, and the value of the land they occupy. Just write Milne Mfg. Company, 250 8th Street, Monmouth, Ill., for catalogue of stump and grubbing machines. Even though you don't buy the machine, you want to know how to get rid of those stumps.

THE Wheelbarrow grass seeder saves many a tired back. There are four different styles made—so as to fit the requirements of every one. Seed may be sown either mixed or separate. O. E. Thompson & Sons, 17 River Street, Ypsilanti, Mich., the manufacturers, will send nicely illustrated descriptive circular on application.

WE do not look for such low prices for potatoes of the next season's crop, but we have every reason to believe that the bugs will be out in great force. We want no free trade in bugs. Put on a prohibitive tariff of Paris-green. Thomas Peppler, Hightstown, N. J., has a sprayer that fills such a tariff bill. He can sell you a two-row sprinkler or a pump machine that will cover 30 acres in a day !

IT has been proved, over and over again, that water in the stable just where milch cows can get at it when wanted, will pay for the expense of providing it every three months, in the extra supply of milk. Buckley's Improved Watering Device furnishes a constant supply of water, and is so constructed that it can be readily cleaned without fouling the supply pipe in any way. Send to C. E. Buckley & Co., Dover Plains, N. Y., for fuller description.

PLANTS suffer more from too much water or too little moisture, than from lack of plant food. When they suffer from too much water at one season, they are sure to suffer for moisture in another season. Draining takes away the surplus water. Frequent cultivation will conserve moisture. "Benefits of Draining and How to Drain" is the title of a little pamphlet published by John H. Jackson, Albany, N. Y. It contains some most valuable information on the subject, and as it is sent free, you may have it for the asking. Of course, the object is to advertise Mr. Jackson's tile and tile goods, but the information is no less valuable on that account, and his goods are unexcelled.

CREAM SEPARATOR INFRINGERS.

Some of our correspondents call our attention to the fact that certain infringers of the De Laval Patent Rights deny that their machines infringe such Patents, and are now talking of "protection" to buyers. Certainly nobody can have expected these infringers to *acknowledge* publicly that their imitations of the De Laval machines *do* infringe our Patents.

Infringers Already Enjoined.

That could scarcely be expected of such infringers, notwithstanding that some of their own agents and representatives—and many of the unfortunate buyers of their machines—have *already* been perpetually enjoined from the further use of same. Concerns which have long opposed the advance of centrifugal separation, in the selfish manufacture of impractical gravity setting apparatus, and then when forced to abandon same, have turned round and brazenly attempted to appropriate the just and lawful Patent Rights and invested interests of another, are no better in any sense than those who would take anything else of value, and no more to be trusted by any one.

Avail of Offers of Protection.

If these offers of "protection" are made in good faith, users of such infringing machines will do well to *immediately* avail themselves of same, *and they should in self-safety demand a Bond given and secured by the indorsement and guarantee of some bank or other responsible persons in their own County and State,* since it is safe to assume that such infringing manufacturers, whose actual financial responsibility is at best limited and doubtful, will in the near future have all they can well provide for in the shape of direct damages on their own account, and advertising guarantees are of absolutely no actual value to any one.

Further Caution.

That no infringing maker, agent, dealer, or user can have reason to complain at the possible outcome of such further proceedings as are pending and as may be necessary in protecting and maintaining our just and lawful Patent rights and business interests, due and repeated caution is again given in this respect.

THE DE LAVAL SEPARATOR CO. General Offices: 74 CORTLANDT STREET, NEW YORK. Western Offices: ELGIN, ILL.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

SEVERAL of New York's society women have interested themselves in the improvement of the public schools of the city, and have appeared before the Legislature and given their views of the situation and the needed reforms. They have done their work quite as well as their sanguine supporters could wish, and are thus commended by a conservative newspaper: "They have brought to the rescue of the people's interests, a high-minded public spirit and an unswerving conviction that are refreshing to the moral sense of the community. * * * It is just possible that in the future conflicts with political selfishness, we shall get our new strength from the matrons of the land."

*

WHAT a charm there is in change—in some things. Each season we think the fabrics for woman's dress grow more beautiful. Those who take pleasure in such things, will find them "loveliest of all" this summer. Daintiness in color and effect was never before so successfully combined with serviceable qualities. One of the prettiest fancies is in making up the grass cloth over a colored lining. The color shows through, and gives a beautiful two-toned effect, and ribbons of the same shade as the lining accentuate the color scheme, making a beautiful gown with wearing qualities. The grass cloth is a color which wears very well, and washes without injury. Lace insertions are used very effectively on these grass cloths, both with and without the color underneath.

*

THE world moves on and on until conditions get so far in advance of its peoples' theories and beliefs, that one day they begin to awaken and revolutionize their ideas, bringing them up to date with conditions. Here are some simple facts stated by Dr. Mary Jordan-Finley in the American Woman's Magazine: "Reproduction no longer requires the entire energies of one-half the race. The world is populated; henceforth, not increase, but maintenance, is demanded. The dominion over nature has been achieved. Man is master; he has come into his kingdom, and a new era of psychical progress is opening before him. With growing knowledge of the laws of life, great plagues have ceased, and epidemics are diminishing; with a developing code of international law, and the perfection of the engines of destruction, wars are becoming impossible between petty peoples, less frequent between great nations; with better hygiene, infant mortality is diminishing; and with the checking of the waste of human life, a decreased production will suffice to maintain the population." It is not against nature for woman to wish to widen her sphere. Nature, herself, has widened it, as these facts show, and is calling upon woman to fill the height and breadth of her opportunities.

COMFORT IN THE KITCHEN.

IN many homes, the kitchen is the most dreary and unpleasant room in the house. This is a great mistake; somebody must spend many hours of each day in this room, and whether it be the wife, mother, sister, daughter or maid, it should be convenient and cheerful. Why not have a low rocker here where mother can drop down for a few minutes' rest when watching her bread or cake bake? A wall pocket might hold the latest magazine and newspapers. There are times when one can rest and read a few minutes, yet keep an eye on the oven. I think that I hear some housekeeper say, "But this would never do; it is not practical."

It has been done, all and more. Why should we follow in the beaten paths of custom? Because our mothers and grandmothers did not have the conveniences that we now have, is no reason why we should not enjoy them. Perhaps had they been able to take life easier, their daughters and granddaughters might have been stronger, healthier women.

It pays to have kitchen conveniences, even though the rest of the house is furnished plainly. Graniteware is gradually taking the place of iron and tin, and is much more satisfactory and easier to keep clean.

It is as hard again to do work in some households where there is none of the so-called modern conveniences. A lemon squeezer, raisin seeder, iron dish cloth, wire kettle for frying potatoes and croquettes, double boiler, egg poacher, soap shaker, etc., are by no means new, neither are they expensive; but they are considered useless luxuries in many homes where they should be necessities.

A useful article of home manufacture consists of a soap box with casters on the bottom, neatly covered with pretty cretonne, and with a hinged cover which is first padded before putting on the cretonne. A flounce of the cretonne is fastened on by means of brass-headed tacks. Both the upper and lower edges are feather-stitched with black Roman floss. This is a combination affair answering for an ottoman as well as a receptacle for old newspapers, brown paper, bags and wrapping paper, as well as a ball of cord wound from the pieces wrapped around packages.

A double wall pocket whose foundation consists of pasteboard covered with cretonne and finished with a row of feather-stitching done in Boston art silk, is most convenient for dusting rags, sweeping caps and rubber sleeves to protect the dress sleeves.

CARRIE MAY ASHTON.

SHALL SHE PROPOSE?

TOM SAWYER, in his whitewashing experience, unconsciously "discovered a great law of human nature," namely, "In order to make a man covet a thing, it is only necessary to make it difficult for him to obtain." Therefore, to make ourselves appreciated, we must make ourselves difficult to obtain.

Methinks that, were we to throw ourselves at the feet of our admirers, most of us would, for want of an opportunity to marry, remain spinsters. In nine cases out of ten, were the woman to propose, it would take the "blush off the rose." In other words, the man to whom the proposal had been made, no matter what his feelings for her had previously been, would suddenly discover that his idol was sadly lacking in what men most value in women—modesty. In view of this, it seems certain that she must find some other way to rid herself of the "dog in the manger."

No girl of true refinement should show herself too anxious for the society of men. When one has "wooed" for a sufficient time without making his intentions known, he should be "mittened." If he care for her, this will be almost sure to bring about a proposal. If he is one of those who "woo and woo and ride away," she is safer without his society. A girl who continues, graciously, to receive attention from a young man who, after repeated opportunity, fails to declare his intentions, is, to say the least, "playing with fire."

My position as a worker in the young woman's department of a christian organization, has brought me in contact with many young women of various classes. I have almost invariably found hat their standard is not high enough; that is, they do not live up to their ideals. I have known nice girls to unite with a society, which requires its members to pledge themselves, to discourage in every way possible, the use of, and traffic in intoxicants, and which makes the laws of purity equally binding upon both sexes, and then receive attention from men known to frequent saloons and break the laws of purity. And, I know of one member of such a society who married a man of this class.

I have found a tendency among girls, to think that they must have "gentleman company," be it of what class it may. This is all wrong; better would she be unknown outside the home circle, or remain forever unmarried, than have her name coupled with that of such a man, or be tied to him for life; Remember:

> Better the soberest, prosiest, life
> Than a blasted home and a broken heart.

One of our national temperance leaders has said: "There is much said about teaching girls the value of their smiles. But, as the average girl soon learns, the value of her smiles, it is more important to teach her the value of her frowns." This is the point exactly. When she learns the value of her frowns, the necessity of her proposing will vanish. Men are rarely better than the women with whom they associate. Let her place her standard high, it cannot be too exalted, and have it distinctly understood that she will countenance no man who does not make an effort to approach her ideal.

The "dog in the manger" usually steers clear of such girls. If he does make advances, a few well-directed frowns will cause him either to mend his ways, or seek more congenial society elsewhere. A man of this class rarely has any use for a girl of such exalted principles. He prefers one of the silly sort, who care more for dress and the admiration and flattery of men, than they do for anything else.

The "new woman" does not care to deprive men of the privilege of proposing. She may, with a clear conscience, usurp his place in the office or counting-room, but to take his place in this particular, never. She will soon learn to value frowns and smiles alike, and from the height of her pure womanhood, put the "dog in the manger" to flight by a well-directed frown. LULU LANE.

WHAT ONE WOMAN DID.

THE great question of the day (or one of them) is, "What can a woman do to earn her own living?" Perhaps a little of my own experience before my marriage, may help some one, or give an idea of what she shall do. At my old home, was a large pear orchard, of which I had the charge, more or less, for several years. The varieties were all the common sorts, one-half being Bartlett and Duchess. I took great interest in fruit growing, and read whatever I could in regard to growing and marketing it. Many hours I spent in thinning out the fruit, and often the branches would have to be propped up to support the heavy weight, for size was what I was after, as well as smoothness. One season the fire blight attacked the orchard, but every affected branch and leaf was cut off and burned, and but little ever troubled us after.

When the Bartletts began to ripen, or the twig cleaved from the stem easily, they were carefully handled and spread on woolen blankets in a dark chamber, with others thrown over them. Here they colored and mellowed beautifully, and when just right, were sorted into three grades, No. 1 going to private customers, who were willing to pay a large price for extra large and high-colored fruit. No. 2 went principally to the groceries and were culled fine fruit. No. 3 sold for cooking, pickling, canning, etc., and the culls were fed to horses, cows and hogs.

One autumn my father met with an accident, and I was obliged to take entire charge, barreling and shipping most of them to Philadelphia and New York City markets. As it was my first experience in sending pears so far away, I took greater interest in having them as perfect as possible. I took care that every barrel was white and perfect when it came from the cooper's hands. White sheets of paper were placed in the bottom, and the pears were placed in rows, blossom end down. Each pear that went into the barrel, was placed in separately, not turned in from a basket. Not an imperfect specimen was allowed in. With my young brother's assistance, they were pressed and headed, each marked with the name of the fruit and the grade. Some barrels of noble Duchess and Sheldons sent to New York, were rated extra fine and sold accordingly. It was hard, slow work, but it paid not only in dollars and cents, but in a wonderfully satisfying feeling to see the work of our hands well done.

Illinois. MRS. FREDERICK C. JOHNSON.

THE HANDY MAN.

WHAT a truly beautiful world this would be it things just wouldn't forever "rip, tear, and run down at the heel," so to speak. It is astonishing what an amount of discomfort can be caused by a leaky pan, a loose screw, a dull knife, a missing caster, broken hinge, a lock that won't lock, or a catch that refuses to catch. Of course, if you're a born genius at tools, you can repair all these little damages as they occur, and your sufferings are soon over. But if you are not a locksmith and a scissors-grinder and a tinner and a carpenter, in addition to being a cook, nurse, housekeeper, and your liege lord isn't much better in those respects, then what a comfort it is to have the "handy man" come around once in a while! He can just see what you need to have done, get the necessary equipments himself, and then go ahead and do things, leaving you all mended and sharpened and barred and bolted and screwed and

Seed time

The successful farmer has learned by experience that some grains require far different soil than others. He knows that a great deal depends on right planting at the right time. No use complaining in summer that a mistake was made in spring. *Decide before seed-time.* The best time to treat coughs and colds is before the seeds, or germs, of consumption have begun their destructive work.

Scott's Emulsion of Cod-liver Oil, with Hypophosphites, promptly cures lung and throat troubles. *Do not neglect your cold.*

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (*Ask your doctor.*) This is because it is always *palatable*—always *uniform*—always *contains the purest Norwegian Cod-liver Oil and Hypophosphites.*

Insist on **Scott's Emulsion**, with trade-mark of man and fish.

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

nailed and generally repaired, till you feel as though you were a new person in a new world.

I cannot soon forget how I felt after one of these straightening-out times, when I went to open a small cabinet door that I had been lifting up and down into place for a year or so, just because the hinges had come off and hadn't been put on again. It actually swung back on its hinges! and gave me a strange sense of goneness for an instant—something like the way you feel when you're going down stairs and find there's one less stair than you supposed. And when at last I realized that that door was fixed, it was truly vexatious to reflect how long I had endured the trial of that dislocated door when such a little effort would have made it right.

And so I went around from one thing to another that had tried my soul so long; I had become used to brokenness and bentness and splitness and lopsidedness, and I experienced a thrill of comfort and satisfaction that one would hardly have believed possible unless he had been similarly situated.

Oh, my dear readers, if any of you are enduring similar small and wholly unnecessary hardships, do get mended up at once—you will feel at least five years younger and fresher and brighter for doing so. There are enough unavoidable trials to encounter in this world of sin and sorrow, where "man is born unto trouble as the sparks fly upward," without enduring any superfluous ones that a few minutes' work would banish. Let us have all the screws and locks and nails and hinges and things we need—and peace. CARRIE E. BRECK.

ODDS AND ENDS.

FOR THE BABIES' GOOD.—"It is not generally known," says the Charlotte Medical Journal, "that in France it is forbidden, under severe penalties, for any one to give infants under one year any form of solid food, unless such be ordered by written prescription, signed by a legally qualified medical man. Nurses are also forbidden to use in the rearing of infants confined to their care, at any time or under any pretext whatever, any nursing-bottle provided with a rubber tube."

LEAP-YEAR PRIVILEGE.—How many are aware of the origin of that special female prerogative belonging to the leap year? says Massey's Magazine. We are informed that, by an act of the Scottish Parliament, passed during the reign of her blessed majesty — Margaret — "Every maiden of both high and low degree shall have liberty to speak to the man she likes." And mark this, all ye bachelors of the year 1896: "If he refuse to take her to be his wife, he shall be mulct in the sum of £100, or less, as his estate may be, except and always if he can make it appear that he is betrothed to another woman, then he shall be free."

FRESHENING A STRAW HAT.—Last season's straw hat which is too dusty to use again when spring comes, although good in every other way, can be restored by a very simple treatment and made bright and fresh again, says Modes and Fabrics. A lump of sugar (or a tablespoonful, if granulated sugar be used) dissolved in three tablespoonfuls of water, makes a good wash for straw hats, and should be used freely, and allowed to soak well into the straw. It can be applied with a brush or a sponge. It makes the hat limp and soft at first, and it must be placed in the air and sunshine to dry well. The straw becomes stiff and fresh again, and the brim may be pressed into new shapes, if one desire, by arranging it before it dries. This process may be used several times during the summer.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

SENSE AND SENTIMENT.

Though we break our father's promise, we have nobler duties first,
The traitor to humanity is the traitor most accursed;
Man is more than constitutions; better rot beneath the sod,
Than be true to church and State while we are doubly false to God.
We owe allegiance to the State, but deeper, truer, more,
To the sympathies that God has set within our spirit's core;
Our country claims our fealty; we grant it so, but then
Before man made us citizens, great nature made us men. —*Lowell.*

....DR. MARY JORDAN-FINLEY IN AMERICAN WOMAN'S MAGAZINE: "The race, as a whole, could never attain to its best estate until the two halves of it grow symmetrically, until men and women develop equally, until men rise in their moral development to the level of women, until women rise in their mental development to be equals of men. The last is arriving, and it will hasten the arrival of the first."

....NEW YORK LEDGER: "When the world realizes that knowledge is power, realizes it practically as well as theoretically, and is willing to allow that mind, spirit and ability are without sex, the dawn of a better day will begin, a day that will bring us brighter, better, abler, nobler sons and daughters, because the theory of the high education of women has crystallized into the characters of mothers who are worthy to be the ancestors of a better race."

Miscellaneous Advertising.

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Sarsaparilla Sense.

Any sarsaparilla is sarsaparilla. True. So any tea is tea. So any flour is flour. But grades differ. *You want the best.* It's so with sarsaparilla. There are grades. You want the best. If you understood sarsaparilla as well as you do tea and flour it would be easy to determine. But you don't. How should you? When you are going to buy a commodity whose value you don't know, you pick out an old established house to trade with, and trust their experience and reputation. Do so when buying sarsaparilla.

Ayer's Sarsaparilla has been on the market 50 years. Your grandfather used Ayer's. It is a reputable medicine. ***There are many Sarsaparillas—but only one Ayer's.*** It cures.

Buy Direct

from maker, and save intermediate profits and have the maker's guarantee—a difference of 40 per cent. in your favor. Freight paid both ways if not as represented. **Carriages, Buggies and Spring Wagons.** Our 1896 Bicycles are marvels of beauty. You pay for the wheel and not for a fancy name. Send for Catalogue, free.

Binghamton Carriage and Cycle Co. Binghamton, N. Y.

"Macbeth" means toughness of glass, when applied to lamp-chimneys; perfection of draft besides, if you get the Number made for your lamp

Let us send you the Index.

Geo A Macbeth Co

Pittsburgh Pa

ASK YOUR DEALER FOR

W. L. DOUGLAS $3. SHOE BEST IN THE WORLD.

If you pay $4 to $6 for shoes, examine the W. L. Douglas Shoe, and see what a good shoe you can buy for **$3.**

OVER 100 STYLES AND WIDTHS,

CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

The Complexion of your Walls

may be changed—made beautiful at small cost.

NEW WALL PAPERS

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CHAS. M. N. KILLEN. 1233 Filbert St., Phila., Pa.

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And STEREOPTICONS, all prices. Views illustrating every subject for PUBLIC EXHIBITIONS, etc. *A profitable business for a man with a small capital.* Also Lanterns for Home Amusement. 265 page Catalogue, *free*

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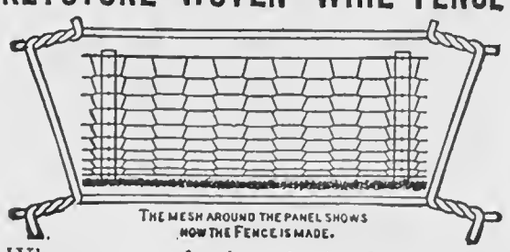
$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address **S.S. Ware Co. Box 5308,** Boston, Mass.

Farm Manager Over 20 years experience, thoroughly up in all its branches, wants a situation. Address H., care RURAL NEW-YORKER.

WANTED Single man, who understands farming and market gardening. Apply by letter to H. A. S., RURAL NEW-YORKER.

WANTED—Situation, by a man having practical experience in Grain, Dairy and Truck Farming. GEO. T. SIMANTON, Broadway, N. J.

KEYSTONE WOVEN WIRE FENCE



Wherever used takes the lead, and holds it. The safest fence for stock. Prices right. Catalogue free.

KEYSTONE WOVEN WIRE FENCE CO., 19 Rush St., PEORIA, ILL.

No TAR QUARTER OF CENTURY OLD.

FAY'S MANILLA ROOFING.

CHEAP STRONG **WATER PROOF;** Not affected by gases. No RUST nor RATTLE. *Outlasts tin or iron.* A Durable Substitute for Plaster on walls. Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c. The FAY MANILLA ROOFING CO., CAMDEN, N. J.

The Farmers' Choice IS THE SYKES Improved Iron and Steel ROOFING.

For all classes of buildings, easily applied, cheaper than shingles, will last a lifetime, and is absolutely fire and lightning proof. Reduces your insurance and is the best roof manufactured. Write for our handsome catalogue and mention this paper.

SYKES IRON & STEEL ROOFING CO., Chicago, Ill., or Niles, Ohio.

Buy our "ECLIPSE ROOFING PAINT" and "ECLIPSE" PAINTED STEEL

ROOFING

Absolutely guaranteed for five years. Write CURTIS STEEL ROOFING COMPANY, 57 SIGLER STREET, NILES, O.

FENCE MACHINES STRETCHERS, RATCHETS, ETC. FREE CATALOGUE SUPERIOR MFG. CO. MARTINSVILLE, O.

FARM FAVORITE.

Nox 'em all. Weave 100 rods per day at 15 to 25c. per rod. Fence Building Outfit and Weaver, $3. Cir. tells all. Agents wanted. T. J. ANDRE, Wauseon, O.

FENCE? Machines and Fencing.

Steel Wire, Steel Pickets, Steel Posts, Steel Gates Indestructible, Cheapest & best farm fence made. Wire at Factory Prices. Catalogue free.

EMPIRE MACHINE CO., Richmond, Ind.

A New Suggestion

If your fence is falling down, why not replace the old wooden posts with ANCHOR POSTS, which are made of steel, and cannot decay? They can be used with any kind of WIRE, WIRE NETTING, or WOVEN STOCK FENCING.

Write for FARM CIRCULAR.

ANCHOR POST CO., 13 Cortlandt St., New York City

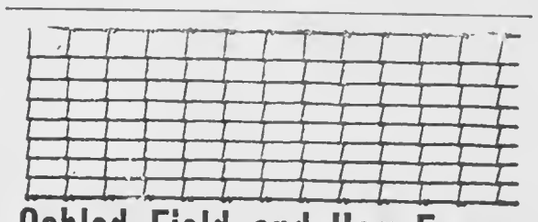
WANT A FENCE?

Get Adam's new catalogue of

ADAM'S

Woven Wire and Ornamental Fencing, Posts, Gates, etc., the Best Made.—Free. Ask your dealer for Adam's Fence or write to

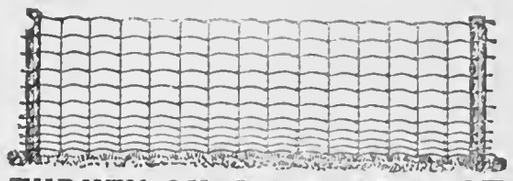
W. J. ADAM, JOLIET, ILLS.



Cabled Field and Hog Fence,

24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.

DeKALB FENCE CO., 17 High St., DeKalb, Ill.



TURKEY SUBDUED AT LAST.

In spite of the common belief that she could not be restrained, an eastern man raised an immense drove, pent up with **PAGE,** from the egg to the oven. See picture in "Hustler."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

BUGGIES, PHAETONS, SURRIES, WAGONS, CARTS, HARNESS, SADDLES, BICYCLES, &c.

"A" Grade, $44. Style, Finish.

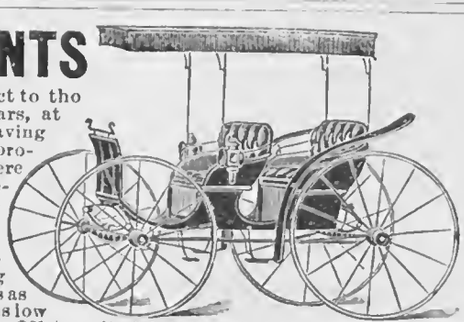
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $60. Durability.

WE HAVE NO AGENTS

No. 161¼—Surrey Harness, Price $14.50. As good as sells for $20.

but have sold direct to the consumer for 23 years, at wholesale prices, saving them the dealers' profits. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 90 styles of Harness, 41 styles Riding Saddles. Top Buggies as low as $35. Phaetons as low as $55. Spring Wagons $31 to $50. Send for large Catalogue.



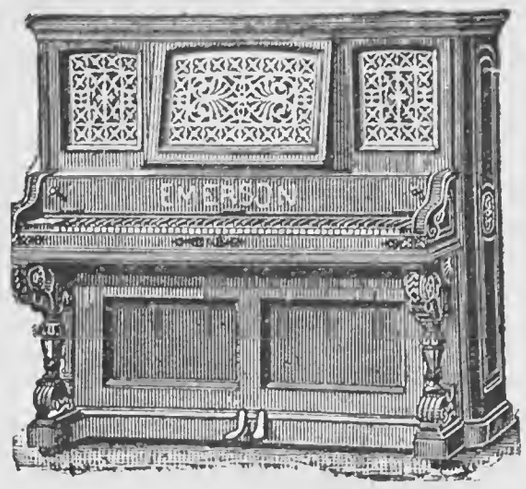
No. 723—Price, with lamps, sunshade, apron and fenders, $60.00. As good as sells for $90.

ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

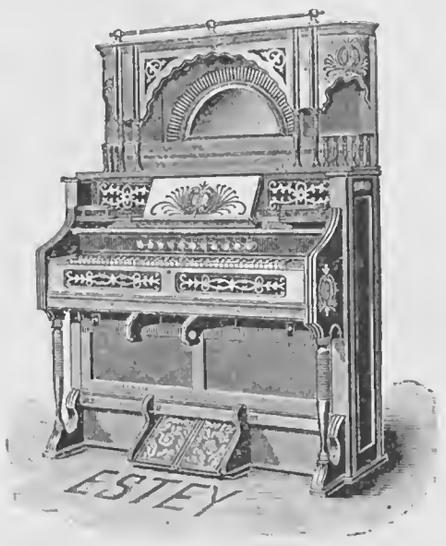
"MUSIC HATH CHARMS."

That is, when the conditions are right. When a man has a bad anchylosis in his ear, and can't hear the music, a tin pan would be as good as a piano. When the person who presides at the instrument doesn't know his business, the muse is made sick and music has more harms than charms. You understand that we are not speaking of these misfits—we are referring to the music that might be expected when your wife or daughter, or some older gentleman's daughter, sat down to that Emerson piano or either of these organs to sample their keys!

Here is another picture of that piano.



It is as good as the best. There is a ton of music strung to every key. You (or anybody else) touch the right key and the strings will do the rest! And here



is a picture of that famous Estey organ. We might say, in truth, that is a highly-organized organ. With two vigorous feet on those pedals, and 10 well-trained fingers and thumbs dancing on those keys, and the whole family rolling out some good old-fashioned hymn, you will just simply hear the rustle of wings all about you!

Now we wish to say that music will, indeed, have charms for three R. N.-Y. families when the present contest ends on May 1. It behooves each and every one of you to get up and manufacture a move. One of our first prizes was lost by just one-fourth of a subscription. Think of that, all you who think that this contest is going to be a walk-over! It *will* be, in one sense, for the other contestants will walk over you if you sit down to rest.

"Tramp! Tramp! Tramp! The Boys are Marching!"

That is the tune for imagination to play on these musical instruments—marching up and down the land after subscriptions.

Two weeks ago, we started to tell you about some "sticky and sweet" facts. Here are two sweet ones:

I received the sewing machine and a new subscription to THE R. N.-Y. I am well pleased; the machine runs like a top, and THE R. N.-Y. always did. Please accept my thanks. J. F. L.

Rockford, Ill.

Being a reader of THE R. N.-Y., I have no copies to burn; I would rather lend them to my neighbors, for good things are not so plentiful that one should make a monopoly of them. It is the active circulation that makes the bright coin. Unlike the Genesee County man who burned his paper before reading it, I am afraid to put my little light under the bushel measure, for fear it may be lost in the general gloom. I believe I know a good thing when I see it. T. L. H.

Fairfield, Iowa.

And here are two examples of *stick*:

I inclose money for my subscription for 1896, likewise a new one to take the place of that one that was burned because the party did not want to know that others could grow on more economical principles than his own. W. B.

Verdugo, Cal.

Money with the people here, is almost as scarce as hens' teeth. We are far from market, and prices are very low. Some draw oats over 60 miles, and then sell at 20 cents, sacked. I want the paper read by my friends, and will pay for it myself rather than have their families do without it. I have tried to get other subscriptions, but money is so hard to get. The money panic seems just as great here now as at any time during the last three years. E. M. R.

Clifford, Tex.

And, by the way, don't forget about that book offer! Now's the chance to start that library by securing any one of those four books as a reward for a new subscription. Lastly, here are some people who listened to the music of the rustle of a dollar bill last week:

March 2.—Wm. H. Fry, Johnson Co., Ind.
3.—J. A. Southwick, Cattaraugus Co., N. Y.
4.—W. E. Price, Franklin Co., Va.
5.—W. S. Moore, Chenango Co., N. Y.
6.—O. V. Love, Wyoming Co., Pa.
7.—Walter Johnson, Middlesex Co., Conn.

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21 Experts

compose the Bicycle Council that passes upon each detail of Columbia construction—engineers, metallurgists, designers, keen-eyed men of science. And they do no guessing. Back of them is one of the most complete Departments of Tests in this country. Such accurate scientific methods must produce standard machines.

Columbia BICYCLES

Standard of the World.

$100 To all Alike. Hartford Bicycles are next best. $80, $60, $50.

The Art Catalogue of Columbia and Hartford Bicycles is free if you call upon any Columbia agent; by mail for two 2-cent stamps.

POPE MANUFACTURING CO., Hartford, Conn.

Branches and Agencies in nearly every town. If we are not properly represented in your vicinity let us know.

New $5 Green Bone Cutter.

Cuts at the rate of a pound Green Bones, per minute by hand. Excels them all in ease and fineness of cut. $5 with crank, $7 with balance wheel in place of crank. Get special circulars

WEBSTER & HANNUM, Cazenovia, N. Y.

THE KIND YOU WANT

There are no better

Drilling Machines

than ours For gas, oil and water Go down from 10 to 2500 feet 9 sizes. Send for catalogue and prices of machines, tools, supplies, etc. Free.

Star Drilling Machine Co. Akron, O.

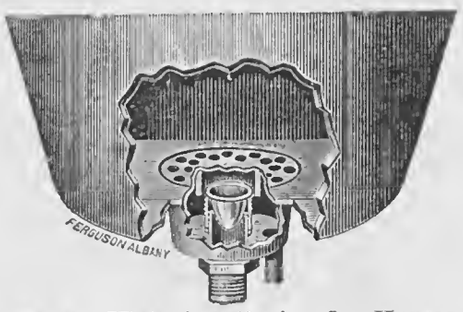
I X L THEM ALL.

QUALITY TELLS THE BEST STEEL MILL.

STRONGEST STEEL TOWER. No long story here. Send for catalogue and prices.

PHELPS & BIGELOW WIND MILL CO., Kalamazoo, Michigan.

BUCKLEY'S IMPROVED BASIN.



We make Watering Basins for Horses and Cattle, with styles adapted to every kind of fastening, at prices from 75 cents to $1.50.

WRITE FOR CATALOGUE.

C. E. BUCKLEY & CO., Dover Plains, N.Y.

Extra Potash.

Every Farmer who has used wood ashes knows the great value of potash; but it has been shown repeatedly that wood ashes is the most expensive source of potash. Muriate and sulphate of potash furnish potash in as good a form for growing crops and at a much lower cost. The

Stockbridge Special Manures furnish an extra large amount of potash

In some cases as high as 10 to 12 per cent in the best forms for the various crops for which these manures are made; and the price has not been increased. Indeed, it is possible to buy the Stockbridge "double strength" fertilizers in many cases at the same price that is charged for fertilizers that are less than half their strength.

See our local agents or address

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston 27 Beaver St, New York

High Grade

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WRITE FOR PRICES AND PAMPHLET.

We ship our best Screened Canada Unleached Hardwood **ASHES** at bottom prices. Analysis and Weight Guaranteed. Address THE FOREST CITY WOOD ASH CO., No. 9 Merchants Row, Boston, Mass.

Daily Record of Farm Operations

The only book of the kind published. Sample page free. Address PATTON'S PUB. CO., Jewett, Ohio.

Dietz Driving Lamp

Price $3.50

A Driving Lamp that gives a brilliant light and will not blow nor jar out. That is the kind we offer you. Delivered anywhere in U. S. or Canada. Satisfaction guaranteed. Send for book—FREE.

R. E. Dietz Company, 60 Laight St., New York.

Mention this paper and get special discount

We Deliver Freight Paid to any Railroad Station.

Also, Hand or One-Horse Steel Lawn Rollers.

Will Distribute Spring Grain, Grass Seed or Dry Fertilizers.

Over 6,000 in Use show No Failure.

JOHN MOORE'S SON COMPANY, RARITAN, N. J.

CROP AND MARKET NOTES.

Cultivate the local market.

It pays better to supply an existing demand, than to attempt to create a new one.

It is reported that a Montana firm has contracted to ship a large quantity of barley to Germany.

The market has been more than abundantly supplied with live poultry with the exception of turkeys.

In the Pittsburgh market, ear pop corn is quoted at higher prices than shelled, and neither is high enough to be very remunerative.

It is reported that arrangements are being made for a largely increased acreage of cotton in the South next season. The last cotton crop proved a profitable one, hence the increased interest. The South has been growing more of its provisions than formerly, and should continue so to do.

Large numbers of failures among canners have been reported, especially among the smaller ones who have recently gone into the business. This has thrown such large quantities of canned goods on the market that prices have been depressed, in some cases being the lowest on record.

RASPBERRIES INJURED.—We had a mild winter with plenty of moisture in the soil; nearly all blackcap raspberries are badly injured, some killed to the ground. The season during growth last year was more than usually dry and hot, with late frosts, then just rain enough to make crops, and in August and September enough rain to make more than an average for the year, which started a new growth on raspberry plants; then there was no more rain till freezing weather set in, while the ground became as hard as a pavement. The fields looked as though growth was well ripened. Nemaha, Gregg, Hopkins, Mammoth Cluster and Souhegan look dead, while the Kansas is sound and good; the last is the only kind that has any live plants to speak of, or is in condition to produce a crop. While anthracnose is quite prevalent here, that is not the cause in sight anyway. But what is it?

Douglas County, Kan. A. H. G.

CONDITION OF PEACH BUDS.—We send a statement of carefully gathered data of a few different experiment orchards to which we have access. In the finest experiment orchard in Connecticut, we find that, out of 100 buds of the hardier kinds, the following percentages are alive: Amsden 40 per cent, Early Rivers 33, Champion and Crosby each 22, Elberta 10, Mountain Rose 6, Stump 12. In another fine Connecticut orchard: Amsden 38 per cent, Early Rivers 33, Crosby 25, Champion 20, Elberta 6, Mountain Rose 4. In a large experiment orchard in Massachusetts: Amsden June 35 per cent, Early Rivers 33, Stump and Mixon 15, Crosby 14, Champion 20, Mountain Rose 6. In a Maryland orchard: Early Rivers 100 per cent, Champion 98, Stump, Mixon and Mountain Rose 80, Smock, Wonderful, Geary's Holdon, Salway 99, Elberta 85, Crawford Late 75. In New York along the Hudson: Smock, Geary's Salway, Elberta, Stephens, Fox's, Ford's Late all about 50 per cent, Crawford's Late, Reeves's Favorite, Crawford's Early all about 15, Mountain Rose, Mixon, Stump and Champion about 40, Early Rivers and Amsden 62. On our own experiment trees, we find that we have the following: Mountain Rose, Stump, Chair's Choice, Crawford's Late, Beers's Late, Reeves's Favorite, Troth's Early, Oldmixon, Steadley, all about on an average, 80 per cent, Emperor, Smock, Gibsons, Orange Free, Champion, Early Rivers and Amsden all about 90; Crosby and Elberta 85. On Fox's Seedling, Ellison and Lemon Free, we can find no dead buds. We have a partial report from northern New Jersey, that the buds are more than two-thirds dead, all kinds about alike.

Mercer County, N. J. JOS. H. BLACK, SON & CO.

MARKETS

BUTTER—NEW.

Creamery, State and Penn., best	21½@22
Seconds to firsts	16 @20½
Elgin and other Western, extras	21½@22
Western, firsts	19 @20½
Western, seconds	16 @18
Western, thirds	14 @15
Western, June, extra	18 @19
Western, June, seconds to firsts	12 @16
State dairy, half tubs, fresh, extras	19 @20
Firsts	13 @14
Seconds	10½@11
Dairies, firkins and tubs, extras	15½@16
Dairies, firkins and tubs, firsts	12 @14
Firkins, extras	16 @—
Firkins, seconds to firsts	10½@14
Welsh tubs, extras	18 @19
Welsh tubs, firsts	13 @16
Welsh tubs, seconds	10½@12
Tubs, thirds	9 @10
Western imitation creamery, firsts	14 @16
Seconds	11½@12½
Western dairy, firsts	12 @14
Seconds	11 @11½
Thirds	9 @10
Factory, Fresh, small tubs, extras	12 @13
Fresh, small tubs, firsts	10½@11½
Fresh, large tubs, firsts	10½@11½
Fresh, large tubs, seconds	10 @11
Fourths to thirds	8 @10
Old Western factory or dairy	8 @10
Rolls, fresh, fine	11 @12
Rolls, fresh, common to good	8 @10

EGGS.

New-laid, fancy (nearby)	12 @ 12½
N. Y. State, country marks, fresh gath'd	12 @ —
Pennsylvania, country marks, new laid	12 @ —
State and Penn., fair to good	12 @ —
Western, fresh collections, fancy	11½@ —
Western, fresh collections, fair to good	11 @ 11¼
Southern, fresh collections	11 @ —
Western, refriger., short holdings, choice	8 @ 9
Duck eggs, Md., per doz	28 @ —
Duck eggs, Southern, per doz	23 @ 24

MEATS—DRESSED.

Veals, country dressed, prime	9½@ —
Fair to good, per lb	8½@ 9
Com. to med., per lb	7 @ 8
Small, per lb	4 @ 5
Barnyards, per lb	5 @ 6
Spring lambs, each	2 00 @6 00
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 12
Pork, country dressed, 40 to 60 lbs., per lb	6½@ 7
60 to 80 lbs. per lb	6 @ 6½
80 to 120 lbs., per lb	5½@ 6
120 to 180 lbs., per lb	5 @ 5½
200 lbs and up, per lb	4½@ 5
Rough, per lb	3½@ 4½

POTATOES.

Bermuda, No. 1, per bbl	4 00@5 00
No. 2, per bbl	2 00@3 00
Havana, per bbl	4 00@4 50
Houlton Rose, per d. h. bbl	1 50@1 75
Maine Rose, per d. h. bbl	1 50@ —
State Rose, per d. h. bbl	1 25@1 50
Maine Hebron, per sack	90@1 00
Long Island, in bulk, per bbl	65@ 85
State Rose and Hebron, per 180 lbs	85@1 10
Burbank, etc., per 180 lbs	60@ 80
Jersey, in bulk, per 180 bbl	60@ 75
State and Jersey, per sack	65@ 75
Common, per sack	50@ 60
Sweets, Vineland, fancy, per bbl	3 75@4 75
South Jersey, per double-head bbl	3 00@3 50
South Jersey, cloth top, per barrel	5 25@3 75
Jersey common, per barrel	2 00@3 00

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18 @ 20
Medium sizes, per lb	16 @ 17
Small and slips, per lb	13 @ 15
Western, large, per lb	16 @ 17
Western, small and slips, per lb	11 @ 13
Chickens, Phila., 3-4 lbs. per pair, per lb	25 @ 28
Phila., 4-5 lbs. per pair, per lb	18 @ 20½
Phila., fancy, per lb	15 @ 17
Phila,, fair to good, per lb	12 @ 14
Jersey, per lb	11 @ 13½
State and Penn., choice, per lb	11 @ 12
Western, choice, per lb	9 @ —
Western, fair to good, per lb	7½@ 8
Chickens & fowls, mixed, West'n, choice	9 @ —
Fair to good, per lb	7½@ 8½
Inferior, per lb	5 @ 6
Fowls, State and Penn, per lb	9 @ 9½
Western, choice, per lb	9 @ —
Western, fair to good	7½@ 8½
Western, inferior	5 @ 6
Old cocks, per lb	6 @ 6½
Ducks, choice, per lb	16 @ 17
Fair to good, per lb	12 @ 15
Geese, Western, good to prime	8 @ 10
Western, poor to fair	6 @ 7
Squabs, tame, white, per doz	2 75 @3 00
Mixed lots, per doz	2 25 @2 50
Dark and poor, per doz	1 75 @2 00
Turkeys, dry-picked, choice young hens	14 @ —
Mixed young hens and young toms	13 @ 14
Choice young toms	12 @ 13
Fair to good	11 @ 12
Old toms	11 @ 12

VEGETABLES.

Asparagus, Cal., per bunch	—@ —
Charleston, per bunch	1 50@1 75
Beets, New Orleans, per 100 bunches	3 00@4 00
Florida, per crate	1 25@1 50
Brussels sprouts, per quart	5@ 15
Cabbage, domestic, per 100	2 50@5 00
Florida, per barrel-crate	2 50@3 50
Foreign, per 100	6 00@7 50
Carrots, washed, per bbl	85@1 00
Unwashed, per bbl	75@ —
Cauliflower, Fla., per half bbl	—@ —
California, per case	1 50@3 00
Celery, State & West'n, fancy, large, per doz	75@1 00
State & West'n, average, prime, per doz	40@ 65
State & West'n, small, per doz	15@ 25
Jersey and L. I., per dozen flat bunches	1 00@1 50
California, per doz	50@1 25
New Orleans, per doz	25@1 00
Cucumbers, hothouse, per doz	1 50@2 50
Egg plant, Florida, per bbl	1 00@8 00
Green peas, Fla., per crate	1 00@5 00
Horseradish, per lb	3@ 5
Kale, per bbl	1 00@1 25
Lettuce, Florida, per half bbl basket	1 00@4 00
New Orleans, per bbl	3 00@6 00
Boston, hothouse, per doz	—@ —
Bermuda, per crate	1 00@1 50
Onions, Orange County, red, per bbl	50@ 80
Orange County, yellow, per bbl	87@1 12
Eastern, white, per bbl	1 00@1 75
Eastern, red, per bbl	75@1 00
Eastern, yellow, per bbl	1 00@1 25
Bermuda, per crate	2 00@2 25
Peppers, green, Fla., per crate	1 00@1 50
Radishes, New Orleans, per 100 bunches	3 00@ —
Spinach, per bbl	2 00@4 00
Squash, Marrow, per bbl	50@ 75
Hubbard, per bbl	75@1 00
Florida, per crate	—@ —
String beans, Florida, per crate	1 50@4 00
Tomatoes, Fla., per carrier	1 50@3 00
Per crate	1 50@2 50
Key West, per carrier	1 50@2 50
Key West, per peck box	25@ 50
Turnips, Jersey, Russia, per bbl	50@ 65
Canada Russia, per bbl	65@ 70
Watercress, per 100 bunches	1 00@2 00

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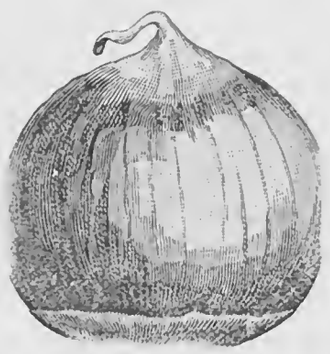

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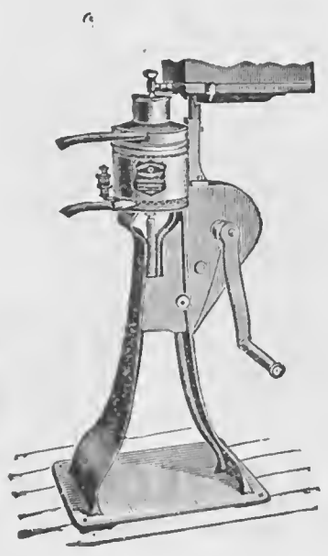

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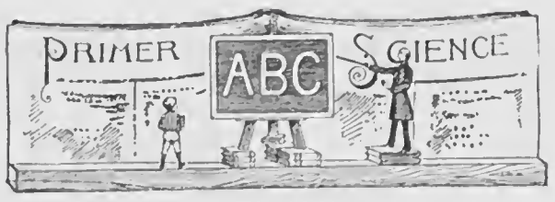

FEEDING A HEN.

PART X.

We are glad to see that these articles have started many of our readers to investigation and figuring. It is far better for all of us to meet and compare notes, than it is to try simply to lay down a set of theoretical rules. Here, for example, is a note from a man in Connecticut that brings up some new problems:

I have 75 pullets, all B. P. Rocks, except five, which average about 40 eggs a day on the following diet: Morning, a mash fed warm, of four quarts of beans after boiling (planted too early so got full of bugs and are no good to sell), one pound Animal Meal, and four pounds of mixed meal consisting of wheat bran, wheat middlings, ground oats, corn meal, 100 pounds of each. At noon, three quarts of oats, and 12 pounds of scorched wheat at night. Four or five times each week, they have raw potatoes, apples or carrots fed whole, which they pick to pieces and eat clean. The house is built after plans in Farm Poultry, roosting house and scratching shed combined. There are no floors, and the building is filled up to the bottom of the sills with sand.

J. P. H.

The Yankees always were strong on beans, and it seems from this, that the Yankee hens are no less susceptible to the effects of bean power than the humans. That is one of the strongest rations we have had yet. If you care to figure on it, it will be pretty safe to estimate the boiled beans as containing, by weight, about 10 per cent of muscle-makers, 25 of fat-formers, and two-fifth per cent of pure fat. The scorched wheat has, probably, lost about 20 per cent of its feeding value. You will find this a narrow ration, and certainly the results are good.

Now here we have another feeding problem—from Connecticut again.

The Feeding a Hen articles in THE R. N.-Y. interest me greatly. By studying tables of composition of feeds and formulas of feeding, with the knowledge gained from the articles, I have made up the following feed for 50 hens—pure Games, P. Rocks, Light Brahmas and Buff Cochins running together: I mix equal parts, by weight, of cotton-seed meal, corn-and-cob meal and wheat bran; I use two pounds of the mixture in the morning, wet. At noon two pounds of oats and at night four pounds of corn. This gives a ration of one to four as I figure it, using United States Bulletin No. 22, digestible ingredient table to figure by. I am not sure that it is a good formula, and the way it has acted, or has the credit of acting, has made me afraid of it. The results are these: It was fed but 10 days, and the egg production, which had been but three a week, has gone to 20 per week. The hens seemed to be satisfied; there was not that craziness for something to eat as before. After feeding for that length of time, one hen, a Game, lost the use of her legs entirely, and could not stand. Another showed the same symptoms. I thought that, perhaps, the cotton-seed meal was the cause of the trouble, and ceased to feed it. Both hens are all right now, and the eggs under the change have continued. Is the cotton-seed meal dangerous? You will notice that the proportion, one to four, is nearly what THE R. N.-Y. recommends, but there is no meat or bone in it.

Our opinion is that the trouble was due to the cotton-seed meal. We have observed the same symptoms in feeding large quantities of this substance to different kinds of animals. We regard cotton-seed meal as a dangerous food for poultry. Linseed meal is much better. It is unfortunate that cotton-seed meal often causes such an injurious effect, for it is a strong, cheap, food, and would enable us to make up an excellent ration if we could use it with perfect safety. The result of this experiment, at least, shows the value of a narrow ration in improving the egg yield. We would like to know what was fed before the attempt at a "balance" was made.

And now comes something that we will all read with interest—a note from J. A. W., the "revolutionary poultry keeper." We have looked the matter up, and find that J. A. W. *did* write 30 cents. THE R. N.-Y. made the mistake of printing "40 cents," as the supposed price of the eggs.

In regard to Revolutionary Poultry Keeping, allow me to say that the criticism of A. R. S. on page 148, is well put; but the fault is, I think, with the printer. I may possibly have made a slip, but I certainly intended to say: "There is as much profit in producing eggs at a cost of 10 cents a dozen and selling them for 20, as there is in producing them at a cost of 20 cents, and selling them for 30." Of course, this would not be true if the highest price mentioned was 40.

Your own remark that there may be one-sided thoughts as well as well-balanced thoughts, insinuates, but does not prove, that my thinking is one-sided. The fact is, I have thought all around this question, and thought "at it." If I hadn't, I shouldn't have dared to do as I have done, for the old school doctors of poultry science have declared times without number, that it was a settled, undebatable fact that hens could not be kept in health and at a profit if fed on a strictly vegetarian diet, and quartered in large flocks. It seems to me that people who always stick to old methods are the one-sided thinkers. Ever since I was a boy, I have always had great respect for age (with exceptions, eggs, for instance); but age alone is a poor recommendation for a man or a thought. I have never yet seen a statement which I considered too sacred to investigate. I have doubted and experimented, with the result that my conclusions are unlike those of some others. I will admit my laziness. I have no time to waste, and desire as much profit from my hens for as small an amount of labor as possible, and here is where I have the advantage of the mush makers. I can feed and water my 200 hens in the same amount of time as it would take to feed and water 20; and in less time if the 20 were fed mush. One large pailful of wheat and corn, and one large pailful of water, will feed and water the whole flock. It takes five minutes a day to rake out the droppings. Leaving the broody hens and chickens out, I can do all the work required to keep my 200 hens in health and comfort, in 15 minutes of time daily. Think of the work of boiling vegetables, cutting bones, making mashes and distributing the feed among 12 or 15 flocks, and what would the 15 minutes amount to?

One-sided practice is better than well-balanced theory. This town is filled, so to speak, with bone cutters; but as far as I can learn, my hens lay more eggs than an equal number belonging to any one who feeds meat or bone. Perhaps there are one-sided theories. Perhaps my theory is a well-balanced one. It is this: Hens which have plenty of room indoors and out, wholesome food, clean water, freedom from lice, and sanitary quarters, will lay eggs at a profit. My hens appear contented, and as long as they pay me $348 for 10 days' labor, I think that I shall feel so myself.

J. A. W.

We wish to say right here that we had no idea of insinuating that J. A. W. was a one sided thinker. The reverse of this is very evident. We meant to warn those who read that article and thought of dashing in to duplicate J. A. W.'s success, that there are two sides to every question, and that they must think the whole thing over carefully and see how the plan fits into their conditions before attempting it.

We have some other interesting things on hand, including a note from a hen man who wishes a balanced ration for *himself*. We must leave them for the present, however.

Live Stock Matters.

FORKFULS OF FACTS.

TWO MEALS A DAY.—I noticed in a late issue of THE R. N.-Y. a suggestion as to farmers trying the two meals a day as well as their stock. I have tried it for a long time, and am well pleased with it. I seldom do any "piecing" between meals, enjoy better health than the average, and always work hard.

N. N.

Harwinton, Conn.

TWO HORSE NOTES.—Tell A. J. B. to apply pine tar on the wart on his three-year old mare, and it will soon disappear and cause no injury.

Tell the man that wishes to prevent his horse from biting the hitching strap, to strap his mouth shut when occasion requires.

S. K. M.

Mich.

FIRE IN A POULTRYHOUSE.—In a recent issue of THE R. N.-Y. a correspondent says that he keeps a fire in his henhouse. If he really finds this profitable in his own experience, well and good; but I would certainly hesitate to follow the plan, neither do I think that many poultry keepers would find the practice satisfactory. It is really not necessary, and entails upon the poultryman a useless care and bother. While a fire is all right theoretically, it is a nuisance practically. If a house is built first-class and plastered, and stocked with a number of

(*Continued on next page.*)

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The Hen Men

Who use Bowker's Animal Meal are becoming more numerous every day. It is seldom we meet any one keeping poultry who has not used it. There are many good reasons why it pays to feed it. It is pure, thoroughly cooked meat and bone, finely ground, and easily digested.

It makes hens lay;
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Enough for 10 hens 3 months, $1.
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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses** and **Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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Lightest running, strongest and **handiest made.** Three Sizes: 2 to 6, 6 to 8 and 8 to 12 horse power.

I also make SWEEP MILLS that grind wheat fine and crush ear corn.

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200% More Eggs

When hens are fed on

GREEN CUT BONE.

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will pay for itself in two months. Sent on trial, **$5.00 BUYS ONE.** Catalogue free if name this paper.

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Pain often concentrates all its Misery in RHEUMATISM

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waste of harness and shoe-leather! Vacuum Leather Oil *is best.* Get a can at a harness- or shoe-store, 25c a half-pint to $1.25 a gallon; book "How to Take Care of Leather," and swob, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

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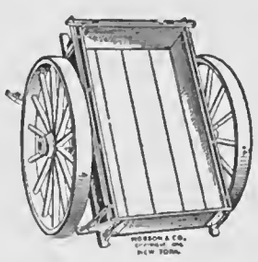

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and was awarded medal at World's Fair for PROGRESS AND IMPROVEMENT. We also make old-style straight axles, one and two-horse wagons, with thimble skein and solid steel axles. ALL HIGH GRADE.

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Catalogue free. If your dealer does not handle our goods, we will on application name bottom prices.

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96 pages, printed in 6 colors. Birdseye view of largest Poultry Farm. Tells all about Chickens, Prices of same, their Diseases, remedies, poultry buildings, etc.; finely illustrated. Price only 15c. C. C. SHOEMAKER, Freeport, Ills, U.S.A.

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at 10 State Fairs in 1895. This is my record. **Eggs and Fowls For Sale. Largest Range in the West.** Send 5 one cent stamps for best Illustrated Catalogue.

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Free Catalogue of 22 varieties of prize winning fowls. 32 prizes at one show. Every bird bears a score card by F. H. Shellabarger. Scientific Poultry Yds. W. E. Sennett, Prop., Dixon, Ill.

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Bone Meal, Crushed Oyster Shells, Calcite, Crushed Flint, Ground Beef Scraps. *Send for Price List.*

YORK CHEMICAL WORKS, York, Pa.

$5 Hand Bone, Shell, and Corn Mills for Poultrymen.

Daisy Bone Cutter. Power Mills. Circular and testimonials Free.

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PASTEURA (A Solid Liniment.) **FOR MAN AND BEAST.**

"Suckling colt cut on barb wire, healed without a scar." "Mare lame in shoulder 6 yrs., used *Pasteura* cured in week." "Jersey heifer with badly inflamed udder (garget) cured in 12 hrs." "Had a pig with rheumatism, no use of hind legs, applied *Pasteura*, recovered in one week." No bad smell or stain. 50 cts. per box, postpaid.

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LIVE STOCK MATTERS.

(CONTINUED.)

fowls, neither too many nor too few, they will keep warm enough for health and comfort. If a man is not "in and out" of the henhouse "off and on" all the time, it is impossible to keep the heat uniform. It will be first too hot, then too cold, and the hens will never maintain health under these conditions. They soon get "tender," and are especially susceptible to cold and roup. We must keep farm stock comfortable, but avoid going to the other extreme of pampering them, so as to weaken their strength and vitality.

M. SUMNER PERKINS.

FOOD FOR CALVES.—What is the best feed for calves ranging from two days to six weeks old? They are bought to fatten and sell to butchers, and I wish a diet that will agree with them and increase their weight rapidly. I have tried cracked wheat and potatoes, both boiled in milk, and both gave them the scours.

Maryland. L. W. F.

R. N.-Y.—Warm, fresh milk is, of course, the best food for calves. The readiest substitute is, probably, the "calf meal" made by Blatchford & Co., Chicago, Ill. This will dissolve in warm water, and make a very fair substitute for milk.

WHY STOP WITH ONE CROSS?—My wife has a Jersey-Holstein cow, that is solid black, except a white streak on the belly, white hind feet, and white pencil on tail. She is more compactly built, is heavier than her mother, and gives a larger yield, longer continued, and better quality of milk. Bred to a Jersey bull, her calf recently dropped, is mouse-colored, black feet, black muzzle, black border around eyes, black upper tongue, white streak on belly, and white pencil on tail, compactly built, and larger than her dam at the same age. She is a handsome creature, but what she will develop as a cow remains to be seen. H. R.

Fairmount, Ky.

BARLEY HAY: WORMS.—Is there much nutriment in bright barley straw that has ripened grain and been thrashed? How will barley compare with oats to cut green and cure for hay? Some one told in THE R. N.-Y., of mixing ¼-inch pieces of horse hair in a horse's feed to rid the horse of worms. While feeding corn stalks, my horses had worms; since I began feeding barley straw, all signs of them have disappeared. They had grain in both cases. I think that the barley "beards" were too much for the worms. W. V. H.

Deer Park, L. I.

R. N.-Y.—Barley makes the best grain hay of all the small grains. Baled barley hay is always brought East to feed the California race horses. It sells for more than Timothy in the San Francisco market. The Dutch farmers feed rye heads to horses to "drive out" worms.

FEEDING CORN TO THE BEST ADVANTAGE.

I have considered corn the cheapest stock food for this locality, so far as it can be fed, but how best to prepare the corn and ground feeds, has bothered me much. I have tried the corn-and-cob meal, even fine enough for bread, and was not satisfied. I did not like corn meal or corn in the husk with hogs to follow. I have an objection, from observation, to corn in the ensilage. Scientific experimenters tell us, and my own experience has shown, that there is no profit in sloppy feeds.

I now run ear corn through the corn-and-cob mill to shell off the corn and break the cob, but do not crack the corn. This I cook well done, in a homemade feed cooker and put this in the mixing box with cut clover hay, ground feeds and salt; in a few hours it has steamed all through, keeps warm over-night, and the cows like it the best of any feed I ever tried.

Now for the profit. On first trying the cooked corn, I was feeding four baskets of corn-and-cob meal with ground feeds, and for roughness one good feed of clover hay and the rest corn fodder. I then cooked but three baskets of the cracked corn-and-cob, used the same ground feeds, the same fodder and cut about one-half the clover hay in the mixing box, and gave no hay feed. At the time of this trial, the cows were on the shrink; they at once responded, making a good gain. I keep the weight of each cow's milk. I think that it takes less labor and time to crack and cook the corn, than to grind it fine, is a saving of one-fourth of corn, with more milk. I now cook the oats with the corn, and save the grinding. E. G. S.

Athens, O.

STRAINING AND RACKING your Lungs and Throat with a rasping Cough, is but poor policy. Rather cure yourself with Dr. D. Jayne's Expectorant, an excellent remedy for Asthma and Bronchitis.—*Adv.*

Young Chickens

Grow strong and vigorous and attain early maturity if from birth they receive a regular daily feeding of

"Bradley's Superior Meat-Meal."

There is nothing like it for a flesh-producer, and chicks fed with it are a constant delight and early source of profit.

We tell all about it in "Feeding for Growth and Eggs," a copy of which we send FREE.

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COW DON'T BREED?

THOUSANDS CURED—BOOK FREE.

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If so, you should try a

DIAMOND BALANCE CHURN.

It churns Easier, Quicker, Closer, and is more Convenient than any other. Every user's word for it. Send for circular and introductory price, if we have no agent in your locality, to *Mention this paper.* Diamond Balance Churn Co. Ballston Spa., N. Y.

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Simple, Perfect, Self-Regulating. Thousands in successful operation. Lowest priced first-class Hatcher made. Circulars free. Send 6c. for Illus. Catalogue. GEO. H. STAHL, 114 to 122 S. 6th St., Quincy, Ill.

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100 Egg. Self-regulating. 8000 in use. As good as the best regardless of price or money refunded. Circulars free. OLD HEN Brooders 150 Chick. 4c. for No. 23 Catalogue and Treatise on Artificial Incubation. Buckeye Incubator Co., Springfield, O.

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Simple, durable, economical. Best workmanship and materials guaranteed. Most reliable and successful in the United States. **Absolutely self-regulating. Perfect ventilation assured.** Our hot-water brooders guarantee uniform heat. No crowding nor smothering. Send stamp for catalogue. Circulars free

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Our 160 page, finely illustrated Combined Poultry Guide and Catalogue will tell you what you wish to know about

PROFITS IN POULTRY

We manufacture a complete line of Incubators, Brooders and Poultry Appliances. Guide and Catalogue 10c. (stamps or silver) Worth one Dollar. Reliable Incubator & Brooder Co., Quincy, Ills.

THE IMPROVED VICTOR INCUBATOR

Hatches Chickens by Steam. Absolutely self-regulating. The simplest, most reliable, and cheapest first-class Hatcher in the market. Circulars free. Catalogue 4 cents. GEO. ERTEL & CO., Quincy, Ill.

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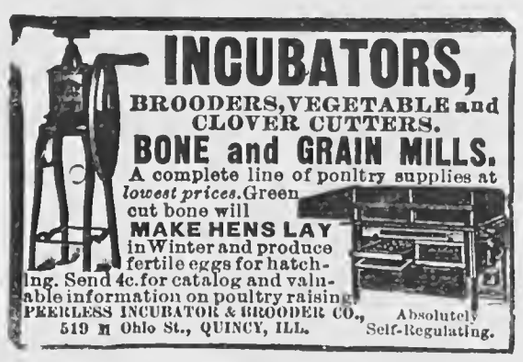

A complete line of poultry supplies at *lowest prices.* Green cut bone will MAKE HENS LAY in Winter and produce fertile eggs for hatching. Send 4c. for catalog and valuable information on poultry raising. PEERLESS INCUBATOR & BROODER CO., 519 N Ohio St., QUINCY, ILL. Absolutely Self-Regulating.

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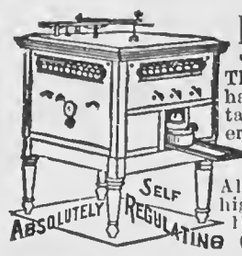

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INCUBATORS. In-Door & Out-Door Brooders. 139 FIRST PREMIUMS.

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Best in the world, hot water, pipe system. Will hatch chicks when others fail. Catalogue Free. Shoemaker Incubator Co., Freeport, Ill. U. S. A.

EGGS Thoroughbred S. C. Brown and Buff Leghorns, White and Barred P. Rocks, B. Minorcas, S. Spangled Hamburgs. Eggs, 15, $1; 40, $2. H. K. MOHR, Quakertown, Pa

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J. D. Souder, Telford, Pa. All var. Poultry, Pigeons, Eggs, $1 ℔ 15, $3 ℔ 52. Fine col. cat. 4c., cir. free.

Poultry W. and Buff P. Rock and W. Wyandottes. Circulars free. DR. H. J. ASHLEY, Machias, N. Y.

CHOICE well-bred LIGHT BRAHMAS, BUFF COCHINS, S. C. BROWN LEGHORNS and INDIAN GAMES. Write H. T. WALTER, West Chester, Pa.

Prize-winning Poultry.—Cochins, Brahmas, Langshans, Wyandottes, P. Rocks, Andalusians, Leghorns, Minorcas, P. Ducks. 19 varieties, 6 Buff breeds. Buff eggs, $1.50 per 13; others, $1. Illus. cat. FREE. DAVIS BROS., Box 1005, Washington, N. J.

S. C. Brown Leghorns.

The best egg producers; eggs, $1 per 13. Extra Fine Stock. Write to R. S. COLE, Harmans, Md.

EGGS for hatching from High Grade Rose Comb White Leghorns, Rose Comb Brown Leghorns and Single Comb Brown Leghorns and Black Minorcas. Great Layers; 15 Eggs, $1; 26, $1.50. A few cockerels for sale. Send for circular, free. OTTAQUECHEE POULTRY YARDS, North Hartland, Vt.

TURKEYS—Mammoth White and Bronze, Toulouse Geese, White Guineas. The leading varieties of poultry. Choice young Turkeys, B. and W. P. Rock, W. Wyandotte and Br. Leghorn Cockerels to spare. Circular free. D. A. MOUNT, Lock Box 17, Jamesburg, N. J.

Bargain Sale Choice breeding Stock. Knob Mountain Poultry Farm, Orangeville, Pa. Mention this paper.

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CLOTHILDE H. H. B. 1308.

Milk record 26,021 pounds 2 ounces in a year. Butter record, 28 pounds 2½ ounces in a week. We have 100 of this cow's descendants for sale. If this is the class of cattle you want, write to SMITHS & POWELL CO., Syracuse, N. Y.

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BULL CALVES (under six months, non older) $10 delivered. Sired by a son of Ida's Stoke Pogis, out of dams of superior breeding and dairy quality. No catalogue. Farm Edgewood Station, P. F. W. & C. R. R. P. O. address ROBT. F. SHANNON, Pittsburgh, Pa.

Linseed Oil Meal (O. P.) by bag or ton.

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Breeder of Thoroughbred Jersey Cattle, of the St. Lambert and Stoke Pogis 3rd families; and owner of the celebrated herd that produced 567 pounds of butter per cow. Calves, Yearlings, Two-year-olds and Full Aged Cattle for Sale. *Visitors Made Welcome.* CLOVER LAWN STOCK FARM, MYRON REIGHTMYER, Prop., West Richmondville, Scho. Co., N. Y.

HARRY REEDER & CO. Breeders & shippers of imported stock, cattle, sheep, pigs, poultry, house and hunting dogs. Illustrated catalog free. THORNDALE, Chester Co., Pa

It is my INTENTION to assist YOU in PURCHASING and SELLING thoroughbred live stock. Some very CHOICE stock from BEST HERDS. Particulars given by WILLS A. SEWARD, 207 Broadway, New York.

Willswood Herds at Budd's Lake, N. J., offer

Recorded Berkshire Swine, Registered Guernsey Cattle.

Scotch Shorthorns and Berkshires.

Blue blood and as good individuals as can be found. State Fair winners cheap. An extra fine lot of bulls, serviceable age. KELLOGG STOCK FARM CO., Claridon, Geauga Co., Ohio. R. R. Station, East Claridon, O.

BERKSHIRES.

For sale, cheap, last year's stock, to make room for spring litters; also, two boars, two years old. PARK FARM, New Brunswick, N. J.

CHESTER WHITES

SWEEPING REDUCTION to suit hard times, and reduce large stock of choice animals. *You run no risk* sending order, as I am *the only* breeder guaranteeing satisfaction, and agreeing to refund money and pay freight *both ways* on any stock rejected. *You* are to be the judges. My swine are the old "True Type," having broad, dished face, lop ear, straight hair and back, good body, bone and ham, and are *growthy*, but not coarse. G. R. FOULKE, Bala Farm, West Chester, Pa.

NOW READY. The finest Chester Whites I ever bred, 2 to 6 months old, at reduced prices, in keeping with the times. Breeding stock all reg. in Nat'l Chester White Record. Send two-cent stamp for circular and price list.

SIR FRANCIS 2969.

Also two litters of SCOTCH COLLIE PUPS. EDW'D WALTER, Eureka Stock Farm, W. Chester, Pa.

WHINERY'S IMPROVED CHESTERS Are very Growthy, Prolific, Easy feeders. Go to every State, Canada and Mexico. 900 sold in 1895, over 1000 for 1896. Catalogue free. "Whinery's Swine Advocate" A 16 page monthly 25c per year. Willis Whinery, Salem, Ohio.

Choice Poland-Chinas and Berkshires. Boars and Sows all ages. Sows bred. To get pen room for sows soon to farrow, will fill orders *very reasonable.* Write for prices. State age. HAMILTON & CO., Cochranville, Chester County, Pa.

NOW is the time To have our catalogue sent you
HERE is the place To buy Poland-China Hogs Poultry and Seeds.
WE are the firm That always please.
F. H. GATES & SONS, Chittenango, N. Y

ELLIOT'S PARCHMENT BUTTER PAPER. HALF A REAM. FREE

To dairymen or others who will use it, we will send half a ream, 8x11, free, if they will forward 30 cents to pay postage. Why not try the Best Butter Wrapper?

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Farmers' Feed. Dry Brewers' Grains.

Dried under new process, Otto's Patent. No preliminary squeezing or pressing of grains necessary to abstract moisture. Under Otto's Patent moisture is evaporated and no nutritious matter can escape with water as by other processes. As we are taking the entire output of a number of breweries in exchange for our Dryers, we can afford to sell grains cheaper than all other dealers. WRITE FOR PRICES.

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COMMENCE IN A SMALL WAY and grow up a registered herd at a small expense. The increase of my herd for sale. All bred from select and tested Dams. For richness as well as color I have the most uniform and beautiful herd in America. Ten extra fine Fall Calves (can be shipped cheaply by express), and a few grand young heifers. Write your wants to

ORATOR F. WOODWARD, Le Roy, Genesee County, N. Y.

DISCUSSION

Winesap and York Imperial Apples.

D. O. M., FALLS CHURCH, VA.—C. M. E., of Amherst, Va., is very much mixed on the Winesap and York Imperial apples; they are very different — different in color, shape, flavor and appearance, and also in the growth of the trees. The York Imperial is correctly described by Downing, and has two names—York Imperial and Johnson's Fine Winter, supposed to have originated in York County, Pa. The apple is much larger than the Winesap, and a better keeper. There are, probably, more York Imperial trees sold from southern nurseries than any other variety grown. Single orchards in this section contain 1,500 trees of that variety alone, and it is almost incredible that any one knowing anything about the apples of eastern Virginia, should have fallen into the error that C. M. E. has.

The "Knack" in Farming.

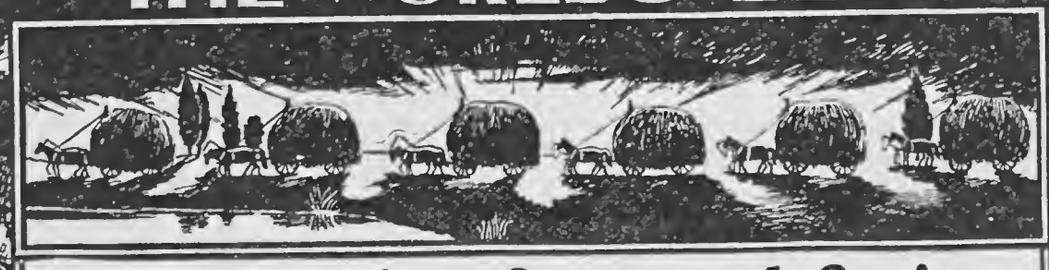
E. D. G., ASHBURNHAM, MASS.—I was much interested in B. G.'s article, page 23, and think that he has stated the facts of the case so far as he goes. I had a grand crop of potatoes (over 500 bushels per acre on the best) on worn-out soil, and thought of making a report of methods, results, etc. But other accounts began to come in, and I soon began to see about as B. G. does. Such low estimates of cost of production will work evil, not only to potato growers, by inducing those not now in the business to engage therein, but also to a large proportion of the inexperienced who are persuaded to try growing potatoes for market, whether they come from the city, or have been engaged in other branches of farming. The man not familiar with potato growing, who reads that potatoes are grown for 10 cents a bushel, and just how it is done, and so thinks to go and do likewise, will fail 19 times out of 20. There is an intuitive faculty, a knack, acquired by these exceptionally successful specialist farmers, not to be acquired by reading what others have done; but only by years of labor and actual experience in the field. Suppose some eminent physician who has become wonderfully successful in the treatment of a certain class of diseases, should write a book giving an honest account of his methods, remedies used, etc., and (who ever heard of a doctor being such a fool) should add that he easily cleared $5,000 yearly. Think you that reading the book would enable any man, however smart, to do the same thing? No sensible man would expect any such thing, but would know at once that, after he had learned all the book contained, there was something else to be acquired, and that something else is a vital necessity if one is to equal either the great physician, or the farmer who has become the great specialist. Many men have not the qualities necessary for the physician or farmer, but may be very successful in some other calling. Very few kinds of business can be successfully conducted on a large scale by one who did not begin in a small way.

Hints On Road Making.

H. M. ENGLE, LANCASTER COUNTY, PA.—The trend of public sentiment is, evidently, toward the betterment of public roads. In some localities, considerable has been accomplished, but comparing it with what should, and no doubt will, be done, it seems like a "drop in the bucket." In some of the countries which have been improving the roads for hundreds of years, they should be, and are, far in advance of ours, but since we are in a fair way to follow suit, it should not require half a century to have our roads equal to those in any other country. If the mass of our citizens who travel the roads would make a close cal-

(Continued on next page).

BRADLEY'S FERTILIZERS
THE WORLD'S BEST.



Top Dressing Grass and Grain.

It has been demonstrated beyond a shadow of doubt, that it pays handsomely to top dress mowing and grass lands and grain fields with Bradley's Fertilizer. We only ask a trial one season on a portion of any field, and know the result will cause the experimenter to become a liberal and constant user of these fertilizers on all of his grass and grain fields.

Send for "American Farmer," to BRADLEY FERTILIZER CO., Boston, Rochester, N. Y., Cleveland, O.

SAVE THE POTATOES
From the bugs with one of my
PARIS GREEN SPRINKLERS.
(GRAY'S PATENT.)
If tried once will never be without it. Can sprinkle more than one acre in an hour with it. It saves half of the Paris Green against any other method. Price $3.50
Write for circulars to E. Goettsche, Mfr., 1049 Milwaukee Ave. Chicago, Ill.
MENTION THIS PAPER.

ONCE USED, ALWAYS USED.

Bigelow's Liquid Paris-Green and London Purple. Mingles freely when put in water. Never settles. Nothing to clog the sprayer. Guaranteed not to burn the foliage. Sure death to all insects that feed on vegetation

Bigelow's Bordeaux Mixture
Prevents and destroys all fungous growth, viz., blight, rust, smut, rot, etc. Circulars and calendars giving full instructions in spraying, sent free on application.

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PERFECT FRUIT
We tell you all about spraying and care of fruit in our 32-pg. illustrated book—free. Our Pumps and Nozzles win highest honors in every test.
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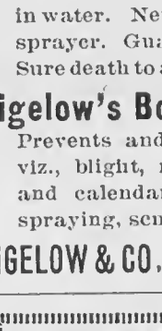

trees, vines, lawns, flowers, chickens, and kill the insects with the
Improved 'DAISY' Sprayer.
Very durable, guaranteed, and lasts for years. 150,000 sold in ten years; has rubber hose and throws constant stream 50 feet. Latest recipes for killing insects. No. 1, heavy tin, brass valve, $1.65; No. 2, iron, brass valve, $2.25; No. 5, heavy brass (fine), $5.00. *Express prepaid. Agents wanted. Catalogue free.*
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Adjusted to dust wide or narrow rows over one acre per hour. one pound green to acre. Extra tubes furnished for orchard work, with each machine.

One farmer says: "It was my custom before buying your Champion Gun to use water, it required four men to do about the same work that I can do with the Gun in the same time. It will pay any farmer, having one acre of potatoes in one season's use." Send for circular. Ask for Leggett & Brother's Pure Paris-green. LEGGETT & BRO., 301 Pearl Street, New York; or WM. T. LEGGETT, Wholesale Agent for Pittsburgh, Pa. and vicinity. *Agents wanted.*

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Scientifically made, in perfect drilling condition, and always give good results. 1896 book ready. Send for one.
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ACME PULVERIZING HARROW, CLOD CRUSHER AND LEVELER.
Adapted to all soils and all work. Crushes, cuts, lifts, pulverizes, turns and levels the soil in one operation. Made entirely of *cast steel* and wrought iron—*practically indestructible.*
Illustrated pamphlet mailed free.
Cheapest riding harrow on earth. $8.00 and up.
SENT ON TRIAL To be returned at my expense if not satisfactory.
N.B.—I deliver free on board at distributing points.
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PLEASE MENTION THIS PAPER

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NEW YORK STATE DRAIN TILE and PIPE WORKS. Main Office: *76 Third Avenue, Albany, N. Y.*
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Manufacturer of and Dealer in Agricultural Drain Tile, Salt-Glazed Sewer Pipe, Red Pressed Brick, Mortar Colors, Fire Brick, Oven Tile, Fine Lining, Chimney Tops, Encaustic Sidewalk Tile, Rosendale and Portland Cement, Lime, Plaster, &c

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The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free.
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You're no Sampson
Neither is your hired man.
Then why wear yourself out on poor
HARD-WORKING SPRAY PUMPS.
Get the "ECLIPSE."
Then you can do business and smile.
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THE PEPPLER SIX-ROW SPRAYER
For Trees, Potatoes and Vineyards.
HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.
POSITIVELY WARRANTED THE BEST ON EARTH.
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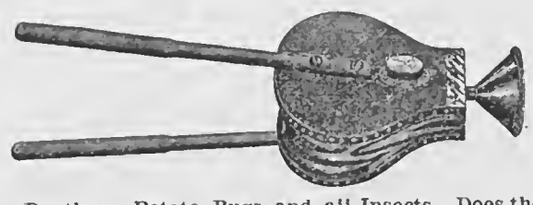
Because it is the *BEST. Try* it and *you* will agree with *me.* Send for catalogue. WALTER F. TABER, Lakeview Fruit Farm, Poughkeepsie, N. Y.

A SPRAYER $2.50
Express Prepaid.
THE COMET Double Acting
Sprays from bucket or barrel 50 feet. made on new scientific and mechanical principles.
Send for free catalogue which will make it plain to you that I have the sprayer you want.
H. R. RUSLER, Johnstown Ohio, U. S. A.

Electric Insect Exterminator.



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CHAS. H. CHILDS & CO., Utica, N. Y.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

culation of the time that is lost, and the wear and tear of vehicles, harness and animals, it seems as though there would be a unanimous sentiment in favor of none but good roads. But even with all this favorable impression, the great obstacle is the first cost, as stone would have to be used almost exclusively to make roads good the year 'round.

Stone roads built on the Macadam or Telford system are generally made 16 to 18 feet wide, costing from $2,000 to $3,000 per mile, which seems ample for two teams to pass. Now why not build one-half of stone, or say, 10 feet wide, which would make the first cost very little more than one-half; build it on one side wherever practicable, to make a summer or earth road adjoining. Make the earth road nearly level with the stone part, so that it would be easy for one team to turn off and on again when the earth road is not in good condition for travel. Teamsters, however, generally prefer traveling earth roads in good condition, to those of stone; a horse even prefers it. We may safely conclude that an earth road properly cared for, is in good condition one-half the time. Both earth and stone roads, however, require repairing; but stone will cost for material and hauling, while earth costs comparatively nothing.

By my proposed method, nearly one-half the first cost would be saved, and the travel on the earth part would save nearly one-half the repairs. If this theory be correct, it will be easy to calculate the difference in first cost between the expenses of, say, 10 feet, and 18 feet wide for a township, a county or a State; also for the repairs. I have traveled some of our public roads where the supervisor, with a vague idea of good roads, stoned some sections about 12 to 14 feet wide, with coarsly broken stone, which we are obliged to travel at all seasons, getting a regular shake up at all times of the year, while many would prefer to travel through mud, sometimes, and have nice traveling when dry. I am interested in a turnpike company which stoned a road in the centre, but has since taken out one side of the stone, and made a summer road to its full satisfaction.

One-Year-Old Trees.

P. S., EXETER, PA.—I fully agree with A. D. Webb, of Kentucky, in regard to setting one-year-old apple trees. A few years since, I set about 70 one-year-old apple trees with the same results that he claims. I cut every limb off, and also the top, when I set them. They looked like a lot of stubby whips, and I got tops to suit me by rubbing off the buds that started where I did not wish branches.

Another Apology to Keiffer Pear.

M. H. C. GARDNER, ORANGE COUNTY, N. Y.—The editorial bard of THE R. N.-Y. of February 29, went into ecstacies in his "apology to the Keiffer pear," for having thought so slightly of it as a preserve pear, and makes an apology so profuse that the Keiffer will, probably, have an honorable standing in THE R. N.-Y. in the future, so far as the editorial pen is concerned. It was by the merest accident, too. A peck sent him, unfit to eat, he was going to throw away, but his wife canned them, and on New Year's Day, they were sampled, and the editor bursts into song over their delicious flavor.

I have a couple of trees that have been prodigious bearers, and I hardly knew what to do with the fruit; it was so hard that I always shook instead of picked the pears, and what were left on the ground took the hens a long time to eat. Last fall, some were left in the house to ripen, and as we had plenty of fruit, they came near being thrown away; but quite late, my wife canned them, and their fine flavor was pronounced so fine that we talked about it at the time not a little, and, like Oliver Twist, I wanted "more." They will receive closer attention the coming fall, for they never miss bearing, at least, part of a crop.

Chapman's Seed Potatoes
Only cost 9c. to raise. Hints telling how for 2c. stamp. *Prices way down on account of cost to grow.* Illustrated catalogue free. C. E. CHAPMAN, Peruville, N. Y.

50 Barrels Balance **Carman No. 1** Potatoes $1.75 Barrel.
Maule's Irish Daisy, $1.15. *That Great Early Thoroughbred*, $12.50 (*one-half Philadelphia Prices*). Rural New-Yorker No. 2 and others, 95 cents per barrel. 1,300 sold. *Am going to sell balance. Write now for list. Stock choice.* Bank or other reference.
S. J. SMITH, Seed and Stock Farm, Padelfords, N. Y.

Pure Carman No. 1 Potatoes Price per bushel, 80c.; per bbl., $2.25. ISRAEL DENLINGER, Trotwood, O.

Plant Carman No. 3 Potatoes. Pure blood from Thorburn's stock. By mail, 3 lbs. 60c; by freight, peck, $1; half bush., $1.75; bush., $3. Address W. W. HAVELY, Coal Center, Pa.

Choice Seed Potatoes Rose of Erin, Early Puritan, Improved Rose White Seedling, R. N.-Y. No. 2 and Delaware at low prices. Send for list to D. M. Reyer, Randolph, O

Vineland Sweet Potatoes for seed, $2.50 per three bushel bbl. Cash with order. F. S. NEWCOMB, Vineland, N. J.

Carman No. 1 Potatoes (Thorburn stock), $1 per bushel; $2.50 per barrel. E. M. WOOD, North Madison, Ind.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

Seed Potatoes. ED S. HILL, PERUVILLE, TOMPKINS CO., N. Y.

Carman Seed Potatoes No. 1 and 3 (Thorburn stock), R. N.-Y. No. 2 and Sir William. Costs less to grow in Wisconsin. We sell accordingly. Write for prices. FRASER BROS., Vernon, Waukesha Co., Wis.

Carman No. 1 Potatoes.
$3 per barrel. Barrel lots only.
T. GREINER, La Salle, N. Y.

Seed Potatoes Empire State Seed Potatoes, for sale at $2 per barrel; choice stock.
D. J. SHANAHAN, Faliston, Md.

SEED POTATOES 500 bushels Carman No. 3, Thorburn Early and Beauty of Hebron. Send for prices. Address STEPHEN HOYT'S SONS, New Canaan, Conn.

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A fine stock of this grand potato. Prices reduced. Circulars free. Dr. JABEZ FISHER, Fitchburg, Mass

Carman No. 1 (Thorburn Stock), $2.50 per barrel; 90 cents per bushel; six pounds postpaid $1. Carman No. 3, $6 per barrel; five pounds, $1. Also, Moonlight and Shuleys No. 7 (new). Price list free.
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CARMAN No. 1 $1.50 per bbl
To close out.
Early Harvest, Ea. Norther, Ea. Pride, New Queen, $1.50 per bbl.; American Wonder, Wilson's First Choice and others, $1.25 per bbl. Pure seed. Northern grown. Send for cat. AMERICAN SEED CO., Rochester, N. Y.

POTATOES FOR SALE.—Carman No. 1, 25c. per lb., three lbs., 50c.; No. 3, 30c. per lb., taree pounds, 60c.; Adirondac (Wilson's), Great Divide (Burpee's), three lbs., 50c.; Freeman, Late Burbank, three lbs., 40c., all prepaid. CHAS. C. FITCH, West Groton, N. Y.

2ND Crop Pedigree Seed Potatoes; they make earlier, larger potatoes than Northern Seed everywhere; old and new varieties. **Strawberry** plants, best. Raspberry, Blackberry, Asparagus, etc., fine and true to name. Catalogue free, J. W. HALL, Marlon Sta., Md.

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For the first time at popular prices, from Thorburn seed:
Carman No. 3..... $3.00 per barrel
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Great Divide..... $2.00 per barrel
R. N.-Y. No. 2 in car lots, at market prices.
Quantity, quality and type guaranteed. Terms cash, f. o. b. C. W. Burnett, Lyons, B. 59, Wayne Co., N. Y.

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That outyields the Sir William, Carman No. 1, Rural No. 2, American Wonder, and half a hundred others Wise's Seedling did it at the Ohio Experiment Station. All the above varieties and many others for sale at popular prices. Lincoln Oats and White Cap Corn. Send your own and neighbors' names for free catalogue. J. M. FLUKE, Box 32, Nankin, O.

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ARE ALWAYS THE BEST.
One hundred best varieties. Choice sorts, $1.50 per barrel. Early Michigan, best extra early. Carman No. 3, best late potato grown. My Northern-grown pedigree seeds are guaranteed the best. Michigan Wonder Oat, the '96 novelty. Seed Corn, Clover, etc., at lowest prices. 40-page Catalogue and new book, "Potato Culture in a Nutshell," free. Read it before ordering your seeds. Address
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Took First Premium last fall at Ills., Wis. and Mich. State Fairs. A tremendous stock. A good year to obtain Choice Seed of Improved Varieties. Prices Low, for this reason most people will not plant many potatoes. **Now is the time for you to plant.** Illustrated catalogue of field and garden seeds **Free.** L. L. OLDS, Clinton, Rock Co., Wis.

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Choice Standard and New varieties grown and stored in **the Cold Northwest.** Send for handsome **Illustrated Catalogue,** containing article describing method of raising and handling. Small shipments at **car-load freight rates.** Prices greatly reduced on large lots. Samples free.
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Selected Tubers: Hebrons, Freemans, Rurals. Most excellent seed I ever offered. Lowest in price. Corrosive-sublimate treated, to protect crop from scab. May plant safely in diseased soil, or use barnyard manure. Also,
CHOICE WHITE MAINE SEED OATS.
This variety never falls. Does well on wet, dry high or low lands. Heavy weight; large yield.
Address **MAHLON SAGER, Orangeville, Pa.**

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Carman No. 3, $7 per barrel. Great Divide and Maggie Murphy, $2 per barrel. Freeman, World's Fair, Irish Daisy, Early Puritan and Vaughan, $1.50 per barrel. 100-Day Bristol Corn, $1 per bushel. Barrels and bags free.
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Carman No. 3, free from scab and nice. Raised from Thorburn stock. $1 per peck, $3 per bushel, $6.50 per barrel. Money order office Woodbury, Pa.
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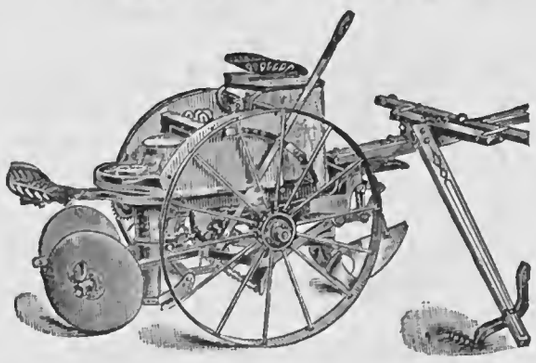

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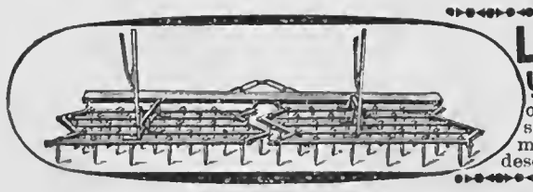

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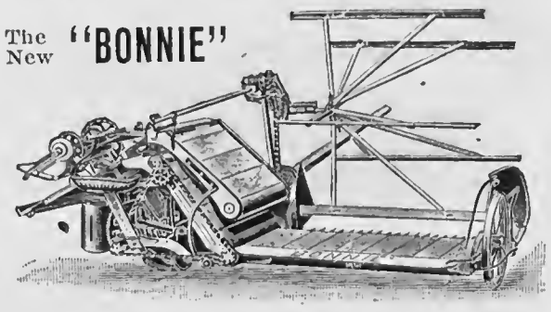

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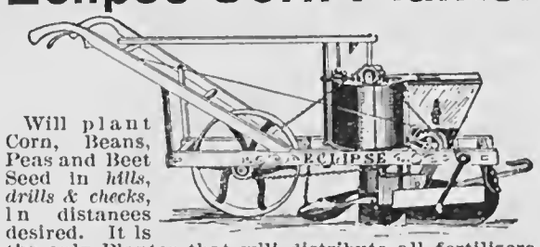

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG.CO.N.Y.

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HOW THEY CIVILIZED THE MARSH.

A WINDMILL DRIES UP A SWAMP.

Drainage Below the Water Level.

Irrigation seeks to restore the balance of moisture. The droughts of the past few seasons have made us all think about hunting for a fresh water supply. In most cases, it is needed to promote the circulation of water—here is a case where it was necessary to *de*mote it. On many farms, there are swamps and bogs—low and wet land that is sour and unproductive though chemically it is the richest part of the farm. There are two ways of making such places useful. One is to haul the muck out to the higher and drier soil—the other is to drain the moisture out of the swamp, sweeten the muck, and plant directly on it. In one case, you carry the swamp to the crops, and in the other you carry the crops to the swamp—and that is by far the most satisfactory way in the end.

On the farm of the Wisconsin Agricultural College, is a marsh of 30 acres—low, wet land through which runs a creek. A portion of this marsh is so low that it overflows from a nearby lake in times of high water. On the south side of the creek, are 10 acres that might be drained if the water of the stream could be kept back from it. In the fall of 1894, it was determined to try to drain this field by diking back the creek water and pumping out the drainage water.

Through the wet bog, a roadway was built by first laying down brush and old boards, and on top of them the green marsh grass and cat-tails from about two acres. This proved substantial enough to hold a team and loaded wagon. Close by this road a ditch was made by cutting down with a hay knife and lifting the bog out with a manure hook. As this ditch was made, earth and sand from the higher ground were dumped into it. This earth settled down into the thin mud that filled the ditch, to a depth of several feet, or far enough to make a firm footing. It then gradually filled up till it formed a substantial dike, 18 inches above water level, and four feet wide on top. The purpose of this dike was to keep back the creek water in time of overflow, and also to prevent water from soaking into the drained land.

When this dike was done, a ditch was dug about 10 feet from it on the inside. Into this ditch run parallel lines of tile laid 33 feet apart. The other side of the field is drained by a main six-inch tile with lateral tile drains running into it. The open ditch and the six-inch tile both empty into the reservoir shown in the picture. This pool or sump is 40 by 60 feet in area, and four feet deep—dug just inside the dike. Close by this sump is a well four feet deep, bricked up and connected with the sump by six-inch sewer pipe. Over this is placed a 14-foot windmill on a 40-foot tower, which works a pump placed low down in the well. The ditch and the tile drain the field, and pour the water into the sump. From that it passes into the well and is pumped out over the dike into the creek. In digging the ditches, a number of springs were tapped so that there is a constant flow of water into the sump and, therefore, constant work for the windmill. By means of this arrangement, the land is well drained, though there is no natural outlet for the water.

Fig. 62 shows the whole arrangement. The pump in the foreground was placed so that it might be connected with a steam engine if found necessary; but last year the windmill alone easily handled all the water. The springs run freely so that considerable water was discharged in winter. To prevent freezing in the sump. 4½ foot posts were set up in it to carry 2 by 4 stringers. Cheap boards laid over them made a roof on which was placed marsh hay. The open ditch was protected in the same way, while several loads of horse manure were placed around the pump. Thus protected, the water flowed freely all winter, and the pump lifted it as fast as it accumulated. The windmill is never shut off except when it is being oiled and, therefore. stands ready to pump whenever the wind is blowing.

HOW A WISCONSIN MARSH, BELOW WATER LEVEL, WAS DRAINED. FIG. 62.

This draining was done in the fall. After draining, all that the horses could work on was plowed. Last spring this was worked over with a disc harrow, and flint corn was planted on June 3. It was not expected that this would come to much; yet, though the season was unusually dry, they harvested one of the largest crops of fodder ever grown on the farm.

Thus, by this simple and ingenious device, worthless land has been turned to account. Prof. Henry says that there are many such cases in Wisconsin where this method of reclaiming land may be adopted, and we have no doubt that some of our readers are in a situation to put this method in practice. For the facts regarding this interesting experiment, as well as for the illustration, we are indebted to Prof. W. A. Henry who has described the work in the report of the Wisconsin Experiment Station.

"LIKE FATHER, LIKE SON"!

NEW FORM OF AN OLD QUESTION.

A Father Who is Making a Home Anarchist.

I have obtained and read several copies of THE R. N.-Y., and notice that it has a great deal to say about "improved farming." So I write to ask what you or your readers would do if they were in my place. I am a young man, living with my father on a "rented" farm. A few years ago, I became interested in "good" live stock, by reading some papers that came into my hands, and visiting our county fair. Determining to have some, I secured the position of janitor in the school which I attended. I invested the money earned in thoroughbred poultry and Berkshire swine. I have built houses for them, and paid for their feed, all from their increase since. I showed some of the poultry at the fair and a few shows where I won several premiums. So much for that side of the case, but the other is not so bright.

My father does not believe in improved stock, and looks upon "book farming", as he calls it, as the greatest evil of the Nineteenth Century. He planted his corn last spring, with a grain drill, in rows, he said to save cultivating one way. A part of that corn is out in the field now (in March); it is husked only as fast as it is needed for feeding. As long as I can remember, I never knew him to have all his corn husked before it thawed up in the spring.

He purchased a new binder three years ago, on the instalment plan, paying $15 down; after harvest, it was run into a shed and left with the aprons on it just as it came from the field. The hens roosted in the shed during the fall and winter, and the next summer, when it was run out to take to the harvest field, I remember that several basketfuls of droppings were shoveled off of the machine before it could be used, and father went around with a kettle of hot water and scalded the different parts to kill the "hen lice" on it.

As I sit here writing this, I can see a hay-rake standing down near the road in a snow bank, at least four feet deep, and just beyond is a sulky-plow standing in the same drift, just where they were unhitched from last season, and as I went up into the woods to help saw wood the other day (we never have more than a load at the house at a time), I saw a harrow frozen fast in the ground where it was left last fall after "dragging in" some rye. Now the reason these things hurt me so, is that a number of people come here to see my poultry and hogs, and they see these things themselves, and also father's scrub chickens running around, and I have heard several say that they guessed that any one who was surrounded with things in this kind of a way, could not keep very good stock; so they never call again. Father drives

his cows away to a neighbor's "scrub bull"; they call him a Jersey because he is small—all that kind of cattle are Jerseys around here—and the neighbor is paid by bringing his long-nosed, lop-eared sows to my Berkshire boar.

One time about a year ago, father and a man who was helping him at the time, let out one of my best cocks, a Dorking, to see him fight with one of his. When I came to the house from work at night, they told me about it in great glee, and laughed at me because his old "Bramin", as he called his rooster, made the Dorking run. My Dorking died the next day; I had been offered $7 for him that spring.

The only encouragement I have to try to have something nice, is from my mother. She gives me words of advice, and helps all she can, often feeding my poultry when I am away at work, and trying to make things pleasant. But father is one of those persons who are very "set" in their ways, believing that the way grandfather did is good enough for them and theirs. He will not submit to having things any different from the way in which he places them himself, so I am about discouraged. You know there is a saying, "Like father, like son." Do you or your readers believe in it? A MICHIGAN BOY.

SEX IN ANIMALS AND PLANTS.

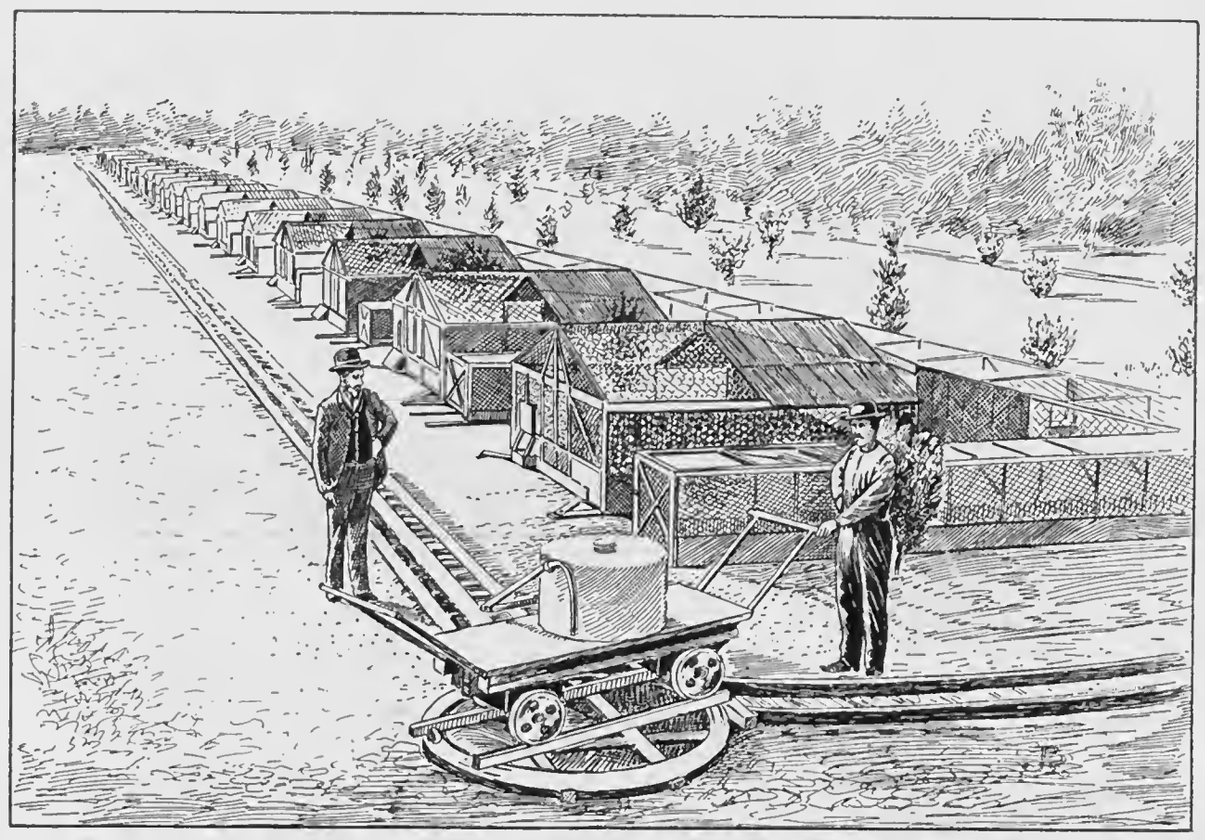
HOW IT MAY BE DETERMINED.

In a "seminary" lately held by Prof. Roberts, Director of the Agricultural Experiment Station of Cornell University, a number of interesting observations on the government of sex in animals, were reported. It had been found on Roanoke Island, off the coast of Georgia, where the land consisted chiefly of "swamps, swine and poor commons," that the swine, when killed, proved to be largely males. Further observations made along the line of cattle, showed that, where the conditions of existence were hard, food scarce and poor, and weather unkind, male calves largely predominated. Prof. Roberts referred to a time in the West when the difference in price paid for sheep in favor of ewes, was so great that all the farmers wished to breed only ewes, that their attention being directed to the study of sex, they discovered that ewes were the offspring of flocks in which the most vigor and vitality were found, and that the lambs born late in the fall or under unfavorable conditions, were chiefly males.

A student who was pursuing the subject scientifically, stated that in the Sandwich Islands, the male sex largely predominated among the natives, and that this was characteristic of all peoples where the race is dying out or depleted in vitality. From foreign statistics, it was shown that in cities where the physical labors are not so wearing upon the body and where the food is better, even among the poor, than among the country peasants, the female sex predominates. He also spoke of plant life, in which a tree, like the ash, or cucumber vines, bearing both male and female flowers, will produce female flowers on the topmost shoots, on branches exposed to the sun, light and warmth, while those parts of the tree deprived of these influences, produce staminate flowers. Moreover, when a plant is growing rapidly, the inflorescence will be chiefly, if not wholly, pistillate; but check the growth, and male flowers will appear. In experiments made with tadpole embryos, which were sexless, so far as could be determined, it had been found that, by feeding the embryos well, the result would be a largely female tadpole crop, and that by withholding food, the sex would be largely male. Similar experiments with guinea pigs were in process of investigation.

Prof. Roberts reported some experiments in hemp, where the plants were planted at various distances, and those which had most room in which to grow, and consequently, more food and sun, produced most pistillate flowers. When in Holland, he had been struck with the preponderance of female calves in the herds, and upon inquiry, learned that it was the custom of the dairymen to place a male calf at the head of a herd, and at the end of the year, dispatch that to the butcher and fill its place by another equally youthful sire. When bulls were retained for six or seven years, the progeny of the herd would be largely male calves.

Acquired qualities were not transmitted. A prepotency in animal life along certain lines, as for milk in Jersey cows, style as in the Morgan horse, or for color as in the Holsteins, would be reproduced every time. The father gave external form to the progeny, and the mother internal characteristics, as evidenced in the production of the mule and hinny. Dark-haired animals were prepotent in color. The effect of change of climate was sometimes very marked in emphasizing prepotency, as was shown in the Jersey cows when first introduced into New England, when the flow of their milk was so much increased that they seemed in danger of being exterminated through exhaustion. But by careful breeding, to modify this prepotency, the United States have now better cows than are to be found in the Island of Jersey. The same has been the outcome with horses, the American roadster excelling all others. But in regard to the prepotency of sex which seemed to be very marked in some families, for example, of the human species, where the children were all girls or all boys, it had been frequently observed when the health of either parent, or of both, began to fail, and their prepotency, to a certain extent, had lost some of its virility, that the sex of their subsequent offspring would change, so that it was reasonable to suppose that change in sex could be produced by reducing the vitality of one or both parents, or in case of long-reduced vitality, to raise it, by better living, more outdoor life, change of climate, etc. In many individual cases, no such result might seem apparent; but from large observation, and the mass of statistics, the inference to be drawn is, that females are the product of superior conditions, so far as food and salubrious surroundings are concerned, and males, of corresponding inferior conditions, so that the control of sex seems to be chiefly a matter of food, or lack of food. Prof. Roberts concluded with the opinion that the discovery of the law of sex depended rather upon the intelligent observers in animal breeding, than upon the work of scientists in laboratories. M. W. F.



TYING MRS. HEN DOWN TO BUSINESS IN THE ORCHARD. FIG. 63.

BONE VS. ROCK PHOSPHATE.

"THE AGRICULTURAL VALUE OF BONE MEAL."

Bulletin 35, of the Massachusetts Experiment Station, contains a summary of the results of certain experiments conducted in Germany for the purpose of comparing bone meal with other phosphates as a source of phosphoric acid. Among other conclusions arrived at from these experiments, are the following:

The superior value which has hitherto been accorded to undissolved bone meal as a fertilizer, is due solely to the nitrogen which it contains.

Undissolved bone meal as a phosphate fertilizer is no more valuable than are the raw mineral phosphates.

Hereafter it must be classed with the latter, rather than with high grade phosphates containing available phosphoric acid.

As a phosphate fertilizer it yields no better results than mineral phosphates, whether tried alone or with superphosphate, on loams or sandy soils, on soils rich or very poor in phosphoric acid, whether with grains or with turnips, mustard, or other cruciferous plants; either in the first or in succeeding crops.

These conclusions are so different from what we have heretofore been taught, that few students of agricultural chemistry will care to accept them without further proof. The following opinions are from American authorities:

From Prof. E. B. Voorhees.

We have made no experiments in which bone has been compared with the various ground mineral phosphates. In our experiments conducted in 1885 and 1886, upon corn, rye and wheat, in which fine ground S. C. Rock or "floats" was used as representative of the raw mineral phosphates, it was shown that with one exception, namely, upon the peaty soils of the great meadows in Warren County, this material did not cause an increase in crop. This result is quite the reverse of that which practical farmers have obtained from the use of bone

New Jersey Experiment Station.

From Dr. H. W. Wiley.

I am unable to agree with the conclusions printed in Bulletin No. 35 of the Massachusetts Experiment Station, in respect to the availability of the phosphoric acid in bones. I am quite aware of the fact that the fertilizing effects which are produced by the application of raw bone, are not by any means due, in all cases, to the phosphoric acid thereof, but depend largely on the content of nitrogen therein. As long ago as 1882, while State Chemist of Indiana, it was shown in my laboratory that quite a large percentage of phosphoric acid in bone, especially when finely ground, was soluble in ammonium citrate solution. It could not be denied that phosphoric acid of this kind is available at once for the nutrition of plants. Aside from this, however, it is certain that fine-ground bone decomposes more rapidly than mineral phosphates, and that for this reason its phosphoric acid is more quickly and easily assimilated.

Experience has further shown that, in general, fertilizing materials in an organic form, or that are derived immediately from some organic combination, are more readily assimilable than when in a purely mineral state. For the reasons given above, I am compelled to dissent from the conclusions of the Massachusetts experimenters which are based chiefly upon the results of experiments carried on for a single year, and on an extremely poor sandy soil. It is evident that the final value of the phosphoric acid in a bone meal, depends upon the completeness with which it is decomposed and dissolved. While the farmer is perfectly willing to look to the future, he cannot in reason be asked to apply fertilizers to the soil from which returns are to be received only after the lapse of 10 or 20 years. In view of the knowledge that we possess of the rate at which bones decay, when finely ground and placed in a moist soil reasonably rich in humus, we are led to the conclusion that they are much more readily and quickly reduced to a condition in which they can be assimilated than is the case with ordinary mineral phosphates. By ordinary mineral phosphates, I mean the apatites and hard rock tricalcium phosphates usually found in this country. There are mineral phosphates, however, which must be excepted from the above classification. I refer to the soft, fine-ground phosphates of Florida, and to the natural iron and alumina phosphates which are found in many localities. In experiments which I have conducted on vegetable soils, that is, those composed chiefly of decayed vegetable matter, I have found that the soft fine-ground Florida phosphates act quite as well and as promptly as the dissolved hard rock phosphates. If the conclusions of the bulletin to which you refer were confined to phosphates of the character mentioned above, I would not be able to dissent from them.

United States Department of Agriculture.

From Dr. E. H. Jenkins.

The results given in the bulletin referred to are copied chiefly from the reports of Wagner and Maereker, both leading agricultural experimenters and authorities on all that relates to fertilizers. Maercker says, in summing up his work: "One may look at the matter in any way he pleases, the result is always the same. In the first, second or third year's crop, either with cereals or crucifers, on soil which is sandy, clayey or loamy, in a hot or cool season, on a soil extremely deficient or only slightly deficient in phosphoric acid, everywhere the results are alike, *i. e.*, the availability of the phosphoric acid in bones, either raw, steamed or with glue extracted, is, in all cases, unsatisfactory and the author regards it as time wasted to carry the experiments further. It is high time to count out raw and steamed bone from the list of phosphatic fertilizers. Bone, like raw phosphates, needs manipulation to make it an active fertilizer, and the author believes that the future of the bone grinding industry lies in the preparation of articles whose efficiency has been demonst rated

by these experiments." [See editorial page.—Eds.]

We have made no experiments on the relative value of phosphates which touch this point. We are studying the relative availability of different forms of nitrogenous matter, as you will see from our forthcoming report. I consider it very probable, in view of these experiments, that much of the observed value of bone as a fertilizer lies in the nitrogen. Yet these conclusions as to phosphoric acid contradict the experience of practical men. Connecticut Ex. Station.

WHAT THEY SAY?

Irrigation Ideas Wanted.—The mode of irrigation recommended by Prof. W. J. Green in The R. N.-Y. of February 19, and described by Prof. Goff in the Wisconsin Station Report for 1894, would hardly be practicable here in the East on account of the unevenness of the ground upon most of the farms. I am about to build an irrigation plant. It consists of a 300-barrel tank of 25 feet elevation, a steam pumping engine to fill it, and the required amount of 1¼-inch iron flow pipe to carry the water to the four or five main points; farther than this, it will be carried by branches of 1-inch pipes to be laid on the surface near or among the crops to be watered. These will be tapped at convenient distances by hose cocks, using ¾-inch rubber hose held by pin-spray nozzles stuck at proper distances, and changed when necessary. The small pipes are to be laid down among growing crops when water is found necessary, and taken up at the end of the season. I shall have a stop-valve in each main pipe at the connection with the tank, in case of any changes or repairs while in use. If R. N.-Y. readers would give their experience with irrigation, or even their theories, I think that they would interest many. M. L. BELL.

Rockland County, N. Y.

A Trade Mark on Eggs!—I have had some experience in stamping my name on eggs for market. One large commission dealer objected to the stamp, because he said that, in case I did not supply him with enough, he could not substitute others for mine and supply his trade without the customer objecting! In selling them at the local stores, I found it a disadvantage to stamp my name on without the date, as at times when the local dealer happened to have a surplus, knowing that by stamping my name upon them I had guaranteed their freshness, he would set them back out of sight and hold them until he had cleaned out his others, thus allowing mine to become more or less stale. Another objection was by the dealer that some customers would insist upon picking out my eggs if he mixed them with others! Another objection, I think, that dealers have, is that they can not mix cheap eggs with them and sell them all at the top price as many do; then if customers find some poor ones with them, they blame the "farmer" for selling rotten eggs! After selling more or less for several years at the local stores, I found that, when I started out to retail them myself, my eggs had a reputation, even among some who could not read the name, but knew my "mark" when they saw it on my eggs, and this was quite a factor in helping me to a good trade. Now as to selling some one's else stamped eggs with mine; I have not had enough to supply all my trade this winter, and have bought a good many from neighbors to keep along until I could have a plenty. At times I have had eggs from five or six at a time; in case I had trouble from poor eggs, as I have several times, I could have traced the trouble to its source much more easily had each one stamped his eggs with his name or some mark. In fact, I have, in several cases, marked each one's with a pencil so as to keep them from being mixed up promiscuously, until I could surely locate the trouble. At first thought, one might think it a useless bother to stencil his name upon eggs that are sold directly to customers; but I find in practice that it is a very good thing, as customers sometimes get out and buy a few at the store, or of some other peddler, and if mine are mixed with them, the stencil saves their reputation, no matter how bad company they get mixed up in. F. A. P.

Dudley, Mass.

Origin of Lankford Apple.—In regard to the name and origin of the Lankford apple, I am glad to say that such an acquisition as the Lankford apple among fruits originated in my native State and county. It was a chance seedling found by a colored man while clearing new ground. He took it up, planted it in his yard, and when it was five years old, it bore a peach-basketful of extra fine fruit. When the quality of the fruit was made known through our county, the grafts were controlled by a nurseryman, and the trees were sold through Maryland and Delaware at $1 apiece. I have had it in bearing four years, and claim four special points in favor of the Lankford apple: 1, the tree is a rapid grower; 2, extra early bearing qualities; 3, extra flavor as an eating apple; 4, its wonderful keeping qualities. I have had them in perfect condition when the Crescent strawberry was ripe.

Still Pond, Md. H. L. C.

An Experience With Pot Hunters.—I have a very large pasture, and when I first came here, I used to take dry stock to pasture, laying in the snug little sum of from $100 to $115 a season. My pasture is a great place for snipe, woodcock and quail. The result is that about all summer, hunters are shooting birds in it; when they are not, the dogs come on their own account, and, if they don't find the birds, they take the cows. Three have been killed, and pay received of the county for only one. The result is that I get no stock to pasture; the business is ruined entirely, and I get no damages at all. I had a small flock of young ducks, and the dogs not only killed them, but ate them as well. I could get no damages, they said, unless I produced the ducks the dogs killed. No use to post the land; the hunters use the signs for targets. What shall we do about it? F. N. F.

Newburyport, Mass.

RAW POTATOES FOR MILCH COWS.

Here is my experience in feeding raw potatoes the past winter. I have had five new milch cows from which we have been making butter, with five that are springers. I tried feeding the small potatoes last November and December. I fed the 10 cows three bushels per day at two feeds, morning and night, with five pounds of corn and oats ground together, and five pounds of winter wheat bran.

The first bad results were in churning the cream from the milk produced by the potatoes. It required from two to three hours to churn the cream, and when we did get the butter, it was in granules from the size of a walnut down to the size of pin heads, and it was almost an impossibility to gather it in shape to work the salt into it. The good wife threw down the butter ladle, and said that if I didn't stop feeding potatoes, I would have to work the butter, for she couldn't get it in shape to pack. It was so hard that it was impossible to spread it on one's bread. One morning, I thought that I would get it soft enough to spread, so I put it on the stove to warm; the outside melted, and the center stood up good and firm, while a part was in the bottom of the dish in a liquid state. I stopped feeding potatoes at once, and the next churning was a great deal easier to churn and get in good shape, while the second churning came in about 15 minutes, and the butter was very good. I kept up the same grain ration, did not increase it in the least, and we had two pounds of butter from the same amount of cream.

We account for that by the waste that went into the buttermilk, and a good deal of butter that was not gathered with the other and passed off in the water in which we washed the butter. About two weeks ago, we quit milking the springers at night, milking them in the morning only. I thought that, perhaps, it would not do any harm to feed those five a light ration of potatoes; but I had to quit, as the same old difficulty returned.

I don't know where the trouble lies, unless it is in the large amount of starch in the potatoes. The experiment stations tell us that potatoes contain 78 per cent of water, and I have come to the conclusion that I will water my cattle at the trough after this. For my part, I wouldn't haul or handle potatoes for feeding to cattle, if they were given to me.

It has paid fully 50 per cent to put my cut corn stover in the passageway, wet it down and leave it for 24 hours, and let it warm up a little. I have wintered 15 head on the corn stalks that grew on 8½ acres, from November last till now, and have enough to last until the middle of April. I feed Pea-bean straw for a noon ration. The cattle are looking fine; and I have learned enough about feeding this winter almost to pay for one season's drought. M. A. G.

Genesee County, N. Y.

ORIOLE STRAWBERRY. Fig. 64.

See Catalogue Reviews. Page 200.

POULTRY IN A CALIFORNIA ORCHARD.

PLUM TREES AND PLUMP BIRDS.

Here is something new in the way of poultry keeping, and it comes all the way from California. We are indebted to the Pacific Rural Press for the idea. Mr. J. W. Osburn, of Orange, Cal., has a large plum orchard of young trees, planted 23 feet apart each way. That orchard needed two things—cultivation and feeding. Mr. O. is a poultryman, and it occurred to him that Mrs. Hen would make a good harrow and a good wet nurse for those trees. If he turned 1,000 hens into the orchard to labor at random, some of the trees would be neglected just as they would be if he hitched a dozen horses to cultivators and turned them loose to cultivate wherever they saw fit. The only way to make Mrs. Hen do the rough work, is to tie her down to it; so he decided to put the hens into 28 houses so made that they can be pulled along from place to place.

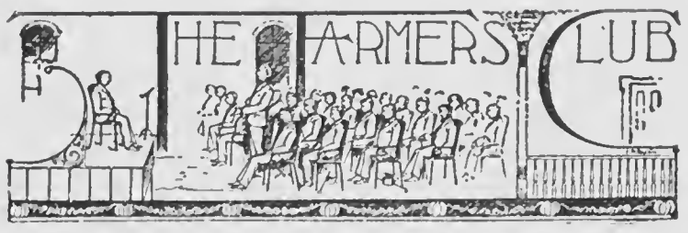
The general arrangement of the houses is shown at Fig. 63. The front of the house proper is covered with wire netting—with the back roofed over for protection in stormy days. In this the hens scratch and play, a quantity of straw being kept there for them constantly. Back of this is a small shed for roosting and laying. This is open at the front, but has a rolling curtain which may be easily dropped down as protection in cold or stormy weather. Back of this house and built around at the side, are narrow runs covered with wire netting. The bottom frames of these houses are stoutly made and firmly joined together. As will be seen in the picture, the whole thing is provided with wooden shoes or runners for hauling the houses ahead.

A wooden track runs along the entire front of the houses and off to where the food is kept. There is a turn around at the corner so that it is an easy matter to load up with grain or water and pass rapidly along the entire front, dealing out the portion for each house. We understand that these hens are fed almost entirely on dry grain. As a rule, not over 15 hens are kept in each house. The part of the house covered with wire netting is kept filled with straw, into which the grain is thrown for feeding. The ground under the roosts is spaded up every third day in wet weather and every week in dry seasons. In the wire runs, just back of the roosting house, horse manure is thrown for the hens to work over. The result of all this is that the straw, manure and hen droppings are all thoroughly worked into the soil. After this has been thoroughly done, the tracks are taken up and carried ahead a distance equal to the length of the houses. Then the houses are slowly pulled ahead, one at a time, between the rows, so that they rest on new ground. The track is laid in front of them, and the whole process of feeding and scratching in manure and straw is repeated. And so, through the season, the hens work on, laying their eggs and feeding and cultivating the trees. It is stated that two men and a horse will move 28 houses and tracks in one day, besides caring for 1,000 other hens.

This system is the exact reverse of Mapes's "Hens by the Acre" scheme, and it seems a little singular that this intensive method of poultry keeping should come from such as extensive country as California!

Northern or Southern Strawberry Plants.—Is there any difference in the vigor of northern or southern-grown strawberry plants? Three years ago, I received plants from Ohio and New York which grew vigorously and made many plants; last spring, I set fine-looking plants of the same varieties from Maryland, and they made few sickly-looking plants

Pennsylvania. A. G. W



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

A Case of Hollow Horn.

D. A. O., Mendon, N. Y.—I have two cows that are not doing well; they appear to have what we call "hollow horn" or worm-in-the-tail. The bone in the tail, about three inches from the end, appears to be broken or eaten away. One year ago, I cut the cows' tails lengthwise at the broken part, and rubbed in pepper and salt; about a month after, the end of one tail dropped off, and the cows got no better. What is the trouble and the remedy? I feed potatoes, ground corn and oats, and corn stalks.

As has been *repeatedly stated* in THE R. N.-Y., there are no such diseases as "hollow horn," "worm-in-the-tail" or "wolf-in-the-tail." These names are relics of the age of ignorance and superstition, and are still occasionally used by ignorant quacks to designate *any disease* in cattle, the nature of which they do not understand. Their use signifies nothing more than that the animal is sick. It is no wonder that your cows "got no better," and that the tails sloughed off as the result of the treatment. If you have a fever or an attack of indigestion, would you slit one of your fingers and bind it up in pepper and salt or other irritant to cure it? Your treatment simply added to the discomfort and misery of the animals. In order to have completed their misery, you should have bored the horns (which will always be found hollow towards the head, unless filled by disease), filled the cavities with the pepper and salt, or something worse if you could find it; then poured turpentine over the head between the horns, given them an artificial cud prepared from various unknown substances, and, finally, tied them out in the shade where they could keep cool, and ruminate.

Your description of the symptoms is too brief to enable me to give a definite opinion as to the disease. From the fact of the cows being sick for more than a year, I suspect that they have tuberculosis or consumption. If so, there is no cure. If the cows have a dry, hacking cough, or labored breathing, the diagnosis of tuberculosis would be confirmed. I would advise you to have the cows examined at once by a veterinarian, and if not tuberculous, treated. But if found tuberculous, report them to Dr. F. O. Donahue, chairman of the Tuberculosis Commission of the State Board of Health, Syracuse, N. Y.

Better Kill This Horse.

A. S., Water Mill, Long Island.—If a horse be foundered so as to lose its front hoofs, and new hoofs start, will the new growth harden enough to be of any value to the horse?

A horse so badly foundered, or neglected, as to lose its hoofs, will, probably, never recover so as to be of any value for active service. Unless the animal were a mare, valuable for breeding, I would advise killing at once.

Warts and Hole in a Cow's Teat.

E. A. S., Tioga, Pa.—I have a Jersey heifer in her first year's milk; she has warts on all four teats, and an opening on the back side and one from which the milk spurts, and is annoying when milking. What can be done to remedy both difficulties? I think that my cows are paying their way these hard times; I have two that are six years old, fresh in the fall, and two heifers fresh in summer. From the four during January, 1896, I sold 12 quarts of milk a day, besides all used in the family, and from the surplus made 57 pounds of butter. I feed cut corn stalks, wheat bran and buckwheat middlings with some hay.

If the warts are flat, I would not advise treating them. Such only as are long or have a narrowed neck, may be twisted or cut off, and the surface cauterized with a stick of nitrate of silver. To close the hole in the side of the teat, scrape or cut the skin immediately around the hole so as to cause a raw sore, one-half to three-fourths inch across, which, in healing, will close the opening. It would be better to treat the cow when dry; but if in milk, use a milking tube to draw off the milk from that teat, so as not to loosen the scab while the sore is healing.

Swelling on a Mare; Sore on Colt.

H. A. M., Pennell, N. Y.—1. My 10-year-old mare had worms; I injected linseed oil in the rectum and gave salts, four weeks ago. She is very thin and weak, and has a bunch on her belly as large as a plate, and three inches thick. What is the cause of the bunch and the loss of flesh? She eats well. The bunch is not sore. 2. My mare colt has a running sore on her jaw. The skin seems to be fast to the bone. There is no swelling, just a small hole from which matter oozes out. I do not know of any cause. She is losing flesh. 3. What was the variety of corn from which THE R. N.-Y. had the large yield a few years ago?

1. The swelling is of an anasareous nature, due to a debilitated condition of the system, but especially of the blood. Give the mare two or three tablespoonfuls of the following powders on the feed night and morning: sulphate of soda, one pound; nitrate of potash, one-fourth pound; chlorate of potash, one-half pound; mix. Feed a moderate grain ration, to be made up mainly of oats and wheat bran. A handful of oil meal or ground flaxseed would also be excellent. Place salt in a side box where the mare can lick it at will. Moderate daily exercise, according to the strength of the mare, should be given. 2. I would advise you to take the colt to a competent veterinary surgeon for a personal examination. There may be dead bone to be removed. If there is no veterinarian at hand, try thoroughly cauterizing the sore with a stick of nitrate of silver. Then sponge out daily with a solution of two drams chloride of zinc to each pint of water. 3. The Chester County Mammoth corn was planted.

Is This Cowpox?

W. L. F., Elizabeth, Col.—What is the matter with my cow? There are small ulcers at the top of the teats. Sometimes there are two or three around one teat. They come and go periodically, and change from one teat to another. Her milk seems just as good as it ever was. She is in good condition otherwise, as far as I can tell.

The ulcers are due either to simple eruption on the skin, or, possibly, to cowpox. Give the cow one pound of Epsom salts, and two ounces of ginger, dissolved in three pints of warm water. Repeat the dose in three days if not purged. Anoint the ulcers daily with benzoated oxide of zinc ointment.

The "Black Teeth" in Pogs.

C. R. W., Miller Corners, N. Y.—On page 110 of THE R. N.-Y., in answer to A. P. C., Dr. F. L. Kilborne does not give reasons for the pigs becoming lame, but simply recommends warm quarters, warmed swill, etc. I have seen pigs with this same trouble, even with such quarters and feed; the cause to which it was attributed, was black tooth. I do not know for certain that the black teeth in hogs will cause lameness, but in many cases, even in summer, with pigs in pasture, I have known them to become lame, and after breaking out the black teeth, which will be found on either side of the jaw, they immediately recovered.

I am surprised that a reader of THE R. N.-Y. should attribute lameness in pigs to the presence or absence of black teeth, or in fact, any other kind of teeth. One might just as reasonably look for black hairs on the tail as the cause of the lameness. I shall not dispute the fact that lame pigs may have recovered, after the removal of the black teeth; but I will say that in such cases, the recovery was in no way due to or hastened by their removal. These same "black teeth" have been removed for every possible ill with which the poor pig has been afflicted; and you will find advocates for each, who will claim that all of these ills were, in turn, cured by the removal of the offending black teeth. Pigs very commonly suffer from lameness, which may be due to a variety of causes, such as injuries or sprains; constitutional weakness, from being bred too much for weight and too little for strength of bone and muscle; kidney worms, rheumatism, hog cholera, swine plague, as well as other diseases. So that it is very difficult to give a definite opinion as to the cause, from a brief description. If any one try the experiment of removing the black teeth for the cause of lameness, I trust that he will try it as an experiment should be tried, namely, remove the teeth from only one side of the jaws, and see whether any benefit results to the lameness of that side. Or if he prefer to remove them from both sides, then from only one-half of the lame pigs, treating the pigs in all other respects the same.

The Pork is All Right.

R. B., Bourbon, Mo.—I killed a hog that had been fed for two months, and was very fat. It had had a bad spell 15 days before I butchered it, but had recovered its usual appetite, and was seemingly well. But when I opened it, the lungs were spotted. Did it have the swine plague, and is it safe to use the meat?

The hog evidently did not have the swine plague. I am of the opinion that the spots on the lungs were due to blood running into the lungs when the hog was bled. Probably the trachea or windpipe was cut in sticking the hog. When blood gets into the lungs, as occasionally happens in killing, they will have a spotted appearance, being dotted with deep red spots slightly firmer than the rest of the lung tissue. The pork is perfectly safe to use if thoroughly cooked.

A TALK ABOUT APPLES.

ANSWERS BY H. E. VAN DEMAN.

Proper Distance Between Trees.

F. F. F., Fairview, N. Y.—1. Last year, we set 20 acres with Wealthy, Mann, Stark and Walbridge apples, 45 feet apart each way. We think that this wastes part of the land; would it be advisable to double the number of trees in the rows running north and south? This would make the trees 45 feet apart east and west and 22½ feet apart north and south, and would place them so that they would protect each other from extremes of heat and cold. 2. If it is advisable to fill out as above, what kinds would be best for the New York market? 3. What preparation can be put on young trees to prevent attacks of the borer? 4. Are winter pears generally profitable? What kinds are best to plant? 5. Is a mixture of night-soil and wood ashes too strong for young plum trees? 6. What kinds of chestnuts are best to plant for market? How about the Ridgely?

1. Forty-five feet apart each way for apple trees in New York, is too far, until the trees get to full size. F. F. F. will find it to his profit to fill up his orchard by planting as many more trees in the rows running north and south, as he suggests. When they grow so as to interfere, he can cut out part, and, if early-bearing kinds are used as fillers, they will pay for the care of the whole orchard and more too, before they need to be removed. 2. If F. F. F. will fill up about half his orchard (especially where Wealthy is), with York Imperial, I think that he will, in time, cut out the other kinds and leave a much more lasting and profitable orchard than any of the kinds he mentions will make. York Imperial brings a fancy price on the New York market, and elsewhere, because it is one of the best apples now before the public. Wealthy bears younger, and is a very good variety in New York State as a filler; but it is not a late keeper. Jonathan will also pay as a filler, or, for that matter, in any capacity, either for home or market use, as it is one of the most handsome red apples in existence, and is as good as it looks. No other apple brings so high a price on the St. Louis market. It should be grown as extensively in the eastern, as it is now in the western States; and I know from very recent investigations that it does well in New York. Wagener makes a good filler, as it bears very early and heavily. 3. Recently, a substance has been invented and called "dendrolene," which has been proved to be quite effective as a preventive of the laying of the eggs of various kinds of tree borers. It resembles a substance long known and used in Germany for this same purpose called "Raufenleim," but is much cheaper. The Bowker Fertilizer Company, Boston, Mass., sell it. 4. Winter pears are profitable, especially, if held in cold storage until the bulk of the crop is gone from the markets. Lawrence is, perhaps, the best variety for New York, although Anjou pays well when it is highly cultivated. Keiffer is a "business" pear; if it is not rich in quality—it brings the shekels, and is worth all it brings. 5. Night soil and wood ashes are good for plum trees, or for any other trees, and there is more danger of getting too little in the soil than too much. A bushel to each tree, well scattered and worked into the soil tributary to each tree, will not do harm.

Some Apples For Maryland.

S., Govanstown, Md.—1. Which is the best Red winter apple for high, hilly light isinglass land in Harford County, Md.? 2. For such a location, what are the comparative merits of the following winter apples: York Imperial, Delaware, Late Winter, Berry Red, Mammoth Black Twig (Arkansas Paragon)? How do these four compare in productiveness, size of fruit, keeping qualities, etc.? Is the Mammoth Black Twig (Arkansas Paragon) the same as is referred to as Paragon?

1. York Imperial. 2. York Imperial, all things considered, is the best of those named. Paragon (Mammoth Black Twig), is next. There is much discussion at present regarding the right name of this apple, some claiming that it should be called "Arkansaw," and I am now inclined to this opinion; although as I am investigating the subject and expecting to be ready to publish something decisive on the subject in THE R. N.-Y. before long, it is useless to say more now than that the variety under discussion is commonly called Paragon. Berry is a synonym of the Nickajack, which is about worthless in Maryland. Delaware Red Winter is a synonym of Lawver, which is also of little value, not only in Maryland, but, everywhere.

The Lankford and Other Apples.

S. J., Quakertown, N. J.—I have a young Lankford apple tree in my orchard. It has not borne many apples yet, but they are good keepers, and seem to be first-class in every way. They are almost covered with red. I had thought of grafting from this tree. Do you know anything about the variety? I want it for a market apple for shipping, and don't wish to graft from it if not good for that. I saw a note in THE R. N.-Y. last week that did not sound as though it were good for much. What about the Stark and York Imperial apples for market?

S. J. doubtless has Lankford, and, while it is much better than some other varieties that are planted in New Jersey, there are kinds which are better in several respects. York Imperial is fully as productive, more attractive in color, of about the same size—medium to large—of better quality, and a later keeper. Plant it or graft from it instead of Lankford. Stark is good in most respects, but of too dull color for market in comparison with York Imperial, Paragon (Mammoth Black Twig of Arkansas) Stayman and Nero.

Treatment for a Maine Apple Orchard.

F. C. C., Bath, Me.—I am negotiating for the purchase of a farm where the orchard is in grass, and, probably, never has been fertilized. On account of the high winds, I am doubtful about keeping it plowed, as the trees would be more liable to blow down. I wish to get the best results from it, and would appreciate any advice given me.

ANS.—The orchard should be plowed shallow in order to destroy the grass; if the roots, from any cause, have been induced to keep near the surface, then the grass may be entirely destroyed, and a good, soft, mellow earth bed from three to four inches deep secured by the use of a Cutaway harrow. Going over it three or four times in the spring when the ground is soft, and continuing the work every 10 days during the summer, is likely to produce very beneficial

results in many ways. First, this sort of culture will tend to send the roots deeper into the soil, and the trees thereby will receive better anchorage. Second, it will set free a vast amount of plant food in the surface soil; the rains will wash this down and make it available for the plants. Third, such culture will go a great ways towards conserving moisture in dry weather, and since plants suffer far more as a rule in the summer from want of moisture than from want of plant food, nothing could be more scientific than to keep a fine earth mulch on the entire surface of the orchard, thereby forcing nearly all of the water which escapes upward to pass through the trees.

About the first of August, sow Crimson clover, cultivate or harrow it in, and thereafter cease cultivation for the rest of the summer. After this sort of treatment has been carried on for three or four years, should it be seen that the vegetative system of the trees is being stimulated and too much growth of wood is appearing, cease sowing Crimson clover, and sow rye at the same time in the same manner. Both of these catch crops are to be plowed under or cultivated to death early in the spring, and it matters not, in the case of the clover, if it freeze out, as it will have done a large part of its work before the winter begins. Sow about 10 pounds of clover, or 1⅓ bushel of rye per acre. Do not try to raise anything in the orchard but fruit. Since there is danger of the trees being uprooted, keep them well headed back. Do not be afraid to cut off the ends of the branches, but take pains to cut them within an inch or so of where there is a side branch. Keep the orchard thoroughly sprayed, and report results from time to time.

Some of "the Best" Small Fruits.

E. C., Johnson City, Tenn.—1. What are the best three red currants, white currants, gooseberries, and red raspberries? The best two of each, early, medium and late strawberries? The above are mainly for family use, and should be adapted to this locality. What are the best three Japan plums, and best three of the American plums? 2. What is the best low-priced work on small fruit culture?

ANS.—1. Currants: Fay, Cherry and Victoria for red; White Grape and White Dutch. Gooseberries: Columbus, Triumph and Red Jacket. Raspberries: Loudon, Columbian and Miller's Red. Strawberries: Parker Earle, Brandywine and Gandy for late; Sharpless, Cumberland and Lovett for medium; Rio, Shuster and Beder Wood for early. Plums: Abundance, Burbank and Hale for Japan; for natives, Cheney, De Soto and Robinson. 2. There are several good books on fruits, many of them devoted to a single fruit. Probably, Fruit Culture, by Strong, $1, will fill the bill for general work as well as any.

Cleft-Grafting for Pecan Trees.

S. H. J., Mound, La.—1. Many of my pecan trees bore last fall, and while some bore fine nuts, others did not please me; so this winter I have cleft-grafted all the latter with grafts from the finest tree in the State. I cut the tops out, and inserted two to four grafts on the old trunks. It will be some time before the union becomes perfect, and I wish to know the best thing to do to prevent the grafts from blowing out until then. In grafting big trees, about how long does it take for this union to become perfect, so that there is little danger from ordinary storms? 2. For the first time, we have found it necessary to use commercial fertilizer on our alluvial lands of the Mississippi Valley. A friend and I bought a car-load this spring, and I send the analysis. Is it an all-around good fertilizer? I wish to apply it to corn and cotton.

ANS.—1. We know of no better plan than to bind strips of strong oil paper around the stocks, letting it extend an inch or more above the stocks. 2. If the grafts take well, we would say that the union would be perfect the second year. 3. The fertilizer mentioned is guaranteed to contain three per cent of ammonia, 10 of phosphoric acid, and two of potash. This is too low in potash, and we would use, at least, 200 pounds of muriate of potash with each ton of the fertilizer.

What Is "Suckling Clover"?

W. H., Clarksburg, Ont.—Can you give us a description of the "Suckling clover," Trifolium filiforme, as catalogued by P. Henderson & Co.?

ANS.—Peter Henderson & Co. make this statement about the clover: The Suckling clover (Trifolium filiforme) offered in our catalogue, is a small, trailing yellow clover, which succeeds well on dry, gravelly or sandy soils. The whole plant is quite slender, and the leaves are small. It stands the hot sun, and is useful for sowing with mixtures for either lawns or permanent pastures, on such soils as we have described or in other dry situations.

Crimson Clover for Central Illinois.

G. A. B., Ashton, Ill.—Much is being said about Crimson clover. Some think that it is just the thing as a hay producer and fertilizer. I don't know that there is one dissenting voice from that claim; but some say that it is a little too tender for some latitudes. Would it pay to sow it extensively 80 miles west of Chicago, in latitude 42, or would it be advisable to experiment only with it? For the above location, which would you recommend, Crimson clover, or Alfalfa, where hay and fertilization both are objects?

ANS.—We would experiment first, by all means. We never advise extensive planting of a new plant unless experimenting somewhere near shows that there is a fair chance for success. For hay, the Alfalfa is superior wherever it will thrive. It is hardly possible to compare Alfalfa with Crimson clover, as the former once started is kept growing for years, while the Crimson clover is an annual which is expected to come in between two other crops in a rotation.

A "Balanced Ration;" Sunflower Seeds.

A. M., P. E. Island.—1. Can a balanced ration be obtained for a milch cow from the following feeds: Timothy hay, clover hay, oat straw, roots, consisting of carrots, turnips and mangels, oats and barley? If so, what are the proper proportions? 2. Can crushed sunflower seed be used instead of linseed meal to mix with skim-milk, to raise calves for dairy purposes? 3. Would good, clean, sod land, plowed last fall, be a suitable place to plant strawberries this spring?

ANSWERED BY PROF. I. P. ROBERTS.

1. A fairly good ration can be made by feeding to a 700 to 800-pound cow: 20 pounds of clover hay, 5 pounds of Timothy, 4 pounds of oats, four pounds of barley, 15 pounds of roots per day. This will give a nutritive ratio of about 1 to 7.5, which is too wide. The ration would be greatly improved by adding one or two pounds of linseed meal. If the cow is a good feeder, she will take this ration; if not, some of the Timothy hay might be left out. It would be more profitable to sell the Timothy hay at present prices, and invest the money received in oil meal, than to try to force the animals to eat it when, in doing so, they would unbalance their ration. Then, too, if the oil meal be fed, the oat straw may be utilized if mixed somewhat carefully with the clover hay, so that the animal cannot reject it. This ration for a fattening animal, would be well balanced.

2. No attempts have been made to utilize, in any large way, sunflower seeds, except by feeding them to fowls. The linseed meal would be far preferable to the sunflower seed in every way. On general principles, skim-milk is an unbalanced ration, but often may be fed to advantage by allowing the calves access to unground corn. In masticating, they insalivate it, and if not allowed too much skim-milk, the bowels are not likely to be moved. If corn meal or other carbonaceous meals of a similar character be fed, spread them thinly over the bottom of large troughs, so that the calves will be compelled to eat very slowly.

3. If reasonably fertile, and if it has not been in sod so long as to be infested with the White Grub, the product of the May Beetle, the fall-plowed land would be most excellent for the cultivation of strawberries.

Cause and Prevention of Oat Smut.

L. L. D., Ingleside, N. Y.—What is the cause of smut in oats, and a sure remedy if any? I have some fine oats, but they smut badly. If there is no remedy, I shall quit sowing them.

ANSWERED BY M. V. SLINGERLAND.

Smut in oats is caused by a fungus known as the Loose smut (Ustilago avenæ). The disease is widely spread, and is very destructive; it is estimated that the average yearly loss of oats due to smut, equals, at least, one-tenth of the entire crop. From 1888 to 1890, the estimated loss in Kansas and Indiana aggregated from $600,000 to $1,380,000 yearly; it is thus one of our most destructive fungous enemies. The familiar black masses, or smutted heads, appear on the plants about the time they are in bloom. Each black mass consists of millions of microscopic seeds or spores of the fungus, and it is by means of these seeds, that the fungus reproduces itself. They are blown over the field, and many lodge on the inside of the chaff, which then envelops the growing oat kernel. The seeds remain here until the oats ripen, and are not dislodged in the thrashing, and they stay there unchanged until the oats are planted. Then the little brown seeds of the fungus germinate or grow by sending out little tubes which enter the young plant, and continue sending new threads all through the plant as it grows. These threads which thus permeate all through the tissues of the plant, are known as the mycelium or vegetative portion of the fungus. Eventually these threads produce a crop of fruit—the spores or seeds of the fungus. Infested plants can rarely be distinguished from healthy ones until it is nearly time for the oats to blossom. Then the spores or seeds of the fungus develop rapidly, that is many smutty heads suddenly appear in the field; and before the plants are done blooming, the wind has distributed millions of the seeds from the dry, powdery masses all through the field. Thus the growing time for the fungus is only from the time that the oats are planted until they blossom; the remainder of the year is spent by the fungus as a microscopic brown seed snugly tucked away under the chaff, and this is the weak spot in the life cycle of this most destructive disease.

All that is necessary effectually to prevent next season's crop from being smutty, is to kill the seeds of the fungus at any time between the time of thrashing and sowing; and this may be easily and surely accomplished. The simplest and best method was discovered in 1887, by Prof. Jensen, of Denmark, and the method is now known as the Jensen process. It consists in simply soaking the oats in water heated to about 133 degrees F., for five or ten minutes. This treatment not only prevents the smut by killing the spores on the chaff, but it hastens the germination of the oats, and will increase the yield to such an extent as more than to pay for the treatment, even though there were no smut present. A copper sulphate solution is also recommended instead of the hot water; but it has been found that the solution retards the germination of the oats, and decreases the yield. Oats may be treated with the hot water long before the time of sowing, with as good results, both as to prevention of smut, and increase in yield, as when treated just before sowing.

The following method of treating the oats with hot water, is to be recommended: "Have ready for the work, some coffee sacks, two ordinary washtubs, a good supply of hot water, and a clean barn floor. Partially fill tub No. 1 with water heated to about 130 degrees F., and tub No. 2 with water at 140 degrees F. Then fill the coffee sacks with the oats to be treated, and, taking one sack at a time, immerse it a minute or two in tub No 1, for the purpose of partially heating the oats; then lift it up, let it drain for a moment, and then dip it in tub No. 2, leaving it there for from five to eight minutes, turning and kneading the sack to get all the seed soaked. Then empty the oats on an airy floor—if possible, in the sunshine or a draft of wind, and on a dry day—and let them become thoroughly dry. A supply of hot water should be kept on hand, some of which is to be poured into the tubs at frequent intervals to replenish the supply, and keep up the temperature, which must be determined often by a good thermometer. In tub No. 2, the water should never get above 145 degrees, or below 133 degrees."

Most of the best authorities agree that there is very little danger of infecting oats with smut, by spreading on the soil manure from animals fed upon smutty seed.

Don't Subsoil; What to Add to Ashes.

R. T. F., Pittsburgh, Pa.—1. My farm is an island in the Allegheny River. The soil is a light, sandy loam, very easily worked and the arable area is about 40 acres. The land has been supplied with horse manure every year for 15 years, at least, exceeding 1894 and 1895. The ground has never been touched with a subsoiler. By digging down, we have found a rich, black soil about a foot below the surface, evidently made by the leaching of the accumulated manures through the top soil. Should I use a subsoil plow that will lift this rich subsoil, and turn it over on top of the present top soil, or should I use one that will simply loosen the subsoil, without lifting it? 2. I have about 40 cords of driftwood on the island which I intend to burn for the ashes, as it cannot be used in any other way. Would the ashes be beneficial to ordinary market garden crops, such as corn, tomatoes, melons, celery, etc., if applied alone? If not, what would be the best substance to mix with them to supply the ammonia that is lacking in the ashes, and in what proportion should it be used? I have seen an analysis which states that "woods earth" is rich in ammonia, but contains no potash or phosphoric acid. If I mix woods earth (of which I have a limited quantity) with the ashes in the proper proportion, would it make a complete fertilizer? 3. What is the address of the government experiment station nearest me?

ANS.—1. We would not subsoil that land; in fact, we would never use a subsoil plow on any "light, sandy loam." It would be about the worst thing you could do. We would plow the surface soil deep, and depend on clover and cow peas to lift the fertility in that black soil to the surface. 2. A ton of ashes contains, in round figures, about 100 pounds of potash and 30 pounds of phosphoric acid. They are excellent, so far as they go, for any crops; but nitrogen in some form should be added. For small fruits, equal parts, by weight, of ashes and fine ground bone make an excellent fertilizer. This will also answer for the corn. For the vegetables, we would add 200 pounds of nitrate of soda to the ton of ashes and bone. Do not attempt to *mix* the ashes and bone. Broadcast them separately, and harrow in, and then add the nitrate around the plants. We would spread the "woods earth" over the lightest portion of the soil and harrow it in, or compost it with manure. 3. Your State Experiment Station is at State College, Center County, Pa.

To Increase a Cow's Yield.

D. W. C., Smithsburg, Md.—My cow lost her calf six weeks before her time. Her milk came in about one day's time, but she does not give so much as she did with her last calf, only about 1½ gallon a day. When fresh the last time, and always before, she gave from four to five gallons a day. What will bring up her milk to the standard? I am feeding her bran and mill feed, with some crushed corn and fodder for long feed.

ANS.—It will be difficult, if not impossible, to feed this cow so that she will give the normal quantity of milk, since the period of gestation was cut short, and Nature had not provided the system fully for the work of producing milk. Something may be done by feeding liberally on grain foods, and especially will it be beneficial if some oil meal, say, one pound a day, and some cotton-seed meal, two pounds per day, be added to the bran, increasing the ration until the cow receives 10 pounds per day in all. Since the quantities fed are not given, the nutritive ratio of the ration cannot be determined; but the chances are that it is entirely too wide for a milch cow in a warm stable, so by putting in some foods that are rich in muscle-makers, and adding some succulent food, such as roots or ensilage, considerable improvement in the milk production might be secured.

To Sprout Dry Quince Seeds.

J. G. C., Napoli, N. Y.—How shall I manage to make quince seeds grow after they have become dry? I wish to plant them in the spring. Also how shall I manage peach, plum and cherry stones?

ANS.—If quince, or any kind of fruit seeds have become thoroughly dry, there is far less chance of their germination than if they had been mixed with twice their bulk of damp sand in the fall, and kept moist. As J. G. C. asks for the best thing to do with those that have not been so treated, I would say, soak them in nearly ice-cold water for two or three days, and then put them in the ground where they are to grow if possible. If they cannot be planted at once, then put them in sand as above directed, and plant at the first opportunity. Fall planting of fruit seeds is usually the better way. H. E. V. D.

How to Tell Frozen Peach Buds.

C. R., Niagara, Ont.—How can I know when peach buds are killed by frost? Here people say that, if dark or black in the center, they are killed. After very severe frosts, say, 10 degrees below zero, it seems a common practice for growers to examine them and pronounce all dead that will not show a uniformly light color when the bud is cut through. Is it not common to have a certain number each year of good and bad buds? Would it be sufficient proof if branches with fruit buds on them, placed in water, bloomed perfectly, that they were not injured?

ANS.—C. R.'s idea as to how to distinguish the dead fruit buds, is the correct one. Whenever any injury has been done by frosts, by cutting the buds cross section through the middle, if any discoloration from the uniform light green is discovered, the buds are dead. The reason why there is often a casual examination of the orchard and report of "all buds dead," is usually from the fact that the most thrifty twigs are usually cut from last season's growth, and examination made of buds on these. Oftentimes all these fruit buds may be dead on leading branches, while the short side spurs, which produce not more than one or two buds close to the more matured body or leading branches of the tree, will not have all their buds injured, and so a fair crop of fruit is had in seasons when most buds appear to have been killed. As a general rule, where one bud in ten can be found alive, there are enough left for a good fruit crop; but I think that it will be found this year that, in nearly all sections of the northern United States, the vast majority of the buds are now dead, and there is little likelihood of any crop of commercial value. J. H. HALE.

The Columbia Quince.

F. C. L., Chaplin, Conn.—How is the Japan quince, Columbia, as to hardiness in Connecticut?

ANS.—We have had the quince for three years. It has never been harmed in any way by our winters. The large fruit it bears is its chief merit.

Sulphur Out the Disease Germs.

R. T., Massachusetts.—Ten years ago, a Boston paper contained an item, the purport of which was that few persons know the value of a tablespoonful of sulphur burned in the closed cellar once a week on a shovelful of hot coals. It kills disease germs which generate in dark places where sunlight cannot penetrate to purify. The benefit derived has been of great value to our family. Our experience leads to the conclusion that it eradicates many forms of disease, and frees the house of flies, mosquitoes and red ants. The only objection is that the sulphur fumes tarnish silverware.

ANS.—Whenever sulphur is burned, a suffocating acid gas is produced by the direct union of oxygen and sulphur, forming the compound known as sul-

HIGH PRICE FOR POTATOES.

The John A. Salzer Seed Co., La Crosse, Wis., pay high prices for new things. They recently paid $300 for a yellow rind watermelon, $1,000 for 30 bushels new oats, $300 for 100 pounds of potatoes, etc., etc.! Well, prices for potatoes will be high next fall. Plant a plenty, Mr. Wideawake! You'll make money. Salzer's Earliest are fit to eat in 28 days after planting. His Champion of the World is the greatest yielder on earth and we challenge you to produce its equal.

If you will send 10 cents in stamps to the John A Salzer Seed Co., La Crosse, Wis., you will get, free, 10 packages grains and grasses, including Teosinte, Spurry, Giant Incarnate Clover, etc., and our mammoth catalogue. Catalogue alone five cents for mailing.

Gault Perpetual (Everbearing)

FROM PHOTOGRAPH OF A TIP OF GAULT.

A valuable market variety, a perpetual bearer. The greatest novelty ever introduced in the way of a black cap. Ripens a crop of large berries at time of Gregg; produces more fruit, continues bearing on young wood until killed by frost; not a few scattering berries, but frequently 80 to 100 berries on a single tip. Our illustration is made from a photograph of a tip cut Sept. 23d, 1893. Having been tested for seven years we can safely affirm it combines the most valuable characteristics of any berry ever introduced. Plant a vigorous grower and extremely hardy. Berries a beautiful black, large and firm, fine rich flavor You want it, in fact, must have it to be up with the times. We offer several other new things that every wide awake farmer or fruit grower should be testing to prove their adaptability to his grounds. Among them we name the following:

LOGAN BERRY—(The Blackberry-Raspberry). One of the greatest novelties ever produced in small fruits. A hybrid between two species, Blackberry and Raspberry, partaking of the characteristics of both. Originated by Judge J. H. Logan of Santa Cruz, California. Fruit, color of Red Raspberry, shape of Blackberry flavor of both, delightful eating, large size, very prolific, early, hardy. Plants set on our ground spring of 1894 endured the winter of 1894-95 (one of the most severe for many seasons) uninjured and produced fine berries. We believe it has superior merits and will be one of the leading berries of the country.

STRAWBERRY RASPBERRY.—Another remarkable fruit just introduced from Japan. A beautiful dwarf bush, dying to the ground in the fall; a perennial root with deciduous stem. Bush partakes of Red Raspberry characteristics; fruit of Strawberry shape; in quality as good a combination of Red Raspberry and Strawberry as the liveliest imagination could conceive.

LOUDON.—A beautiful Red Raspberry that for productiveness eclipses anything else we ever tested. More vigorous than Cuthbert, hardier, larger, bright red. Every amateur and every berry grower for market should have this.

MILLER.—Another Red Raspberry of great merit. Plants stout, healthy, vigorous; fruit bright red with rich fruity flavor; very productive, ripens with the earliest.

JAPAN PLUMS are worthy of trial everywhere. Will produce big crops of fine fruit, even where the European sorts fail. If not entirely curculio proof, they certainly withstand their attacks better than the old sorts. One noted fruit grower says that he can produce these plums at a profit at 25 cents a bushel, so wonderfully productive are they.

Among seeds offered allow us to call your attention to our new Squash, Golden Hubbard. If you are fond of Squash the superiority of this variety will please you.

Would call your attention to the many charming new Roses, Cannas, Chrysanthemums, etc., etc., but our catalogue, which costs us many thousand dollars is issued for that purpose and will be sent free if you mention this paper. You want it as it contains illustrations and full descriptions of the novelties named above, with many others. Order it now as this advertisement will not appear again.

THE STORRS & HARRISON CO., Box 293 Painesville, O.

Fruit REID'S Fruit Specialties. Save one-half by buying direct from headquarters. All the best and leading varieties, new and old. Fruit Trees, Small Fruits, Roses, Vines, Ornamental Shrubs, Crates and Baskets. Handsome illustrated catalog describes them all. Mailed free. Write for it.

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SMALL FRUITS, GRAPES, SHRUBS, ROSES, EVERGREENS, HARDY PLANTS, Largest and choicest collections in America. NEW CATALOGUE, beautifully illustrated, free to regular customers, to others 10c for postage. ELLWANGER & BARRY, MOUNT HOPE NURSERIES, Rochester, N. Y.

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DON'T buy worthless nursery stock and **WASTE** many years of VALUABLE **TIME** waiting results and finally lose your **MONEY.** But send to the

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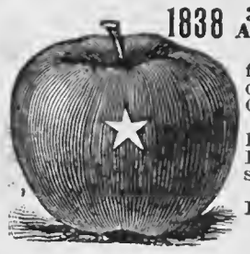

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MORE PROFITABLE than WHEAT or COTTON, with less LABOR and RISK. Send for catalogue illustrating and describing best varieties. ALPHA, the earliest Chestnut, opens Sept. 5th to 10th without frost; RELIANCE, the most productive; PARRYS' GIANT, the largest, six inches around; PARAGON, RIDGELEY and others. STARR, "the perfection of early Apples." BISMARCK, fruits at two years' old; PARLIN'S BEAUTY, the handsomest; LINCOLN CORELESS, KOONCE, GOLDEN RUSSET, ANGEL and other Pears. JAPAN QUINCE COLUMBIA, a handsome shrub, producing a VALUABLE fruit unequaled for jelly. SMALL FRUITS, RARE NOVELTIES, and VALUABLE introductions. JAPAN BERRIES, FRUIT, SHADE and ORNAMENTAL TREES.

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DON'T SPEND $5.00 TO SAVE 50c.

That's just what Tree Agents and many Nurserymen are asking you to do. You want to know *HOW?* They tell you about high freight and express charges, and what they will save you. Yes, they ll save (?) you freight, but to save a few cents freight, you pay them *dollars* MORE for the trees, and for trees that have been heeled in over winter. Many a farmer has done it, some continue to do it. *Don't be misled, figure it out.* Why not get your trees right here WHERE TREES ARE GROWN; trees that have not been heeled in over winter, trees that will grow when you plant them. That's the way with Rogers' Fresh Dug Dansville Trees—*good thrifty trees* and a fine "fat grade." Send for our little book, if you have not already. Compare the size of the trees we offer. Remember that they are true to name. Compare the prices and you will find it's economy to plant them. *We guarantee satisfaction.*

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and all other best fruits from Hale, who makes more money in fruit culture than any man in America. *Free* book, tells whole story, no secrets. Address HALE, South Glastonbury, CONN.

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The Only Nursery in NEW ENGLAND which Grows a General Assortment of Nursery Products.

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All persons wishing anything in our line will receive a copy of our Catalogue free, by addressing

STEPHEN HOYT'S SONS, New Canaan, Conn.

TREES GROW WHILE YOU SLEEP, before you know it your reward comes in fruit & shade. Begin NOW by writing for our low prices.

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1,000 Peach Trees with freight prepaid to any Station east of the Mississippi River, two to three feet, for $25. Other sizes in proportion. List of varieties or samples sent on request

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Dwarf Rocky Mt. Cherry Sample by mail 25c.; 5 for $1; low price on large number; big discount to the trade; genuine stock Sheridan Nursery, Geo. W. Barlow, Prop., Sheridan, Wy

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THE FARMERS' CLUB.

(CONTINUED.)

phurous acid, having the chemical formula of SO^2, *i. e.*, two parts of oxygen united to one of sulphur. It is very destructive to all forms of animal life, and to such low forms of vegetation as fungous and mildew germs. It is not as powerful a disinfectant of the more deadly microbes of contagious diseases as chlorine gas, but is much safer and easier of application, and generally cheaper. It is particularly adapted for the fumigation of damp cellars, as the gas is readily dissolved in the moisture, and serves to hinder the development of disease germs, if not to kill them outright. Sulphur disinfecting candles are manufactured by a New York firm, and are sold quite cheaply. They consist of a short, thick cylinder of sulphur in which is cast a very thick cotton wick. They are easy to manage and are especially useful for fumigating chicken-houses, outbuildings, etc., where it would be difficult to carry coals, and unsafe to build a fire. They should always be burned in an old iron vessel to avoid danger of fire. W. VAN FLEET.

A Cheap Florida Fertilizer.

W. H. M., Stuart, Fla.—What is the commercial value of a ton of fertilizer with the following analysis? It sells for $25 per ton:

GUARANTEED ANALYSIS.

	Per cent.
Moisture	8 to 10
Ammonia	4½ to 6
Phosphoric acid	5 to 6
Sulphate of potash	11 to 13
Equal to actual potash	6 to 8
Magnesium sulphate, lime, vegetable fiber, organic matter, etc	65 to 70

Made exclusively from nitrate of soda, bright cotton-seed meal, blood, bone, fine ground tobacco stems, dissolved phosphate and sulphate of potash. (No coloring material used).

ANS.—If the guarantee is true as regards the analysis and make-up of this fertilizer, it is a good bargain at $25—figured at the prices obtained in the North. The trouble is that we do not know what *proportions* of bone and nitrate of soda are used in the mixture. The manufacturers might put a handful each of blood, bone and nitrate into a ton of the mixture, and be able to print the statement they do. The chances are that this is a mixture of cotton-seed meal, ground tobacco stems, dissolved rock and small quantities of the other substances.

Hen Manure for Liquid Fertilizer.

W. A. K., Franklin, Pa.—The American Florist says, "hen droppings are valuable for liquid manure, but contain so much ammonia that an overdose is always possible. A flour barrel full, if clean and fresh, will be sufficient for 7,000 gallons of water. Twice that amount of sheep manure would be necessary, while of horse or cow manure, it would require a two-horse wagon load." I would like to know whether that is the case. I thought that it was about the same as horse manure.

ANS.—A barrel of fresh hen manure weighing about 200 pounds, will contain not far from four pounds of ammonia. It would require about twice as much pure, fresh sheep manure, and three times as much horse manure to give that amount of ammonia. The same fertility could be obtained in 20 pounds of sulphate of ammonia. It is not likely that all the ammonia can be soaked out of the hen manure, but even if it could, 7,000 gallons of water will give a solution too diluted to be of great value. "For general farm use," we would never mix the hen manure with water, but would dry it with plaster, grind it and use it as a filler with potash and bone to make a fertilizer—so often described in THE R. N.-Y.

Butter Direct from Milk.

M. A. S., Vernon, Vt.—My neighbors are using separators, that separate the cream from the milk. I read in THE R. N.-Y. of a machine that separates the butter from the milk, but don't know the manufacturer's address. What about it?

ANS.—Two machines known as the "extractor" and the "accumulator" take the butter directly from the milk at one operation, but neither machine has become popular enough to continue in use. They take out nearly all the butter-fat, but the product is fresh or sweet, and lacks the rich, nutty flavor of butter from well-ripened cream. There is but a limited demand for it.

Catalogue Reviews

CHARLES WRIGHT, Seaford, Del.—A catalogue of large and small fruits. Mr. Wright has a trial peach orchard in which are nearly 300 different kinds. He has 20 acres in apples, 15 in plums, comprising all of the Japan varieties, 50 in small fruits, etc. Mr. Wright was the very efficient Superintendent of Pomology of the Columbian Exposition. A colored picture is given of the Miller Red raspberry which he regards as the firmest and best shipping variety in existence, ripening with the earliest, not surpassed in productiveness, as large as the Cuthbert, while the canes are perfectly hardy. He says that the Triumph peach is as early as Alexander, yellow in color, one-half larger than Alexander.

WILLIAM HENRY MAULE.—A catalogue of the largest size, with 120 pages, four colored pages, one of sweet peas, a second of dahlias, a third of roses and a fourth of the new Imperial tomato. This tomato has made quite a stir among tomato growers, as being solid, early, smooth, and of good quality. One hundred and fifty dollars are offered for the best specimens, sent to Mr. Maule before October 15 next. Mr. Maule finds "perfection at last attained in his new Thoroughbred potato." As fine in flavor as the Freeman, as great a cropper as the Irish Daisy, and as early as, or earlier than, the Early Ohio.

(*Continued on next page.*)

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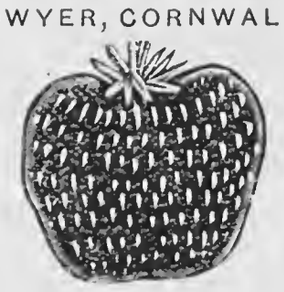

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Choice Strawberry Plants
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C. N. FLANSBURGH, Leslie, Mich.

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100 Collections By mail, $1.25 for 50 cents.
12 Royal Church Raspberry $0.50
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Total $1.25
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Staple Sorts and new kinds cheap. Send for New Illustrated Catalogue, mailed free on application.
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Send for Illustrated catalogue of healthy, thrifty trees and plants. Koonce Pear, Sneed Peach and all other leading varieties.
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WE ARE HERE WITH OCEANCITY, AND BERLIN.
TWO NEW STRAWBERRIES THAT COME TO STAY.
Millions of Plants! Sixty Other Varieties!!
Donald's, Elmira and Palmetto Asparagus, Japan Plums, Apple and Peach Trees by the car load, from natural seed. A postal with your name will bring our 20-page Catalogue, if sent now to
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NEW STRAWBERRIES ORIOLE AND IDEAL.
Named by U. S. Pomologist. Also immense stock of all kinds of Berry Plants. Bottom prices. 14th Annual Catalogue free.
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Cotta's New Prize Winter Apples yield great crops of fine fruit. The original Eicke tree, only 19 years old, bore 115 bu. of splendid apples during the last six years. Cotta's Top-grafted Apple and Pear Trees are the *hardiest* and *best* in *America*, for northern planters. *Warranted* not to winterkill. General nursery stock. Best quality. Catalogue free. J. V. COTTA, Nursery, Ill.

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Trees of the best quality at the lowest prices ever offered. Send your list for prices and be convinced. We mean to sell. Our stock is genuine. None better.
HENRY LUTTS & SON, Youngstown, N. Y.

PARAGON CHESTNUTS
Grafted Trees, five to six feet, at $1.25 each, packed.
Grafted Trees, four to five feet, at $1 each, packed.
ENGLE & BRO., Marietta, Pa.

FRUIT AND ORNAMENTAL TREES,
Shrubs, Roses, Grape Vines, etc. Apples, 10c. Catalogue free. Rochester Nursery Co., Rochester, N. Y.

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All old and new varieties. Extra quality. Warranted true. *Lowest rates.* Descriptive Catalogue Free.
T. S. HUBBARD CO., FREDONIA, N. Y.

GRAPE VINES.
Largest Stock in the World. *Small Fruits.* Introducer of unrivaled new *Red Jacket Gooseberry* and *Fay Currant.* Catalogue *free.*
GEO. S. JOSSELYN, Fredonia, N. Y.

GRAPE VINES SMALL FRUIT PLANTS.
You can get of us THE RURAL'S favorite grape, Nectar or Black Delaware. Catalogue Free.
EUGENE WILLETT & SON, North Collins, N. Y.

VICTORIA CURRANTS
Largest yielding and most profitable. Extra fine plants; very cheap. Write for prices on quantity wanted. Address
JOS. HARRIS CO., Moreton Farm (P. O.), N. Y.

MILLER RED RASPBERRY
A SPECIALTY.
Choice fruits, new and old. Our catalogue sent free will save you money.
MYER & SON, Bridgeville, Del.

PLANTS Ohio and Gregg Raspberry Plants for Sale. Send for prices.
E. J. COOK, Oaks Corners, N. Y

Golden Queen, Cuthbert, Herstine and GREGG RASPBERRY PLANTS. Brandywine Strawberry. Japanese Wineberry. Good assortment of Trees, Plants and Vines. Price List free. Also, Purebred Poultry and Eggs.
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are true to name, fresh dug, reasonable in price, and Standard varieties. *No Circus Poster*, but honest descriptive list free. All fruits.
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BRANDYWINE,
Marshall and Rio Strawberry,
and a choice selection of Raspberry Plants. Carman Nos. 1 and 3 seed potatoes. Descriptive price list free. Address
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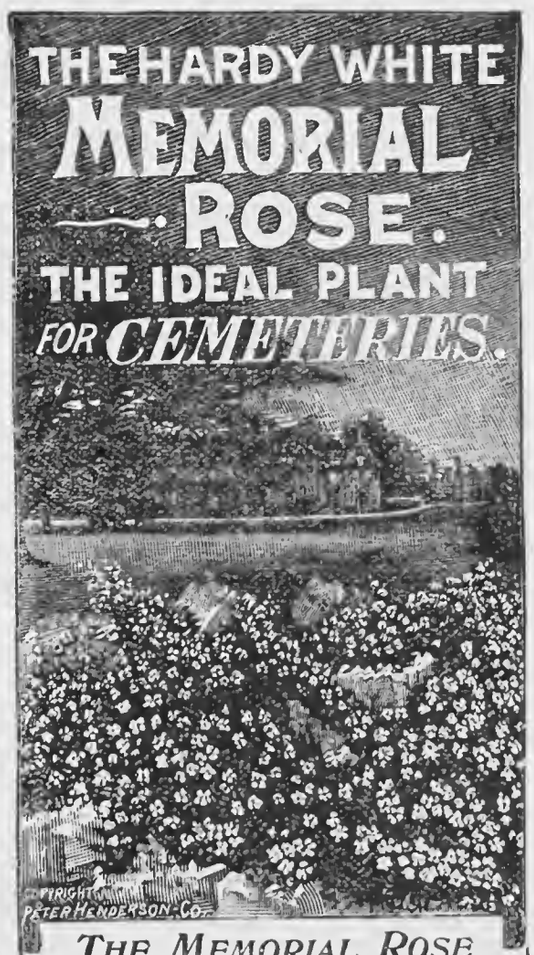
30 STRAWBERRY PLANTS SIX EACH.
Oriole, Ideal, Giant, Tubbs and Lady Thompson $2 50
1,000 best 4 kinds, by express, not paid 2 50
12 Miller Raspberry, 10 Peach Trees, 1 Ridgely Chestnut, postpaid 2 50
Millions of plants. Peach, Apple, Plum, Pear and Nut Trees. CHAS. WRIGHT, Seaford, Del.



THE MEMORIAL ROSE
AS IT GROWS.

Growing in sun or shade, possessing the hardiness of the Oak, with a distinctive charm entirely its own, the Memorial Rose (*Rosa Wichuraiana*) will be found a singularly appropriate plant for beautifying Cemetery plots. It creeps along the ground just as an Ivy does, growing ten feet in a single season, forming a dense mat of dark green lustrous foliage, with thornless stems. The flowers are single, snow-white with a golden yellow disc, are from 5 to 6 inches in circumference, and have the delicious fragrance of the Banksia Roses. The flowers, in clusters, are produced in the most lavish profusion, and are in their fullest glory just after the June Roses are past. Seen then the clusters look like great masses of snow, and are a sight long to be remembered. But its use is not confined to Cemeteries, for not only is it also perfectly adapted for garden culture, but for screening rocky slopes, embankments and such places as it is desirable to quickly cover with verdure it is unsurpassed. Indeed, it adapts itself to every condition of growth, whether barren or fertile soil, rocky ledge, shady nook or sun-kissed slope.

Prices (*free by mail*), good plants, 40c. each, 3 for $1.00, 7 for $2.00, 12 for $3.00; extra strong plants, 60c. each, 2 for $1.00, 5 for $2.00, 12 for $4.50.

All purchasers of the Memorial Rose who will state where they saw this advertisement will be sent our MANUAL FOR 1896 of "EVERYTHING FOR THE GARDEN" (160 pages, 6 colored plates and over 500 engravings). To those desiring the MANUAL only, we will mail it on receipt of 20 cents (in stamps), which is less than cost.

PETER HENDERSON & Co.
35 & 37 CORTLANDT ST. NEW YORK.

CATALOGUE REVIEWS.

(CONTINUED.)

R. H. BROWN & Co., Miller Corners, Ontario County, N. Y.—Potatoes a specialty. A long list of the best varieties.

ARTHUR G. ALDRIDGE, Fishers, Ontario County, N Y.—An illustrated list of potatoes. About 70 kinds are offered, ranging from $1.10 upwards per barrel.

M. F. WEBSTER & Co., Victor, Ontario County, N. Y.—A circular of seed potatoes. A select list which the firm recommends. Also seed oats, field corn, rye and wheat. There are 75 different kinds of potatoes offered. Then there are collections like this (one pound of each) for $1: Carman No. 1, Carman No. 3, Early Harvest, Good News, Great Divide and Sir William.

E. G. PACKARD, Dover, Del.—A descriptive list of strawberries, raspberries, Crimson clover, winter oats, cow peas and seed corn for ensilage. Mr. Packard agrees to send for $1, prepaid, 50 plants each of four "best varieties of strawberries, early, medium and late—200 plants in all." Our friends should try the Rio strawberry, which, in our own trials, proved, all points considered, the best of the earliest kinds. The Miller Red is also praised as the best of the early raspberries. Four pages are given to a consideration of Crimson clover and cow peas.

SLAYMAKER & SON, Dover, Del.—Fourteenth annual catalogue of small fruits. The firm offers two new varieties of strawberries that seem to be well worthy of trial, viz., Oriole and Ideal. They were originated by our respected friend, Mr. J. W. Kerr, of Maryland. He says that a comparative test with all the new and standard varieties, carried on through four seasons, gives substantial claims that they are, in some respects, decided improvements over all competitors. Then, too, they have been looked over by several of our best strawberry authorities, who urged their introduction. Fig. 64 shows a portrait, quite true to life, of the Oriole. It is an early berry, ripening about with Michel's Early. But the berries average large and shapely. It is highly productive, deep red in color, and of excellent quality. "The Ideal," says Mr. Kerr, "is nearer to perfection than any other variety in existence."

JOHN R. & WM. PARRY, Parry P. O., N. J.—A catalogue of the Pomona Nurseries, established in 1838. Fruit, nut and ornamental trees. The Bismarck apple is receiving much attention. It is said to bear fruit on one-year grafts. The fruit is said to be of the finest quality and color; the tree is dwarf and highly prolific. The claims made for this New Zealand apple are well nigh incredible. The following are among them: "Promises to take the place of almost every other apple grown in this country or abroad; a most astonishing revelation, not only in high quality, but also in hardiness, and especially in early fruiting; the tree is of stocky, short growth, and when laden with fruit at one or two years old, is desirable as a pot plant for table or greenhouse. The apple will keep in an ordinary room until March." Well, if all that is true, the Bismarck is a revelation, indeed. Among pears, the Angel, Idaho, Lincoln Coreless and Japan Russet are offered. The last bore quite a little crop at the Rural Grounds last season, the tree having been received the year previously. It is valuable as a curiosity and for cooking. The firm makes a specialty of nut-bearing trees.

J. C. VAUGHAN, 84 and 86 Randolph Street, Chicago, Ill.—A catalogue (116 pages) of Vaughan's seeds, colored covers and profusely illustrated. Mr. Vaughan claims that the Acme is fully a week in advance of any other potato in maturing, and that hills of "new potatoes" of fit size for table use, can be dug in five weeks from time of planting. He has "never tried a kind which possesses the points of an extra early, large-yielding, high-quality potato like the Acme." It is claimed that the Black Diamond is the greatest acquisition among watermelons of the past 20 years. "It is the most prolific watermelon ever planted." "Melons weighing from 75 to 90 pounds are frequent." The catalogue presents a long list of specialties among flowers, vegetables, forage plants and farm seeds.

(*Continued on next page.*)

THE new Climbing Rose, Crimson Rambler, is unquestionably the greatest acquisition to the list of hardy climbing roses that has been introdueed for more than a score of years. Every one that has room for a climber should have it. The Storrs & Harrison Company, Painesville, Ohio, are offering this and many other new and rare things in their spring catalogue, which is the finest they have ever issued.. If you use seeds, plants, or trees, send them your address on a postal and they will mail you a copy free.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Sweet

Sound sleep, good appetite, strong nerves, perfect digestion, follow the use of Hood's Sarsaparilla as naturally as day follows night. It cures Scrofula, Salt Rheum, etc., because

Hood's Sarsaparilla

Is the One True Blood Purifier. $1; six for $5.

Hood's Pills cure Liver Ills; easy to take, easy to operate. 25c.

CORN IS KING!

Send your name and address on a Postal Card and we will send you a sample of **Buckbee's Colossal—the Greatest Corn on Earth,** together with our beautiful and instructive Seed and Plant Book — **FREE** if you write to-day.

H. W. BUCKBEE,
ROCKFORD SEED FARMS,
ROCKFORD, ILL.
P. O. Box 545.

BRIDGEMAN'S

New Catalogue of

GARDEN SEEDS

Now Ready. Send for It.

37 East 19th Street, New York.

ESTABLISHED 1824.

SWEET CORN

VAUGHAN'S EARLY WHITE COB CORY

grown in the North, is 3 full days the earliest Sweet Corn grown. It beats all the crack earlies, no matter what their names are. **Pkt., 10c.; quart, 30c., post paid; peck, 85c.; bushel, $2.75,** by freight.

CHOICE SWEET CORNS.

	Pkt.	Pt.	Qt.	Peck.	Bu.
Early Champion.....	10c.	20c.	35c.	85c.	$3.00
Moore's Early Concord	5c.	15c.	25c.	75c.	2.60
Old Colony.....	5c.	20c.	30c.	80c.	2.75
Country Gentleman	10c.	20c.	35c.	1.00	3.50
Hickox.....	5c.	15c.	25c.	60c.	2.25
Stowell's Evergreen.	5c.	15c.	25c.	60c.	2.00
Late Mammoth	5c.	18c.	30c.	75c.	2.50

One packet RED Hubbard Squash, rare and valuable, and our complete 116-page catalog for 1896 (a mirror of American Horticulture) free with every order if you mention this paper

VAUGHAN'S SEED STORE
CHICAGO: 84 and 86 Randolph St.
NEW YORK: 26 Barclay St.

THORBURN'S HIGH-CLASS SEEDS.

We would call the attention of our friends to the following few articles of sterling merit:

OUR WORLD-FAMOUS POTATOES **"THE THORBURN SET."**

N. B.—Order only of the introducers, and make sure of getting the genuine.

FOR EARLY, "THE THORBURN."—Very best extra early sort grown, being very productive, of good size and form, and of unexcelled table quality. ½ peck, 40c.; peck, 60c.; bu., $1.75; bbl., $3.25.

FOR MEDIUM, "CARMAN No. 1."—Most perfect shape, most desirable size, and exceedingly productive, perfect in quality. In every point of merit the best second-early in cultivation. ½ peck, 50c.; peck. 75c.; bu., $2; bbl., $4, f. o. b. New York.

FOR LATE, "CARMAN No. 3."—By far the greatest yielder ever offered. Very large and of handsome appearance, and unexcelled table quality. Decidedly the best for field culture. 1 lb., by mail prepaid, for 25c.; ½ peck, 65c.; peck, $1; bu., $3.50; bbl., $7, f. o. b. New York.

The following are a few of our Specialties:

BEAN, THORBURN'S VALENTINE WAX.—First in earliness, first in productiveness, and first in quality. Qnart, 30c.; ½ peck, $1; peck, $1.75; bu., $6.

BEET, BLACK QUEEN.—A splendid half-long blood beet of finest table quality, with beautiful dark blood-red foliage, thus combining the useful and the ornamental. Oz., 20c.; ¼ lb., 40c.; lb., $1.25.

CAULIFLOWER, THORBURN'S GILT-EDGE.—Large, heavy, fine. The best and surest grown. Per packet, 25c.; oz., $2.25; ¼ lb., $7.50; lb., $30.

CUCUMBER, THORBURN'S 1896 PICKLING.—In size, symmetry, slimness, color and productiveness, this is a perfect variety for pickling. Oz., 15c.; ¼ lb., 50c.; lb., $1.50.

MUSK MELON, LONG ISLAND BEAUTY.—Finest in quality, handsomest in appearance, and earliest of all. Oz., 15c.: ¼ lb, 30c.; lb., $1.

PEA, "DUKE OF YORK"—Superb new wrinkled sort; very large, long, full pods; finest flavor. Height, 3 feet. Pint, 45c.; quart, 85c.

RADISH, ROUND, SCARLET CHINA.—Suitable for either summer or winter use. Oz., 15c.; ¼ lb., 40c.; lb., $1.25.

TOMATO, "THE WALDORF."—Perfect, uniform shape; smooth, large, and of fine quality; solid; dark shining rose color; medium early; very productive. Packet, 10c.; three packets for 25c.

CATALOGUE MAILED FREE ON APPLICATION.

Established 1802. **J. M. THORBURN & CO., 15 JOHN STREET, NEW YORK.**

Warranted Seed

A leading reason for warranting our seed, as per first page of Catalogue, is, we raise a large portion of them. As the original introducers of the Cory and Longfellow Corns, Miller Cream Melon, Ohio and Burbank Potatoes, Warren, Hubbard and Marblehead Squashes, Marblehead Early Marrowfat Pea, Eclipse Beet, Kentucky Wonder and Marblehead Horticultural Beans, Southport Early Globe and Danvers' Red Globe Onions, All Seasons and Marblehead Mammoth Cabbages and numerous other valuable vegetables, we solicit a share of the public patronage. Our Catalog of Vegetables and Flower Seed for 1896, containing many new Vegetables & Flowers & the best of the old will be sent *free.* J. J. H. GREGORY & SON, Marblehead, Mass.

PLANTING

well begun is half done. Begin well by getting Ferry's Seeds. Don't let chance determine your crop, but plant Ferry's Seeds. Known and sold everywhere.

Before you plant, get

Ferry's Seed Annual

for 1896. Contains more practical information for farmers and gardeners than many high-priced text books. Mailed free.

D. M. FERRY & CO., DETROIT, MICH.

$100.00 FREE

To the persons making the largest yield from our VINELESS GOLD COIN PROLIFIC SWEET POTATO this year. Here is a chance to MAKE MONEY EASY, besides getting the best Sweet Potato on earth. Send for 1896 Catalogue.

ONION Yellow Globe Danvers, postpaid, 70c. per lb. Red Wethersfield, 80c. per pound.

MELON SEED, all leading varieties, 35c. per pound, postpaid. Can you beat this?

RADISHES, 45c. per pound, postpaid. Peas, Beans and all Vegetable Seeds at correspondingly low prices. It will pay you to let us hear from you before you buy. We are the Market Gardener and Farmer's friend. OUR PRICES SUIT THE TIMES.

THE HUNTINGTON SEED CO. Indianapolis, Indiana.

SEED OATS.

Varieties which yielded 50 to 100 per cent more than common sorts grown in same localities last year.

NEW ZEALAND.—A late side head variety.

LINCOLN.—An early round head variety.

PRICE, *if you mention this paper*, only 75 cents per bushel; 10 bushels, $6.50; 25 bushels, $15; 100 bushels, $50, bags included.

Catalogue of all kinds of Farm Seeds, free.

IOWA SEED CO., *DES MOINES, IOWA.*

ONION SEEDS.

We are selling True SOUTHPORT GLOBE ONION SEED: Red and Yellow, $1 per pound; White, $2 per pound. We have the best stock this year ever offered CALIFORNIA RED GLOBE ONION SEED, at 60c. per pound, mailed free. Send postal for our Catalogue

WHEELER & CO., Bridgeport, Conn.

HONEST SEEDS

Seeds Prices Catalogue.

Write for it To-day.

HOLMES & MacKUBBIN, SEEDSMEN, HARRISBURG, PA. **FREE.**

CORN—VIRGINIA ENSILAGE makes larger growth and more fodder than any other sort. Climatic change makes Southern corn especially valuable for fodder and ensilage purposes in the North and West. Write for price and circular giving full information.

T. W. WOOD & SONS. Richmond, Va.

Oats—1,000 bushels Lincoln Seed Oats, as good as the best, at 40c. a bushel. R. N.-Y. No. 2 and Burpee's Superior, both late potatoes, at 25c. a bu. A. H. Goodrich, Oakwood, N Y.

SEEDS All Varieties. Catalogues FREE

J. CHAS. McCULLOUGH Second & Walnut Sts. CINCINNATI, OHIO.

11 pecks of Beans make a Deacon

and you can raise more than that from one package of Worcester Mammoth Pole Beans. Best on earth for kitchen garden or market gardener. Brightest carmine pod; best keeper; very prolific. Send at once for large package, 10c. Pint, 30c.; quart, 55c., postpaid. Elegant catalogue goes with it.

ROSS BROTHERS, Worcester, Mass.

FERTILIZERS

Get in the swim! Ask for the Agency of

Royal Standard Fertilizers

before territory is taken. Sure winners and EASY to sell. *HIGH-GRADE SPECIAL BRANDS* for all soils and crops. Responsible agents wanted in unoccupied territory. *Catalogue Free.* Address

ROYAL FERTILIZER CO., No. 40 Wick Block, Cleveland, Ohio.

SOLUBLE

PACIFIC GUANO.

The Standard Guano Now in Use.

Almanac for 1896 now ready; sent on application.

PACIFIC GUANO CO.,

AGENTS WANTED. New York, Pittsburgh and Cleveland.

CATALOGUE REVIEWS.

(CONTINUED.)

EDWARD T. INGRAM, West Chester, Pa.—A circular of small fruits and several kinds of potatoes. He heads his list of strawberries with the Brandywine as combining more good qualities than any other kind he has tried. He agrees with THE R. N.-Y. that the Rio strawberry "is the earliest strawberry that is worth growing." His list of raspberries is short, but select, viz., Miller, Loudon, Kansas, Eureka, Hilborn and Columbian. His description of the Carman No. 1 potato is just right—evidently written from his own observation. He says that "it cooks mealy as early as the Early Rose," which is true, "but the vines continue to grow until midseason."

FRED E. YOUNG, Rochester, N. Y.—A catalogue of fruit and ornamental trees and shrubs, small fruits, roses, etc. There is a colored portrait of the Walter Pease apple. Several pages are given to the new Alice grape, whose merits THE R. N.-Y. was the first to report outside of the originator's grounds. It is a red grape of fine quality, and one of the best of keepers. Keepsake, Columbus, Golden Prolific, Chautauqua, Red Jacket and Triumph, which resembles the Columbus, are among the gooseberries offered, and a better selection could not be made. Wm. Belt, it is claimed, bears larger strawberries than Bubach, and the plants are "much more productive." Note what is said of the Bourgeat quince, the Centennial cherry. Mr. Young, rightly as we think, regards the Clematis Henryi as the best of its color. We imported our first plant of this splendid variety nearly 20 years ago, before it was known in this country.

G. H. & J. H. HALE, South Glastonbury, Conn.—If there were nothing else in this catalogue but the story of the remarkable success of two plucky, bright boys, which is told under the title of "From a Push-cart to a Trolley-car," we would still ask our readers to send for it. In their early efforts, they were not only poor, but $7,000 in debt. Financial success came all at once. In one season, they cleared $9,000, and the next year the $2,000 surplus was "squandered" in chemical fertilizers. That year was a bad one, and they again ran heavily in debt for labor and fertilizers, though aiming to cultivate more thoroughly and feed more liberally than ever before. But the next year, all their fruits produced abundantly, and their "profits were enormous." Then it was said by neighbors who had previously warned Mrs. Hale, the mother, that her boys would ruin her by appropriating the very best part of her land for a briar patch, especially when, a little later, the farm was mortgaged to buy horses, wagons, tools and fertilizers to help them to cultivate and enlarge these "briar patches," then it was said, "The Hales' boys are mighty lucky." Were the neighbors right? Did they bear in mind that "all the summer wages," in those earlier days, "except what was spent for a suit of clothes and the first bought overcoat, were reserved to buy new varieties of fruit plants?" Good friends, we know of no better example to prove that industry, study and perseverance will lead to success on the farm, as elsewhere, than the success of these Hale boys; and we would ask those of you who have been east down by repeated failures; those of you who are in debt and who see in farm industries no ray of light, not only to guide them to recovery, but to successful, happy lives, to read "From a Push-cart to a Trolley-ear." Now, the "lucky" Hale boys own in Georgia a peach orchard of about 1,000 acres, and hundreds of acres have been added to their home farm in South Glastonbury.

The Hales have great faith in the Japan plums, and one of these farms has been devoted to them. They paid Luther Burbank $500 for his "J," since called the Hale, which is now offered for sale. The other Japan plums which they prize are Willard, Red June, Berekmans, Abundance, Normand, Burbank, Chabot. Their favorite peaches are Crosby, Oldmixon, Elberta, Triumph and Connecticut, which, it is claimed, bears fruit of great size, handsome appearance and superior flavor, ripening the earliest of any large yellow peach. For big strawberries and lots of them, the firm advises us to plant the new variety, Bouncer. Many of these fruits are photographed in colors by the new process.

Break up the Clods.—Every clod of earth on the fields is a nugget of gold, so to speak, which contains within it equivalent elements of value. But as the gold of the nugget is only procured by crushing and separating the rock, so the gold of the clod is only procured by crushing and dissolving it by the rains and air, so that the crop can separate the valuable plant food (the farmer's gold) from it. How to crush these clods and release the rich plant food in them is the question for the farmer. We can tell him how; viz.: by using a perfect implement, such as the "ACME" Pulverizing Harrow, Clod Crusher and Leveler, which has been used by thousands of farmers without one case of disappointment or dissatisfaction. It crushes the clods better than a roller; tears them to small particles and forms them into compact yet mellow soil, better than any other, or all other, harrows combined, and does all this at one operation. See advertisement on page 210.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Successful

growers of **fruits, berries,** and all kinds of **vegetables,** know that the largest yields and best quality are produced by the liberal use of fertilizers containing at least **10% of**

Actual Potash.

Without the liberal use of Potash on sandy soils, it is impossible to grow fruits, berries and vegetables of a quality that will command the best prices.

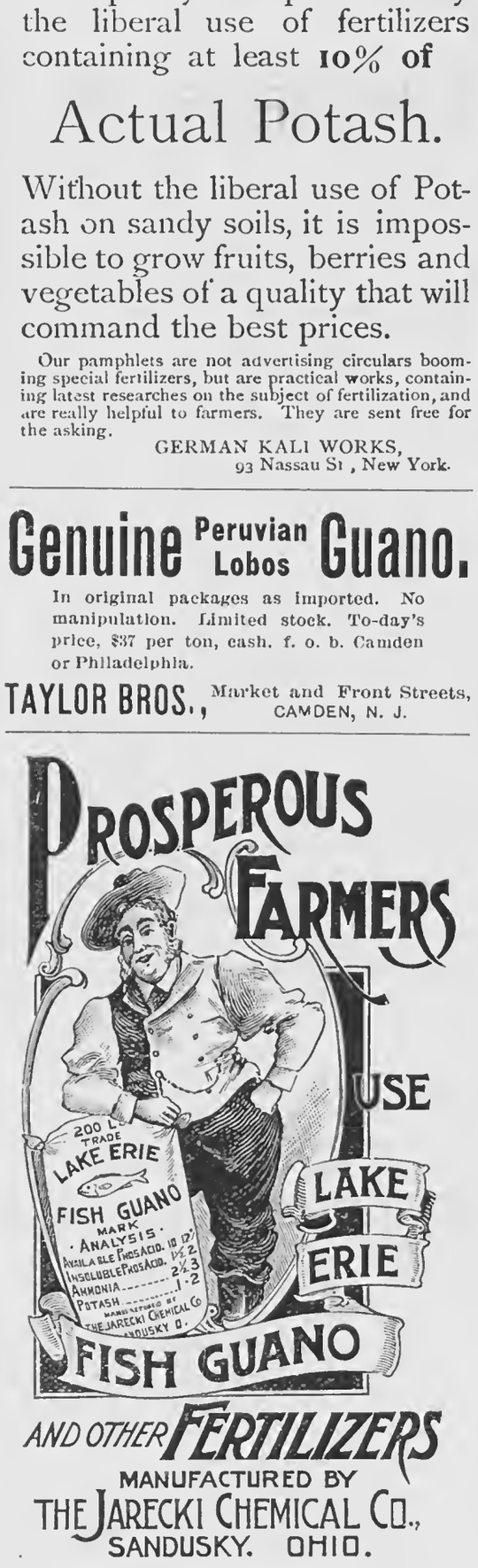
Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St, New York.

Genuine Peruvian Lobos Guano.

In original packages as imported. No manipulation. Limited stock. To-day's price, $37 per ton, cash, f. o. b. Camden or Philadelphia.

TAYLOR BROS., Market and Front Streets, CAMDEN, N. J.



AND OTHER FERTILIZERS
MANUFACTURED BY
THE JARECKI CHEMICAL CO.,
SANDUSKY. OHIO.

ARMSTRONG & McKELVY	Pittsburgh.
BEYMER-BAUMAN	Pittsburgh.
DAVIS-CHAMBERS	Pittsburgh.
FAHNESTOCK	Pittsburgh.
ANCHOR, ECKSTEIN	Cincinnati.
ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION	New York.
SOUTHERN, SHIPMAN	Chicago.
COLLIER, MISSOURI, RED SEAL, SOUTHERN	St. Louis.
JOHN T. LEWIS & BROS. CO	Philadelphia.
MORLEY	Cleveland.
SALEM	Salem, Mass.
CORNELL	Buffalo.
KENTUCKY	Louisville.

IT IS JUST AS EASY, and a heap more sensible, to use a little care in the selection of materials when having painting done and secure the best result as it is to take chances and use mixtures of which you know nothing. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands). Any shade or color desired can be easily obtained by using NATIONAL LEAD CO.'s brands of Pure White Lead and Tinting Colors.

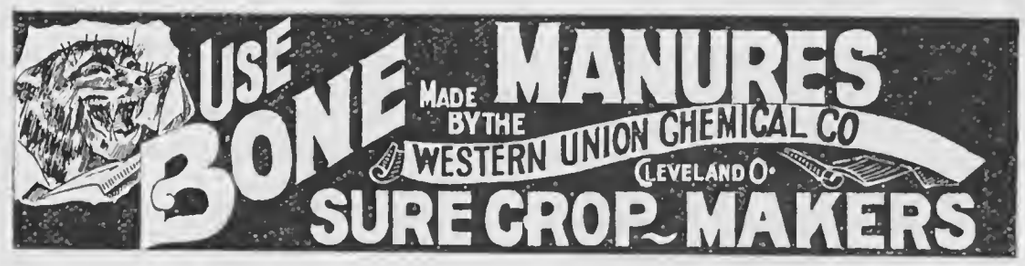
Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
1 Broadway, New York.

RICHARDS TRANSPLANTING IMPLEMENTS.

Patented April 2, 1895. A cheap, sure and simple way to transplant all kinds of plants; guaranteed not to disturb their growth. The inventor has transplanted thousands of plants with these implements and is therefore qualified to say what they will do. Indorsed by many of the most prominent plant growers. Send for circular giving testimonials, directions how to use, and other valuable information, especially to strawberry growers. Price, per set of six transplanters, one excavator and one ejector, $2.50. Extra transplanters, 20 cents each. *Agents wanted.*

F. RICHARDS, Freeport, N. Y.



DARLING'S HIGH GRADE FERTILIZER and FINE BONE

possesses all the nutritive elements requisite in plant food. Being rich in ammonia, phosphoric acid and potash, combined in just the right proportions, they are highly efficacious for all crops, but especially adapted for corn, potatoes, grain, root crops, and top dressing for grass land.

Lawn Dressing and Flower Grower in neat packages for house-plants, Bone Meal for cattle, and Chicken Bone; also bone for mechanical purposes, Pure Beef Scraps and Poultry Supplies of all descriptions. For sale at all agricultural ware-houses and seed stores in the Middle States and New England. Ask for Darling's Fertilizers.

Our 1896 Catalogue contains important information on the fertilizer question which every grower should know. We send it FREE.

L. B. DARLING FERTILIZER COMPANY, Pawtucket, Rhode Island.

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

Lay aside your prejudices and do that which experiment and experience has determined to be the best. Your soil may have been robbed of its fertility by the past system of agriculture. It can be restored and made fertile and productive easier, cheaper, quicker and more lastingly so by a liberal use of our standard brands of

COMMERCIAL FERTILIZERS

than by any plan known. They are suited to every variety of crop, and in them the various chemical constituents are proportioned to the requirements of all classes of plants. They are uniform, dry and drillable. Every brand is guaranteed to be of best quality and carries its analysis with it, stamped on the bag. Our prices are very reasonable—quality of goods considered. We also carry a full line of high grade Agricultural Chemicals to supply those who wish to mix their own fertilizers. Write us.

THE CLEVELAND DRYER CO., Cleveland, O.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

SUBSCRIPTIONS.

PRICE, ONE DOLLAR A YEAR.

To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8¼ marks, or 10¼ francs.

ADVERTISING RATES.

Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses
We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MARCH 21, 1896.

THAT is a new idea in poultry keeping—that California scheme of portable houses. The English and Canadian farmers often made little houses on wheels which are hauled into the grain fields after harvest, to provide headquarters for hens which pick up the fallen grain. The plan of planting plum trees in poultry yards, or of building yards around plum trees, is old enough; but the California combination seems to be new and practical.

⊙

IN describing that fertilizer mixer last week, we were told how Mr. Macomber has a number of boxes gauged to hold certain weights of the chemicals that are used in mixing. This saves an immense amount of weighing, and some dairymen have adopted much the same plan in feeding different kinds of grain to stock. They gauge boxes or measures to hold certain *weights* of corn meal, bran, oats or linseed meal, and are thus able to "balance" their ration much more accurately than they could when feeding by the quart.

⊙

EVERY spring the fever for trying all the "new" forage plants, seems to strike some farmers. No matter how high the price, the prospect of growing twice as much fodder as an acre of clover on good soil will yield, is enough to make money fairly burn in the enthusiasts' pockets. It is no use trying to tell them not to do it; in fact, it is not a bad thing for them to try these new plants in a small way. A careful test of the new things will make them more careful to observe the habits and possibilities of the plants they already raise. A few seeds of the new plants, carefully tested, will give them a cheap and reliable education in "novelties."

⊙

AGAIN and again we are asked to state what mixture of chemicals should be used to fertilize small fruits. From long experience, THE R. N.-Y. has concluded that fine bone of good quality is, generally speaking, the most satisfactory source of nitrogen and phosphoric acid for fruits. In some cases, a little nitrate of soda is needed, and in others, cotton-seed meal is so cheap that it should be used; but in most cases, bone will be found most satisfactory. As for potash, the choice will generally be between wood ashes and muriate. If ashes guaranteed to contain five per cent of potash, can be bought for $9 a ton, we would use them, applying equal parts of ashes and bone. At a higher price, muriate of potash will be cheaper—so far as actual fertility is concerned—and we would use three parts of bone and one of muriate—all broadcasted and worked in with rake, cultivator or hoe.

⊙

AT the meeting of the Peninsula Horticultural Society, a well-known horticulturist advanced, and advocated, the absurd theory that, by the budding or grafting of one kind of plant upon the roots of another, all new root growth would be like the bud or scion which was inserted into the root, *i. e.*, when pear scions are grafted upon quince roots, the new growth of roots will be pear roots, etc. He claimed that the pear leaves elaborated the sap from the quince root, and changed it into pear sap; hence the new roots would be pear and not quince roots. Those present at once questioned the truth of the statement, and instances were cited where the roots of dwarf pear trees had sent up quince shoots, and the peach roots upon which plum had been budded sent up peach shoots. It is a very pretty theory that the leaves change the sap to that of the kind of plant of which the leaves are the foliage; but it does not hold good, else why does the potato root, for instance, upon which the tomato has been grafted, still continue to yield tubers instead of tomatoes? Theory and practice must necessarily go hand in hand; but practice does not carry out the above theory in any instance.

⊙

WITH all due respect for the theories and results of those German scientists, THE R. N.-Y. does not believe that it is safe to assume that the phosphoric acid in raw phosphate rock is as available as that in bone. Let us make a mixture of 100 pounds of good bone, and 30 pounds of muriate of potash, and another of 28 pounds of dried blood, 120 of raw phosphate rock, and 30 of muriate. The two mixtures contain about equal amounts of organic nitrogen, phosphoric acid and potash. Yet we think that few persons who have used fertilizers carefully would hesitate in saying which will give surer results. This matter has been tried at the Rhode Island Station for two years. In this case, like money values in bone and rock were tested. In other words, a dollar's worth of phosphoric acid in fine bone was used against a dollar's worth of fine rock. In four trials—two with lime and two without lime—the bone has invariably given better results.

⊙

HOTHOUSE lambs, properly dressed according to the requirements of dealers, have the heads and feet on. Dealers say that these enable them to detect the presence of disease otherwise undiscoverable. But these are contrary to a city ordinance which says that no animal shall be taken to any public or private market for food, until the entrails, head and feet, except of poultry and game, and the heads and feet of swine, shall have been removed. The inspectors of the Health Department have recently been endeavoring to enforce this ordinance, and much dissatisfaction has resulted. A petition has been presented to the Board of Health, reciting the facts of the case, and asking that this provision be so changed as to exempt spring lambs. The Board of Health has promised not to interfere with these lambs, and to have the ordinance changed so as to have them sold as formerly without violating the law. They are shipped dressed until hot weather, and are then sent alive.

⊙

IT appears to be a very difficult matter for farmers to get out of the "old ruts." While conversing last fall with a prominent farmer, we casually alluded to the fact that a well-known fruit grower was feeding windfall and unmerchantable apples to a dairy of milch cows. The farmer insisted that it could not be possible, as the apples would "dry up the milk." Such would, undoubtedly, be the case if the cows were allowed all the apples they could eat when first beginning to feed them. The fruit grower informed us that a very few apples were fed at first. About one-half bushel was given at a feed, to four or five head of cattle. The quantity was gradually increased after a few days' feeding, until from one peck to one-half bushel was given to each animal at a feeding, in connection with other food. Fed in this manner, the apples proved a most satisfactory food, and increased the yield of milk and butter. Many farmers have hesitated to adopt ensilage feeding for fear of injuring their stock; yet when once begun, they rarely return to the old methods of feeding. This is a progressive age, and the farmer must keep to the front if he would succeed.

⊙

THE Atlantic States Packers' Association, an organization of the packers of canned goods in the eastern States, has just held a convention in this city. The general verdict was that prices are too low, ruinously so. In connection with the convention, was an extensive display of canning machinery. Everything seems to be done by machinery, the saving being carried much farther here than it is in the growing of the crops Here, for instance, is a husking and silking machine into which the unhusked ears of corn are dumped promiscuously, and with the rapidity of lightning go through the machine automatically, and come out on a conveyor, perfectly free from husks and silks. Some husking machines do not remove the silks, and there are machines that brush the ears free from silks automatically. Then the corn is taken from the cob, is carried to cookers, of which there are various kinds, which stir and mix the corn, then it goes to automatic machines which put just the proper amount of corn into each can. One of the machines shown had a capacity of 50,000 cans a day. Another machine caps and solders the same number of cans daily, with no attention except to feed in the cans and material, capping one dozen at each pressure. Another machine pastes the labels on the cans as fast as three or four persons can feed them in, delivering them in cases of two dozen each, all ready for nailing on the covers. There are various makes of these different machines, all of them claiming superiority in one or more points. There is a rotary pea separator for cleaning and grading peas. An ingenious device took the skin and core from pineapples with lightning speed. Is it any wonder that canned goods are being sold for phenomenally low prices? And is there much encouragement for the grower of small quantities of fruits and vegetables to can his goods and hope to compete with the establishments that use these great labor-saving machines?

⊙

SOME weeks ago, THE R. N.-Y. paid its respects to the so-called "Natural Plant-food" which is being advertised largely by circular. The Ohio Experiment Station has analyzed and tested this fertilizer, and concludes that it is nothing but a soft phosphate rock which costs about $7 a ton at the seaboard. The price charged for "Natural Plant-food" is $17. To pay $10 a ton for the *name* is mighty poor business policy for these hard times. This may be a natural fertilizer, but it is offered at a very unnatural price. Another "Natural Fertilizer" is made by a concern in Pittsburgh, which claims to use garbage, and to retain a portion of the "vegetable carbon" in the manufacture. Here is a sample of the statement about this fertilizer:

> We have inaugurated a new era in the manufacture of commercial fertilizers, because we are not only giving high percentages of phosphoric acid, ammonia and potash, but we are incorporating in that same ton of material, two tons of concentrated vegetable matter; or, in other words, manure, animal and vegetable refuse, simply divested of its free water, and this is chiefly composed of vegetable carbon, which is the bulk of the solid residue of all plants.

It will be discouraging, indeed, if such ridiculous stuff as that will induce farmers to pay for this fertilizer a price above a fair valuation of the nitrogen, potash and phosphoric acid contained in it. "Vegetable carbon" is another name for which farmers are expected to pay their hard-earned dollars. The worst feature of it is that some of the agricultural papers print such stuff, word for word, with nothing to indicate that it is not editorial advice and comment!

⊙

BREVITIES.

"LIKE FATHER, LIKE SON!"

(SEE FIRST PAGE).

Don't lose your courage, boy—the world is wide,
And every trouble has its lighter side.
Stick to the farm, be brave and strong, be true
To your ideals—Time will come to you
With full reward. The years are just—they bring
A recompense to those who nobly cling
To duty, and, unvexed by fortune's frown,
Break through the evils that would crush them down.
And, striving for improvement, you will see,
All your surroundings rise unconsciously.
Stay for your mother's sake; her apron's string
Holds with the safety of an iron ring.
And you will live to deem it no disgrace
To find the proverb changed, and in the place
Of that "Like Father," we shall read with pride
The words, "Like Mother" true and verified!

THE White grub is a scrub.

DON'T love a dishonest dollar.

OATMEAL will cure shote squeal.

THE devil fertilizes a family row.

DOES *your* cellar need sulphuring?

THE R. N.-Y.'s potato report this week.

LIME is not needed with unleached ashes.

HOW often does your mind take a vacation?

WE now have coming an account of a $5 henhouse!

"I HAVE money to burn!" said the young man as he lit his cigar.

Do you notice how many questions are being answered in THE R. N.-Y.?

IN 1890 there were 82,329 prisoners in the jails of this country Of that number, 12,616 were total abstainers.

J. A. W., page 208, has certainly done something. He is right in calling on the "going-to-do's" for figures!

THERE has been so much inquiry about that plank barn frame, that we have had a picture made of the complete model.

THAT calf without milk, page 209, is as "fine as silk." Too much belly and bones, perhaps, but for an "artificial" she is doing well.

LOOK straight in the phiz of the poultry biz, and you'll be pretty apt to say that you've got to be "in it" each living minute, in order to make it pay.

LAST fall we had an account of a silo that was filled at intervals during the fall with corn cut and cured as for husking. The plan was a success. All about it soon with a picture of the silo.

INFORMATION is desired from those who have fed corn ensilage to hogs. Is it a suitable food for them? How much should they eat? How is it best fed? What grain is best to feed with it?

IF John L. Sullivan had a big battle in hand about April 10, he would now be in training for it. You will be called upon to tackle the spring work by that time. Are *you* in training? Why not?

THIS is the way a West Virginia friend says that he makes use of railroad iron: "I hitch it behind the disc harrow to mash the clods and smooth and level the ground. It will do an almost perfect job, if the ground is in condition to work."

IN regard to the discussion as to the determination of sex at will—or, rather, what produces sex differences, we would like to bring up illustrations of men with feminine minds or women with masculine minds. How are we to account for such two-sided beings?

BUSINESS BITS.

A VERY convenient dry powder distributer or bellows is made by Chas. H. Childs & Co., Utica, N. Y.

WESTERN farmers will find almost anything they need in the farm implement line, in the 1896 catalogue of M. Rumeley Company, La Porte, Ind., and all their goods will be found first-class.

THE Carter Wire Fence Machine Company, Box 30, Mt. Sterling, O., make a lump price for their fence machine and materials for 300 rods of fence. It brings the price down very low, and the fence seems to give very good satisfaction.

THE Diamond balance churn has a great advantage in having a center board to break the fall of the cream in its passage from one end to the other as the churn revolves. It turns easily, and the butter is more easily removed than from the barrel churn. It is made by the Diamond Balance Churn Company, Ballston Spa, N. Y.

YOU will notice how many western farmers are asking questions about fertilizers. They are studying out analyses, and figuring out cost and values. In order to do that to advantage, they must know where to buy near home, and study the offers made by different manufacturers. In doing this, don't forget to correspond with the Royal Fertilizer Co., 40 Wick Block, Cleveland, O. No one can object to royalty when it means quality in a fertilizer.

ANY one who has been driving in the dark knows the need of a wagon lamp. But the great trouble has been that the lamp goes out just when most needed, and puts the driver in a more uncomfortable position than though he had no lamp. This difficulty has, however, been avoided in the Dietz lamp, which is so constructed that it cannot go out, even on the roughest roads. It is constructed on scientific principles, and is provided with a spring by which it is instantly attached to the dashboard. If you had one of these lamps out just one dark night, you would never be without it again. Those who use them say so. R. E. Dietz Co., 60 Laight Street, New York, will send full description of it on request.

Miscellaneous Advertising.

RARE OPPORTUNITY—Wanted, a young practical farmer, not over 35, married, to occupy first-class farm on Hudson River, Dutchess County, 300 acres, good buildings; preferably on shares. Adress, W. C. ANDREWS, No. 2 Cortlandt Street, New York City.

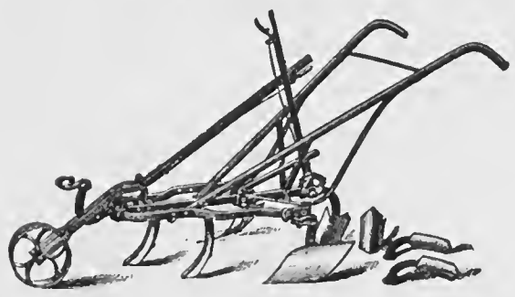
BUY "DIRECT FROM FACTORY," BEST
MIXED PAINTS
At **WHOLESALE PRICES,** Delivered **FREE** For Houses, Barns, Roofs, all colors, and **SAVE** Dealers profits. In use 54 years. Endorsed by Grange & Farmers' Alliance. Low prices will surprise you. Write for Samples. O. W. INGERSOLL, No. 246 Plymouth St., Brooklyn, N. Y.

THE GREAT AMERICAN TEA COMPANY
LADIES!!!
Do you like a cup of **Good Tea?** If so, send this "Ad" and 15c. in stamps, and we will mail you a ¼-pound sample Best Tea Imported. Any kind you may select. **Good Incomes.** Big premiums, etc. Teas, Coffees, Baking Powder, and Spices. Send for terms. R. N.-Y.
THE GREAT AMERICAN TEA CO.,
P. O. Box 289. 31 and 33 Vesey St., New York.

Farquhar Keystone Corn Planter
Warranted the best Corn Dropper and most perfect Force-feed Fertilizer Distributor in the world. **Send for Catalogue.**
ADDRESS,
A. B. FARQUHAR CO.
YORK, PA.
SEND FOR LARGE ILLUSTRATED CATALOGUE.

THE DAVENPORT
POTATO Cutter and PLANTER.

It marks, furrows, cuts, drops and covers all in one operation.
No more cutting seed by hand.
It cuts the potato the same as if done by hand.
It leaves the field with its work done complete.
The only perfect potato planter made.
Send for free catalogue to
PLANO IMPLEMENT CO., 56 Plain Street, Plano, Ill.

The **"IRON AGE"**
CULTIVATORS.

are made with many attachments:—adapted to use in all crops. For a reliable and trustworthy cultivator *be sure* it has the trade mark "IRON AGE."
Have you seen our 14-tooth cultivator? Send for catalogue No. 3. Address
BATEMAN MFG. CO.,
Grenloch, N. J.

ASPINWALL
POTATO-PLANTER

NEW IMPROVEMENTS, PRICES.
COMPLETE LINE OF
POTATO MACHINERY,
CUTTERS, SPRAYERS, SORTERS, ETC.
SEND FOR ILLUSTRATED CATALOGUE.
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62 SABIN ST., JACKSON, MICH.

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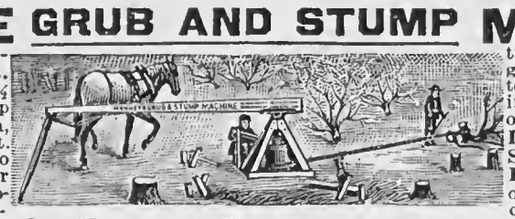
Works on either standing Timber or Stumps. Pulls an ordinary Grub in 1½ minutes. Makes clean sweep of 2 acres at a sitting. A man, boy and horse can operate it. No heavy chains or rods to handle. You can not longer afford to pay taxes on unproductive timber land. Illustrated catalogue FREE, giving prices, terms and testimonials. Also full information concerning our **I. X. L. Grubber, Iron Giant Grub & Stump Machine, 2 Horse Hawkeye** and other appliances for clearing timber land.
Milne Mfg. Co., 250 8th St., Monmouth, Ill. Address Milne Bros. for Shetland Pony Catalogue.

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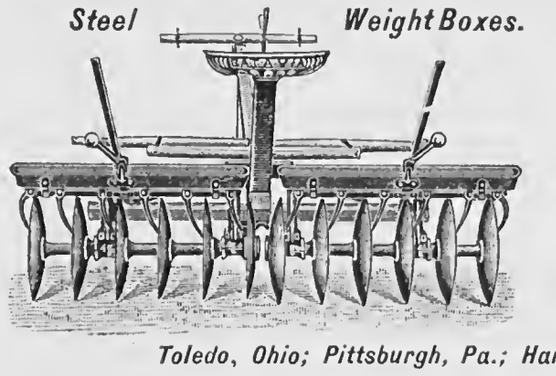
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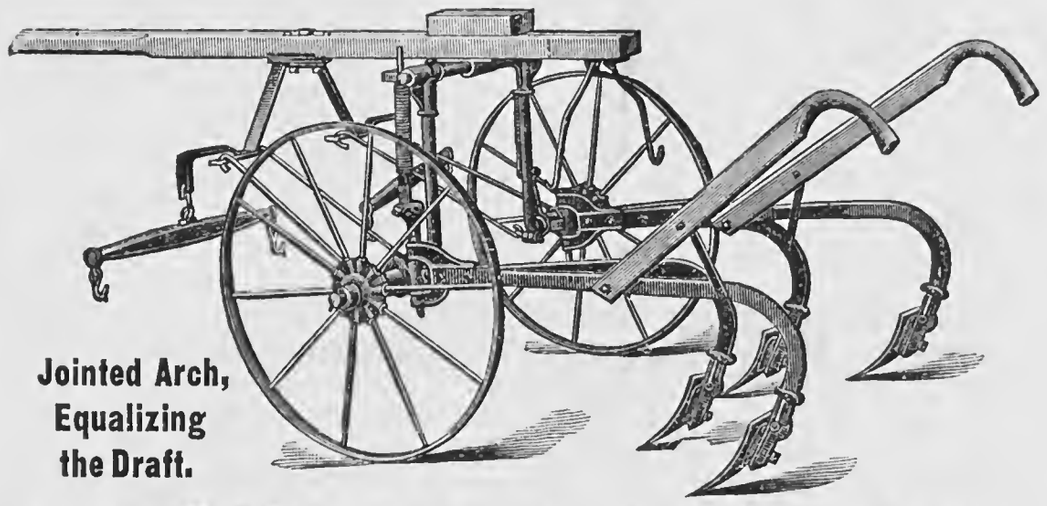
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BUCKEYE Adjustable Arch WALKING CULTIVATOR
Arch adjustable to different width rows. A good thing, sure to win. Send for Catalogue to
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"OSBORNE"
40 YEARS
OF UNQUALIFIED SUCCESS
Should entitle us to some precedent. We make and guarantee the following excellent line of
OSBORNE FARM MACHINERY
COLUMBIA BINDER,
COLUMBIA REAPER,
No. 8 REAPER,
BIG 4 MOWER,
No. 4 MOWER,
No. 3 MOWER,
COLUMBIA CORN HARVESTER,
ALL STEEL CENTER DRIVE
SELF DUMP HAY RAKE, [TEDDER,
HAND DUMP HAY RAKE,
RIVAL DISC HARROW,
FLEXIBLE DISC HARROW,
SPRING TOOTH HARROW,
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COMBINATION HARROW,
COLUMBIA CULTIVATOR.
To insure the prompt delivery of machines and extras we have branch houses in Philadelphia, Chicago, St. Louis San Francisco, and distributing houses all over the United States Write for Catalogue No. 27. It tells why Osborne Implements are the best. It is free.
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STEEL LAND ROLLER

THE BEST, CHEAPEST AND MOST DURABLE.
We also manufacture Grain Threshers and Separators, Sweep Powers, 1, 2 & 3-horse Tread Powers, Hand and Power Corn Shellers, Chilled Plows, Hand and Power Feed Cutters, Grinding Mills, 1-horse Cultivators
Price and Catalogue free.
Empire Mowers, Hay Rakes, Wood Saws, &c.
S. S. MESSINGER & SON, Tatamy, Pa.

'Bicycle' Potato Cultivator.
Easy. Fast Fine. No more of horse snatching, cart steering, and trampling down crops. No more holding plows with arms and legs a day. Half the labor. Any boy can 'hoe' potatoes, corn, cotton, truck, fast as team can walk. T. B. Terry says '*Perfect.*' Dr. Colyer's report is "*Nearest Ideal Cultivation.*"
Order Early. R. H. Agl. Works, RiverHead, N. Y
New Potato Cutters, Harrows, Diggers, Fertilizer Drills, Sprayers, etc.

THE "EUREKA"
SELF-LOCKING
Hand Potato Planter
THREE ACRES PER DAY.

Does Better Work and plants Three Times Faster than the Hoe. Pays for itself the first day. A perfect Corn Planter as well. Ask your dealer for it.
Greenville Planter Co.,
(Successor to Eureka Planter Co.),
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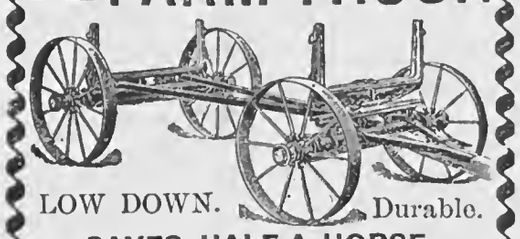
ALL STEEL FARM TRUCK

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SAVES HALF A HORSE.
25 per cent. stronger than wood. 25 per cent. less draft than the common wagon, and many other superior points—all are described in our descriptive circulars. We are very anxious to have you know all about it. Write today; mention this paper.
BETTENDORF AXLE CO.
DAVENPORT IA.

Class in History—
Stand Up!
QUESTION—Who invented the first successful Reaper?
ANSWER—Cyrus Hall McCormick, in the year 1831.
Q.—Who builds the best grain and grass-cutting machinery at the present time?
A.—The McCormick Harvesting Machine Co.
Q.—Were their machines operated in the World's Fair field tests?
A.—They were.
Q.—Were the machines of their competitors so operated?
A.—They were not.
Q.—Why?
A.—Because they were afraid of the McCormick.
Q.—What proportion of the world's annual supply of harvesting machines is made by McCormick?
A.—About one-third.
Q.—Why did the farmers of the world buy 60,000 McCormick Mowers in 1895?
A.—Because the McCormick No. 4 Steel Mower is the best grass cutter ever built—that's why.
The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower, and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the
McCormick Harvesting Machine Co.,
Chicago.
Agents Everywhere.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

In living up to the privileges of our times, who can outdo the small boy who objected to learning to write because he could do it so much better and easier on the typewriter?

*

The American Kitchen Magazine proposes a new employment for women; that grocers should have women graduates of cooking schools for their order clerks. It is suggested that a woman in such a position could make herself equally valuable to the customers and her employer. This would seem to be woman's work rather than man's, for her natural intelligence, without special training, qualifies her for handling foods.

*

A recent experience with earache reminds us of the unconcern with which this ailment is regarded when a child is subject to it. Many persons, after giving the simple home remedies, none of which is often of any avail, think their duty done and the child suffers, perhaps, one attack after another the winter through. A little thought on the matter should convince one that the ear is one of the most delicate organs of the human body, and of such conformation that proper care and treatment cannot be given by any but a physician. Neglect to call medical aid in such cases is gross carelessness in parents for which the child will have to pay in suffering and, probably, in after life, with impaired hearing.

THE HIRED MAN IN THE HOME.

"I MET my niece in the post-office, and she said that if I would call for her to-morrow, she could come out to the farm for a day or two," said Mr. Fifield, depositing fresh newspapers, butter boxes and driving gloves on the kitchen table, and going out again to look after his horse.

"Oh! Emma Fifield! We shall like to see Emma," said his wife, turning over the papers in search of letters from her absent children. Mr. Fifield nodded as he closed the door.

"You will hear all about Emma's engagement and plans now," said Mrs. Fifield, disappointed in her search, and addressing Lottie, who was beating up a johnny cake in the pantry, and within hearing of what passed in the kitchen.

"I am so glad if she has decided to take Jack Eliot," returned Lottie. "I always liked Jack. But I was afraid Emma's liking to have everything so dainty, and in such good style, might make her feel as though she couldn't marry a farmer. I wonder how she feels about hired men and smelly rubber boots that have to be dried somewhere, and the stable smells, and rough clothes or shirt sleeves that will appear in the diningroom now and then! Probably her only thought now is what a fine fellow Jack is; but she will have to face the rest some day."

"Emma is not the girl to do anything without forethought," was Mrs. Fifield's reply. "I imagine that she looks the matter squarely in the face, and knows what she is choosing." This premise proved well founded, when, the next evening, Emma Fifield and her aunt and cousins Lottie and Fannie, sat up long after the rest of the family had retired, talking of Jack Eliot and the home that was soon to be. For, though Jack's courting had been long, circumstances had decided the young couple that the engagement should be a short one, and already Emma knew what furniture she would buy with the results of her saving, and promises of future plenishings as wedding gifts made the future home still more definite to the imagination.

It was Fannie who suddenly gave a fresh turn to the conversation by exclaiming, "But think, Emma, how you will hate having a brace or two of hired men coming into your artistic dining-room, sitting in your high-backed, oak chairs, and eating from your Haviland plates!"

"Oh, I expect the rug will wear out some time, but the waxed floor will not, neither will hired men hurt the chairs or plates. And think what refining influences it may have on the sons of toil!" laughed Emma, adding with eager insistence, "We can't do much for the relief of the Armenians, or give very liberally to foreign missions, or join in college settlement work; but why are the heathen and the downtrodden on the other side of the world or in the slums more deserving of the helping hand than are the foreigners and aliens at our own doors?"

"I am afraid that I would be planning to have the work folks eat in the kitchen, or else that Jack would hire men who could board themselves," laughed Lottie.

"I have thought of both ways," was the prompt response. "But we shall not have the extra house for the man with a family, neither could we just now afford him. His needs are greater, and he cannot be let go during the winter months. I hope that, some day, we can build two or three farm cottages, and employ men with families. But it must be work and save now while we are young and have health and hope to keep us light-hearted. When father was alive, and we lived on the farm, we found that having the hired people sit at a separate table was less economical. Father used to say that the further you separate the lives and interests of the workman and his employer, the poorer the service obtained unless you can pay enough to command a superior grade of labor."

"And you want to put yourself on a level with your hired men in order to get more work out of them! I have seen people do it, but for you and Jack, Emma Fifield!" and Fannie stopped short with curling lip.

Emma was too happy to be other than amused. "We trust that our hired men will conform to our standards, not we to theirs," she explained hopefully. "And haven't I seen it proved that an example of dignity and courtesy seldom fails to breed the same in others? Jack says that he would not have a man about his house and stables who was not fit to break bread with. Jack's younger brother will be with us some, and we could not have him associated in his work with men really low and unclean. Why, Fanny," and the girl turned a bright face on her cousin, "how has it always been in your home here? Uncle Horace has kept a hired man ever since I can remember, and always he has been as quiet and inoffensive as a mouse in the kitchen and diningroom. Don't you remember how Tom's anxiety to be well-mannered and gentlemanly used to amuse us? And Gustav and later, Niccolo would even touch their caps to me, and just run to do anything you asked of them. If ever our hired people forget their manners and monopolize the conversation, or reach across the table, or behave objectionably, I shall think of Aunt Janet and Uncle Horace, and know that Jack and I are somehow to blame."

"Yes, Niccolo is respectful enough and all that; but I can't always think him a choice table companion, especially just before the spring plowing," returned Fannie, wrinkling her pretty nose to suggest memories of odors not poetically attributed to Araby.

Mrs. Fifield frowned, but her protest was cut short by Emma's ready retort:

"You are likely to encounter worse annoyances than any farm odors the next time you enter a crowded horsecar, and are wedged in with stale tobacco, whisky and the rankness of the unwashed at your elbows. A barnyard is purity, almost, compared with a crowded, unventilated car or theater." Fannie laughed with the rest.

"I once boarded with a young couple," Emma presently began in a retrospective vein, "who made a mistake. They were very young to be householders, and were modest and afraid of 'putting on airs' ('airs' are considered a personal affront up where they live.) They always spoke of each other as 'Ted' and 'Millie.' The result was that the chore boy used to come to the door and shout, 'Come, Millie, we're ready for them lunch boxes.' And I have heard the hired girl say to the master of the house, 'Just fill up that wood basket for me, will you, Ted.' I want to share enough with our hired people to give them as helpful and pleasant a home as I can. They must have an extra fire or the use of the kitchen on winter evenings, and plenty to read (I remember how Tom used to enjoy the farm papers and Youth's Companion). But I hope to keep the sitting-room to ourselves and callers. I mean to avoid talking of personal or family affairs at table, and to keep our real home life free from intrusion."

"Some day you will have company from the city," said Lottie, gazing into space, and assuming an oracular air, "your elegant friend who married the bank cashier, will drive out for the day, or that young uncle who enjoys the munificent salary, will take a notion to visit you——"

"I will show them a life as pleasant as their own," interrupted the girl merrily. "It will not be at all like theirs, but if they have any sense of the beauty of naturalness and simplicity, if freedom and freshness and variety have any charm for them, they will have a chance to get wonderfully rested from the burdens and artificialities of their own ways. I think that they will like it. If they did not value anything but elegance, I would not have them for friends."

"Now you express my ideas exactly," said Mrs. Fifield, approvingly. "I tell the girls that farm life and city life are two different things, and that I will not have city airs in my house, but," and her rueful tones soon set the girls off in a peal of merriment, "I am inveigled into one thing after another, till I expect any day to find myself eating olives without making a face, and rinsing my fingers after dinner in a pint bowl set on a napkin."

"I suppose that you will dine your city friends at the table with the field hands in order that the latter may catch the refined manners of town folks!" persisted Fannie, after the laugh was ended, and she had hugged her mother and told her (to Mrs. Fifield's chagrin, real or feigned), that she was as pretty and ladylike as a queen, especially when Theron Huntoon came to dinner and they had out the best china.

"I may set two tables on those days," Emma admitted. "It is so pleasant to visit over a leisurely dinner and not have to hurry the pudding because the men are waiting for it. Jack wouldn't mind, now and then, if his men lounged and smoked an hour while waiting for him."

Then Mrs. Fifield glanced at the clock and said, "Come, come girls! Do you know what time it is?" and the confab ended—or was transformed to a whispered session held among the pillows in Lottie's pretty chamber under the old, sloping roof.

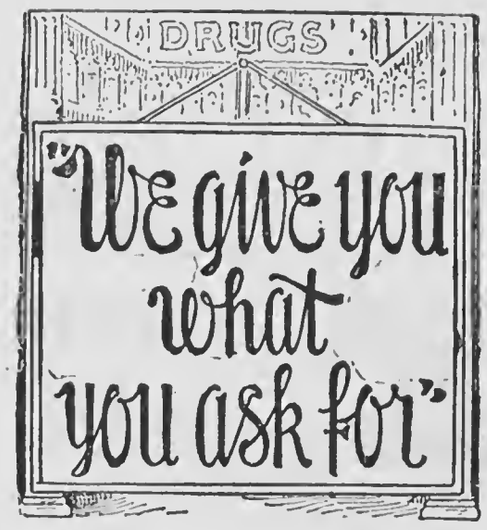
PRUDENCE T. PRIMROSE.

WOMAN'S AMBITIONS.

I WOULD like to sit down by each woman and girl who reads The R. N.-Y. and ask, "What would you wish to be?" and "What do you wish to do?" I suppose that there would be teachers of music and drawing and painting; there would be typewriters and nurses and housekeepers. Some would like to engage in business; some would prefer travel; many would sigh for a life of pleasure, and many for study. Would any say, like the Chinese woman, "I hope to be a mother of sons"?

While we congratulate ourselves in living in these days when the sphere of woman's work is so much enlarged, there is danger of forgetting that the great need of the world is good mothers. In our Christian land, sons are no more welcome than daughters; but where shall we place the blame, if the advent of a child to the home is looked upon as curtailing a woman's usefulness, not less than her pleasures? Perhaps we might profitably study some of the old-time pictures of the "Ages of Man," or from "Shore to Shore," until we get a realizing sense that life is a progression, and holds possibilities of happiness and success all the way.

In an old rhetoric, these words are given as an example of sublimity, "I love God and little children." It seems



A smart Broadway, New York, druggist has this sign hanging outside his store; it marks the new era of drug selling. Is it any wonder that he has to enlarge his quarters, that his clerks are busy, and that his store is one of the most popular along the leading thoroughfare?

You can afford to trade with a druggist who gives you SCOTT'S EMULSION when you ask for it.

Do you plant Flower Seeds?
Do you Grow Flowers?

FRESH
Flower Seeds

The Best in America

and we've got to make it known in some way—a good many people know it well already—but now for 1896, to get our "GARDENING ILLUSTRATED" into the hands of every single Flower Buyer—

We're Going to Give Away
Six Best Novelties

1 Pkt. Giant Japan Morning-glory
1 Pkt. New Red Pansy
1 Pkt. New Yellow Aster
1 Pkt. Double Sweet Peas
1 Pkt. Yellow Sweet Peas
1 Pkt. Verbena—fiery scarlet

These six and the 120-page Book for cost of book.... 14c.

We're in CHICAGO and NEW YORK—can't miss us. Send to-day seven 2-cent stamps and ask for the "FLOWER GIRL COLLECTION" and the book. Mention The R. N.-Y.

NEW SWEET PEA "AMERICA"..15 cts. New White, with wide carmine blotch ...Splendid for Bouquets...

NEW YORK: 26 Barclay-st **Vaughan's Seed Store** CHICAGO: 84-86 Randolph-st

like a paradox to say that girls should be taught to love the little ones, when it is but obeying the instinct of womanhood. But there is a real danger that, in our bounding joy to find life so full and free, and so many avenues open to us, we seek to evade the responsibilities that appertain to our privileges. I said to a woman whose voice had promised fame and fortune, "Perhaps your girls may be what you hoped to become."

"I want to be something myself," was the reply. Tell me whether the mother of four bright, interesting daughters could win any higher meed. Will not her influence go on and on through all the ages? PATIENCE STRONG.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

Ladies' Dressing Sacque.

The dainty jacket here pictured is made of pink and pale green figured soft silk, with a broad yoke collar of batiste and insertion, edged with a deep frill of lace. A standing collar finishes the neck, which is decorated in front

6579—LADIES' DRESSING SACQUE.

with a bow of narrow ribbon. Pattern No. 6579 is cut in six sizes—for 32, 34, 36, 38, 40 and 42 inches bust measure.

ODDS AND ENDS.

THE LADDER OF SUCCESS.—One cannot achieve the top round first! Success in life is like climbing a ladder, with a clear head and steady hand, and a will to hold on, one may go, slowly perhaps, but surely from the foot to the top without serious jostling. But the careless person who "lets go" at every sound, or looks down when he ought to look up, is likely to find that he has missed his footing and fallen down outside or through the spaces, and is very lucky if he can catch hold again and save himself without striking with full force on the ground. So with those whose ambition is greater than their judgment, and who try to skip one or two steps in the upward struggle, and therefore, come to the ground, with more force than satisfaction. What a pity to see brilliant talents or glimpses of talent suffering because of an unfortunate facility for letting go, for lack of ability to hold on, even though the culture may be slow, the work hard and the pay small. KEZIAH SHELTON.

THE CARE OF CLOTHES.—It is not wear that makes your best gown look shabby in a couple of months, says the Home Queen. It is lack of care when it is off your back. If you fold it up or hang it, ten to one you do it badly. Hang all your dress waists and skirts, but suspend them on "coat hangers," not on hooks or nails. The way shopkeepers care for ready-made garments is an excellent object lesson. If you can't get the ready-made article, manufacture it. Half a barrel hoop, with a loop of string in the middle, makes a satisfactory substitute. Hanging serves only for heavy fabrics, not when they are of thin goods. In that case, garments are likely to become stringy. Light materials must be folded, sleeves and bows stuffed out with tissue paper, and all given plenty of room. Skirts should be brushed when taken off and then put away at once. It is tumbling about on chairs, waiting to be disposed of, that ruins quantities of clothes.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PEN POTPOURRI.

Fair woman ever was the height
To which rude man must soar—
His guiding-star, his beacon-light,
As has been said before.

Alas! his race is never through,
He stands but little chance;
How can poor man catch up, if you
Continue to advance? *Credit Lost.*

....EDNA LYALL: "In the average man there is still a dreadful amount of Eastern feeling with regard to women."

....LUTHER: "Who waits until circumstances completely favor his undertaking, will never accomplish anything."

....PHILLIPS BROOKS: "Patience and strength are what we need; an earnest use of what we have now; and all the time an earnest discontent until we come to what we ought to be."

....PRESIDENT OF LELAND STANFORD UNIVERSITY IN N. Y. LEDGER: "It seems to me that the annex system cannot be a permanent one. The annex student does not get the best of the institution, and the best is none too good for her. Sooner or later she will demand it, or go where the best can be found. The best students will cease to go to the annex. The institution must then admit women on equal terms, or not admit them at all. There is certainly no educational reason why women should prefer the annex of one institution if another institution equally good throws its doors wide open for her."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

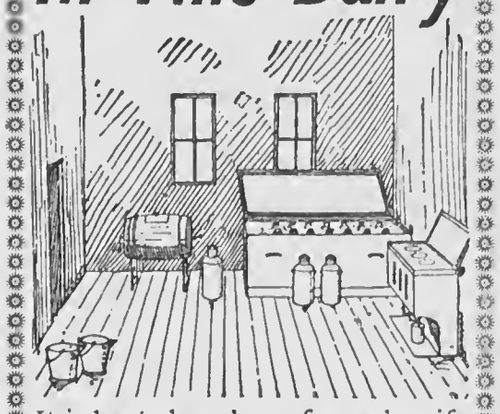
Will Ayer's Cherry Pectoral

cure your cough? Unless it's some unheard-of kind of a cough. Probably would cure, anyway. *It cures all coughs and colds.*

DO YOU INTEND TO BUILD
SEND YOUR NAME AND ADDRESS AND GET OUR BOOK
"SLATE ROOFS"
WHY THEY ARE THE BEST AND CHEAPEST.
MAILED FREE.
Bangor Excelsior Slate Co., Easton, Pa.

Beauty on a Wall
need cost no more than ugliness. The most beautiful
WALL PAPERS
at half what you'd expect they'd cost.
Samples and book on home decoration FREE. Describe rooms and state price you want to pay. Paper hanger's outfit complete, $1.00.
CHAS. M. N. KILLEN, 1233 Filbert St., Philadelphia, Pa.

No Dirt In This Dairy



It is kept clean by a farmer's wife who is up-to-date and knows a good thing when she gets it. Every milk pail, churn, can, etc. is *cleaned thoroughly, quickly* and *easily* with

GOLD DUST WASHING POWDER.

the greatest enemy to dirt. Every farm-house kitchen should have it. Saves the farmer's wife many an hour's hard work. Put up in large packages at 25c. each. At all grocery or general stores.

GOLD DUST WASHING POWDER has an additional value to the farmer for destroying insects. Send us your name and address and we will mail you an important booklet containing recipes for making kerosene emulsions, for spraying crops and trees and livestock.

THE N. K. FAIRBANK COMPANY,
CHICAGO, ST. LOUIS, NEW YORK, BOSTON, PHILADELPHIA.

BREAKFAST—SUPPER.
EPPS'S
GRATEFUL—COMFORTING
COCOA
BOILING WATER OR MILK.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

Daily Record of Farm Operations
The only book of the kind published. Sample page free. Address PATTON'S PUB. CO., Jewett, Ohio.

PRINTING. We make a specialty of printing for farmers, fruit growers and stock raisers. Letter-heads, Envelopes, Cards, Tags, Circulars, etc. New type, good work, reasonable prices.
POULTRY MONTHLY, Albany, N. Y.

MARYLAND FARMS FOR SALE. Map and catalogue free. GEO. F. NICKERSON, Easton, Md.

FOR SALE.—First-class farm, about 200 acres, within 3 miles of Poughkeepsie, cheap or on easy terms, or will trade for New York City property. Full information, John Dunphy, 29 Ferry St., New York, or Wilkinson & Cossum, Attorneys, Poughkeepsie, N. Y.

"DO IT YOURSELF!"

Pat. Oct. 8, '95.

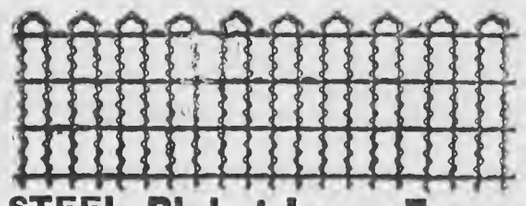
With Root's Home Rep'ng Outfits for half soling and rep'ng Boots, Shoes, Rubbers Harness, Tinware, etc. No. 1, 40 items, $3; No. 2, 32 items, $2. Send for FREE catalog describing these and "Root's Simplicity Process" for home rep'ng. Carpenters and Blacksmiths' tools, etc. Agents wanted. THE ROOT BROS. CO. Box F, Plymouth, O.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $44. Style, Finish.

"A" Grade, $60. Durability.

A BUSINESS PROPOSITION.
Send us $10, and we will send you on trial, to be returned (and your money refunded) if not satisfactory.
ONE BARREL ELITE BURNING OIL, containing 50 to 51 gallons; and ONE 60-GALLON GALVANIZED IRON TANK (as shown by illustrations). Free on board cars Titusville.
The oil is made with care for family use, from the best Pennsylvania Crude. The tank is made of heavy galvanized iron, with pump and cover, with attachment for lock. Write for further particulars, if desired.
DERRICK OIL CO., Titusville, Pa.

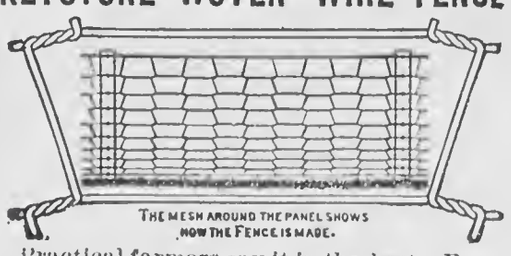


STEEL WEB Picket Lawn Fence
Steel Posts, Steel Rails and Steel Gates; Steel Tree, Flower and Tomato Guards; Cabled Field and Hog Fence, 24 to 58 in. high; Poultry, Garden and Rabbit Fence; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.

STANDARD WIRE FENCE.

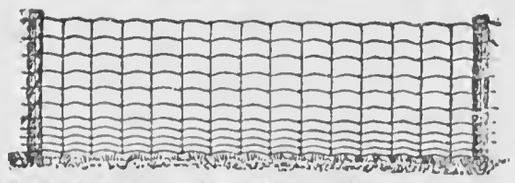
$5 to $8.50
For machines to weave your fence at 15 to 25 cents per rod; strongest indorsements; send for illustrated pamphlet giving valuable information on fence building. Unparalleled chance for agents to sell fences and machines. STANDARD WIRE FENCE CO., 6 Main Street, Canandaigua, N. Y.

KEYSTONE WOVEN WIRE FENCE



Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence. Write for catalogue.
KEYSTONE WOVEN WIRE FENCE CO.,
9 Rush St., PEORIA, ILL.

WOVEN WIRE FENCE
Over 50 Styles
The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from **14 to 22c. a Rod.**
Illustrated Catalogue Free.
KITSELMAN BROS.
Ridgeville, - Indiana.



TURKEYS BY THE ACRE
The February Hustler gives a view of a five acre Turkey Park, Fenced with Page, from which over two thousand fine birds were shipped last fall. Send for free copy.
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

CYCLONE FENCE
PATENTED 1885.
A SOLID WEB of perfect woven fence, from 2½ to 5 ft. high, consisting of cables united from top to bottom by large crimped cross-stays.
PATENTED 1894.
CYCLONE WOVEN WIRE FENCE COMPANY,
HOLLY, MICH.

FENCE MACHINES STRETCHERS, RATCHETS, ETC. FREE CATALOGUE
SUPERIOR MFG. CO. MARTINSVILLE, O.

WANTED—A young man to work in market garden and greenhouses; of good habits; steady, honest and energetic. Permanent position to right one. State wages wanted, with board and plain washing.
Address HARRY W. LEE, Box 167, Alexandria, Ind.

FRUIT PACKAGES of all kinds
Also Beekeepers' Supplies.
Now is the time to order and get the DISCOUNTS. Catalogue and price list free. Address
BERLIN FRUIT BOX CO.,
Berlin Heights, Erie Co., Ohio.

PLANT BOXES $2.25 PER 1000.
For HOT-BED USE
4-inch cube, 4½-inch cube, or 5-inch cube.
BERRY CRATES and GRAPE BASKETS.
Write for price list. Address
COLBY-HINKLEY CO., Benton Harbor, Mich

BERRY, PEACH and GRAPE CRATES.
All sizes. Crate stock and box shooks.
Peach covers in wood, burlap and cotton.
FRUIT BASKETS OF ALL KINDS.
Large stock always on hand. Special prices to dealers and carload buyers. Write for prices and catalogue.
A. H. MONTAGUE & SON,
Manufacturers and Agents.
120 Warren St., New York City.

As We Go To Press

"THE LITTLE COW."

The latest story is about a city man who rented a small farm for the summer. On it were a cow and her little calf. The farmer wanted the Cit to hire the cow, and he cracked her up with all his eloquence, claiming that she gave eight quarts a day, even after the calf had filled up.

"Oh no," said Mr. Cit. "That's too much for my family. We never could use that much milk—take that *little* cow now. She's about our family size—what will you rent her for?"

Now a calf *is* a little cow, but after Cit paid his rent, he found that her milk is a mighty imaginary quantity. When some of you good people look at this little snip of a department this week, you may feel about the same as Cit did the first time he tried to milk that calf. But no—we're *small*, but we're *select* this week. Few words but much wisdom. Here are two bits of advice that are worth their weight in gold:

1. Read every advertisement in this paper, and answer every one that offers what you think you ought to have. Send a letter off on a bargain hunt wherever you can scent game in an advertisement.

2. Remember those subscription prizes and the books! There's that neighbor of yours! Capture him! Why—see what this Pennsylvania man did:

"Two weeks ago, a neighbor was at my house when I gave him your paper to read. He seemed to take a liking to the paper, and said that he would subscribe for it. Then in the January 11 number, you are offering books for a new yearly subscription sent to you with $1. So I went to my neighbor the following week to get him for you as a subscriber, but he had sent the dollar on the previous Thursday." M. B. S.

Of course this man got the book.

Now then, the "little cow" is at the end of her rope—but we shall stretch it enough to print the following list of dollar-winners for last week. Here they are:

March 9.—W. S. Moore, Chenango Co., N. Y.
10.—H. H. Studley, Valley County, Neb.
11.—Chas. Caldwell, Mercer County, Pa.
12.—E. G. Kelts, Tioga County, Pa.
13.—Jos. Morris, Sanilac County, Mich.
14.—Edwin Scott, Lackawanna Co., Pa

CROP AND MARKET NOTES.

White clover honey is scarce and firm.

The Virginia peanut growers have reorganized.

Stocks of cheese are reported to be extremely light.

The market for dry beans is extremely dull and weak.

The butter market is in good shape for fancy brands.

Trade in hops is slow, and the market dull and unchanged.

Receipts of eggs have not been large, but the market is dull.

The fur trade has been extremely dull and quiet this winter.

A good live poultry market is probable until after the Passover.

Game is not in large supply, but in most lines fully equals the demand.

There has been considerable export demand for fresh factory butter.

Nevada is reported to be sending plenty of choice butter to California.

Plans are under way for an exposition of southern products in Chicago next fall.

New York city consumes, in round numbers, about 1,000,000 quarts of milk daily.

The freight rate on beans via the Southern Pacific Railroad, has been reduced.

Considerable damage has been caused in some parts of California by frosts early in this month.

The time for the order for the inspection of meat for export, to take effect, has been extended to June 1.

Florida cabbage has come in freely, and indications are for heavier receipts. Prices are somewhat lower.

The Lenten season causes a decline in the demand for meats, and an increase in that for fish and eggs.

There was a big drop in butter and cheese when four cars went into the river when being put on floats in the yards of the P. R. R.

More than 500 head of hothouse lambs were received last week, and prices had to be cut considerably in order to clean up the stock.

Two truckmen were recently arrested in this city for having on their trucks several packages of oleomargarine not marked according to law.

Some of the southern California papers announce that some of the growers of hard-shell walnuts are taking out their trees because of low prices.

Prof. Robertson, of Canada, says that the British markets prefer butter pale in color, lightly salted, packed in 56-pound packages lined with thick paper.

Receipts of live poultry last week footed up to 40 car-loads, an unusually large quantity for any other than a week containing a Jewish holiday. The market weakened considerably in consequence of the heavy receipts.

Denmark sends England more than 150,000,000 pounds of butter and pork in a year. But she sends good goods, and has agents to look out for her interests.

A company is reported in process of formation at Norfolk, Va., to build a mill for the extraction of oil from the peanut This will be likely to help the peanut industry.

The National Butter and Cheesemakers' Association, at its recent meeting at Cedar Rapids, Ia., passed a resolution demanding the passage of the Wilber bill against filled cheese.

The Board of Health have decided to allow commission merchants to sell small calves if they weigh over 45 pounds dressed, although previous regulations called for a weight of not less than 60 pounds.

Why don't farmers raise more turkeys? The supply is far below the demand. Late hatched ones that will be of medium size in midwinter, would seem likely, from the range of prices in the past, to prove most profitable.

The Attorney General of New York State has instituted suits against Armour & Co., of Chicago,

(*Continued on next page.*)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

10 TIMES OUT OF 10

The New York Journal recently offered ten bicycles to the ten winners in a guessing contest, leaving the choice of machine to each.

ALL OF THEM CHOSE

Columbia Bicycles

Standard of the World.

Nine immediately, and one after he had looked at others. And the Journal bought ten Columbias. Paid $100 each for them, too. On even terms a Columbia is chosen

10 TIMES OUT OF 10

POPE MFG. CO., Hartford, Conn.

The Price of Wheat

has advanced 20 cents per bushel. Now get a big yield by applying, this spring,

NITRATE OF SODA,

75 to 100 pounds per acre. The increase in STRAW ALONE will pay for the Nitrate.

The Nitrate can be obtained of any dealer in fertilizers. A PAMPHLET, telling how to save $10 per ton on fertilizers, FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

FARMER'S SAW MILL. 4 H. P. and larger. Corn and Feed Mills Hay Presses & Water Wheels
DELOACH MILL MFG. CO., Box 367, Atlanta, Ga

DO YOU SAW WOOD

DON'T follow the old Backaching and Backbreaking Methods of your ancestors, but use modern "up-to-date" machines. Use Smalley "Battle Creek" Wood Saws and do DOUBLE THE WORK WITH HALF THE HELP. Our "Electric" Circular Saw Machine is positively the best general purpose Farm Saw Ever Made, perfect as a pole saw and unequaled as a Cord Wood Machine. Smalley and Battle Creek hand or Self-feed Drag Saws are unequaled for both quality and quantity of work. Smalley Cutters for Ensilage and Dry Fodder Cutting—Feed Mills, Corn Shellers, Root Cutters—Sweep and Tread Horse Powers.

Price Lists and Latest Silo Book Free to any address.

SMALLEY MFG. CO., Manitowoc, Wis.

THE FARQUHAR

PATENT VARIABLE FRICTION FEED.

Medal and Highest Award at the World's Columbian Exposition.

SAW MILL & ENGINE

BEST SET WORKS IN THE WORLD. Warranted the best made. Shingle Mills, Machinery, and Standard Agricultural Implements of Best Quality at lowest prices. Illustrated Catalogue.

FARQUHAR SEPARATOR

LARGEST CAPACITY.

Most economical, lightest draught, wastes no grain. Cleans ready for market. Send for catalogues.

A. B. FARQUHAR CO., Ltd., York, Pa.

STOCKBRIDGE

SPECIAL COMPLETE

MANURES

FOR DIFFERENT CROPS, ARE MADE

DOUBLE STRENGTH.

IN MANY OF THESE WELL-KNOWN FERTILIZERS, THE

POTASH HAS BEEN INCREASED

FOR 1896, IN ONE CASE OVER 40 PER CENT., BUT NO ADVANCE HAS BEEN MADE IN THE PRICE.

SEE LOCAL AGENTS, OR ADDRESS

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston, 27 Beaver St, New York

ESTABLISHED 1852.

THE FAMOUS QUINNIPIAC FERTILIZERS.

Scientifically made, in perfect drilling condition, and always give good results. 1896 book ready. Send for one.

THE QUINNIPIAC CO., 83 Fulton St., New York.

Fertilizers—Cheapest, best. Why? Address us. for answer. Room 505, 98 Water St., N. Y. City.

STAR PATTERN BILLINGS **Planter and Fertilizer**

Is the latest, and it drops at twelve different distances.

For CORN, BEANS, PEAS and BEET SEED.

If you want them, we furnish Marker and Trip Attachment for rowing both ways. Send for Circulars.

Made only by Ames Plow Co. Boston and New York.

BUY CARTERET **FERTILIZERS DIRECT**

HIGH-GRADE SCIENTIFIC PLANT FOOD.

Shipped to consumers, freight paid. Small lots, *for cash*, at lowest and wholesale prices. Closest figures to large buyers. Pamphlet free.

EASTERN FARM SUPPLY ASSOCIATION, Montclair, N. J.

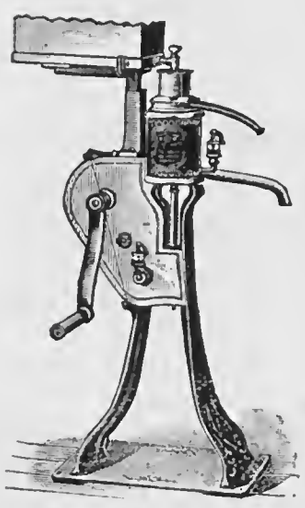
CANADA UNLEACHED HARDWOOD **ASHES.**

For prices address THOS. POTTS, Brantford, Ont

RHEUMATISM

Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The latest, surest an best. Sample sent free on mention of this Magazine. The Dr. Whitehall Megrimine Co., South Bend, Ind.

FACTS



like the following are what make our competitors writhe so in the agony of defeat:

I have no trouble in convincing others of the superior merits of the Improved United States Separator, as any one can ascertain by enquiring in this section, as I have sold to my neighbors **10 Improved U. S. Separators,** seven of these in my own town, where there have been in the last five months placed on trial, 5 DeLavals, 4 Sharples and 1 Empire, and **at the present time no one in town owns any other Separator than the Improved United States.** W. N. DUNKLEE.
South Vernon, Vt., Mar. 7, 1896.

I have placed nearly **20 Improved United States Separators** in 30 days, and have not had one complaint.
C. E. HULBERT.
Downsville, Del. Co., N. Y., Dec. 30, 1895.

Cornell University Bulletin No. 105, page 109, gives **19 tests** of the **Improved United States Separator,** running through February and March, the average of all being **only 0.05 of 1 Per Cent.** of fat, excelling all dairy Separators at the Station.

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Crop and Market Notes—Continued.

to recover penalties amounting to $570,000 for violation of the law in selling oleomargarine in this State during the past six or seven years. The law has been declared constitutional by the United States Supreme Court, hence the suits are now to be pushed.

There were exported from San Francisco, 411,059 pounds of butter, valued at $71,181 in 1895, and 444,059 pounds valued at $90,088 in 1894. Cheese in 1895, 271,101 pounds; in 1894, 221,237 pounds. The exports were to the following countries: British Columbia, Hawaiian Islands, Japan, China, Hongkong, French Oceanica, Mexico, Guatemala, Salvador, Costa Rica, Nicaragua, Honduras, etc. The largest shipments were to British Columbia, Hawaiian Islands, Japan and Mexico.

A Staten Island farmer has just been convicted and fined for selling oleomargarine. He supplied hotels and private families with "butter" from his own dairy. But one of the inspectors found some oleomargarine on the table of one of the best hotels, and traced it to this farmer. He had been buying oleomargarine in prints, and palming it off on his customers as genuine butter. He was heavily fined, and the judge who sentenced him, said that all that saved him from imprisonment, also, was his age.

The New York Legislature is again tinkering the game laws. Amendments have been introduced changing existing laws including the repeal of Section 249 which allowed the sale of all descriptions of game provided they were killed at least 300 miles from New York State boundaries; also provided that ruffed grouse or partridges, woodcock, gray, black and fox squirrels may be lawfully killed only between October 1 and December 10, and hare, quail, European partridges, pheasants and pinnated grouse from October 25 to December 10.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	22	@—
Western, firsts	19	@21
Western, seconds	16	@18
Western, thirds	13	@14
State dairy, half-firkin tubs, fancy	20	@—
Firsts	16	@18
Seconds	13	@15
Welsh tubs, fancy	19	@—
Welsh tubs, firsts	15	@17
Welsh tubs, seconds	13	@14
Tubs, thirds	11	@12
Western imitation creamery, firsts	14½	@16
Seconds	11½	@12½
Western dairy, firsts	12	@14
Seconds	11	@11½
Thirds	10	@10½
Factory, fancy	13	@—
Factory, firsts	11½	@12
Factory, seconds	10½	@11
Factory, thirds	9	@10
Rolls, choice	12	@13
Poor to good	9	@11

OLD BUTTER.

Creamery, State, fall make	13	@18
Western, summer make	12	@18
State, dairy, tubs, finest	15	@15½
Firsts	13	@14
Seconds	11	@12
State dairies, firkins and tubs, finest	15	@—
Firsts	13	@14
Seconds	11	@12
State dairy, firkins, finest	15	@—
Firsts	13	@14
Seconds	11	@12
Tubs or firkins, thirds	10	@—
Western factory	9	@11

EGGS.

New-laid, fancy (nearby)	12	@—
N. Y. State, country marks, fresh gath'd	11½	@11¾
Pennsylvania, country marks, new laid	11½	@11¾
State and Penn., fair to good	11	@11½
Western, fresh collections, fancy	11	@—
Western, fresh collections, fair to good	10½	@11
Southern, fresh collections	10½	@11
Western, refriger., short holdings, choice	8	@9
Duck eggs, Md., per doz	28	@—
Duck eggs, Southern, per doz	23	@24

FRUITS—GREEN

Apples, Northern, extra, fancy, per bbl	4 00	@5 00
Winesap, Va., per bbl	4 00	@4 50
York Imperial, Va., per bbl	3 00	@4 50
Other Va., red	2 50	@3 50
Baldwin, per bbl	3 00	@3 50
Greening, per bbl	2 75	@3 75
Ben Davis, per bbl	3 00	@3 75
Russet, Roxbury, per bbl	2 50	@2 75
Russet, Golden, per bbl	2 25	@2 50
Grapes, State, Catawba, per 5-lb basket	7	@ 15
Catawba, per case	1 25	@2 25
Strawberries, Fla., extra, fancy, per quart	40	@ 50
Poor to good, per quart	20	@ 35

MEATS—DRESSED.

Veals, country dressed, prime	9	@ 9½
Fair to good, per lb	8	@ 8½
Com. to med., per lb	6	@ 7½
Small, per lb	3	@ 5
Barnyards, per lb	4	@ 6
Spring lambs, each	2 00	@6 00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@ 12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@ 7
60 to 80 lbs, per lb	6	@ 6½
80 to 120 lbs., per lb	5½	@ 6
120 to 180 lbs., per lb	5	@ 5½
200 lbs and up, per lb	4¼	@ 5
Rough, per lb	3½	@ 4½

POTATOES.

Bermuda, No. 1, per bbl	4 50	@5 50
No. 2, per bbl	2 00	@3 00
Havana, per bbl	4 00	@5 00
Houlton Rose, per d. h. bbl	1 50	@1 75
Maine Rose, per d. h. bbl	1 50	@—
State Rose, per d. h. bbl	1 00	@1 25
Maine Hebron, per sack	90	@1 00
Long Island, in bulk, per bbl	65	@ 85
State Rose and Hebron, per 180 lbs	75	@1 00
Burbank, etc., per 180 lbs	60	@ 80
Jersey, in bulk, per 180 bbl	60	@ 75
State and Jersey, per sack	65	@ 75
Common, per sack	50	@ 60
Sweets, Vineland, fancy, per bbl	3 75	@4 75
South Jersey, per double-head bbl	3 00	@3 50
South Jersey, cloth top, per barrel	5 25	@3 75
Jersey common, per barrel	2 00	@2 27

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@ 20
Medium sizes, per lb	16	@ 17
Small and slips, per lb	13	@ 15
Western, large, per lb	16	@ 17
Western, small and slips, per lb	11	@ 13
Chickens, Phila., 3-4 lbs. per pair, per lb	25	@ 28
Phila., 4-5 lbs. per pair, per lb	18	@ 20½
Phila., fancy, per lb	15	@ 17
Phila,, fair to good, per lb	12	@ 14
Jersey, per lb	11	@ 13½
State and Penn., choice, per lb	11	@ 12
Western, choice, per lb	9½	@ 10
Western, fair to good, per lb	8	@ 8½
Chickens & fowls, mixed, West'n, choice	9½	@ 10
Fair to good, per lb	7½	@ 8½
Inferior, per lb	5	@ 6
Fowls, State and Penn, per lb	10	@ 10½
Western, choice, per lb	9½	@ 10
Western, fair to good	7½	@ 8½
Western, inferior	5	@ 6
Old cocks, per lb	6	@ 6½
Ducks, choice, per lb	16	@ 17
Fair to good, per lb	12	@ 15
Geese, Western, good to prime	8	@ 10
Western, poor to fair	6	@ 7
Squabs, tame, white, per doz	2 75	@3 00
Mixed lots, per doz	2 25	@2 50
Dark and poor, per doz	1 75	@2 00
Turkeys, dry-picked, choice young hens	14	@—
Mixed young hens and young toms	12½	@ 13½
Choice young toms	12	@ 13
Fair to good	11	@ 12
Old toms	11	@ 12

VEGETABLES.

Asparagus, Cal., per bunch	—	@—
Charleston, per doz bunches	6 00	@8 00
Charleston, shorts, per doz bunches	4 50	@5 00
Charleston, culls, per doz bunches	3 00	@3 50
Beets, New Orleans, per 100 bunches	3 00	@5 00
Florida, per crate	1 50	@1 75
Florida, per 100 bunches	3 00	@6 00
Brussels sprouts, per quart	5	@ 15
Cabbage, domestic, per 100	2 50	@5 00
Florida, per barrel-crate	2 25	@2 75
Foreign, per 100	6 00	@8 00
Carrots, washed, per bbl	85	@1 00
Unwashed, per bbl	75	@—
Cauliflower, Fla., per half bbl	—	@—
California, per case	2 00	@3 50
Celery, State & West'n, fancy, large, per doz	75	@1 00
State & West'n, average, prime, per doz	40	@ 65
State & West'n, small, per doz	15	@ 25
Jersey and L. I., per dozen flat bunches	1 00	@1 50
California, per doz	50	@1 25
New Orleans, per doz	25	@1 00
Cucumbers, hothouse, per doz	1 00	@2 00
Egg plant, Florida, per bbl	—	@—
Green peas, Fla., per crate	1 00	@4 00
Horseradish, per lb	3	@ 5
Kale, per bbl	1 25	@1 75
Lettuce, Florida, per half bbl basket	1 00	@4 00
New Orleans, per bbl	2 50	@5 00
Charleston, per bushel basket	75	@1 25
Bermuda, per crate	1 00	@1 50
Onions, Orange County, red, per bbl	60	@ 90
Orange County, yellow, per bbl	75	@1 25
Eastern, white, per bbl	1 00	@1 75
Eastern, red, per bbl	75	@1 00
Eastern, yellow, per bbl	1 00	@1 50
Bermuda, per crate	2 00	@2 25
Peppers, green, Fla., per crate	1 00	@1 50
Radishes, New Orleans, per 100 bunches	3 00	@6 00
Spinach, per bbl	1 50	@3 00
Squash, Marrow, per bbl	1 00	@1 50
Hubbard, per bbl	75	@1 00
Florida, per crate	—	@—
String beans, Florida, per crate	1 00	@3 00
Tomatoes, Fla., per carrier	2 50	@3 50
Per crate	1 50	@3 00
Key West, per carrier	1 50	@2 50
Key West, per peck box	25	@ 50
Turnips, Jersey, Russia, per bbl	75	@ 90
Canada Russia, per bbl	80	@ 90
Watercress, per 100 bunches	1 00	@2 00

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The total daily supply has been 21,478 cans of milk, 183 cans of condensed milk and 362 cans of cream. The average price paid for the surplus on the platforms has been $1.32 a can of 40 quarts.

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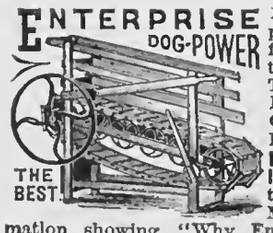

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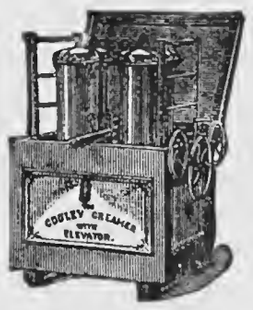

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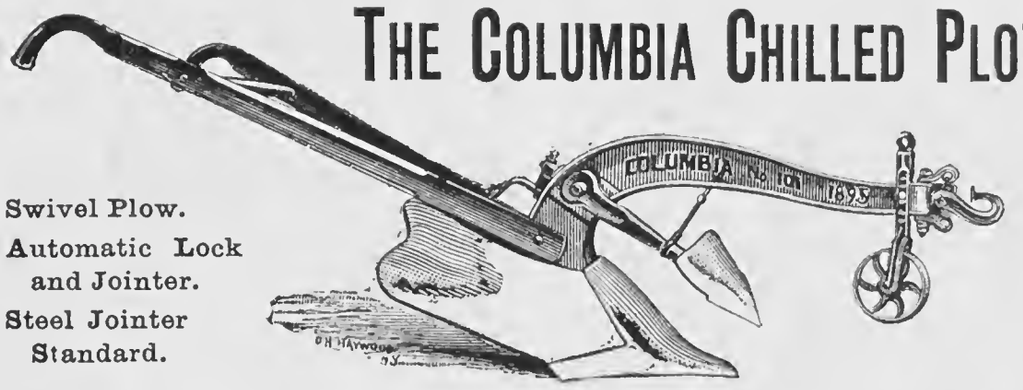

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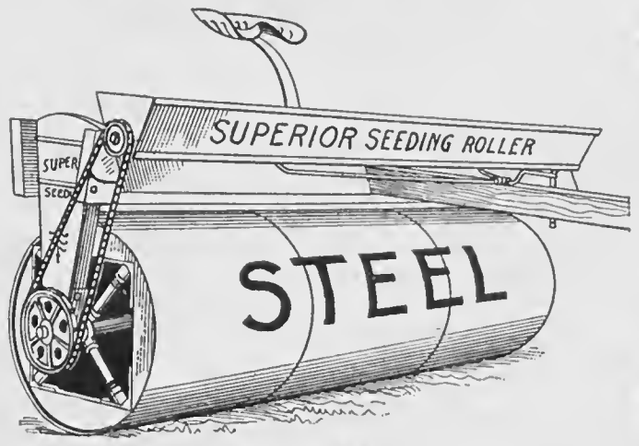

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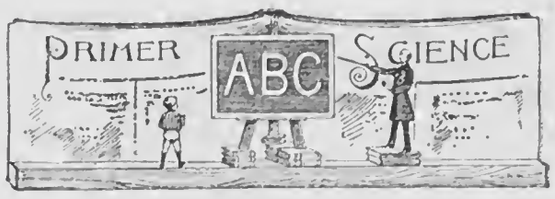

FEEDING A HEN.

PART XI.

Two weeks ago, Myra V. Norys fired a volley of questions at J. A. W., the "revolutionary" hen man. Men who start revolutions are not easily frightened, and it is not strange, therefore, that J. A. W. "comes back" at his critics in defense of his methods. We cannot do better than to give his reply in full this week:

"Is that Revolution a Success?"

The above question was answered in my first article, when I showed a profit of $348 on 200 hens for a year. If that amount of money for the labor expended, does not constitute success, then I am afraid that there are but few in the poultry business that attain it. That large bump of curiosity on the head of Myra V. Norys deserves attention, and although I do not expect to convince her that my method is better than hers, I can, at least, I think, satisfy her curiosity. After carefully reading her letter several times I find that I am asked to answer the following questions:

1. Why did I not feed oats instead of wheat?
2. Of what did sundries consist?
3. Did it cost me $1.50 a year to feed a hen?
4. What do I call the cold months?
5. Isn't October generally considered a cold month?
6. What became of the houses and fences used before the revolution?
7. Does "cared for at one-fourth the expense" refer to time, housing or feed?
8. Where did the saving of three-fourths the expense come in?
9. How much cheaper is the barn space than small houses would be?

1. I did not feed oats instead of wheat for several reasons. Previous experience had taught me that I could get more eggs by feeding wheat. Oats cost more per pound here much of the time, than wheat. Hens do not "like" oats and, besides, they are liable to cause trouble in the crop.

2. The sundries consisted of "Death to Lice," kerosene oil, shells and grit. The cost of sundries should not be deducted from the cost of keeping.

3. In copying the total receipts and expenditures from my book, the value of the hens ($100) was added to the expenditures, and also to the receipts. This makes no difference in the profit, but I should have said paid for *stock*, grain and sundries $332. In figuring the cost of keeping the laying hens, the cost of feeding the chickens should be deducted. There were 240, which were kept till they had consumed grain to the value of $60, when they were sold at an average price of 42½ cents each. Deducting the value of the hens and the cost of feeding the chickens, it will be seen that the actual cost of feeding the hens, outside of the grass, was $172, or 86 cents per hen. This year I am keeping a like number of hens, and feeding them daily 25 pounds of wheat, and 10 pounds of corn, which cost, at retail prices in this town, 42 cents, which is at the rate of a fraction over 76 cents per hen for a year. "Scientific" feeders will be obliged to do considerable figuring in order to produce 136 eggs for less than 86 cents, not to mention the much larger amount of work to prepare their rations. Why don't the mush-makers publish their total receipts and expenditures so that one can see what pay they are getting for all their extra work?

4. I consider November, December, January, February and March as the cold months.

5. No; October is not generally considered a cold month. It is one of the finest months of the year, and not one-half so much like winter as April is. There are two cold months and two warm months when eggs are low, and three cold months and five warm months when eggs are high, leaving a clear gain of two months of high prices in warm weather. Furthermore, the scientific feeder gets but few eggs in November and December. W. says that a hen has got to lay any time if properly run, unless she be moulting. The trouble is to get a man who can "run" a hen so that she will not be moulting in November and December. There are scores of bone cutters in this community, and tons of animal meal are fed to hens; yet I know of no one who gets more eggs from an equal number of hens, even in the dull months, than I do.

6. The houses and fencing were not thrown away. The houses, of which there were 17, were sold and moved away. The yard fences were taken down, and the material used to inclose the five-acre lot.

7. I mean one-fourth the expense of labor in feeding, watering and keeping quarters clean.

8. The saving of three-fourths the expense of time came in through the ease with which a large flock, fed on grain, could be attended. I formerly kept from 10 to 20 hens in a flock. It actually takes less time to feed 200 hens on dry grain, than it did to feed 20 on mush. Instead of having 17 watering places, I have one. Keep an account of the time required to boil vegetables, cut bones, scald meal, and make mush, and one will readily see where the saving of time comes in. One other objection to mush: No matter how much care be taken, hen mush on a kitchen stove is an intolerable nuisance. If a stove be set up in an out-building for the purpose, there is another expense of time and money.

9. Under the circumstances, the barn space was as much cheaper than the small houses, as what the small houses cost; for the barn was already on the premises, and one-half of it unoccupied. When the small houses were erected, I was laboring under the delusion that it was impossible to keep hens at a profit in large flocks. Myra V. Norys declares that she cannot figure the thing out any way to show that I have proved the point which I set out to prove. I don't see why. I undertook to show that I was getting more out of my hens in proportion to the labor expended, than those who were keeping their fowls in small flocks, and feeding them on meat and mush. I am certainly getting more now than I formerly did, and doing less than one-fourth as much work. Let those who are doing better say what they are doing, and how they are doing it. Science in farming is good, but I wish to emphasize the point that, while scientific feeding *ought* to bring success, practice is *a fact*—has already achieved it.

I have a neighbor who knows no more about the science of farming than does one of his cows. He may be able to read his own name, but he couldn't read a column in THE R. N.-Y. if it would save his life; yet he is one of the most successful farmers in the town. He keeps 30 cows and five horses, raises immense crops of hay and produce, and is continually improving his buildings and land.

During the late war, my father says that he kept a close watch on the movements of the various generals in order to discover evidence of "the coming man." All of them began by telling what great things they were *going to do*, but they never did anything. Finally General Grant took command, and he says that the first news he heard of him was something he *had done*. Now, my friends, what have you done? I have received $348 in cash for less than two weeks' labor among my hens. Until you can do better, you would do well to take lessons, rather than give them.

Amesbury, Mass. J. A. W.

R. N. Y.—J. A. W. spells jaw, but in this case the letters represent results rather than talk. In fact, J. A. W. has just about whittled one side of a pretty theory into kindling. A good dose of roup, though!——!

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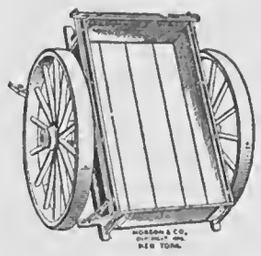

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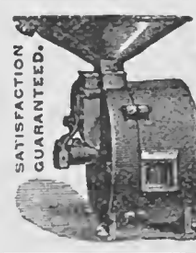

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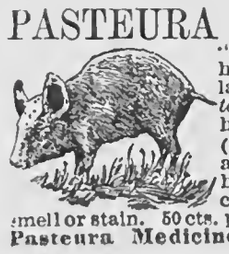

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A RAT CURE.—To keep our buildings elear of rats and miee, we get three male kittens whose dam is noted for her hunting. Feed from the table three times daily, and with milk twiee. When about half grown, we castrate them, and eontinue to feed liberally, and give them liberty to run wherever rats or miee congregate. Cats so treated, if like the Ohio eats, will be the admired ones on aecount of their size and habit of being at home ready for business. F. P.

Ohio.

To KILL LICE.—Tell that farmer that is troubled with lice on his stoek, to get one-half pound of quassia chips, steep two hours in four quarts of water, wash the stock thoroughly, and it will fix the liee the first time; it has for me. M. K.

Athens, Mieh.

I think that Persian Inseet Powder, sprinkled along the baeks of eattle from head to tail, onee a week, for three weeks, will clear the lice out with little trouble. It is quiekly and easily done. M. L. G.

If M. W. S. will use Pyrethrum or insect powder for cattle lice, he will find it a sure cure. I take a little of the powder in my hand and rub it into the hair of the animal on the neek, shoulders and other places where the liee are to be seen. It is equally effective on colts and chickens. I have never tried it on hogs. A second application of the powder is sometimes necessary to kill the nits not hatehed at the time of the first applieation. The advantage over an emulsion is the eonvenience in applying it, and it may be applied in the eoldest weather without danger or trouble. G. W. B.

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A CALF WITHOUT MILK.—We have a half-blood Holstein ealf about 10 weeks old. She was started on eight quarts of new milk, shading of into Blatchford's Calf Meal. The milk was soon taken away, and as the meal ran out, she was taught to drink hay tea and eat a dry mixture of bran, ground oats and eorn meal. At present, she has five ounees of oil meal in two feeds, scalded and thinned, followed by what warm water she will take; then nine ounees of bran in two feeds after the water. She eats hay freely, and has never had a siek day—hardly an off day. She grows fairly, is lively, but of eourse, no one need mistake her for a milk calf. Bones and belly are quite pronounced. Would it be judieious and profitable to give the little calf all the bran she will eat? Can the oil meal be inereased? Would you advise any eorn meal? E. L. S.

Massaehusetts.

ANS.—We never have used Blatchford's Calf Meal, henee eannot speak regarding it. E. L. S. seems to have had very good sueeess in raising the calf without milk. We have known of similar methods being adopted before, with reasonably good results, but not under our own eharge. The linseed meal is exeellent, but we think that a small amount of it, cooked and mixed with the elover tea—clover being better than Timothy—would be desirable. The amount to be used will depend upon the digestive organs of the ealf, the attendant being the judge in this respect. The bran ration, we think, could be inereased, as the ealf inereases in age and size. If this should be eontinued after the ealf gets on grass, we think that it would grow rapidly, and gain in flesh.

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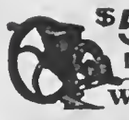
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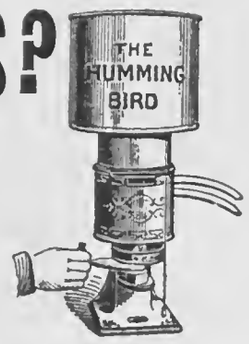

Notes from the Rural Grounds.

TORNADO-STRUCK POTATOES.

THE NEW KINDS TRIED LAST SEASON.

The leading new kinds of potatoes announced in the catalogues of last year, and those not yet introduced, sent to us by friends or dealers, were planted April 24. We began these trials as early as 1880. Then they were planted in the usual way. Later we adopted the Rural Trench system, and have followed it ever since. It is, probably, familiar to all of our readers. We have never before been obliged to report so nearly a failure of these trials of new kinds.

The stand was nearly perfect — the vines thrifty when the tornado of July 13 occurred. It lasted, in its destructive severity, less than two minutes—some are positive that the destruction was effected in less than one minute. The stems and leaves were bruised, broken, twisted, torn and shattered, by the gale and by the great hailstones that fell during and somewhat after the tornado had passed. Scarcely a stake of the 67 kinds planted was left in its place. It was just the same with our trial tomatoes, beans, peas, corn, melons, etc.—seemingly an absolute wreck. By a fair estimate, it might be said that one-eighth of the area under experiment was covered with shingles, laths, twigs, branches, portions of the trunks of trees, tin cans, parts of farm implements, chairs and other furniture, books, and so on, that had been hurled through the air from farms and buildings, not one of them less than 1,000 feet distant.

It will be seen, then, that our report of trials of new kinds of potatoes, will not command the usual interest that our friends have taken in them, except as they may be interesting as showing, in some degree, the survival of the fittest.

The débris was removed in a few days, the vines untangled in so far as it was possible so to do, and the plot was thereafter cultivated by hand. And now, readers, we beg to offer our report to those of you who care to read it, of the yield of the tornado-struck potatoes:

PEDIGREE EARLY ROSE.—From W. S. Teator, Upper Red Hook, N. Y. Three pieces. Slender vines, falling early. Destroyed.

SOMERSET.—From Geo. W. P. Jerrard, Caribou, Me. Purple streak in cambium layer of seed planted. Vines of medium vigor, spreading. Six pieces yielded 16 large, 20 small, weighing four pounds. Pinkish skin, roundish-flattened form. Eyes medium. At the rate of 161⅓ bushels per acre.

EARLY MICHIGAN.—From M. Bovee, Northville, Mich. Vines of medium vigor. Three pieces yielded 8 large and 12 small tubers weighing two pounds—or 161 bushels to the acre.

GOOD NEWS.—From H. G. Faust & Co., 100 Arch Street, Philadelphia, Pa. Vines spreading and vigorous—that is, before the tornado, of course. Six pieces yielded 22 large, 25 small tubers, weighing seven pounds—or 282⅓ bushels per acre. Skin buff, a little pinkish; shape rather long, cylindrical, often smaller in the middle. Eyes medium as to number and prominence.

BOVEE SEEDLING.—From M. Bovee as above. Three pieces yielded 20 large, 13 small, weighing 3½ pounds—or 282 bushels to the acre. Vines spreading and of medium vigor. Buff skin, variable shape, eyes medium.

EARLY KANSAS.—From C. J. Norton, Morantown, Kan. Three pieces yielded 4½ pounds—23 large, 9 small. Skin buff with purplish eyes often deep; the flower is purple, the vines of medium vigor. Yield at the rate of 363 bushels to the acre.

OSHKOSH.—From J. A. Foot, Terre Haute, Ind. Two pieces yielded 1½ pounds—five large, one small. Skin of a pinkish buff color; shape oblong-flattened. Vines of medium vigor only. Yield at the rate of 181½ bushels per acre.

NO NAME.—From John Wooldredge, Lunenburg, Mass.—Three pieces yielded 2½ pounds—12 large, 1 small. Buff-white skin; oblong-flattened shape; eyes medium; purplish flower, dark green leaves; vines strong and spreading, but not large—201 bushels per acre.

Three pieces from the same person of another unnamed variety yielded the same.

PROLIFIC ROSE.—From James J. H. Gregory, Marblehead, Mass. Three pieces yielded 2½ pounds—9 large, 15 small. Pink buff skin, variable shape. Yield 201.66 bushels per acre.

THREE pieces from F. B. Van Orman, without name, yielded 28 tubers, none larger than a hen's egg. The vines were killed by the tornado.

NOTE.

We must give our friends respectful notice that we shall not try any more potatoes that come to us without names.

BEAUTY OF HEBRON.—(Second Crop). From John C. Pearce & Co., 404 West Main Street, Louisville, Ky. Killed by the tornado.

VICK'S HARVEST QUEEN.—Three pieces yielded five pounds—17 large, 19 small tubers. Buff skin, sometimes russeted; often wedge-shaped; eyes medium. It is not a handsome potato. Vines vigorous and tall. Yield 403⅓ bushels per acre. This variety was sent to us by E. H. Vick, of Rochester, N. Y.

STUMP THE WORLD, from Charles W. Ford & Co., Fishers, Ontario County, N. Y. Three pieces yielded 6¼ pounds—20 large, 16 small. Color and shape about the same as Quaker City. (See below). Vigorous vines, 501 1-6 bushels per acre.

GOOD NEWS, from same. Three pieces yielded 4½ pounds—16 large, 17 small tubers. Resembles the following in shape and color. Vigorous vines. Yield 363 bushels per acre. This variety was also sent to us by H. G. Faust & Co., 100 Arch Street, Philadelphia, Pa., previously reported.

ROT-PROOF PROLIFIC.—From same. Three pieces yielded 4½ pounds—20 large, 9 small. Pinkish-buff skin, shape variable; eyes medium as to number and prominence; bushy habit; vigorous; many stems. Yield, 363 bushels per acre.

(Continued on next page.)

Miscellaneous Advertising.

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Who wins in the race? Is it a sick man? Is it a man who is weak? Is it a man whose blood is impure? An athlete trains for every race. The best athletes train all the time. They are always in perfect condition. It is pretty safe to say that the best man will always win. The man who is strong and in the best condition will surely distance his competitors.

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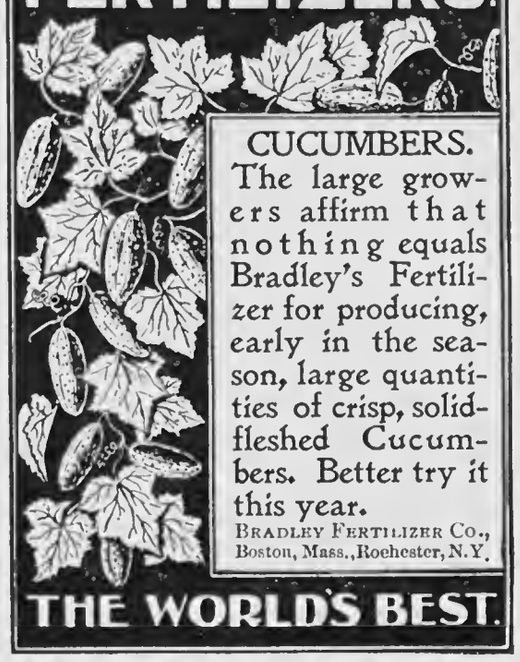

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(CONTINUED.)

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SEQUOIA.—From same. Two pieces yielded four pounds—12 large, 19 small tubers. This resembles Wall's Orange in color and shape; deep eyes, purple shoots. The habit is much like that of R. N.-Y. No. 2, stems the same color. Yield, 484 bushels per acre.

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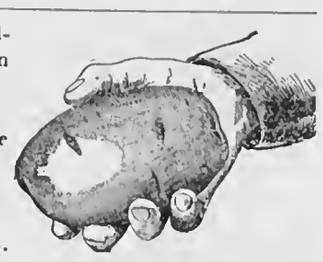

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A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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A LIVING FROM TWO ACRES!

STRAWBERRY, CELERY, CABBAGE AND HENS.

The Rules, the Rotation and the Ration.

About 10 years ago, when living upon a large dairy farm, I set a small plot to strawberries for my own use. I succeeded in growing more than were needed in our family, and I carried the surplus to our village, and sold them readily. My little plot of one or two square rods was, in three or four years, enlarged to one-quarter of an acre. During the time, I did some experimenting, trying different varieties, different methods of culture, different fertilizers, etc. My one-quarter of an acre gave me a net profit of over $100. Finding a large market for them in my own town, I began to think of making berry growing my business. With this in view, I sold my interest in the dairy farm, and bought a small one of two acres, near the village.

After coming into possession, I set, the first spring, all the land that was in condition for them, about one-half acre, to strawberries. The soil, a deep, clay loam, seemed well adapted to them, and the plants made a fine growth. I had been planning to grow some cabbage for market, and about July 1, had several thousand fine plants. Not having enough land in good condition for them, it occurred to me, why not set them between the rows of strawberry plants? The ground had been heavily manured, and frequent cultivation between the rows had put it in fine condition for the plants. The result of setting cabbage plants between the rows of strawberries, was about 4,000 cabbages. They were but little in the way of the strawberry plants, and paid the whole expense of growing the strawberries, including labor and fertilizers and something more.

The next year, I set another one-half acre to strawberries and cabbages, and have continued to do so with good results. I run my strawberry beds two years, so have an acre in bearing each year, and a new bed of one-half acre growing. Not wishing to lose the use of the land, the remainder of the season, after picking the old strawberry bed for the last time the first week in July, I began to try growing celery on it, as a second crop. The ground had been mulched with manure, and I had no trouble in growing a good crop of late celery. My practice before had been to seed the old bed with grass seed in the fall, and take a crop of hay the next year, then plow and plant to strawberries the following spring. For the use of the one-half acre during this time, I obtained about a ton of hay, worth about $10. I now grow a crop of late celery on the old bed, and the next year a crop of early celery, and for both crops I get from $300 to $500 for the use of the ground about 1½ year; so with my rotation now, I have each year one-half acre of celery and one acre of strawberries, and a new bed of strawberries with cabbages growing between them.

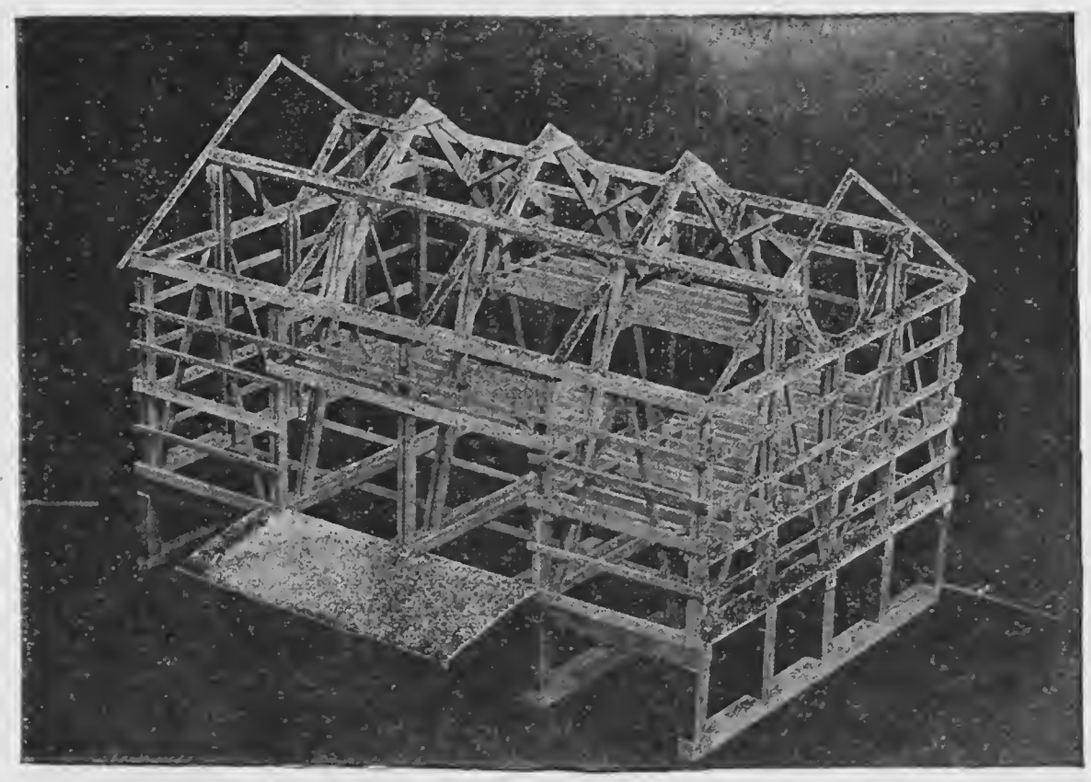
Last year, I grew cauliflowers instead of cabbages to a small extent, and find that they take less room in strawberries, and I get better prices for them. If the home market demand them, and I think that it will, I can raise from 4,000 to 5,000 on the one-half acre, and sell them about pickling time for 10 or 15 cents per head.

Some Live Stock Partners.

When I began this business, my largest expense was for fertilizers; the manure from one horse went but a little way. To add to that made on the farm, I commenced keeping hens. In two or three years, my flock was increased to over 100. I made it a point to try to get early pullets that would lay in the winter when I had time to give them special care. I put them in warm houses, divided them into flocks of 25, and try to feed them after the most approved methods. I feed only a little soft feed in the morning, then several times during the day scatter a little wheat on the floor, cover it with litter and let them work for it. I feed cut bone and meat from the butcher, give them my loose heads of cabbage and celery trimmings. The trimmings not wanted for the hens, are fed to the horse. The outside leaves are removed from the cabbages, and these with grain are his only food for three or four months.

I went to New York City and found a grocer who was willing to pay me a fancy price for guaranteed strictly fresh eggs of good size. I bought some of my neighbors at times, when I could not supply him, so as to hold his trade. I always sent the eggs perfectly clean, candled them when doubtful, and graded them for size. I keep P. Rocks and Leghorns, and the profit per hen is from 75 cents to $1.

In addition to the manure that is made on the farm,



COMPLETE MODEL OF A PLANK-FRAME BANK BARN. FIG. 65. See page 215.

I buy about 50 one-horse loads costing about $25, the most of which is used for mulching the strawberries. The most profitable way for me to use the hen manure, is to mix it with plaster under the roosts, pulverize it, and then scatter it in the rows before setting celery plants. My experience with commercial fertilizers has not been very satisfactory. I sometimes use them in the rows before setting plants, leaving a few alternate rows without any; but only in wet seasons have I obtained much benefit from them.

How the Thing is Done.

Here is my plan of growing and marketing my crops: For strawberries, after many experiments with different methods, I have adopted the following: I set them as early in the spring as I can work the ground, always using plants from new beds that have never fruited. I set them in rows about three feet apart, and one foot apart in the row. I commence to cultivate in a few days, first going through with a horse, and then finishing up with a wheel-hoe. This I can run very close to the plant, leaving but little hand weeding. I follow this plan until about July 1, keeping all runners off until then. I now set my cabbage and cauliflower plants between the rows of strawberries. The ground having received a heavy dressing of manure before setting the strawberries, it requires no further fertilizing for the cabbages. Before setting them, I go through with a cultivator, then again with a light plow, going half way between the strawberries, running it to a depth of three or four inches. I grow the Early Winnigstadt cabbages and Early Snowball cauliflowers.

About this time I let some of the strongest strawberry runners root, and try to have them five or six inches apart. I let them fill up the rows until they almost cover the ground; they will run very close to the cabbages from which I remove the bottom leaves as soon as they are in the way. I plow out these surplus plants in the spring, and what I do not need for resetting a new bed, I set between my rows of early celery, taking them up in clumps; they bear almost a full crop, and I can pick the berries and cultivate them out in time to bank the celery.

I keep all weeds out of the strawberries until late in the fall, and during the winter mulch them with manure. I leave this on in the spring to retain moisture, loosening it in places where it is too thick. I continue to stir the soil around the plants, in the spring, and keep down all weeds till the berries are nearly ripe.

The berries are sold in my own and neighboring villages, part of them from the market wagon, and part to dealers. I realize from 8 to 12 cents per quart, and pay from 1½ to 2 cents for picking. In a good year, I get from 100 to 200 bushels per acre. I have tried many varieties of strawberries and have settled on only a few. The Warfield is the best selling berry I grow. Besides this, I have Haverland, Bubach, Parker Earle and Cumberland, which give good satisfaction.

For early celery, I start the plants in a hotbed about April 1. If I try to get them earlier than this, a large number of them will run to seed, and even at this date, I have some plants run to seed. I thin them in the hotbed and transplant directly to the open ground in May. I set them in rows 2½ feet apart, and six inches in the row, and cultivate them almost entirely with a cultivator and wheel-hoe. This crop is blanched mostly with boards, and sold during August, September and October. The variety sown for this crop is White Plume.

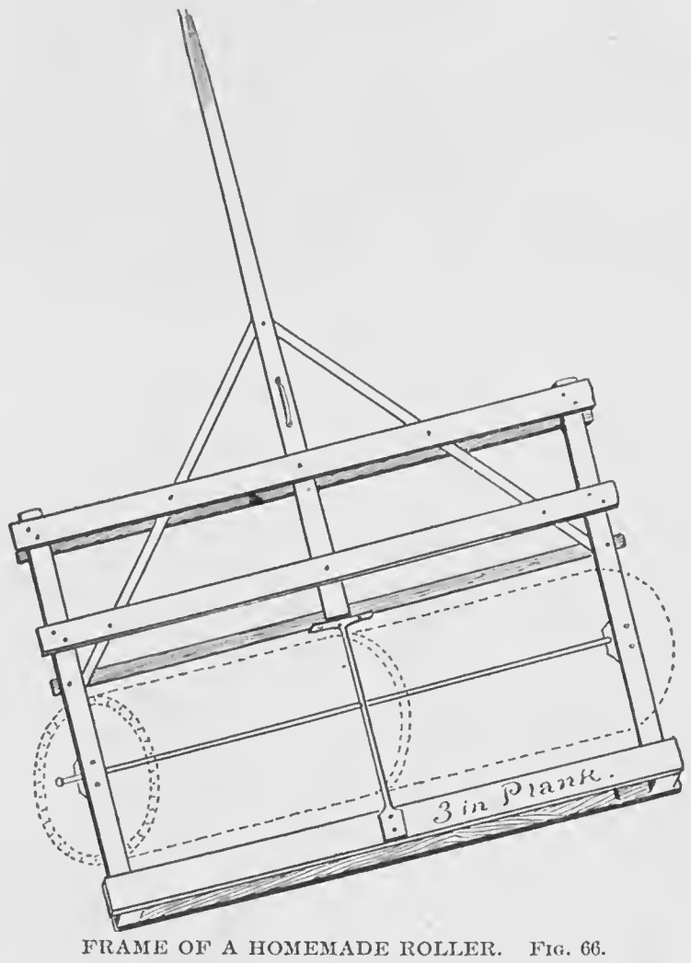
For the late crop, I sow Giant Pascal and Golden Dwarf in the open ground, and transplant after plowing my two-year-old strawberry bed, usually from July 1 to 15. This crop is treated much the same as the early one, but it is not blanched where it grows. About the middle of October, I begin to take it up and set it in narrow trenches. These are covered by a roof made by nailing two boards together, which keeps the water out of it. Before very cold weather, I draw manure and throw over the rows. I put a portion of this late crop in the cellar, storing altogether about 12,000 bunches. I commence to market it about Thanksgiving, and sell the greater part during the holidays. Like the berries, a part is sold from the market wagon and part to dealers. The retail price is 4 and 5 cents per bunch, and the wholesale price 2½ and 3 cents. The most of the cabbages are sold on the ground to farmers in the town, and others who think that they can buy them cheaper than they can raise them. The price obtained is generally $4 per 100.

The fence around the farm is lined with grapes, raspberries and currants, which yield a small in-

come. Something is done in the way of forcing lettuce, radishes, etc., in hotbeds, and several thousand celery and other plants are sold every year.

In a good year, with a good market, the sales of produce ought to amount to over $1,000, besides all the vegetables and fruits for family use which are grown on the farm. The expenses for keeping a horse, hired help, manure and seeds, are less than $200.

A problem which I am now working on, is the new celery culture with irrigation, the results of which experiments I cannot give within the limits of this



FRAME OF A HOMEMADE ROLLER. FIG. 66.

article. But I think that I can see a possibility of doubling the produce from my farm. W. H. JENKINS.

Delaware County, N. Y.

FLAVOR IN CELERY.

IS THE GOLDEN INFERIOR TO WHITES AND PINKS?

Our experience has shown that the now popular strains of Golden celery, are inferior in quality to white or pink kinds, and that this inferiority is quite marked. Will you be kind enough to tell us whether this is also your experience?

All Against the Yellow Varieties.

The so-called self-blanching varieties, whether white or golden, have usually been found to be of inferior quality. When carefully blanched by artificial means—whether by boards or by earth—little difference in quality has been observed in the best strains of the two classes named. The pink varieties are, usually, somewhat more delicate in flavor than are those of either of the other classes. W. M. MUNSON.

I have often noted the inferiority of the Golden Self-blanching celery. It is often stringy and tough, and, to my taste, decidedly inferior to most other kinds in quality. The Giant Pascal is better, but, excluding the White Plume, my preference is for the white and pink, or rose-colored varieties. W. J. GREEN.

The celery question is a mixed one. Whether the self-blanching varieties are better than the pink or the various types of what is known as the green celery, is a matter that depends upon the conditions of soil and growth. The Golden Self-blanching may be superior or inferior to the others, just in proportion as the conditions of growth are favorable or unfavorable. In some soils, one can get celery that has a rich, nutty flavor, no matter what variety is planted, in others he cannot. The Golden Self-blanching celery is a sport from the Sandringham, one of the finest of all celeries, and the sport, in flavor, partakes of the character of the parent. Plant this alongside of any other, and it will take the lead. But plant it where the conditions of soil are unfavorable for good quality, and compare it with other varieties, grown under favorable conditions, and it will be inferior to them. It may be well to remark that none of the self-blanching varieties of celery is of good quality unless earthed up, by which process the acrid properties are drawn out by the soil's influence; this may, in a measure, account for the poor quality of the Golden Self-blanching variety, which is quite likely to be eaten without having been earthed up. C. L. ALLEN.

My experience in reference to the quality of the Golden celery, especially the Paris Golden, is that it is very inferior in quality, and always has been. The Golden varieties have seen their best days. Many of the largest growers would be glad to agree not to raise another root, and in so doing, help to increase the demand for celery of the best quality, and also keep the price so that a living profit could be realized. W. W. RAWSON.

We have grown and tested the quality of nearly every variety of celery, and consider that the quality of the Golden strains is much inferior to that of the white varieties. They lack the sweet and agreeable nutty flavor which is so characteristic of the white varieties. M. H. BECKWITH.

I have found the red or pink-tinted celeries very much superior in quality to all others. White Plume, to my taste, seems the poorest of all, and the "Golden" sorts are but little, if any, better. Giant Pascal is of excellent quality, but in some seasons, it lacks a little in the way of solidity. I shall grow, hereafter, New Rose for my own use. E. G. FOWLER.

THE USE OF "DRY" BORDEAUX MIXTURE.

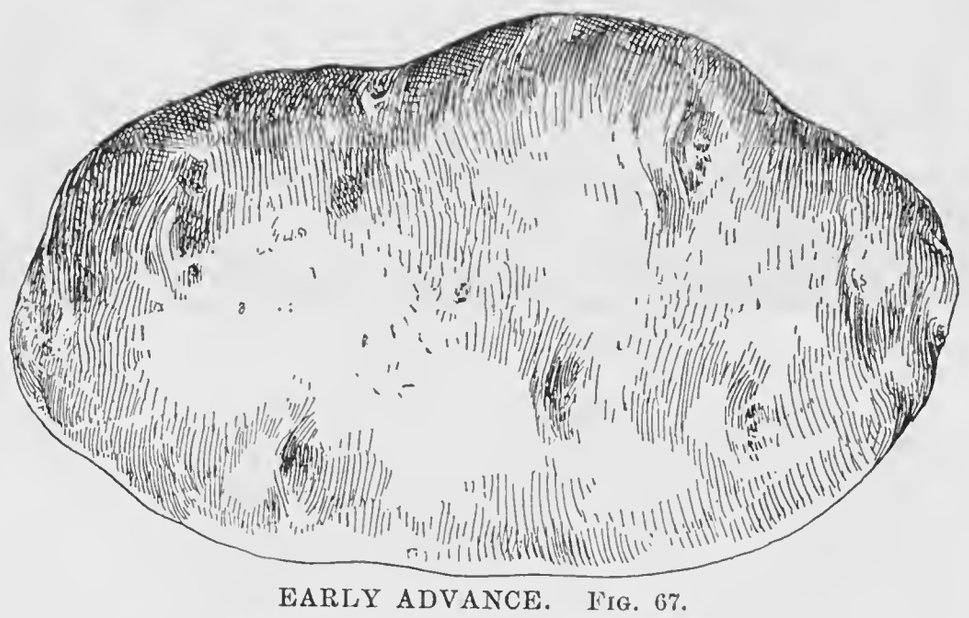
IT DOES NOT STICK FAST ENOUGH.

THE R. N.-Y. recently asked that any one having given the dry Bordeaux Mixture a fair trial, would give results. We have been testing the dry powder, together with other forms of Bordeaux Mixture, at our station for the past two summers. In this work we have used the prepared powder sent out by Leggett Brothers under the name of Fungiroid, and a similar powder made by ourselves, which we call "Bordeaux powder." In preparing the latter, we make a concentrated Bordeaux Mixture by dissolving 15 pounds of copper sulphate in one-quarter barrel of water, and adding 10 pounds of freshly slaked lime. This is thoroughly stirred, the blue precipitate or sediment allowed to settle, then the clear water above is poured off. This blue precipitate, or sediment, which, of course, contains all the virtues of the Bordeaux Mixture as usually applied, is then spread out in a thin layer and allowed to dry thoroughly. When dry we take it to a mill in the city where they grind poultry foods, etc., and have it powdered between regular millstones. There is a little waste in making this, so that out of our 25 pounds of ingredients, we have got about 20 pounds of powder, costing us as follows:

15 pounds copper sulphate	$0.75
10 pounds lime	0.05
Grinding	0.50
Total	$1.30

or about 6½ cents a pound. They will grind a much larger "grist" at this mill at the same price, as the charges are chiefly for cleaning the stones. We are satisfied, therefore, that the powder can be produced cheaply, if found efficient, and in our experiments we have applied it liberally, aiming to use the same amount of copper salts in this dry powder that we have in the wet mixture.

Now for the experiments. In 1894 so little rain fell that practically no fungous diseases or "blights" attacked our potato plants, and consequently, there was no opportunity to determine the values of dry

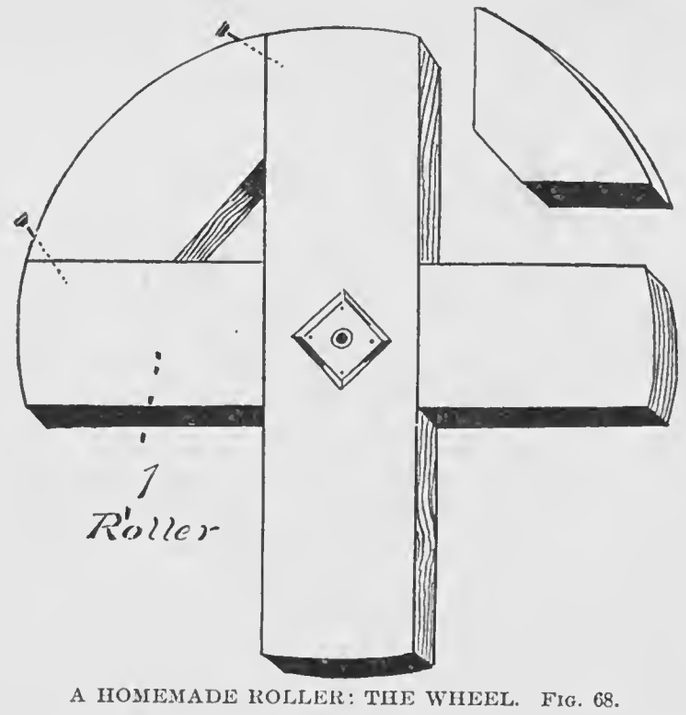


EARLY ADVANCE. FIG. 67.

See Notes from the Rural Grounds. Page 230.

powders as fungicides. Insects, however, were unusually abundant that summer upon our potatoes, the flea-beetle being especially troublesome. As already noted in your columns, some of the preparations applied by us primarily as fungicides proved excellent insecticides. This was true of the Bordeaux Mixture in all its forms, including the dry powders. These powders were applied with a powder gun, under most favorable conditions, when the leaves were moist, so that the powders would adhere, and heavy applications were made, in some cases at the rate of 40 pounds per acre. The results were encouraging. In the absence of rain the powders adhered well to the leaves, and appeared to deter the insects nearly as well as the wet mixture. The rows thus treated showed decided benefit from the powders, approaching though not equaling in vigor the adjoining rows sprayed with the ordinary wet form of Bordeaux Mixture.

Encouraged by these results, we gave both the Fungiroid and our homemade Bordeaux powder more extended trials the past summer. The weather of this season was quite different from that of 1894. Abundant rains fell during August and September, in consequence of which we had a most magnificent growth of potato vines; single stems of R. N.-Y. No. 2, six feet long, remaining well clothed with leaves until cut by frost in October. Some of the unsprayed plants began to show the late blight in August, the disease became general in September, and as a certain consequence, there was a large amount of rot in the later potatoes where they were not sprayed. Here, then, was the opportunity we had failed to get in 1894 for a thorough, practical test of the dry Bordeaux Mixtures. The results were unmistakable. The dry mix-



A HOMEMADE ROLLER: THE WHEEL. FIG. 68.

tures were almost entire failures, the plants dusted with them soon blighted, and the tubers rotted nearly as badly as in the unsprayed rows, while the rows sprayed with the ordinary wet Bordeaux Mixture stood up until frosted, and showed much less of rot.

I give the following statements of yields, which carry their practical lesson with them: These figures represent in each case the average yield in pounds of 12 rows of White Star and 12 rows of Polaris potatoes, planted May 20; fungicides were applied three times, July 25, August 13, and August 31:

	Sound tubers of marketable size. Pounds.	Rotten tubers of marketable size. Pounds.
No fungicides	158	147.5
Bordeaux powder (dry)	170.7	159.3
Bordeaux Mixture	301.7	66.9

Several trials were made of Fungiroid and Bordeaux powder on adjoining rows in our experiments, and the two gave practically the same results. Consequently, we feel confident that the dry powders cannot safely be substituted for the wet Bordeaux Mixture in spraying potatoes against the late blight and rot. As may be seen from the above figures, the circumstances of this trial were most severe, the loss from rot being serious even where the plants were sprayed with Bordeaux Mixture. This came from the continued rains, and consequent slow but persistent progress of the blight during September, after the last spraying was done. It was largely a test, therefore, of the adhesiveness of the fungicides during protracted rains. But any fungicide which will not adhere during wet weather, is of little value against late blight. We feel, therefore, that the test of the past season was a fair one of the dry powders in Vermont, and when tried, they were "found wanting." L. R. JONES.

Vermont Experiment Station.

R. N.-Y.—In spite of these results, we still think that the dry Bordeaux Mixture will find a safe place in horticulture. We have reports of unmistakable success with it on tomatoes. We shall be pleased to hear from others who have tried it.

A HOMEMADE LAND ROLLER.

THINKERING THAT LED TO "TINKERING."

Last winter, it came to me that I was in great need of a land roller; but how I could expend $25 or more for a roller, when my crops were so poor and prices low, was a problem not easily solved. I visited a young farmer living in another part of the town, who had built a roller, taking the wheels of two old mowers for the foundation, and connecting them by the tumbling rod of an old horse power. The wheels were drilled, and two-inch maple staves were bolted on. I would, probably, have made use of his pattern, but every one who had an old mower within a day's journey, would not part with the wheels. When they

heard what I wanted them for, they all wanted to build rollers.

Fig. 68 shows a wheel that eame out of my head, and it suits me better than mower wheels. It is easily made, and does away with the laborious task of drilling about 130 bolt holes through the rims of the wheels, besides a saving in bolts of nearly $3. One White Ash tree, 20 inches aeross the stump, furnished material for roller and frame. The staves are sawed beveling, from three ineh plank, at the mill. I used three-foot heads whieh makes a three-and-a-half-foot roller. The staves are spiked to the heads with No. 30 wire spikes, and an old wagon tire is shrunk on the ends, which may be fitted by the blaeksmith and set at home.

The frame, Fig. 66, is held together by bolts. The axle or shaft is a pieee of ordinary water pipe 1¾ inch outside measure, supported by a strong pieee of iron or steel between the two seetions. The eutter bar of an old mower is just about right for the support. The frame will balance with a man standing on the rear plank. I built a hopper directly over the shaft, to weight with stones, when desired. My roller was in use two months from the date of eutting the green tree. The only expenses were for sawing, blacksmithing, bolts and spikes, all of which did not exeeed $3. W. BENTZIEN.

Steuben County, N. Y.

WHAT THEY SAY.

How Pot Hunters are Handled.—I think that, if all the farmers will do as we in this part of Massachusetts do (and we are afflicted with game laws), it will make the city sporting men sick. We post every farm where there is a brook, river bank, or woods to fish or hunt in, or on, with the sign "No Trespassing on These Premises Under Penalty of the Law." Then when we eateh a trespasser, we proseeute him to the full extent of the law. This thing has been followed up so long, that the eity sports let us alone. We not only prosecute for eriminal trespass, but wherever possible, also eivilly for damages, and it is a damage to kill off game or catch fish, to a eertain extent.

Three Rivers, Mass. A. B. C.

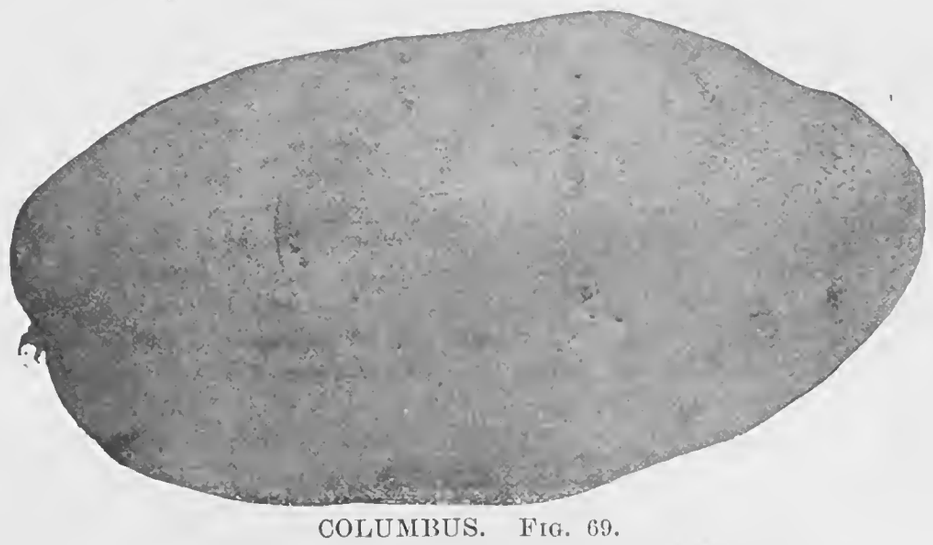
Failure of Parker Earle Strawberry.—On page 174 is an article by T. J. Dwyer, whieh seems to me somewhat misleading as regards the virtues of the Parker Earle strawberry. I feel justified in saying, that in our vicinity (eastern Pennsylvania) it is utterly worthless. I had heard of its merits, and tried for three years to fruit it, but without success. First, it does not put out runners, rarely more than one to a plant. Seeond, it rusts so very badly that not 10 per cent of the fruit eomes to perfection. I have tried ashes, phosphate, manure and spraying with Bordeaux Mixture; nothing did it any good. The Sharpless, Bubaeh, Gandy, Greenville, Dayton and Enhance matted and fruited to perfection, any one of them produeing 20 quarts to Parker Earle's one. E. P. C.

Bridge Valley, Pa.

Thrashing Machine for Mixing Fertilizers.—In The R. N.-Y. of March 14, I saw a eut of a fertilizer mixer which seems to be a good thing, but has one objection. How ean one sieve the fertilizer without getting any dust? To me it seems rather a slow way of mixing. I have mixed several hundred tons of fertilizer, and the best and quiekest way I can get it done, is to get an old undershot thrashing maehine, make a shaker or sieve 2½ feet long (I use five or six-mesh sieve) and box it all in excepting one side under the sieve, leaving that to take out the mixed fertilizer. Myself and two men with one horse and a machine of this kind, have mixed and bagged 10 tons of fertilizer a day, and mixed it as well as any one could do it; I do not exeept any fertilizer manufaeturer. I always put nitrate of soda through the maehine before putting it in the mixture. I spread the different ingredients on the floor and turn them over twice before putting through the maehine, breaking all lumps larger than an egg if possible. R. F.

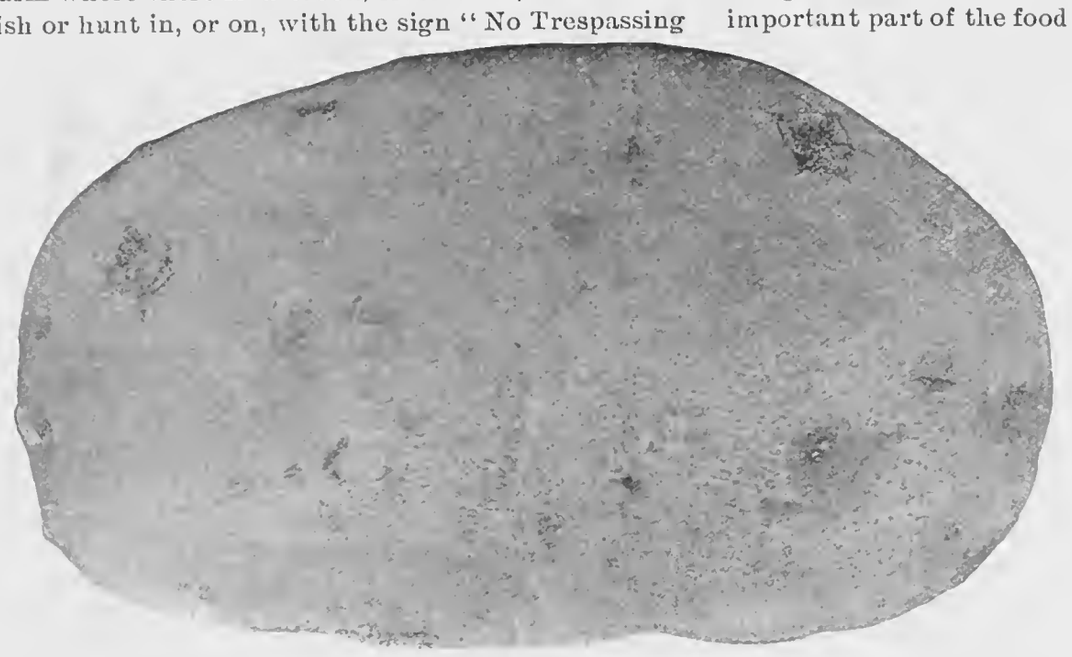
Bound Brook, N. J.

Lime for Peach Yellows.—In the symposium of March 7, on this subjeet, one most important point was missed. This was the feeding of the trees. Something was said of manure; but it has been learned

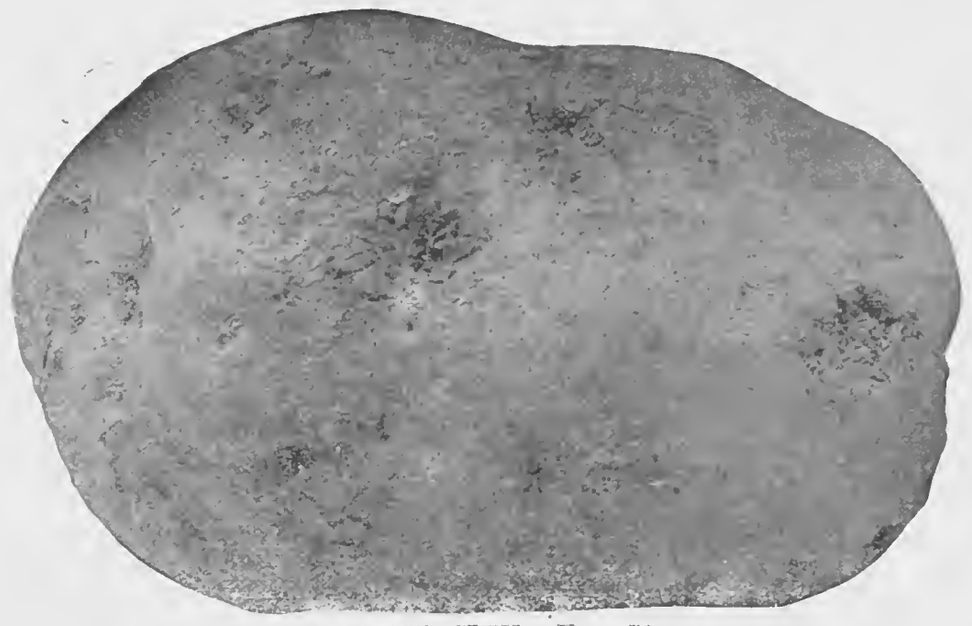


COLUMBUS. Fig. 69.
See Notes from the Rural Grounds. Page 230.

that, as man lives not by bread alone, so plants do not live healthily by insufficient or unbalaneed rations. It is a fact that the tree is the most important part of the business of growing peaehes, and if the tree be not adequately nourished, supplied, in faet, with a perfectly balanced food, it cannot be healthy, and will be subject to the first of the whole erowd of injurious germs that lie in wait to effect their purpose in nature, whieh is to remove the weak and helpless of all living things from the face of the earth. Lime is the most important part of the food of a peach tree, for it makes up 16 per cent of the ash of the wood. Of eourse, it is the healthy tree that has healthy foliage, and if this essential part of the tree be not supplied, we may expeet disease to oeeur. In those very useful, but all too short experiments made at Houghton Farm some few years ago, it was found that this disease was accompanied—I will not say caused, for it is not to be wholly believed—by a special germ existing in the tree and, doubtless, derived from the soil. We may expect these germs to appear in the weak and ill-fed trees, as they appear in ill-fed and weak animals, persons ineluded. In my own experienee in growing peaches, I have found that in the vacant plaees left by dead trees, fresh ones may be grown successfully if the ground be well dosed with lime, and that sick trees may be reeovered by the same treatment. The finest orehards in Delaware and Maryland, I have seen, were those that had been regularly supplied with lime, and some old trees that had been diseased, were entirely eured by the same treatment. I well remember a fine orchard near Dover, in Delaware, owned by an ex-Governor of the State, who said to me, "We eannot grow healthy trees here without applying lime every four years as we do to our other erops." H. STEWART.



PROLIFIC ALEXANDER. Fig. 70.
See Notes from the Rural Grounds. Page 230.



QUAKER CITY. Fig. 71.
See Notes from the Rural Grounds. Page 230.

LIVINGSTON'S BANNER. Fig. 72.
See Notes from the Rural Grounds. Page 231.

Tar on the Corn.—I used to see whole fields of eorn destroyed by crows, and cut-worms: somehow I learned to use eoal tar, and for 15 years, nothing has disturbed my corn to any extent. Birds that are used to it, will pull a few hills; but they soon get tired of it. To prepare it, fill a bucket about two-thirds full of eorn, then eover the eorn with water; pour slowly over it, two to four spoonfuls of coal tar, and with a small stiek stir the corn till all is tarred alike. If the grains are not all well eovered, put in a little more tar and stir again: if too mueh tar, put in a little more eorn. When properly tarred, turn off the water, pour the eorn on to something, then stir coal ashes, road dust, or better, good bone dust, into the corn till well dried; finish by spreading in the sun. E. W.

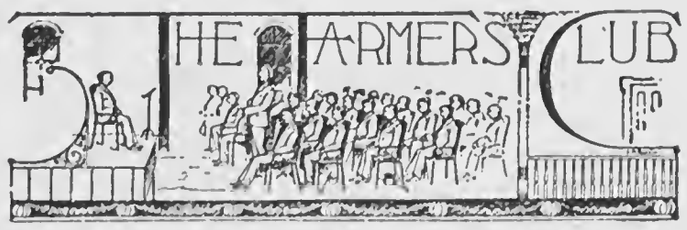
Belbend, Pa.

Potash for Borers.—I have had some experience in destroying the root liee on fruit trees, as well as borers. I have used for some years, washes to proteet the trunks; two years ago, through carelessness in application, I found that the borers had got into 20 or more trees; several, especially young cherry, were so weakened by root lice that the trunks were loose in the ground, the trees could be almost laid flat on the ground, and looked nearly dead. I had a quantity of potash salts, and instead of applying it in the ordinary way, I simply put on my eherry trees between two and three inehes in diameter, a quart of potash salts directly around the trunk, ramming it into the ground where the trunk was loosened. For my peaeh trees, from four to six inches in diameter, I used about 1½ to 2 quarts in the same way, applying it elose to the trunks. This was early in the spring, and with the first rains, an improvement was noticed; out of 24 trees, all lived but one, and are now doing well. The eherry trees whieh were shaking about in the ground, were firm and solid, and last year bore abundantly. The borers disappeared. The gum stopped appearing, and the trees have been perfectly well ever sinee. This was two years ago. Last year I went through the orehard in the same way, and wherever there was a sign of borers and root liee, I applied the potash salts direetly to the root of the trees. Two of these trees died on account of the very dry summer; the others are all doing well. Potash applied in the ordinary way, seattered lightly over the ground for some distance about the tree, while improving the general growth and appearanee, does not have this specifie action on borers and root liee. C. CHAUNCY PARSONS.

The Improved Plank Frame.—The recent illustration of the improved plank frame in The R. N.-Y., led some readers to believe that it represented a barn complete; but in faet, it was only an illustration of two bents. At Fig. 65, is an engraving made from a photograph showing a eomplete barn, 40x60 feet, with 20-foot posts on a 9-foot basement. Note how thoroughly it is braced; and in the perfect system of bracing, lies the strength of any frame. Evidently, the plank frame will supersede the mortise and tenon frame for barns, just as surely as the balloon frame superseded the solid frame house a quarter of a century ago. The eheapness of the system, combined with its superior strength and convenience, commends it to every farmer. The basement may also be made of plank at a great saving in time and labor, though there is not the same saving in timber.

The illustration shows an elevated hay bay at the

right-hand end, which admits of a place for a granary or for machinery, or, in a ground barn, for a stable. Decks are also represented over the driveways, which admit of the best place for oat, bran and meal bins, out of the way, but spouted down to the feeding-rooms below. JOHN L. SHAWVER.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Unfruitful Plum Trees; Borers.

J. A. G., Courtney, Pa.—I have nine Marianna plum trees, eight years old, that bloom profusely every spring. Fruit forms and grows to the size of cherries, then turns yellow, and seldom more than a dozen remain on the trees until ripe. I find plenty of curculio on these trees, and last season jarred them until I could find none; but the plums fell off all the same. What is the cause? Borers are using up the trees badly, and I also found, the past season, some on some of my younger trees of Beauty of Naples and Imperial Gage varieties. Shall I treat them in the same way as peach trees?

ANS.—Marianna plum is deficient in pollen that is potent upon its own stigmas, and this variety should have some other near it. This is, probably, why the fruit drops after setting. Almost any variety that blooms at the same time, will do, such as Hattie, Itaska or De Caradeue, of the native American species or almost any of the Japanese kinds, as they bloom about with Marianna. If J. A. G., or any one in like predicament, will graft varieties that bloom at the same time with these old and unfertile plum or other fruit trees, on a few of their upper branches, there will be potent pollen available very soon after. But, why not dig up the Marianna trees and plant better kinds, unless there is a profitable market for the fruit? It is bitter, and makes jelly or sauce that goes begging for some one to eat it at our table. If borers are destroying J. A. G.'s plum trees, they must be on peach stocks. The best way to rid trees of borers is thoroughly and persistently to dig them out. If done once in August and again in October, there ought to be very few or none left.

H. E. VAN DEMAN.

An Orchard of Rich Red Apples.

J. F. W., Marlboro, N. Y.—Is there any difference between Stayman's Winesap apple and the Winesap? What about the Gano and Akin apples? Where can I get some scions from bearing trees? Are the above varieties of apples annual bearers? What four varieties are the very best for market, such as have good size, high color, are attractive, red and good yielders annually? The field I wish to plant is low, black top soil, with a clay subsoil, well-drained.

ANS.—Stayman (Winesap should be dropped from the name to simplify it), is a seedling of Winesap, grown by Dr. J. Stayman of Leavenworth, Kan., and resembles its parent very closely in color, shape, season and quality; but is larger, and the tree is much better in shape. I fruited it in Kansas many years ago. Gano is a chance seedling found by W. G. Gano of Missouri, in an old orchard in that State. It is of medium size, very brilliant red, fair quality, and a late keeper. Akin is a Western apple of high character. It is of medium size, very red color, tender flesh, delicate flavor and keeps fairly well. For fancy market or family use, it is worthy of extended trial. I think that scions from bearing trees of all may be had of J. W. Kerr of Denton, Md., or of Charles Wright of Seaford, Del. My advice to J. F. W. would be to plant one-half his orchard to York Imperial, and if he is determined to have four varieties, divide the other half about equally between Sutton, Akin and Jonathan. H. E. V. D.

What Stock for Apple Grafting?

E. P. C., Bridge Valley, Pa.—I wish to plant an apple orchard, and to graft the trees with Smith's Cider scions from trees in my own orchard, which I know to be of first quality. What variety of apples shall I plant? In one I planted last year, I used the Baldwin as a stock, arguing that the Baldwin would give me a vigorous growth, and if the stock should affect the fruit in any way, it would improve the quality and color. Was I right?

ANS.—If E. P. C. prefers to set top grafts from his own orchard in thrifty nursery trees, the Baldwin is a very suitable variety to use as a stock in Pennsylvania. Ben Davis would be fully as good for the same use. I do not believe that the stock will transfer its color or flavor to the fruit that may grow on the grafts. H. E. V. D.

Some Apples for New York.

B. M. L., Monticello, N. Y.—How do the Keswick Codlin and Tetofsky apples compare with the Red Astrachan as to quality and earliness? Are they good producers? How about the Yellow Transparent?

ANS.—Tetofsky is earlier and smaller than Red Astrachan; Red Astrachan is, probably, the most valuable summer apple, all things considered, being high colored and handsome. Keswick Codlin ripens with Red Astrachan, but continues longer, and is considered valuable for cooking; the tree bears early and heavily. ELLWANGER & BARRY.

Something About Mushroom Culture.

J. B. G., Colden, N. Y.—Will THE R. N.-Y. describe mushroom culture, how to get the start, and the necessary conditions?

ANS.—Mushrooms may be grown in any place where a temperature of 50 or 60 degrees F. may be maintained during the winter. A cellar, stable, shed, space under the greenhouse benches, or any other out-of-the way place, no matter how dark, is suitable. With fresh horse manure, an equal bulk of good, clean soil is mixed, and made into solid beds eight or ten inches deep. These are made on the cellar floor, and additional ones may be made on shelves. This will heat, and when the heat declines to 90 or 95 degrees, the spawn is inserted. The bed is then covered with one or two inches of fresh loam, after a few days, and this with a few inches of hay or straw as a mulch. The beds are kept well watered. The time to start mushrooms is about the beginning of December. Dealers in spawn generally furnish necessary directions.

What About the Triumph Peach?

A. E., Salem, Utah.—Can you give me any information relating to the merits of the Triumph peach, advertised by Jos. H. Black, Son & Co., Hightstown, N. J.?

ANS.—It originated in Georgia, and has not been fully tested in the North. It is claimed that it is the earliest yellow-fleshed peach in the country. It ripens with Alexander, is fair in quality, and a good shipper.

Paragon and Ridgeley Chestnuts Compared.

G. O. T., White Plains, N. Y.—Which is the more promising of the two new large chestnuts, the Paragon and Ridgeley? Some nurserymen recommend one and some the other. I think earliness in ripening a very important point. I have seen it stated that the Ridgeley needed some other variety near by to help fertilize the blossoms.

ANS.—Our impression is that the Ridgeley needs pollen from other trees. In size, it is somewhat smaller than the Paragon. In quality, it is better. In fact, it is as good as our natives. The trees grow to a large size, though they begin to fruit early—three years. We cannot answer as to the relative productiveness of the two varieties. We would say that it would be difficult to find a more abundant bearer than the Paragon. But then the trees are dwarf. The Ridgeley ripens a trifle earlier than the Paragon.

Some Fertilizers for Strawberries.

A. G. W., Reidenbach's Store, Pa.—I have 1¼ acre that I desire to set to strawberries this spring. The soil is limestone, and rich enough to produce a fair crop of corn. Not having any stable manure, what should I apply which would contain sufficient food to mature a large crop of berries? I wish to apply the fertilizer before setting the plants.

ANS.—It is simply a question as to whether you will find it more profitable to buy a ready-mixed fertilizer, or mix the chemicals yourself. In the former case, any of the special mixtures for fruits advertised in THE R. N.-Y., will answer. For home mixing, we advocate the use of finely-ground bone to supply nitrogen and phosphoric acid. As to potash, if unleached wood ashes of fair quality can be obtained for $9 a ton, we would use them with the bone—equal parts by weight. If such ashes cost more than $9 a ton, we would use muriate of potash, one part muriate to three parts of bone. An exception to this advice should be made where the soil is sour. In that case, the lime in the ashes will be found necessary, and one can well afford to pay $11 a ton.

A Batch of Fruit Questions from Illinois.

W. J. B., Vermilion, Ill.—My three-year-old orchard is mulched with this year's half-rotten clover straw for about two feet around the tree and six inches deep. The mulch is close to the trees. Would you move it, and when? How far? I have cultivated for three feet in the rows of trees; the rest of the ground is in clover and Timothy? Would you still cultivate and not bother to mulch? I am within 20 miles of a city of 40,000, 3½ miles from a railroad station. Would there be any money in raising currants for market? Do the Chicago prices justify it? If so, what kind would I better set? When, and how? Is there anything that will kill the currant worms without endangering the fruit? Is the currant a tolerably sure crop for this locality?

ANS.—My objections to a mulch for trees are that it brings the roots to the surface, and is a harbor for mice. Some of these bright spring mornings, the one who mulches is liable to go out into his orchard and find many trees ruined by mice, as I have done. If a heavy mulch be removed in the spring and summer, and a drought follow, the trees suffer. If removed in the fall, and a severe winter follow, the trees suffer. This is one of the objections to planting strawberries in a young orchard, as I have learned from the loss of many trees. If I were in W. J. B.'s place, I would shove away the mulch a couple of feet, and let it gradually rot and wear away. I would cultivate the spaces and plant to corn, potatoes, etc., but not wheat or oats.

Currants have paid for several years. No man can tell as to the future. I would rather cultivate a home market than to depend on Chicago—everybody sends to Chicago, and often Chicago ships right back to your home market. Plant one or two-year-old plants in rows eight feet apart and five feet in the row. W. J. B. can even plant them along his tree rows with success. Victoria is a good red currant, and I think that he will find the White Grape a very productive white kind. The Long Bunch Holland is extremely late, and sells on a bare market, but, although extremely vigorous, it is not very productive. New varieties should be tested in a small way. If the currant worm comes early, I use an arsenical spray; if later, on account of danger, better use hellebore or insect powder. B. BUCKMAN.

Shall Potatoes Follow Potatoes?

C. W. R., Pleasant Valley, Va.—1. Last year, my potatoes, planted in April, grew vigorously until about the time that tubers began forming, when blight struck them. The vines wilted and finally died, and, of course, the crop was an entire failure. Now, as I would like to have the benefit of the special fertilizer used, I would be glad to know whether or not it would be considered safe to plant the same plot again to potatoes this year. 2. As it is seldom we get a good stand from late planting in this locality, would it be advisable to plant Rural No. 2 and Carman No. 1 as early as April 1?

ANS.—1. We cannot say whether it would be safe to plant potatoes again on this field or not; most persons would say that it would not be safe. We have this bit of experience to give, however: In THE R. N.-Y. potato contest, about seven years ago, we lost the crop because of blight. The next year, potatoes were grown upon the same plot, and there was no blight whatever. Our friend should bear in mind that the fertilizer which he used has lost its nitrogen. 2. Yes, the first of April or even earlier.

Grain and Grass on a Swamp.

J. D. F., Waterville, Me.—What method of cropping and fertilizing (stable manure is out of the question), will most effectively and cheaply put into Timothy an old swamp that was underdrained and plowed last fall? The soil is six to eight inches of muck over clay. Would you let it lie fallow this coming season?

ANS.—If the land can be made reasonably smooth, sow as early as possible, one-half bushel of oats per acre. Should there be so much available nitrogen in the soil as to produce a very large growth which might fall down, cut the oats when coming into head, or a little later for hay, or better still, use the green oats in the stables as soon as they will do. This will help out the pastures. It is quite probable that barley would be better than oats if the seed can be easily procured, but in no case should an attempt be made to allow the grain to head and save it for the ordinary purpose, if it is likely to fall down so that it cannot be harvested without leaving much straw on the ground. Plow shallow immediately after the oats are cut, and harrow and roll often; that is, try to get the ground packed down except an inch or two at the surface. Before harrowing this spring, treat the land to 20 bushels of quicklime, and it might be well to give an additional dressing of 10 bushels before the last harrowing in the fall, preparatory to sowing the Timothy seed. Much of the success will depend upon getting the grass seeds in early, and the condition of the weather. The Timothy should be sowed by the first to the middle of September, and if the soil be moist enough to bring it up, it should get a good hold on the soil before winter. Of course, after sowing the seeds, the ground should be rolled.

How to Treat Potato Ground.

J. A. G., Courtney, Pa.—I purpose planting, this coming season, three acres of potatoes on a loose loam, with a western exposure, and a clay subsoil. It was sown to oats last season, with the exception of one-half acre which was in potatoes. This half acre was heavily top-dressed last spring with manure. On account of a very dry season, the oats were poor. I plowed this ground last December from six to nine inches deep. I wish to grow, at least, 200 bushels of potatoes per acre. How can I do it? I shall have to depend on fertilizers. How much will I have to use per acre, and how should it analyze? What varieties should I plant? When shall I plant? What is the best mode of culture? Shall I plow the ground again?

ANS.—Our plan would be to plow again and harrow thoroughly. Then plow wide trenches and plant four inches deep, using seed of, at least, two eyes with all the flesh possible. We would use not less than 1,000 pounds to the acre of a fertilizer analyzing as follows: Nitrogen, 4 per cent; phosphoric acid, 10 per cent; potash, 6 per cent. Sow this in the trenches after the seed pieces are lightly covered. Our choice of varieties would be Carman Nos. 1 and 3. We would advise our friend to go over our potato reports and to examine the catalogues. Sir William seems to be a popular sort. We would plant as soon as the land can be put in fine order.

Pumpkins for Dairy Cows.

T. S. F., Kirkwood, N. J.—I would like the experience of readers in feeding pumpkins to dairy cows. What is the effect on the quality and quantity of the milk? Should the seeds be removed?

ANS.—I have fed pumpkins to dairy cows with good success, and consider them worth, as feed, at least, $2 per ton. I would feed from one-half bushel to one bushel per day to each cow. If one bushel be fed, it should be given in two feeds. Slice them with a knife, and feed in the manger. This is not a very big job, as my father will slice them as fast as my hired man and I can cut them open and scoop out the seeds. As to the effect on the quality of the milk, I would say that I am satisfied that it is all right. I have

tested repeatedly with the Babcock tester, and did not find that the quality was deteriorated. As to the effect on the quantity, the scales prove that it is largely increased. If fed pumpkins, the cows hold out well on their yield late in the period of lactation. They are also kept in good flesh. The seeds should, by all means, be removed, as they will cause excessive urination, resulting in weakness to the cows. It will pay to remove the seeds, even though they be not saved, but I save mine. I dry them thoroughly (not kiln dried though), then run them through a fanning mill, which removes all dirt and unfilled seeds. I ship them to a prominent seed firm which pays $1.50 per bushel. I raise the Connecticut Field pumpkin. I think that pumpkins are a profitable crop to raise. I drill the seeds in with my corn.

Erie County, N. Y. LAWTON M. CONGER.

Questions About Citron.

A. L. B., Cheshire, Conn.—1. Is there a citron with thick rind smaller than the common variety? 2. What is the process of drying citron? 3. Is the papaw tree hardy in southern Connecticut?

ANS.—1. No. 2. Boil the citron until clear and soft enough to be easily pierced with a fork; put into a nice syrup of sugar and water, and boil until the sugar has penetrated it. Take out and spread on dishes to dry slowly, sprinkling several times with powdered sugar, and turning until dried enough. Pack in jars or boxes with sugar between the layers. 3. Yes.

Rural Thoroughbred Flint Corn for Ensilage.

W. B., Troupsburg, N. Y.—At the Hornellsville Farmers' Institute, E. Van Alstyne, of Kinderhook, said that indications of last year's trial of the Rural Flint corn, placed it ahead of the Pride of the North for the silo. He said that the seed was difficult to obtain. His ripened with the Pride of the North, but the boys put it in the silo when he was absent from home. Do the seedsmen carry it in stock?

ANS.—The corn was originally introduced by THE R. N.-Y. On Governor Morton's farm, it was grown to make 2,000 tons of ensilage last year, and gave excellent satisfaction. Where it matures, it will be found ahead of any other ensilage corn, as it gives an immense proportion of ear and leaf to stalk. The seed, like that of Evergreen sweet, is slow to start. J. M. Thorburn & Co., New York, sell this corn.

Using Potatoes to Fertilize Corn.

C. O. N., Homer, N. Y.—Potatoes are five to eight cents per bushel, and few sales. I have nearly 1,000 bushels. To the question asked me a few days ago, What are you going to do with them? I answered, "Manure corn in the hill with them!" It was an off-hand answer, without earlier thought, but later, in thinking it over, I asked myself, Why not? Last year, a large field, with phosphate in the hills, covered with earth, and corn dropped and covered, because of very dry and warm weather, failed to come up. Potatoes, crushed, with phosphate and earth, mixed in the hill, would continue moist, so that corn would sprout and grow, no matter how dry the weather might be. Aside from this favorable condition, would the manurial value pay to use potatoes in such a way—crushed to a pulp so as to prevent growing? I have the idea that they will be worth more, so used, than $2 a ton, if sold by the bushel at present prices.

ANS.—We have heard of people who put a peck of potatoes in the bottom of the hole when setting out trees, with, apparently, good results. A ton of potatoes will contain, in round figures, seven pounds of nitrogen, three of phosphoric acid, and 12 of potash—worth about $1.80 as compared with fertilizers, and about as much organic matter and water as stable manures. When crushed and put in the hill as you suggest, the potatoes will give as much fertility as equal weights of manure and, probably, retain moisture better. If any one has actual experience in this line, we would like to have them relate it.

Mixed Colors in Flowers.

W. A. B., Millington, N. J.—Last August a cutting was taken from a large variegated geranium in our bed of many varieties, and rooted. It has two branches now; one contains two clusters of red blossoms, and the other branch, two clusters of pink blossoms. Are such things common? I never happened to see anything of the kind before. How could they mix through a cutting?

ANS.—Yes, quite common. It is the outcome of crossing. They could not mix through a cutting. It is merely the cropping out of blood which has remained impotent. We have frequently had variegated shoots and flowers of a different color grow on green-leaved plants that had, a year or so previously, been crossed. The anthers and stigmas of pelargoniums do not mature simultaneously. So it must happen that the seeds which form are generally the result of cross-breeding.

Why Young Tomato Plants Wilt.

F. R. McC., Claysville, Pa.—Why do tomato plants, raised in boxes in the house, wilt at the top of the ground when the plant is about one to two inches in height?

ANS.—Tomato and other seedling plants grown in boxes in the house, may wilt in the manner above described from two well-known causes. In the first place, they may be allowed to become too dry at the roots, even though the surface soil is kept fairly moist. By frequent superficial waterings, the top soil may be kept sticky, while the delicate rootlets are perishing in dust below. The remedy, of course, is to soak all the ground thoroughly, and then let it alone until it begins to dry slightly on the surface. If an inspection of the box show it to be dry at the bottom, it is best soaked for a few minutes in a tubful of lukewarm water, as it is not easy to moisten all the earth in a box by overhead sprinkling, after it has become unevenly dried. In the second place, the plants may be "damping off," which is the gardener's name for the ravages of a cobweb-like fungus which attacks the young seedlings just at the surface of the ground, causing them to fall over and die after continual feeble efforts to grow for a day or two. This condition, notwithstanding its name, is not always due to excessive moisture, as it takes place with great frequency in dry air. It seems to require a calm atmosphere for its development, and is always worse in an ill-ventilated place. The best remedy is to prick out the sound plants, if they are large enough to be handled, and plant them two or three inches apart in a similar box of fresh soil. If this be not convenient, something may be done to check the spread of the disease by sprinkling dry sand, heated to about 120 degrees F., over the soil, watering thoroughly after an hour or so, and placing the box in as light and breezy a place as is consistent with the necessary warmth. Moderately thin sowing, judicious watering and free ventilation will nearly prevent the appearance of this plague, which frequently becomes serious, sweeping off thousands of plants, apparently in a single night. W. VAN FLEET.

Wanted; Quick-Growing Shade Trees.

W. F. S., Rowenton, O.—What would you advise me to plant for good and quick-growing shade trees? What do you think of the South Carolina poplar, or the common Soft maple?

ANS.—The Hardy catalpa is an excellent tree of quick growth. This is Catalpa speciosa. We know of none better. Do not get C. bignonioides, which is more tender. We do not like the poplars as ornamental trees. The Silver maple is a very rapid grower. Wier's Cut-leaved is one of its prettiest varieties.

Medicinal Value of Elecampane.

S. F. H., Gouverneur, N. Y.—Has Elecampane any medicinal or market value? If it has, how is it prepared, and where can it be marketed? What is the best method of clearing the land of it in case it has no market value?

ANS.—Elecampane, the Inula Helenium of botanists, was formerly supposed to have a high medicinal value, chiefly as a tonic for stomach troubles and as a component of cough syrups. It is now used to some extent in veterinary practice, and as an ingredient in cattle powders. In France, it is used in the manufacture of absinthe, an intoxicating cordial. The only part of value is the fleshy roots, which should be procured from plants not more than two or three years old. They are best dug just as the plant comes into flower, and after washing and scraping, should be thoroughly dried. The demand in this country is very small, and the only market is with some of the wholesale exporting druggists, to be found in the chief commercial cities. Elecampane is a hardy perennial plant, of the great Compositæ family, and, like the ox-eye daisy, of the same family, is a somewhat stubborn plant to eradicate. Clean cultivation, and the frequent cutting of old patches, to prevent seed formation, will subdue it. W. V. F.

Variations in Cream Testing.

W. M. H., New York.—How much should the Babcock test vary in the hands of expert men on the same samples of cream?

ANS.—Since it is more difficult to take a true, uniform sample of cream than it is of whole milk, we may expect a somewhat wider variation in duplicate tests of cream than of whole milk. In very rich cream, tested in the wide-necked cream bottles, this variation should not be more than one-half of one per cent.

[PROF.] H. H. WING.

Some Questions About Barns.

T. J. B., Fairport, N. Y.—I am about to build a stock and grain barn, 38x90 feet. 1. Would 10 feet be too high for the wall? 2. Is there any serious objection to having the granary in the basement, which will be mostly above ground? 3. Is prepared felt roofing as durable and economical as shingles? 4. If shingles be used, will it pay to dip them? 5. What are the best preparations for a dip and the approximate cost per M of dipping?

ANS.—1. A 10-foot story will not be too high. 2. There are no objections to having the granary in the basement, if it can be made dry. Usually basement barns at the lower hillside, are entirely out of the ground. In any case, whether the grain is to be kept in the lower story or not, be careful to keep the barn well out of the ground, even though some filling or bridging has to be done at the upper side to make access easy. Damp basements are quite as bad for cattle as for grain. Why, by expensive methods, dig into the ground, when there is so much space above it free for the taking? 3. Prepared felt roofing is not as desirable or as economical, in the long run, as shingles. 4. It will not pay to dip first-class shingles when laid on steep roofs, and no flat roofs on barns should be tolerated, except it be near the peak, as is seen in a curbed or gambrel roofed building. 5. This could better be answered by some architect or builder who has had experience in using "dips." As a rule, we believe that it would be more economical to put slate roofs on barns, but if the cost be too great, then purchase the best shingles that are in the market. A safe rule is to put a first-class top and bottom to a barn, even at the expense of using poorer materials than are desired in the rest of the building.

Gas Tar for Tree Wounds.

Subscriber, Connecticut.—Will it be safe for me to use gas tar on wounds or where limbs have been cut from old apple trees?

ANS.—We do not advise the use of this material, but would prefer to brush the wounds over with gum shellac, such as painters use to cover knots before painting. For such things, we like still better a wax made of one pound resin, one-half pound beeswax, and one-quarter pound tallow; simmer together until melted, then work it the same as one would molasses candy. This, when spread over the wounds, makes a nice covering. Gas tar is likely to run down over the bark, and many times kills it. For large wounds, the gum shellac would be quickest and cheapest, and would answer the purpose. EDWIN HOYT.

Marl as a Stable Absorbent.

J. J., Waupaca, Wis.—THE R. N.-Y. stated, page 136, that lime will liberate the ammonia in manure. How about using marl instead of land plaster in the stable. What would be the action of marl on the ammonia in the soil, if spread broadcast on the field.

ANS.—The phosphatic marls would, probably, have a slightly greater absorbent power than ordinary earth, as would also the lime marls of the northern section of the State, though I think in no case would they be equal to the land plaster, for the purpose for which the plaster is used, namely, the fixing of ammonia. The application of marl, broadcast, upon soils, would, probably, be practically inert, so far as fixing or setting free of ammonia is concerned.

[PROF.] E. B. VOORHEES.

A "Blind" Fertilizer Analysis.

I. A. B., Austinburgh, O.—Will you figure out the following analysis for me? I can't do it. It seems to me that it is very blind:

Ammonia		Per cent	7.10
		Value	$24.14 per ton.
Phosphoric acid Equivalent to 35.28 per cent Bone phosphate	Fine bone	Per cent	12.46
		Value	$12.46 per ton.
	Medium bone	Per cent	3.72
		Value	$2.98 per ton.
	Total per cent		16.18
Total value			$39 58 per ton

Not analyzed for potash, but contains considerable.
Also contains considerable blood.

ANS.—This appears to be a mixture of bone and blood. If it contains 7.10 per cent, or 142 pounds of ammonia to the ton, that is equal to 116 pounds of nitrogen. The average price of such nitrogen is 16 cents a pound. That represents the average price of nitrogen in blood and fine bone as sold in the Eastern markets. It ought to be cheaper so much nearer the large packing-houses. In estimating the value of bone, the chemists divide it into four grades, viz.: fine, fine-medium, medium and coarse. The grade is determined by the per cent of the bone that will pass through sieve meshes of a certain size. The finer the particles of bone, the easier it is for the plants to feed on it. The phosphoric acid in fine bone is quoted at 5½ cents a pound, while that in "medium" is worth three cents. Here, then, is the comparative value of the fertilizer:

Nitrogen, 116 pounds, at 16 cents	$18.56
Phosphoric acid, 249 pounds at 5½ cents	13.69
Phosphoric acid, 74 pounds at 3 cents	2.22
Total	$34.57

This is really more than the fertilizer is worth, since the nitrogen varies in value between fine and medium bone as well as the phosphoric acid, while we have given it full value. If a proper explanation were made, this analysis would be satisfactory; but as it is, the average reader is sure to be confused by it.

A Home "Catarrh Cure."

E. P. R. Sidney, Ohio.—Will you give definite advice as to your vaseline and bicarbonate of soda remedy for catarrh? If it ever appeared in THE R. N.-Y., I failed to see it.

ANS.—Here is the writer's way of using this remedy. Every morning before breakfast, snuff the bicarbonate of soda into both nostrils, making sure to have a pure article. Take a pinch of the soda between the thumb and finger, throw the head back, close one nostril and drop the soda into the other "snuffing" it back as far as possible. Then treat the other nostril the same way. In about five minutes, you will be obliged to clear the nose by a thorough "blowing." Then, after clearing, smear the *inside* of the nostrils with vaseline. You may put the vaseline on your little finger, and push it up into the nose, or use a small brush or sponge. Keep the nose smeared in this way all day. Repeat the bicarbonate of soda treatment at night, or several times during the day, if the nose seem "filled up." By snuffing the soda far back into the nose, you will feel it at the upper part of the throat. In bad cases of catarrh, it is well to blow dry soda through the mouth upon the upper part of the throat, as it is more effective than a gargle. This may not "cure" a bad case of catarrh, but it will give relief, and also help prevent a cold.

Clover Questions from Connecticut.

J. K. H., Shewville, Conn.—Where is the manurial value of clover, in the roots or in the stalk and leaves? If clover will not grow here, what is the next best thing I can sow to plow under for manure?

ANS.—You should send to the Connecticut Agricultural College, Storrs, Conn., for copies of bulletins on this subject. As an average of several samples, the chemist of the station estimated that in the roots and stubble of an acre of clover—left after cutting for hay—there were 44 pounds of nitrogen, 12½ pounds of phosphoric acid and 32 pounds of potash, or about as much plant food as you may expect to secure in 4½ tons of average horse manure. A ton of good clover hay contains about 40 pounds of nitrogen, 8 of phosphoric acid, and 45 of potash. We would not give up trying to grow clover until we had given a fair trial of wood ashes or air-slaked lime on the soil. It is quite likely that the soil is sour, and that, if it be well limed, the clover seed will start. We would try cow peas, buckwheat and rye, though the latter are not so valuable as the clover and peas.

Fertilizer for Grass and Garden.

I. T., Cornwall, N. Y.—I own a little 12-acre field, and wish to keep it in grass without doing any farming such as crop rotation involves. My team and cow do not afford enough manure to answer the call for food which arises from the earth. What chemical fertilizer will best supply my needs, and how much an acre would it be wise to use? Most of the field has been worked in hoed crops for three successive years, in order to kill the weed crop of 10 years' standing, and has been in grass a year, some of it two years. Each hoed crop got manure or fertilizer. The soil is a medium-heavy loam, with a little gravel, and the subsoil is largely clay. In raising vegetables where a good size is obtained, but a lack of flavor is observed in the crop, does the addition of potash give the desired taste? Is it wise to use muriate of potash dissolved in water to hasten growth, and how much is best to use to a gallon of water? Will the same rule apply to sulphate of potash and nitrate of soda?

ANS.—Any of the special "grass-and-grain" mixtures will answer for the field, or you may use a mixture made up of three parts of fine ground bone, and one part muriate of potash. We would use, at least, 400 pounds per acre each year. As a rule, a lack of flavor or high color in vegetables and fruits, indicates the need of potash. We would not dissolve the potash, except in case of severe drought. In years of ordinary rainfall, we would scatter the potash or nitrate of soda around the plants and work into the soil with hoe or rake.

Glass-House Temperature for Different Flowers.

J. G. K., Buckners, Ky.—How are Caladium esculentum propagated? If one have three greenhouses, with different temperatures, will you group all the leading commercial flowers in three lists, so that each house could be filled, and state the temperature required?

ANS.—The Caladium esculentum, or, more properly, Colocasia esculenta, the "elephant's ear" of the bulb catalogues, is freely propagated by means of the offsets attached to the parent tuber, after a season's growth. They are warty or prong-like excrescences, each having an "eye," or growing center at the apex. They are easily broken off, and root readily in warm, moist soil. The tubers may also be cut like potatoes into pieces, each containing an eye, and planted separately; but this is more or less risky, as rot is likely to ensue.

Commercial florists still recognize three classes of flowers, each requiring a special range of temperature for development, but the number of varieties profitably grown has been much restricted of late years. The various temperatures are now known, in practice, by the most important flowers grown in each: 1. The violet house should be run at a night temperature of not more than 40 to 45 degrees, and should be freely ventilated whenever the day temperature rises above the latter figure. The temperature may occasionally be allowed to descend among the thirties to advantage, but frost must never enter. Besides growing violets, mignonette may be flowered, and azaleas, dormant roses,

(*Continued on next page.*)

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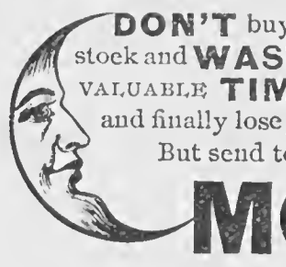

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THE FARMERS' CLUB.

(CONTINUED.)

and other hard-wooded plants, as well as most flowering bulbs, may be started. 2. Carnation houses are generally kept at 45 to 55 degrees night temperature, with a range of 10 to 15 degrees higher during the day. Asparagus, smilax, geraniums and most bedding and house plants, thrive in this temperature, and even such florists' favorites as poinsettias, stevias and bouvardias may be flowered and propagated in the warmer portions. 3. Rose houses usually need at least 65 degrees at night, with a range up to 80 degrees on sunny days. Hybrid tea roses, like Meteor, La Franee, ete., do best in an average near 70 degrees. Lily of the valley roots require a warm plaee in the rose house where it is about 80 degrees all the time, and are generally placed under a light beneh near the heating pipes or flues. A great variety of plants not needing the true hothouse or East India temperature of 80 to 90 degrees all the time, may be sueeessfully grown in the rose house. W. V. F.

(*Continued on page 223.*)

Catalogue Reviews

GEO. W. MACE, Greenville, O.—An illustrated eatalogue of seed potatoes. Sir William, Irish Cobbler, Viek's Early Pride, New Queen, Maggie Murphy, Carman No's. 1 and 3, World's Fair, Wise Seedling, Great Divide, are illustrated quite true to nature, exeept the last mentioned. It is somewhat too long, slender and pointed. The Carman No. 3 is rounder than a picture of the type should be.

S. P. SHEPARD, Henrietta, O.—A catalogue of farm and garden seeds and nursery stock. The Lineoln oat is eonsidered a wonderful variety because of its immense yielding power, its heavy berry, stout straw and extreme earliness. The White Cap Yellow dent eorn is deseribed as ripening 10 days earlier than the Leaming, suitable for all elimates, gives larger ears, and will outyield any eorn in eultivation on thin soils. A new variety for which remarkable elaims are made, and for whieh a eash prize is offered for a name, is illustrated and deseribed. It is a yellow dent "ripening in 90 days." Mr. Shepard offers the Rural Thoroughbred Flint which he rightfully says, bears the longest ears of any variety known. He speaks of ears 17 inehes long.

E. J. HULL, Olyphant, Pa.—Catalogue of strawberry, raspberry, grape, hothouse and vegetable plants. Mr. Hull elaims that he has the "largest list of first-elass strawberry plants in the eountry." The new Clyde is deseribed as large, firm, and the best all-around berry on the market. Of the new Wm. Belt, so good an authority as Mr. Crawford says: "In productiveness, size, beauty and quality, it will scale higher than any other variety I ever raised." Several other new kinds are offered whieh we have not tried, notably, Miehigan, Bismarek, Tennyson, Gardner, Holland, Fountain, Weston, Gertrude and Dollar.

J. M. FLUKE, Nankin, O.—A eatalogue of seed potatoes and farm seeds. The new Wise potato is given the plaee of honor as outyielding any others in eertain trials which included the Carmans and Sir William. It is a seedling of the Neshannoek, and ripens somewhat later than the R. N.-Y. No. 2. From engravings of the Lean Lever harrow (all steel) and the deseription, we are impressed with its value. By the aid of the lever, the teeth may be worked at any angle forward or baekward. It is made entirely of steel, contains no eastings, and has fewer parts than any other.

(*Continued on next page.*)

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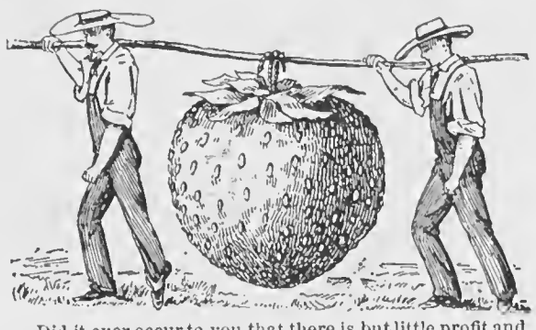

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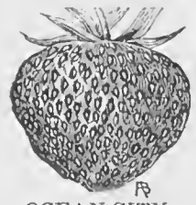

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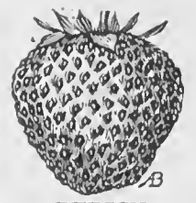

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CATALOGUE REVIEWS.

(CONTINUED.)

EDWARD F. DIBBLE SEED COMPANY, Honeoye Falls, N. Y.—We have noticed the catalogue of this firm before, and desire now merely to call attention to several kinds of oats for which special claims are made. Up to within a few years, THE R. N.-Y. tried all the kinds of oats offered, both old and new. We found that many of the new kinds were old kinds reintroduced under new and catching names, while those that were really new, were not in any way superior to the old. We are told that the above company introduced the Great White Maine oats some six years ago, and that this variety had a record of 404 bushels from four acres without fertilizers, and an average yield of 83 bushels per acre on one farm for three years, 15 acres having been sown annually. Three years ago, the Dibble Company introduced the Early Golden Prolific which, it is claimed, is the earliest known variety. On the Dibble farm, the prodigious yield of 114 bushels is reported from one acre in 1894. Now the company introduces another new kind, to which we have previously alluded, viz., Jobes's Mortgage Lifter. This, it is claimed, is the heaviest oat in cultivation, weighing, when properly cleaned, 50 pounds per bushel. The firm confidently asserts that this variety will yield 150 bushels per acre. We do not, in any sense, substantiate such claims. We merely present the claims to our readers as coming from a firm that could scarcely afford to make them unless there is good reason for doing so.

WM. PERRY, Cool Spring, Del.—A list of strawberry plants with a berry classification showing what perfect-flowering kinds are best to plant with pistillates.

W. N. SCARFF, New Carlisle, O.—A catalogue of small and large fruits, seed potatoes, oats, etc. The Eureka blackcap, it is claimed, is as large as Gregg, as early as Palmer, is of better quality than either, holds its size to the end of the season, and the plant is perfectly hardy. The conservative horticulturist of the Ohio Station, Prof. Green, says that an acre of Eureka will yield as much as an acre of Gregg and Palmer combined.

M. F. WEBSTER & Co., Vietor, N. Y.—A circular of choice seed potatoes grown by this firm. Also five kinds of oats, seed corn, rye and wheat. There are 74 kinds of potatoes offered, ranging in price from $1 to $3 per barrel for large size, and from 90 cents to $2.25 for second size. The firm offers two collections, one pound of each for $1 by freight. Here is the first: Carman No. 1, Carman No. 3, Early Harvest, Good News, Great Divide, and Sir William. The second collection consists of 11 popular kinds, one pound each by freight, for $1.50, or one peck of each for $5.

MISS C. H. LIPPINCOTT, 319 Sixth Street, Minneapolis, Minn.—A dainty catalogue of flower seeds only, issued by a bright, enterprising young woman. The covers are in color, and the designs very pretty, indeed. A new departure is that Miss Lippincott states the *number* of seeds in every packet sent out, and the full count is guaranteed. For instance, Antirrhinum Tom Thumb, 250 for four cents; Crozy's dwarf cannas, 10 seeds, four cents; Marguerite carnations, 50 seeds, six cents; Wild Garden flower seeds, 300 seeds, four cents, and so on.

ARTHUR J. COLLINS, Moorestown, N. J.—A catalogue of fruits, large and small, Japan chestnuts, etc. The new yellow, freestone peach, Triumph, ripened its fruit in this nursery about June 15. Charles Downing said, in 1880: "A freestone as early as Alexander, and as good in every way, would be worth a million of dollars to the public." Peach trees are offered for $1 a dozen. This catalogue repeats what we have quoted from other sources, that the new dwarf Bismarck apple bears fruit on one-year grafts. Note what is said regarding the Harris Hardy apricot. Simon's plum, Prunus Simoni, or Apricot plum, it is said, bears large fruit which is fine-grained, very firm and excellent. It *is* firm, we grant that. And it may be added that it proved to be curculio-proof at the Rural Grounds. But we did not discover any other merits. American seedlings of the Japan persimmons are offered. These, it is claimed, are hardy

(*Continued on next page.*)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Feed

Your nerves upon rich, red blood and you will not be nervous, nor have that tired feeling. The way to have pure, rich, red blood, to cure Scrofula, Salt Rheum and similar troubles, is to take

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. $1.

Hood's Pills cure Liver Ills; easy to take, easy to operate. 25c.

ESTABLISHED 1822.

Evidence is not lacking to prove that Breck's American Grown Sweet Peas are possessed of every excellence attainable in this family of fragrance and beauty; **Harvard**, the fashionable shade of crimson, is grown and recommended by thousands. **Blushing Bride**, the florists pride and the public's favorite, were introduced by us. Our Boston mixture contains over 60 distinct named sorts. *We mail either of these for 5c. pkt., 10c. oz., $1.00 pound.* See "Breck's New Method Sweet Pea Culture," mailed free, also our illustrated **Indexed Catalogue**, (170 pages) for descriptions of nearly 80 varieties. It contains news about novelties and standard varieties of **Flowers, Bulbs, Plants** and **Vegetables**, approved agricultural and horticultural implements, cultural directions, information how to prevent and destroy plant pests, particulars of our offer to duplicate first prizes offered by all agricultural and horticultural societies, and **Free Delivery. We Mail it Free**, and with it, to those who mention this paper, either of the following selections for 15c., or both for 25c. (1.) 3 Tuberous Begonia Bulbs, distinct colors. 3 Gladoli Bulbs, distinct colors. (2.) 1 pkt. Breck's New Life Pea, 1 pkt. Breck's Premier Sweet Corn.

Everything for Farm, Garden and Lawn.

JOS. BRECK & SONS, BOSTON, MASS.

A BARGAIN COLLECTION OF

FLOWER SEEDS

10 Choice Annuals, (everybody's favorites), all new, fresh seeds, sure to grow and bloom this season. **Pansy**, 40 colors and markings; **Phlox**, 20 colors; **Verbena**, 18 colors; **Pinks** 10 colors; **Petunia**, 10 colors; **Asters**, 12 colors; **Balsam**, 8 colors; **Sweet Peas**, 12 colors; **Mignonette** and **Sweet Alyssum**.

FOR 12 CENTS and the name and address of two of your friends who grow flowers, I will send, postpaid, the complete collection, one pkt. each of the ten varieties (enough for any ordinary garden.) This is a **BONAFIDE** offer, made to introduce my home grown flower seeds to new customers and which I guarantee to please you or the amount paid refunded and the seeds given as a present.

Miss C. H. LIPPINCOTT,
319 and 323 Sixth St. So., MINNEAPOLIS, MINN.

Do you plant Flower Seeds?
Do you Grow Flowers?

FRESH
Flower Seeds

The Best in America

and we've got to make it known in some way—a good many people know it well already—but now for 1896, to get our "GARDENING ILLUSTRATED" into the hands of every single Flower Buyer—

We're Going to Give Away
Six Best Novelties

1 Pkt. Giant Japan Morning-glory
1 Pkt. New Red Pansy
1 Pkt. New Yellow Aster
1 Pkt. Double Sweet Peas
1 Pkt. Yellow Sweet Peas
1 Pkt. Verbena—fiery scarlet

These six and the 120-page Book for cost of book.... **14c.**

We're in CHICAGO and NEW YORK—can't miss us. Send today seven 2-cent stamps and ask for the "FLOWER GIRL COLLECTION" and the book. Mention THE R. N.-Y.

NEW SWEET PEA "AMERICA"..15 cts. New White, with wide carmine blotch ...Splendid for Bouquets...

NEW YORK: 26 Barclay-st **Vaughan's Seed Store** CHICAGO: 84-86 Randolph-st

HIGH CLASS SEEDS.

Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

Beautiful Cosmos

have long been the most popular flowers for blooming in the autumn. The new mammoth Cosmos is the king of these grand flowers, growing double the size of any other variety and blooming abundantly in beautiful colors. It has captured the fancy of flower lovers everywhere. We have a sufficient stock of this grand flower to supply all demands and make the following liberal offer to readers of this paper.

OUR OFFER—

For 35 cents one full size package of each color of Mammoth Cosmos; pure white, pink and rose; also one each of Centaurea Cyanus (Batchellor's Button) Marguerite Carnation (flowers in fourteen weeks from seed), Mignonette (New Mammoth Sweet-scented), Petunia (Choicest Mixed), Ten Week Stocks (Giant Perfection). All carefully selected and sure to grow. Two collections for 60 cents.

With every order we send free our handsomely illustrated Seed Catalogue for 1896. This book has been compiled with special thought for those interested in gardening and flower growing, and never fails to prove interesting and instructive.

W. W. RAWSON & CO., Boston, Mass.

DREER'S RELIABLE SEEDS PLANTS and BULBS

Are everywhere known as **The BEST.** Why risk poor ones when the best cost no more. Send postage stamp for **Dreer's Garden Calendar for 1896**—richly illustrated; two colored plates on cover, of popular flowers. It describes everything **New** and **Old, of Merit.** HENRY A. DREER, 714 Chestnut St., Phila., Pa.

BURPEE'S SEEDS, Philadelphia

A postal card addressed as above will bring you **BURPEE'S FARM ANNUAL for 1896**, if *you intend to purchase Seeds*, otherwise the price is ten cents (less than cost). It is **a bright BOOK of 184 pages**, with hundreds of illustrations and colored plates painted from nature. It tells all about the **BEST SEEDS that Grow!**

FERRY'S SEEDS

Perfect seeds grow paying crops. Perfect seeds are not grown by chance. Nothing is ever left to chance in growing **Ferry's Seeds.** Dealers sell them everywhere. Write for

FERRY'S SEED ANNUAL

for **1896.** Brimful of valuable information about best and newest seeds. Free by mail.

D. M. FERRY & CO., Detroit, Mich.

HONEST SEEDS Seeds Prices Catalogue. Write for it To-day.

HOLMES & MacKUBBIN, SEEDSMEN, HARRISBURG, PA. **FREE.**

Name paper and receive packet seeds free.

SEEDS All Varieties. Catalogues FREE

J. CHAS. McCULLOUGH Second & Walnut Sts. CINCINNATI, OHIO.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber. Milford, Del. Also, Cow Peas, Winter Oats. Timothy Seed, etc.

CRIMSON CLOVER Thomas McElroy, European Seed Commission Merchant, Mercantile Exchange Building, Harrison St., N.Y. Continues the largest importer of fine grade Crimson Clover in the U. S. Prices to dealers only.

$100.00 FREE

To the persons making the largest yield from our VINELESS GOLD COIN PROLIFIC SWEET POTATO this year. Here is a chance to MAKE MONEY EASY, besides getting the best Sweet Potato on earth. Send for 1896 Catalogue.

ONION Yellow Globe Danvers, postpaid, 70c. per lb. Red Wethersfield, 80c. per pound.

MELON SEED, all leading varieties, 35c. per pound, postpaid. Can you beat this? RADISHES, 45c. per pound, postpaid. Peas, Beans and all Vegetable Seeds at correspondingly low prices. It will pay you to let us hear from you before you buy. We are the Market Gardener and Farmer's friend. OUR PRICES SUIT THE TIMES.

THE HUNTINGTON SEED CO. Indianapolis, Indiana.

10 VALUABLE NEW VEGETABLES FREE!

1, Electric Beet. 2, Faultless Cabbage. 3, Aurora Celery. 4, Arrowhead Carrot. 5, Mammoth Byzart Lettuce. 6, Early Captor Musk Melon. 7, Duke Jones Water Melon. 8, Early Bryant Tomato. 9, Crispy Carmine Radish. 10, Silver Coin Parsnip.

I will mail above 10 pkgs. and catalog, for 50 cts, and with each lot will return a Cash Check good for 50 cts in other seeds, thus making these practically *Free for Trial.*

ISAAC F. TILLINGHAST, La Plume, Pa.

BLACK COW PEAS.

The great soil improver. For light or medium soil this crop is superior to clover as a green manuring crop to turn under. It also makes a splendid nutritious forage crop and enriches the soil, even though the crop is cut off. Write for Price and Descriptive Catalogue, giving full information.

T. W. WOOD & SONS, Richmond, Va.

GRASS IS KING

We are the only seedsmen making the growing of farm seeds, grasses and clovers a great specialty. Our Extra Grass and Clover Mixtures last a lifetime without renewal. Prices dirt cheap. Mammoth catalogue and 10 pkgs. Grains and Grasses free for but 10c. postage. Catalogue alone 5c.

JOHN A. SALZER SEED CO., La Crosse, Wis.

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

CATALOGUE REVIEWS.

(CONTINUED.)

in Moorestown. Small fruits are made a specialty.

FLOWER CITY NURSERY COMPANY, Rochester, N. Y.—A descriptive catalogue of fruit and ornamental trees, shrubs, roses, grape vines and small fruits—100 pages, of clear type and excellent arrangement. In the left narrow column, the name of the fruit is printed in bold type; in the middle wide column, the concise description; in the left narrow column we have the dates of maturity. The Boiken apple is regarded as the "best and latest keeping apple grown." The Vladimir cherry is a native of north-central Russia. The tree is claimed to be a wonderfully prolific bearer, and the fruit of excellent quality. The company considers it superior to all other iron-clad cherries on account of quality and excellence as a shipper. For the Rathbun blackberry, it claims, "it is the only blackberry ever introduced that combines hardiness, size, solidity, sweetness, smallness of seed, and rich flavor." We shall try the Rathbun.

E. MANCHESTER & SON, West Winsted, Conn.—Annual price-list of seed potatoes. Of the 36 varieties offered, one "good-sized" tuber of each will be sent to any address for $1.50, and the selection includes the best kinds now before the public.

THE SILAS WILSON COMPANY, Atlantic, Ia.—A catalogue of leading new and standard fruits, with colored pictures of the Tatge, Milton and Charles Downing plums. The Tatge, it is claimed, is larger and finer in quality than the Lombard. Trees planted 20 years ago, are still in full bearing. Milton is valued for its large size, good quality and extreme earliness. It ripens in Atlantic about July 10. It belongs to the Chickasaw group, as does also the Charles Downing, which, the catalogue claims, "is the most beautiful plum in the world."

LEWIS ROESCH, Fredonia, N. Y.—A catalogue of fruits, large and small, ornamental shrubs and trees. A colored portrait of the Moyer grape and the new Chautauqua gooseberry.

STARK BROTHERS, Louisiana, Mo.—We can say that this firm has one of the largest nurseries in the world. It claims to have 40,000 acres of orchards alone. This firm paid Luther Burbank $3,000 for control of his Gold plum, a cross between the Japan plums and natives, and the claim is made that it is the best plum ever produced (see R. N.-Y.'s account November 24, 1894, page 746). It ripens before the Burbank, and keeps well until after Satsuma. It is two inches in diameter, of delicious flavor, and beautiful in appearance. The same sum was paid for Splendor which is a freestone and a cross between Prune d' Agen and Hungarian prune (see R. N.-Y., same date and page). As a combined drying, shipping, market and table plum, it is said to have no rival. Note what is said of the Van Deman quince, "the largest, finest and most fruitful of all quinces." The Wolf River apple, ordinary specimens, measure five inches in diameter. Stark Brothers say: "This giant fruit is the most magnificent apple, whether on the tree or off, that has ever fruited in Missouri." A colored picture shows the new Senator apple which we have already described. The Suda cherry is illustrated showing the remarkable productiveness of a tree but four years old. It is a late, black, sour cherry. The Idaho pear is unqualifiedly condemned. The mix-up as to the Mammoth Black Twig, Paragon and Arkansas Black apples is explained. There is a good deal of information in the catalogue, and many collateral circulars which this enterprising firm send out to all who apply.

A. J. MCMATH, Onley, Va.—A price-list of strawberry and other small fruit plants, fruit, shade and ornamental trees.

G. S. BUTLER, Cromwell, Conn.—A price-list of small fruits, and a select list of quinces, apples, pears, cherries peaches and plums.

R. DOUGLAS & SONS, Waukegan, Ill.—A catalogue of hardy ornamental evergreens, seedlings, shade and ornamental trees, forest and ornamental tree seedlings. We commend this list to our friends, a list representing the largest stock of evergreens in America all grown from seeds, in their own extensive nurseries. A few years ago, we ordered 100 little evergreen trees (a foot long) by mail. Every tree lived, and in about three to four years, was as large as, and more vigorous than, large trees (three feet) ordered of another firm at the same time. Here is a sample of prices of these little evergreen and deciduous trees by mail: One hundred European larch, 25 Blue spruce, 100 Scotch pine, 100 Norway spruce, 100 Hardy catalpa, 75 White pine, 100 Soft maple, 75 Mountain ash, 25 Abies concolor (a grand fir), etc., each lot by mail prepaid for only $1.

Time is Money.—This old adage is peculiarly applicable to farm work, for not only is the time spent in work lost by waste of it, but the possible results of the time so spent are lost with it. A poor tool leads to waste of time, for when a farmer spends a month plowing and harrowing 20 acres with the ordinary implements, which he can do with the "ACME" Pulverizing Harrow, Clod Crusher and Leveler in a week, he clearly loses three weeks of time with all the profit he could make for these three weeks of work. As this implement covers six feet of surface and plows and turns and harrows and pulverizes the soil at the same time, the saving of time and labor is clearly unquestionable. This is a most important consideration in the hurry of spring work. See advertisement on page 230.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Chosen by the
Government

The War Department proposes to test the bicycle thoroughly for army use, and recently advertised for proposals for furnishing five bicycles for the purpose. Result: Bids from $50 to $85 each for other machines; our bid of $100 each for Columbias, their invariable price. And the Government selected

Columbia Bicycles

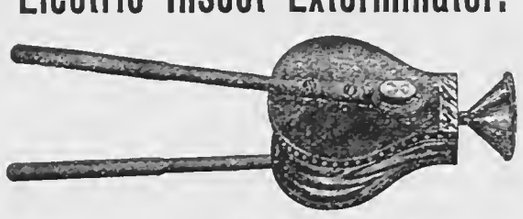
STANDARD OF THE WORLD

The experts who made the choice decided that Columbias were worth every dollar of the $100 asked for them.

If you are willing to pay $100 for a bicycle, why be content with anything but a Columbia?

POPE MANUFACTURING CO., Hartford, Conn.

Electric Insect Exterminator.



Death on Potato Bugs and all Insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.

CHAS. H. CHILDS & CO., Utica, N. Y.

SPRAY YOUR FRUIT trees, vines, lawns, flowers, chickens, and kill the insects with the **Improved 'DAISY' Sprayer.** Very durable, guaranteed, and lasts for years. 150,000 sold in ten years; has rubber hose and throws constant stream 50 feet. Latest recipes for killing insects. No. 1, heavy tin, brass valve, $1.65; No. 2, iron, brass valve, $2.25; No. 5, heavy brass (fine), $5.00. *Express prepaid. Agents wanted. Catalogue free.* W. H. Johnston & Co., 25 Eagle St., Canton, O.

ARMSTRONG & McKELVY Pittsburgh.
BEYMER-BAUMAN Pittsburgh.
DAVIS-CHAMBERS Pittsburgh.
FAHNESTOCK Pittsburgh.
ANCHOR, ECKSTEIN } Cincinnati.
ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION } New York.
SOUTHERN, SHIPMAN } Chicago.
COLLIER, MISSOURI, RED SEAL, SOUTHERN } St. Louis.
JOHN T. LEWIS & BROS. CO Philadelphia.
MORLEY Cleveland.
SALEM Salem, Mass.
CORNELL Buffalo.
KENTUCKY Louisville.

WHAT IS BRIGHTER, more attractive, than the homestead painted white, with green blinds? It may not suit the critic, but we like it and it will please the owner. Painted with

Pure White Lead

and Pure Linseed Oil, it will look fresh and clean longer than anything else; if properly applied, it will not scale, chip, or chalk off, but forms a perfect base for subsequent repainting; is therefore economical.

To be sure of getting Pure White Lead, examine the brand (see list of genuine brands). Any shade of color desired can be easily obtained by using NATIONAL LEAD CO.'s brands of Pure White Lead and Tinting Colors.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
1 Broadway, New York.

BUY "DIRECT FROM FACTORY," THE BEST
MIXED PAINTS
AT WHOLESALE PRICES and SAVE Dealer's Profits.—Delivered FREE,
FROM THE OLDEST MIXED PAINT HOUSE IN AMERICA,
Manufacturers of **INGERSOLL LIQUID PAINTS,** proved by 54 years use to be the most durable and color-lasting, and the only Paint "Officially Endorsed" by Grange and Farmers Alliance.

Our Book **Every Man His Own Painter,** is full of information about Mixed Paints, White Lead, etc.; Exposes frauds, tells what Paint **TO USE,** and what **NOT TO USE** for all purposes. Directions for House, Barn and Roof Painting, quantity required, Harmonious colors, etc. Valuable facts for Paint Users.

We can Save you Money.—You may as well use the **BEST PAINT,** when it **COSTS LESS** than common paints at Retail. Write for **Wholesale Discount Prices Beautiful Sample Color Cards** and **Our Book,** mailed **free.** BIG CASH SAVING WILL SURPRISE YOU.

O. W. INGERSOLL, Prop., No. 246 Plymouth Street, BROOKLYN, N. Y.

THE **PEPPLER SPRAYER**
SIX-ROW
For Trees, Potatoes and Vineyards.
HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.
POSITIVELY WARRANTED **THE BEST ON EARTH.**
Catalogue free. Address
THOMAS PEPPLER,
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SPRAY PUMPS
21 STYLES.
BEST and CHEAPEST.
Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address
WM. STAHL, QUINCY, ILL.

A SPRAYER $2.50
Express Prepaid.
THE COMET Double Acting Sprays from bucket or barrel 50 feet. made on new scientific and mechanical principles.
Send for free catalogue which will make it plain to you that I have the sprayer you want. H. B. RUSLER, Johnstown Ohio, U. S. A.

SAVE THE POTATOES
From the bugs with one of my
PARIS GREEN SPRINKLERS.
(GRAY'S PATENT.)
If tried once will never be without it. Can sprinkle more than one acre in an hour with it. It saves half of the Paris Green against any other method. Price $3.50
Write for circulars to E. Goettsche, Mfr., 1049 Milwaukee Ave. Chicago, Ill.
MENTION THIS PAPER.

SUCCESSFUL FRUIT GROWERS
SPRAY THEIR TREES.
THE DEMING SPRAY PUMPS ARE THE "WORLD'S BEST"
Send for complete catalogue and treatise on spraying, mailed FREE. The DEMING CO.
Henion & Hubbell, Western Agts., Chicago, Ill. Salem, Ohio.

FIRST REASONABLE OFFER ACCEPTED for a Myers perfect Knapsack Sprayer, Copper Tank, Bordeaux and Vermorel Nozzles; perfect order; new last season; only used twice. Also a Myers Deep-Well Force Pump; brass-lined cylinder; glass valve seat, and about 90 feet of 1¼-inch galvanized pipe, and ½-inch galvanized steel rod and all connections; is perfect, and practically new.
THOS. GILLILAND, Sharon, N. Y.

Save Time!

Adjusted to dust two rows of vines at the same time whether close or far apart. One pound Paris-green, dry, to the acre, and one acre per hour easily dusted.

One pound Paris-green, dry, equals 150 gallons of the old-style solution.

A grower writes: "Just what every potato grower wants, even if he plants only one acre. I have 40 acres and have saved in labor $50 by using the gun. Write for catalogue and prices. Ask for Leggett & Brother's Pure Paris-green—it is the best.

LEGGETT & BRO., 301 Pearl St., New York
WM. T. LEGGETT, Pittsburgh, Pa.
Wholesale agent for Pittsburgh and vicinity.

ONCE USED,
ALWAYS USED.

Bigelow's Liquid Paris-Green and London Purple. Mingles freely when put in water. Never settles. Nothing to clog the sprayer. Guaranteed not to burn the foliage. Sure death to all insects that feed on vegetation

Bigelow's Bordeaux Mixture
Prevents and destroys all fungous growth, viz., blight, rust, smut, rot, etc. Circulars and calendars giving full instructions in spraying, sent free on application.

BIGELOW & CO., 679 Larrabee St., Chicago, Ill

THERE ARE TWO CLASSES
Of Spray Pumps.
"ECLIPSE"
and "the others." The "ECLIPSE" is up to date. The others, ? ? ? ?

SEND FOR CATALOGUE.
MORRILL & MORLEY,
Benton Harbor, Mich.

I SELL THE **ECLIPSE SPRAY PUMP**
Because it is the *BEST. Try* it and *you* will agree with *me.* Send for catalogue. WALTER F. TABER, Lakeview Fruit Farm, Poughkeepsie, N. Y.

SPRAY PUMP "EMPIRE KING." The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass pinnger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

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PRICE, ONE DOLLAR A YEAR.

To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

ADVERTISING RATES.

Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.
Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MARCH 28, 1896.

SPEAKING of animals "cloying" on a well-balanced ration, Smiths & Powell write us that they have frequently had indigestion in their herd caused by cattle eating clover, which is certainly well enough "balanced." They have also had trouble of this kind in pastures where there was little, if any, clover. Some animals are natural gluttons, and will surely eat more than the system requires if permitted to do so. Prof. Roberts makes the point that changes in foods or combinations of grains are useful, because they give the food a better taste, and thus induce the animal to eat it with more satisfaction. The tongue, as well as the stomach, should be consulted in making up the balanced ration.

⊙

A NEW JERSEY local paper contains an advertisement in which an "experienced hand" offers to hatch eggs for others with an incubator. Why isn't here an opening for many a bright boy or girl in different parts of the country? With the introduction of the Leghorns and other non-sitting breeds, many people have trouble in getting sufficient chicks hatched, and an incubator with a competent operator, would be a boon to them, as well as a source of revenue to the owner. Quite a business is done, too, in some localities, by enterprising persons hatching and selling chicks from the incubators. This is a good way to dispose of some of the surplus eggs this year, which seem to be so depressing to market prices.

⊙

DR. KILBORNE states (page 229) that under the New York laws, it is illegal for a farmer to dishorn cattle for money unless he has been registered as a practicing veterinarian. It may be true that some of the farmers who arm themselves with a saw and a pair of clippers and go into the horn-cutting business, do a bungling job; yet there are other careful men who do satisfactory work at a fair price. It does not seem fair to crowd them out of their business. Under this law, as we understand it, a man without any previous practice whatever, may cut the horns off his own cattle and not be prosecuted, even though he do a barbarous job! The law seems designed not so much to prevent loss of blood, as to prevent loss of fees!

⊙

HERE is an American sentiment that might well be incorporated in the platform of every political party and every farmers' organization in the land.

Poverty is a poor excuse for not purchasing clover seed to sow in the spring. The question is not so much whether one can afford to buy it. The soil robber has had poverty for an excuse long enough. He should move further west and let the men remain who will keep up the fertility. It is bad enough to rob graves, but do not be guilty of robbing those yet unborn by taking away what ought to be theirs by inheritance, namely, a fertile soil.

Where do you suppose that comes from? From one of those "abandoned" farms in New England? Not a bit of it—the words are taken from the Iowa Homestead—a paper representing a section west of the Mississippi River. So the soil robber has made a dent even on the rich prairie lands of the West—has he? Clover is a splendid friend in need, but before 15 years are past, both bone and potash will be needed to reinforce clover. There are many farms throughout the eastern States that have been nursed to health from disease by doses of bone and potash. The farmers who did the nursing will be as little inclined to accept unchallenged the results of these German scientists, as a mother would be to believe somebody's statement that raw potatoes are as good for her baby as well-cooked tubers!

IT was Fred Grundy who told us of a man who made "A Fortune in Two Acres." Mr. Jenkins, who tells us about his little place this week, is more modest, and credits his two acres with a *living*. Yet, we will venture to say that many a 100-acre farmer would willingly change "livings" with Mr. Jenkins. The story is told in a sensible and interesting way. The quartette of strawberry, cabbage, cauliflower and celery sing in complete harmony, and Mrs. Plymouth Rock and Miss Leghorn play a duet on the organ. We are not going to advise every dairy farmer to sell out and move to town, but there *is* a lesson for every one in this simple story. That is, to make the acres that you cultivate produce full crops by feeding and cultivating well, and planting the best varieties.

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THE present agitation for purer and cleaner milk, is pretty likely to lead to a demand for large near-by dairies that can be regularly inspected. The success of Mr. Francisco's "certified milk" farm shows what may be expected in the near future. A large and increasing body of customers will want their milk produced under the eye of the sanitary officers. Such milk producers cannot afford to breed their own cattle. Their land is too expensive to be used as pasture for young stock. They will be obliged to buy heifers or young cows in order to keep up their herds. This will open up new business opportunities for stock farmers on the cheap lands back from the railroads. Let them breed large and healthy heifers of the dairy breeds to sell with their second calf, and thus make a business of supplying these suburban dairies. There is a good profit in such heifer-farming for those who will breed the right sort of stock.

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LIVE poultry is always sold in this market at so much per pound. But the time has passed, when a fowl is a fowl, no matter what the size. The larger fowls sell for one-half to one cent per pound more than small, even though the latter are in equally good condition. The largest stock comes from the most northerly points, and the smallest from the most southerly. That from the West seems to come between these two. Heretofore receivers have tried to work in the southern, so far as possible, at approximately western prices. But while this may be done on a bare market, it will no longer work on the ordinary market. Supplies of southern are constantly increasing, and growers should aim to increase the size of their fowls in order to realize the highest prices. In addition to the improved shipping cars now in use for live poultry, a steam cooker is reported that shall supply warm food to the fowls on the journey instead of cold.

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THAT is a very interesting article by Mr. Cottrell, on page 228. We are glad to have this side of the "balanced ration" idea brought out so forcibly. THE R. N.-Y. has always argued against the feeding of large quantities of cotton-seed meal unless accompanied by some decidedly laxative food. There is far more science than sense in that ration mentioned by Mr. Cottrell as suggested by our station workers. Another fact is that our different cattle foods vary more or less in composition. We know that some unscrupulous dealers mix worthless oat hulls with horse feed, and it would be possible for them to put dry sawdust with bran. The remedy for this will be to compel dealers to sell these foods by analysis. On Governor Morton's farm to-day, grain is bought on analysis just the same as fertilizer. One of the chief values of scientific study is that it teaches the feeder to be exact and thus not only to know what he is feeding animals, but to demand that the dealer deliver the articles that he is paid to deliver. It will pay to *study* that article. It is a valuable contribution to the literature of feeding animals.

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PROF. GEO. C. WATSON, of the Pennsylvania Experiment Station, reports what seems to have been a genuine case of spontaneous combustion in a hay mow. For several days, a peculiar smell of burning was noticed in and about the barn. On the evening of October 16, fire was seen dropping through the floor under a certain mow 18x23 feet, and 23 feet high. An alarm was sounded, and the hay was finally removed safely from the barn by pitching it out through a hole in the barn's side, and keeping it thoroughly wet down while doing it. The whole center of the mow was hot and smoking—a large portion of the hay being thoroughly charred. The bottom of the mow contained corn fodder with second-growth clover and Timothy packed in above it. The floor of the mow was of two thicknesses of boards, and the sides were of matched lumber. This, doubtless, saved the barn for, had there been more draft, the hay would, in all probability, have burst into flame. There seems little room to doubt that this was a case of true spontaneous combustion, and it may explain some of the mysterious fires that have occurred in barns and stacks.

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FARMERS have long been aware that horse breeding was much less profitable than formerly, and the growing use of bicycles, and the adoption of electricity on street-cars have been given as the reasons. But breeders are not the only ones who have suffered. In this city not long since, one of the oldest and most extensive dealers in horses made an assignment. He had handled thousands of horses every year, but for the reasons given above, his trade had fallen off heavily. Not many days after, a riding school which formerly did a heavy business in teaching horsemanship, failed because so many had taken to bestriding the bicycle instead of the horse. Shortly after, another old-established firm that dealt in wagons, harness and horse furnishings, went to the wall because of the diminution of trade. Many livery stable keepers have seen their business dwindle away, and some of the shrewdest ones have put in a stock of bicycles to let instead of horses. Many wagon dealers have also included bicycles in their stock in trade. Meanwhile no business in the country is enjoying such a boom as the bicycle trade. The amount of capital invested is tremendous. It is an excellent illustration of the manner in which one trade may be built up at the expense of others.

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BREVITIES.

Miss Biddy's life is hard at best,
Full oft' she drinks life's bitter dregs,
At every hand an evil guest
Steps out to stop her flow of eggs.
The creeping rascals clad in fur,
The winged fiends in feathers clad,
It would be fortunate for her
If these were all the foes she had.
But no—there comes a minor strain
Within the bravest of her chants,
The pest that causes her most pain,
Comes walking—not in fur but pants.
The careless man designed by fate
To hold dominion o'er her days,
And with his carelessness abate
The even current of her lays.

Good roads by bad men!

LAZINESS is ex act science.

EVOLUTION beats revolution.

THRASHING fertilizers—page 215.

A "BUD of a boy" is a son flower.

STUDY that plank frame barn model.

A LADY who will appreciate your card—Mrs. Cow.

A GOOD maxim gun for you to stick to is, "I will."

READ what Mr. Rawson says about celery—page 214.

AN ounce of sleep may be worth a pound of medicine.

BETTER get off the fence than to stay there and be offensive about it.

WHAT'S the difference between barnyard manure and stable manure?

FRED GRUNDY comes to the defense of J. A. W. in the poultry keeping battle.

THE objector is all right so long as he doesn't have an objectionable object.

IT is a good rule to have strawberries follow the crop that is most heavily fed.

To bring the surplus rooster up to book—kill him and dress him—give him to the cook!

WE have a two-foot rule at our house—the baby is about 24 inches from head to toe.

FEW peaches this year. People will eat more melons. That ought to mean better prices.

IT'S very hard when people seriously contemplate the use of potatoes as manure! See page 217.

THERE is another "revolution" in cow feeding—page 228. Good pasture grass *is* a "balanced ration."

WE have lately heard of a case where oats were so full of wild mustard seed that a horse could not eat them!

IT cost $20 an acre to subsoil some of those hard clay fields on Governor Morton's place. The soil was baked as hard as a brick.

WE understand that man-power machines on the principle of Breed's weeder, are now made. They are to be pushed along like the ordinary wheel hoe.

WHISKY! whisky! it may make you frisky—perhaps for a part of an hour. You think you're in clover, but when it blows over, both life and digestion are sour.

IT is a good thing to let the horse gnaw corn off the ear. It will prevent lampas or a growth of the gum down over the teeth. It is on the same principle as that of urging the children to chew crusts of bread.

PAT her on the back! Pat her on the back! Who? The good old Jersey cow that never jumped the track. Pat her on the back! Mellow up her hide! Take your curry comb in hand and rub both back and side.

ON page 114, we had an account of a Massachusetts bone-grinding business. In answer to several questions, we would state that a six-horse-power engine is used, and that the bones are kept for seven hours in the tank under a 60-pound steam pressure This softens them for grinding.

THERE was once a man who neglected his home market because it was too much bother to "peddle." His produce went in bulk to the distant city. Great was his surprise one day to find that his own produce was shipped back from the city to his own town for sale! Did you ever know that man?

THE FARMERS' CLUB.

(CONTINUED.)

NORTH OR SOUTH FOR STRAWBERRY PLANTS

s there any difference in the vigor of northern or southern-grown strawberry plants? Three years ago, I received plants from Ohio and New York which grew vigorously and made many plants; last spring I set fine-looking plants of the same varieties from Maryland, and they made few sickly-looking plants. A. G. W.

Pennsylvania.

The Matter Well Considered.

So far as I have observed, there is no uniform difference in the vigor of strawberry plants from the North or the South, and I imagine that the differences which A. G. W. has observed, are those which are merely incidental to the soil or the treatment which his particular plants happened to receive. There is considerable difference in the habits of plants grown North and South, but so far as the mere vigor of strawberry plants is concerned, I do not believe that there is much difference. L. H. BAILEY.

New York.

We plant both northern and southern-grown strawberry plants each year, but have never found that the northern-grown plants were any more vigorous than those grown in the South. The season was, probably, the cause of the poor growth of plants. Strawberry plants made little growth last season, except those that were frequently cultivated so as to conserve the moisture of the soil. It is possible that the plants from Maryland were infested with the root aphides, and they caused the sickly growth. In the fall of 1894, I examined one plantation of 12 acres, that had been set with the intention of selling the plants, but which was attacked by the root aphis, and so poor a growth of plants had been made, that none was sold from the entire plantation the past season.

Delaware. M. H. BECKWITH.

The growth and size of plants depend very much upon the character of the soil upon which they are grown. I have always had the best plants when grown upon a deep, clay loam, well fertilized, where the roots can obtain plenty of moisture, and attain that vigor and vitality that insures their growth when transplanted. This condition I have never seen upon light, sandy soils. I have received from the South, 1,000 plants in a package that would hold only 700 of those grown upon the clay soil, and last spring I received from North Carolina 5,000 plants in a barrel, in which I could get but 2,000 plants of my own growing upon clay soil. Soil conditions and careful cultivation are, therefore, the factors in plant production, and the vitality of the plants depends upon these wherever they may be grown

New York. WALTER F. TABER.

I think that there is no difference in the vigor of strawberry plants, grown in the North or in the South. There is, however, great difference in the vigor of strawberry plants that are grown in the North as well as those grown in the South. Plants from beds that have been set but one year, if the weather was favorable the previous fall, are well-rooted and vigorous, whether grown in the North or South. Careless handling, when taking up, exposure of the plants to sunshine and drying winds, will seriously injure the best plants, and greatly impair their vigor. Unscrupulous dealers frequently sell plants taken from bearing fields or beds. These are never so vigorous, although they may look healthy and strong. It is not fair to compare the results of plants set in different seasons. The time A. G. W. set his plants three years ago, may have been favorable to their early start and rapid growth; while, last spring, the conditions may have been essentially different. If possible, I choose to procure plants near home, see them taken up, and be sure that they have no unnecessary exposure before they are set. These conditions, which are of the first importance, are only to be assumed from the reputation for care, that the grower of plants can present. I have found that not all successful fruit growers are reliable shippers of plants.

New York. W. D. BARNS.

Milk from Ensilage Is All Right.

D. H., Almond, N. Y.—1. We are sending milk to New York in this vicinity, through a milk company. Nearly all the farmers are feeding ensilage. The company complains that the milk is strong of the ensilage, and has cut the price one-half cent per quart, claiming that it is the best it can do. Do you know of such complaints against silos in the city? If so, what shall we do? We must use our silos; we cannot raise enough hay to keep our stock, and we wish to ship the milk or cream. The company claims that it cannot sell ensilage cream. 2. Will it pay to buy an incubator for raising chickens? Are these machines practical for a beginner in the poultry business? Which kind is best—hot-air, hot-water, or steam? What brooders are best?

ANS.—1. We showed this letter to several of the leading milk dealers of this city, and asked them what they thought of it. They all gave substantially the same replies. The answer of one includes the others. He said: "The best milk we get is made from ensilage—good ensilage, of course, as we wouldn't expect to get good milk from poor ensilage any more than we would expect to get good milk from any feed of poor quality. I don't believe that this company can distinguish between the milk made from ensilage, and that made from other feed. The farmers can't get along without feeding ensilage. They must use it or go out of the business. The reduction in price on any such ground, is ridiculous. It is simply a mighty poor excuse. If the milk was not good, the reduction in price wouldn't make it any better, would it? The company's claims are nonsense, so far as the use of good ensilage is concerned." Which all agrees with our own ideas, but, of course, we were glad to have them confirmed by others who are right in the business of handling milk and cream.

2. Will it pay a farmer to buy a self-binder, or a horse-rake? It all depends upon the farmer and the work he has to do. It wouldn't pay some. Some might do their harvesting in the primitive ways of our forefathers. It won't pay some to invest in incubators and brooders. But no poultryman who is doing a business of any dimensions, especially in market poultry, would think of doing without these aids. The best kinds, other things being equal, are those which receive the most intelligent care. There are cheap machines on the market, and it is unreasonable to expect these to equal the more expensive machines. They all require intelligent attention and care to do good work. The Prairie State, Pineland, Monitor, and others, are all good machines, and are doing practical, satisfactory work on hundreds of poultry farms throughout the country.

A Succession of Fodder Crops.

Several Subscribers, Connecticut.—What is the earliest crop we can sow to provide green fodder for cattle? What will make a succession through the season?

ANS.—The following fodder schedule was adopted by Mr. E. C. Birge of Southport, in 1892. It shows where the different crops were sown and cut, and how they followed in the succession:

	Fodder.	Seed Per Acre.	Sown.	Cut.
1	Rye	2 bushels	Sep. 1, '91	May 14-30, '92.
2	Clover	8-10 lbs. in winter grain	April 2, '91	June 1-10, '92.
3	Pasture only			June 10-21, '92.
4	Oats Peas	2 bushels 1½ bushel	April 1, '92	June 21, to July 7
5	Oats Peas	2 bushels 1½ bushel	April 8, '92	July 8-18, '92.
6	Evergr'n corn	Pl. 3 ft.x3. 5 ker.	April 20, '92.	July 19.
7	Ensilage corn			Oct. 8, silo closed
8	Barley Peas	2 bushels 1 bushel	Aug. 13, '92	Oct. 9-20, '92.
9	Cured corn fodder and rye pasture.			Oct. 21-Nov. 13.
10	Ensilage.			

For example, rye sown September 1, gave green food May 14, and so on through the season. By means of this system, 24 full-sized cattle are carried on 29 acres. That is, all the coarse fodder for them is grown at home. The green fodder is cut and fed, and if any of it is left before the next crop is ready, it is cut and cured for hay. The ensilage corn and some of the clover, are put into the silo. Notice how the barley and peas sown August 13, gave timely fodder in the fall.

EARLY CUT GRASS FOR COWS.

A BALANCED RATION WITHOUT GRAIN.

At nearly every farmers' institute held in Vermont for several years past, more or less has been said about the value of early-cut hay as a perfect dairy food. Reference was frequently made to an old Scotchman named Amasa Scott, living in the town of Craftsbury, in northern Vermont, who has made a practice of feeding his dairy cows nothing but early-cut hay, or grass, at all times of the year, getting in return, more butter than any of his neighbors who feed ensilage or concentrated mill feeds.

I recently looked this matter up, and I was agreeably surprised at the results of Mr. Scott's method of feeding. He has a small farm, and keeps but few cows, feeding them in the stable all the year 'round. In summer, their only feed is freshly-cut grass, and in the winter, 8 to 10 pounds of hay to each cow, morning, noon and night, and three quarts of cut potatoes, or other roots, morning and evening. He keeps his meadow in good heart by frequent applications of barnyard manure, and cuts his first crop of hay from June 1 to 10, followed by another cutting the last of July, and a third crop the last of September. Each cutting is short, tender grass, and looks almost as green now as when cut.

As to the results, Mr. Scott's cows are not thoroughbreds, but are good grade Short-horns, Jerseys and other crosses, yet of good capacity, and dairy form. For many years past he has averaged over 500 pounds of butter per cow as shown by his daily records, which he has kept with great care. One of his cows, a large, fleshy animal weighing about 1,000 pounds, has been giving milk 26 months continuously. The first 12 months, she produced 647 pounds of butter; then, as a farrow, 478 pounds the next 12 months, and 75 pounds in the two months of the third year, making in all 1,200 pounds of butter in 26 months.

Mr. Scott has not only demonstrated that early-cut hay is a perfect and economical ration for dairy cows, but for fattening animals as well. Some years ago, he fattened a pair of steers that, as two-year-olds, weighed a trifle over 1,300 pounds each. Mr. Scott is now past 86 years of age, has lived in Craftsbury over 40 years, and says that in all that time, he has never bought any grain or meal of any kind for his cows. Several members of the State Board of Agriculture have visited him at various times, and they all vouch for the accuracy of his statements, and the business-like way he has of managing his little farm. Mr. Scott further says that any farmer can increase his butter production at less cost for feed, if he will but follow the same course of treatment that his cows get; also that when he buys a cow from a neighbor, it takes him a year or two to bring her up to her best production. His experience has been an object lesson and a help to many of our Vermont farmers, and while his method of feeding may not be practical for every one to adopt, yet there seems to be more virtue in early-cut hay than most farmers are aware of.

C. W. SCARFF.

BUSINESS BITS.

CANNED meat for poultry is put up by the Hollis Dressed Meat and Wool Company, 20 North Street, Boston, Mass. It is fresh meat cooked, ground and sealed, so that it will keep indefinitely until opened.

MRS. S. G. TREMAIN, Hill View Farm, Lake George, N. Y., is offering her bull, Pedro's Meridale Pogis, for sale, as his dam has dropped a full brother. Hill View Farm has only the best blood; and this bull is one of rare breeding.

A REPRESENTATIVE of THE R. N.-Y. who recently visited the Mt. Airy Park Farm, reports having seen a fine herd of Ayrshires, also some good Holsteins, and Dorset Horn rams. B. Luther Shimer, Bethlehem, Pa., is the proprietor. Some of the stock is for sale.

THE green-bone cutters made by Webster & Hannum, Cazenovia, N. Y., have an automatic feed that allows the operator to use either hand in turning the hand-power machines. They are warranted not to clog with clean meat. They also have power machines, and satisfaction is guaranteed or money back.

WE have had several inquiries recently for small butter packages for shipping butter to private customers. We refer these to the Record Mfg. Co., 111 Main Street, Conneaut, O. They make air-tight, sealed packages that are just the thing for this trade, and, in fact, for any trade. They are made in nice sizes. They will send fuller particulars on request.

THE poultry department of Gov. Morton's Ellerslie Stock Farm, has 10 Pineland incubators of 300-egg capacity each. These have been put in since the fire which destroyed the plant two years ago. Mr. Seely, the poultry manager, thinks the Pineland easier to manage than some others that he used before the fire. The Pineland is made by the Pineland Incubator and Brooder Company, Jamesburg, N. J.

WE have used the P. & B. Compound as a tonic and food for horses and cattle, with excellent results. Sometimes, the most carefully balanced rations will fail to supply the small amounts of certain elements needed to keep an animal in perfect health. A small dose of P. & B. Compound will quickly make up this deficiency. It is entirely safe to feed this tonic. Sold by W. A. Seward, 207 Broadway, New York.

THE Universal weeder and cultivator was invented in a rough country; yet it does its best work on smooth land. Its use is to cultivate the soil on the surface, breaking up the crust, killing weeds and conserving moisture for the plant by preventing evaporation. This weeder was tried on the Rural Grounds before it was put on the market, and THE R. N.-Y. was the first paper to call attention to its advantages. Where the ground is suitable, there is no other implement to take the place of the weeder. It is made by the Universal Weeder Company, Boston, Mass.

WHEN they were discussing cheap potatoes last fall, did you notice how many of the growers claimed to save money by using an automatic potato planter? That was one great item in cutting down the cost of a bushel. The Aspinwall planter is an old, reliable machine that may be praised in the highest terms. It plows a furrow, picks up and drops the seed, scatters fertilizer over it, fills up the furrow, and, if desired, throws a ridge of earth over it. All this is done by the labor of two horses, and with proper conditions, 10 acres are covered in a day. For further particulars, write to the Aspinwall Mfg. Co., Jackson, Mich. They also make a potato cutter.

THERE is no reason under the sun why farm implements, as well as farm buildings, should not be kept constantly protected from the weather by a good coat of paint. There is every reason why they should have this protection. The saving that might be made on farm tools alone by paint, would pay the taxes on most farms from year to year. There can be little excuse for neglecting this work now, since ready-mixed paints can be procured so easily and cheaply. O. W. Ingersoll, 246 Plymouth Street, Brooklyn, N. Y., makes a business of manufacturing and furnishing ready-mixed paints of any color desired. He sells direct to purchasers, and delivers it free of charge, so there are no dealers' profits and no express charges. Better send and get his book, "Every Man His Own Painter," which will be sent free. Afterwards, you can order the paint you need to cover every implement on the farm.

WEBSTER'S INTERNATIONAL DICTIONARY.—In 1783, over 113 years ago, the first attempt was made by Noah Webster to prepare an American book "for facilitating the acquisition of our vernacular tongue" and for presenting a standard for pronunciation. This was followed by other books until, finally, Dr. Webster published his "American Dictionary," which became at once the standard dictionary of the English language. There is growth and development in a language, as well as in everything else, and during the past 100 years, many new words and new shades of definition—not to speak of new methods of spelling—have been drafted into the service of the English tongue. The old Webster's Dictionary has fully kept pace with this growth, and to-day, the "International," or unabridged edition, is generally regarded as the highest authority for spelling and pronunciation. Years ago, when a young man, Noah Webster went about among printing offices urging compositors to change the spelling of such words as "centre." He started a great spelling reform in this way, and it is but natural that newspaper men of our day should go to the same authority for their spelling. The International Dictionary is a marvelous collection of fact and information. It is used as the standard in THE R. N.-Y. office. The latest edition reflects great credit upon the publishers, G. & C. Merriam, Springfield, Mass.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

EVERY little while we receive a protest against the small space allotted to Woman and the Home. Certainly all of us who are interested in the home department, are agreed that more of it would be better. But it is quite impossible for a mere department of any paper to cover all the ground of as wide a field as woman and the home. It is our aim to make known to our many readers the great breadth of woman's kingdom, and while giving them a glimpse of this vast realm, at the same time to help them do the duties that lie nearest. Those who leave the kitchen and the farm to take up other work, are not so much in need of attention here, for they will make use of the many journals devoted exclusively to woman and the professions. This is an age of specialists, and every woman ought to be a specialist, since to her sex is given the special work of the home. If our home department has aroused an appetite for more, we are glad, and hope that no hungry woman will hold her peace until her wants are supplied, even though they require three or four of the woman's magazines.

*

THERE are so many things in city life so totally different from anything met in country experience, that it is a wonder that city and country people are not more unlike. For instance, the numerous beggars met in our city streets. While they are various in looks, ages, complaints and requests, they are so common as to receive hardly a glance from the average city passer-by. Some of them utter the most extravagant blessings while there is chance of catching the eye, and possibly a contribution; but as glibly, they mutter curses, after the retreating forms of the the unresponsive. We sometimes wonder whether the indifference with which most people treat these unfortunates, is a hardening, to be deplored, or merely an evidence of common sense. It is quite true, however, that there is a nearer approach to the feeling of fellowship between the travelers of our country highways than between the majority of strangers on city streets.

*

BEWARE of the person who is always ready to help you override your conscience; who meets your hesitation and expression of doubt before doing a thing which you don't think just right, by deprecating your objections and assuring you that, "It's all right." It is wonderful how quickly and easily such a person can explain away all the moral responsibilities which you are in the habit of considering as your guides. Young people most often fall victims to these bad advisers, and it is well for teachers to impress on young minds that each individual ought to follow his own conscience. A live conscience and an independent will, are a good team to take one through life by way of the straight and narrow road.

A WOMAN TRUSTEE.

"SO you are trustee again," exclaimed Mrs. W., as she glanced from her knitting toward her husband, as he entered the diningroom upon his return from the annual school meeting in the West District.

"No," he quietly answered, "I'm not."

"Why, you have the books usually assigned the trustee!" she answered glancing at the School Laws, Annual Reports and various other books which he laid upon the table.

"No, it is not I, but you!"

"I!" exclaimed Mrs. W. in surprise; "why, I never attend the school meetings, and I never thought of being trustee!"

"That may be true, but you are a taxpayer and perfectly eligible to the office. To be sure, not being present, you can refuse to serve and oblige them to call another meeting when, if elected, you will either be obliged to serve or pay a fine. Doubtless they would not insist, if they found you unwilling, but you are perfectly capable, and I advise you to go ahead; hire your teacher, make out your tax, and fulfill the duties of your office."

Mrs. W. was a thorough home woman, believing that the duties assumed by her as wife and mother were paramount to any other work or responsibility; but formerly a teacher, she was also interested in the education of the young, and after careful reflection, resolved to accept the office. The first thing to be done was to read over carefully the school laws pertaining to the duties of trustee. This done, she engaged for the greater part of the year a capable teacher, paying rather more than the usual price, knowing that there were several older scholars who would attend the district school, rather than go away to a high school, if a thorough, competent teacher were secured; so she adopted this course in spite of the grumbling of a few taxpayers having no children to send, and the few "old fogies" found in every district who think the old times good enough, and who say, "When we went to school, we were taught the three R's, Reading, 'Riting and 'Rithmetic; what was good enough for us is good enough for our children."

Regardless of these complaints, the teacher was hired and school progressed finely. There were no great reforms to be inaugurated in this district. It had been an unheard of thing for many years for a teacher to "board 'round." The school-room was neatly papered, and pictures were hung about the room, some of them drawings of the teacher and pupils handsomely framed; patent desks were in use, and at suitable times, the house was carefully cleaned.

Mrs. W., in reading over the school laws, found that the teachers could collect their pay at the end of each month; so she made out the tax for enough to meet running expenses until the public money could be used, and placed the tax list in the hands of the collector (also a woman) to be collected. The tax was larger than customary, as to save time, trouble, and be ready to pay the teacher on demand, it was made out for the year, in the fall, when the taxpayers had money; not delayed until the middle of winter or spring. Loud and long was the wail of certain individuals when the collector made known the sum to be paid.

"Why, I never heard of such a tax," said one, "I just *won't* pay mine;" but after the collector carefully explained that, doubtless, there would be no other tax during the year, he finally said, "Well, if this is the way, I just as soon pay now as ever." Another said, with a decided nasal twang, "Well now I calkerlated to go to the World's Fair, but guess I can't since this 'ere school tax came out; so much fer being run by the wimmen."

But the "wimmen" were firm; and the tax was collected, the teacher paid, and a language chart purchased. Although the schoolroom was fairly well equipped, it lacked a chart of any description, and when solicited by an agent, after careful examination one was purchased by means of which the primary pupils were taught a thorough knowledge of the rudiments of grammar.

Mrs. W. found that she really could be a competent trustee without interfering with home duties, that she had acquired much practical knowledge, and been the means of securing for the children of the district a year's good schooling, that compared, at least favorably, with any preceding year. The school is now thoroughly graded, as are all the district schools in western New York. A uniform system of text books has also been adopted; and the teachers must keep thoroughly abreast with the times or fail to receive a certificate to teach, as "Current Topics" is one of the many branches of study in which a teacher must be qualified to teach, even in a district school. ONE OF THE "WIMMEN."

PHILLIPS BROOKS: "We are haunted by an ideal life, and it is because we have within us the beginning and the possibility of it."

You have not read this before!

The "Pass-It-On-Society."

Probably many of our readers have already heard of this society and its work. It was started on a suggestion made by the Rev. J. M. Farrar, D.D., of Brooklyn, who writes, on February 8, 1895: "My Dear Sir: Booth's Pocket Inhaler works like a charm. The first inhalation gave relief. It is a blessing to humanity, and I am sorry it is not better known. *I add my name to the 'Pass-It-On-Society.'*" On December 5, 1895 (ten months later), Dr. Farrar writes: "I believe it is a real blessing to the afflicted." If you are suffering with **Catarrh, Asthma, Bronchitis, Catarrhal Deafness, Hay Fever, Rose Cold,** or any similar disease of the respiratory organs, send for **HYOMEI,** the new and wonderful *Australian "Dry-Air" treatment* comprised in

Booth's "Hyomei" Pocket Inhaler Outfit, by mail, $1.00.

Your friend would not "pass-it-on" to you unless convinced of its merit. In **ASTHMA** Hyomei gives *instant relief,* stops the cough, the wheezing and gasping, and makes breathing easy in a few moments time. In **CATARRH** it removes the offensive accumulations, clears the head, removes catarrhal deafness and purifies the breath. It cures **BRONCHITIS** permanently and robs **CROUP** of its terrors.

HOW THE "PASS-IT-ON-SOCIETY" GROWS.

Griffin, Ga., July 8, 1895.
Like Dr. Farrar, I want to join the "Pass-It-On-Society." I am so grateful for the good results that I have received from the use of Hyomei, and I have already spoken of it to a number of my friends.
C. I. STACY, Sec'y Y. M. C. A.

Buffalo, N. Y., Aug. 21, 1895.
In thirty years' experience in the practice of medicine I have never given my name in support of a proprietary remedy, until I met with Hyomei, which I indorse with all my heart (professional ethics to the contrary notwithstanding). Since testing Hyomei in Laryngitis, Bronchitis, Catarrh, Asthma, Hay Fever, I believe in it for itself, for what it has done, and I gladly add my name to the "Pass-It-On-Society."
S. H. MORRIS, M.D., 159 Franklin St.
P. S.—You are at liberty to use this as you may deem best.

Pass Christian, Miss.
I have been a sufferer from Catarrh and Bronchitis ever since last August; my pastor, Rev. O. W. Flowers, advised me to try your remedy. He has been using one of your Pocket Inhalers ever since last Spring, and has derived much benefit from it.
MISS BERTHA B. STEWARD, Harrison County.

New York, Feb. 1, 1895.
I have been troubled with Bronchitis for about four years. No medicine helped me. About two weeks ago I tried one of your Pocket Inhalers, which gave me immediate relief. Sunday evening our pastor, the Rev. Dr. Farrar, spoke with great difficulty, apparently from a heavy cold settled in his chest. I sent him one of your Pocket Inhalers. I inclose his reply.
HALSEY FITCH, 170-172 Chambers Street.
(*Dr. Farrar's reply is given above*).

Greensboro, Ala., Sept. 15, 1895.
Your Hyomei cured me of Catarrh after other remedies failed; will add my name to the "Pass-It-On-Society."
Yours truly,
W. M. SEAY.

New York, Sept, 20, 1895.
I take pleasure in adding my name to the long list of those whose lives have been made happier by the use of Hyomei. It is not only an instant relief to Catarrh sufferers, but will cure this disease entirely. I have been the instrument of inducing many friends and acquaintances to seek relief through its use. I have yet to learn of one who has not been benefited I want to "pass-it-on."
A. G. THOMPSON, 33 Wall Street.

AMERICAN UNION LIFE INSURANCE COMPANY, 44, 46, 48, Cedar St., New York, February 19, 1896.
Please find enclosed one dollar for which send one Pocket Inhaler Outfit to my friend, D. S. Walton, 134 Franklin St., City. It has done me so much good that I never cease recommending it to my friends and as you know have bought as many as 12 or 15 which I have given to personal friends, and have influenced more than twice this number to buy them, and I have yet to meet one who has not thanked me for recommending it. It has completely cured my little daughter of Catarrh, from which she has been suffering for years.
Very truly yours,
J. S. NUGENT (Treasurer).

Albany, N. Y., July 3, 1895.
I will tell you candidly your remedy has given me more relief from my Asthma than anything I have used, and really I have been so enthusiastic over it that I have made a great many converts, not only in Albany, but West Troy. The effect Hyomei has on me is very pleasant; when I am oppressed for breath, I inhale a short time, and the great desire to cough is gone. The little Inhaler is my constant companion.
MRS. SARAH E. BANTHAM, 359 Clinton Avenue.

HYOMEI is a purely vegetable antiseptic, and destroys the germs and microbes which cause diseases of the respiratory organs.

The air, thoroughly charged with **Hyomei,** is inhaled through the Pocket Inhaler at the mouth, and, after permeating the minutest air cells, is slowly exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It stops all spasmodic coughing instantly, clears the voice, expands the lungs, and increases the breathing capacity.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, consisting of pocket inhaler (made of deodorized hard rubber, beautifully polished), a bottle of **Hyomei,** a dropper, and full directions for using. If you are *still* skeptical, send me your address, and my pamphlet shall prove that **Hyomei** does cure. Consultation and trial treatment free at my office.

Hyomei Balm.—An antiseptic skin food for weak chests, burns, scalds, chapped lips, rough hands, frost bites, eczema, etc. Nothing has been discovered so effective for the purposes named. Price by mail, 50 cents.

Cures by Inhalation

R. T. BOOTH, 23 East 20th St., New York.

FOR MIND AND HEART.

Why be the first
With anxious zest,
To tell the worst
And miss the best?

To spread ill news,
Why take such pains
With words profuse
When God still reigns?

—*Mrs. M. A. Kidder.*

....WASHINGTON IRVING: "An inexhaustible good nature is one of the most precious gifts of heaven, spreading itself like oil over the troubled sea of thought, and keeping the mind smooth and equable in the roughest weather."

....MAX O'RELL IN YOUTH'S COMPANION: "Whenever I hear parents complain that their children 'run' the house, I tell them that it is quite right they should. The best-ordered houses are ruled by little girls from two to five years of age."

....FELIX ADLER: "The great advantage of marriage is to be fully known to some human being just as you are; to have your good impulses understood and your bad traits recognized and accepted for love's sake; to be found out and to be glad you are found out."

ODDS AND ENDS.

LINSEED OIL FOR HEALING SORES.—I have learned by experiment, though it was suggested by a friend, that nothing is more soothing or healing on an open sore, or for chafing on children or on old people, than raw (unboiled) linseed oil. After having used vaseline, both plain and carbolized, and many other things, all good, I have found that the oil seems to have more body to it, and forms a coating that remains longer, giving a better chance to heal. C. R. D.

BICYCLE RIGHTS IN ENGLAND.—England is practically owned by the bicyclists says Charles Dudley Warner in Harper's. They have the right of way; roads are kept in order for them; inns advertise and cater for their patronage as they used to for the commercial traveler. The warning bell makes teams turn out to let them pass; when at speed everybody must get out of their way; even in crowded London they nonchalantly assert their rights in the press of vehicles, and on the country highways their safety is so considered that signs are conspicuously posted on the brow of a steep declivity: "Notice to Bicyclists. This road is Dangerous." And this dominating army woman has now joined.

EDUCATED MOTHERS.—What greater aspiration can woman have than the high honors of true womanhood? We need more educated mothers. The mother-heart is all right, for God has made it true to nature; but the mother-head has many things to be set right by training and education. How many mothers of this generation are fully capable of properly training the child, mentally, morally and physically, as he should be? Early impressions are lasting, and if principles of right, honesty and justice were instilled in the mind of the child by the mother, we would not see so much dishonesty and bribery in politics or anywhere else. If our nation to-day is not as prosperous as it might be, we must look to the foundation stones on which this great fabric rests. "Woman makes the home and homes make the nation."

MRS. REBECCA MERTZ.

CURE FOR GOSSIPING.—When you find yourself gossiping about others in a way that you yourself would not like to be talked about, take it for granted that your mind has either fallen into a state of decrepitude from lack of wholesome nutriment, or that you have become morally ill, and need to be treated to a dose of out-of-door exercise, or to the reading of a good book. When small things have been talked to tatters, make a raid into a new domain for something fresh and new, and then tell all about it the next time the family is at table. Form the habit of always having something bright, or odd, scientific or literary, gay or amusing to talk about at meal times. Above all things, don't scold! It isn't a proper occasion. It never is, for that matter. Train the children to describe in detail what they have seen during the day. So simple a thing as a trip to the barn to see the cows, when prettily told, with due detail as to all the experience it includes, air, sky, trees, fences, shadows in the barn, the animal life, etc., will bring out the best kind of talent for story telling. When two go together, have each describe the little journey, and note the differences of impressions. To make much out of little, in the way of enjoyment and interest, is to be rich—rich in the best sense. M. W. F.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

The Best. The Rest. The Test.

There are two kinds of sarsaparilla: **The best—and the rest.** The trouble is they look alike. And when the rest dress like the best who's to tell them apart? Well, "the tree is known by its fruit." That's an old test and a safe one. And the taller the tree the deeper the root. That's another test. What's the root,—the record of these sarsaparillas? The one with the deepest root is Ayer's. The one with the richest fruit: that, too, is Ayer's. Ayer's Sarsaparilla has a record of half a century of cures; a record of many medals and awards—culminating in the medal of the Chicago World's Fair, which, admitting Ayer's Sarsaparilla as the best—shut its doors against the rest. That was greater honor than the medal, to be the only Sarsaparilla admitted as an exhibit at the World's Fair. If you want to get the best sarsaparilla of your druggist, here's an infallible rule: Ask for the best and you'll get Ayer's. Ask for Ayer's and you'll get the best.

ASK YOUR DEALER FOR
W. L. DOUGLAS $3. SHOE BEST IN THE WORLD.

If you pay $4 to $6 for shoes, examine the W. L. Douglas Shoe, and see what a good shoe you can buy for **$3.**

OVER 100 STYLES AND WIDTHS, CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

MYRA V. NORYS, Cranford, N. J. Rose-C. Br. LEGHORNS, the *best* breed; eggs, $1.50 per 15.

Your chimney has as much to do with your light as your lamp has.

The Index tells what Number to get; sent free.

"Pearl top" or "pearl glass."

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Pittsburgh Pa

The Complexion of your Walls

may be changed—made beautiful at small cost.

NEW WALL PAPERS

—all grades—50% less than common prices. Samples and guide to papering, FREE. Describe rooms and state price you want to pay. Paper hanger's outfit complete, $1.

CHAS. M. N. KILLEN. 1233 Filbert St., Phila., Pa.

FENCE? Machines and Fencing.

Steel Wire, Steel Pickets, Steel Posts, Steel Gates Indestructible, Cheapest & best farm fence made. Wire at Factory Prices. Catalogue free.

EMPIRE MACHINE CO., Richmond, Ind.

IT WILL NOT BLOW NOR JAR OUT

Dietz Driving Lamp

EST. 1840

It gives a powerful light—20 candle power

SEND FOR BOOK FREE

R. E. DIETZ CO.
60 Laight St., N. Y. City

Mention this paper and get special discount.

Why Pay Retail Price

When you can buy a custom handmade oak leather Harness direct from the mfrs. at wholesale price. Send 2c. stamp for Illustrated Catalogue, giving full description.

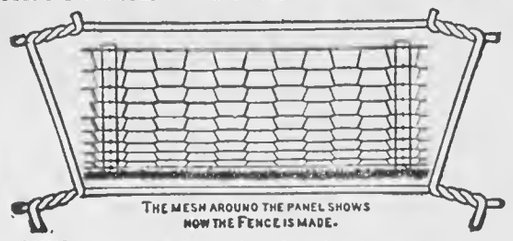
KING & CO., Mfrs.,
10 Church Street, Owego, N. Y.

Buy Direct

from maker, and save intermediate profits and have the maker's guarantee—a difference of 40 per cent. in your favor. Freight paid both ways if not as represented. **Carriages, Buggies and Spring Wagons.** Our 1896 Bicycles are marvels of beauty. You pay for the wheel and not for a fancy name. Send for Catalogue, free.

Binghamton Carriage and Cycle Co.
Binghamton, N. Y.

KEYSTONE WOVEN WIRE FENCE



Will turn your stock. Perfectly safe. 25 to 58 inches high.

If interested drop us a card and we will mail illustrated catalogue.

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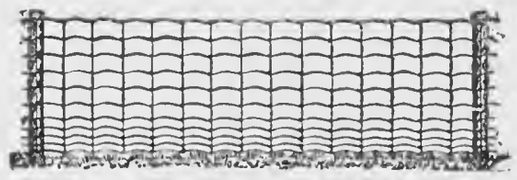
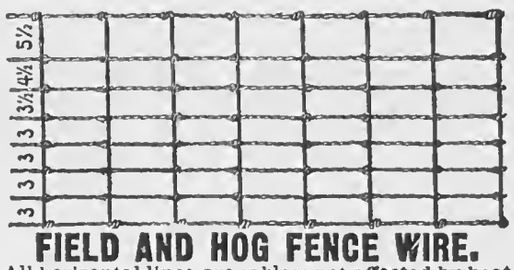
19 Rush St. PEORIA, ILL.



BRITISH GOLD COMING BACK

On Feb. 17th we received an order from an English Railway for another ten miles of fence, also a remittance in £. s. d. for the last ten miles. This third order proves that the favorite American fence suits the Englishman also.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



FIELD AND HOG FENCE WIRE.

All horizontal lines are cables; not affected by heat and cold; adjusts itself to hilly ground without buckling. Built for service and durability. Write for full information.

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ADAM'S

New Fence Catalogue is complete, and quotes Woven Wire Fencing which Can Not Sag. All kinds of Ornamental Steel Fence for Cemeteries, etc. Write W. J. ADAM, Joliet, Ills.

BOWEN CABLE STAY FENCE CO

16 to 24 cts. Per Rod.

$10 For a machine to build the cheapest strongest and best fence made of wire. No royalties, no farm rights, machine easily and quickly operated by any farmer. Send for large circulars

Strongest Combination

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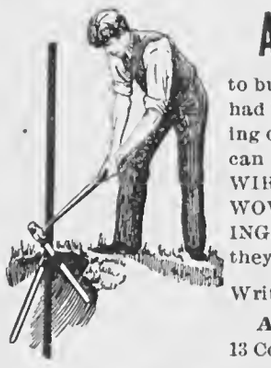

Are You Going

to build a FENCE? If so, you had better put your wire fencing on ANCHOR POSTS. They can be used with all kinds of WIRE, WIRE NETTING, or WOVEN WIRE STOCK FENCING. They will not rot, as they are made of steel.

Write for FARM CIRCULAR.

ANCHOR POST CO.,
13 Cortlandt St., New York City

FENCE MACHINES STRETCHERS RATCHETS, ETC. FREE CATALOGUE SUPERIOR MFG. CO. MARTINSVILLE, O.

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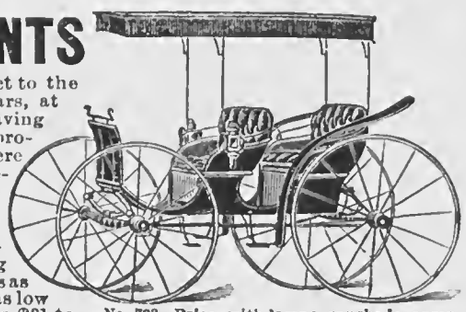
but have sold direct to the consumer for 23 years, at wholesale prices, saving them the dealers' profits. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 90 styles of Harness, 41 styles Riding Saddles. Top Buggies as low as $35. Phaetons as low as $55. Spring Wagons $31 to $50. Send for large Catalogue.



No. 16¼—Surrey Harness, Price $14.50. As good as sells for $20.

No. 723—Price, with lamps, sunshade, apron and fenders, $60.00. As good as sells for $90.

ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.

"A" Grade, $44. Style, Finish.

At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $60. Durability.

PIANOS! ORGANS! FREE!

TEST TRIAL FOR 30 DAYS IN YOUR OWN HOME. NO MONEY REQUIRED

PIANOS-ORGANS FROM $25.00 UP

Including a Complete Musical Outfit. CASH or EASY PAYMENTS.

NEW SOUVENIR CATALOGUE

A work of art illustrated in 140 colors. Worth its Weight in Gold. We pay charges on it and send it FREE, all you have to do is to ask for it to-day please. Remember this is the old established house of CORNISH & CO., the only firm in the world selling exclusively from Factory to Family direct. A single instrument at wholesale price. We save you from $25.00 to $250.00. Write at once to

Mention Paper. CORNISH & CO., Estab. 30 years, Washington, N. J.

As We Go To Press

"BASHFULNESS."

Nature makes odd combinations, sometimes, but the average reader and observer will hardly expect to find a bashful Yankee. Yet, in the great army of R. N.-Y. readers, we have all sorts of people. We have some smart Yankees at large who actually pull folks out of bed and make them subscribe, and then go back to sleep as happy as larks. Then, of course, we hear the other extreme. For example, here is a letter from a Vermont man that tells its own story:

"I have long regarded and always commended THE R. N.-Y. as the ablest and best farmers' paper on this continent. But my own engagements are such that I cannot possibly enlist directly in the work of soliciting subscriptions. And even though this were not so, a conscientious regard for the truth compels me to say that, personally and directly, I am not worth a picayune as a solicitor for any article, however meritorious. About the only success I ever scored along that line, was about 20 odd years ago, when, by some means or other, I was able so to influence a certain woman that she was moved to cast her lot with mine in a lifelong partnership—and I have felt sorry for her ever since."

They tell us that "pity is akin to love," so we will guarantee that the woman does not suffer. We are sorry that THE R. N.-Y. can't claim any part in bringing about that partnership, but the point we desire to make is, that our friend doesn't know what he would do if that woman were to get her eye firmly fixed on that piano, and make up her mind that it must be captured. Our impression is that our bashful friend would then make the effort of his life, and that farmers within a radius of 10 miles would either subscribe or "take to the woods."

Now, while this pleasant event may not occur, we desire to say to this friend, and all others like him, that we are much obliged to them for *saying* what they do about us. Even though they do not feel like *acting*, we are grateful for their good words. Opinions grow and spread, and a word just at the right time may be the bacterium that will grow into a subscription.

And now let us consider this note from a Pennsylvania man:

"My neighbors are so depraved that I can neither persuade them to give me a dollar for THE R.N.-Y., nor bring back my papers that have been loaned. So I shall have to send my dollar alone, as I do not think that we could do without the paper under any circumstances."

No comment of ours will do justice to such a condition of affairs, so we will let it stand for itself. Those neighbors will come along yet. Keep at them!

This big snow storm has delayed the contest somewhat, and the clubs are still small. Oh, dear! What a chance you have in the next 30 days to make some money! You can't do it by exercising your bashfulness and simply saying pleasant words—you must work hard. Here are the names of six workers who won the dollar prizes last week.

March 16.—Walter Johnson, Middlesex Co., Conn.
17.—S. S. Chandler Jr., Waupaca Co., Wis.
18.—W. S. Moore, Chenango Co., N. Y.
19.—Ronson German, Macomb Co., Mich.
20.—S. S. Chandler Jr, Waupaca Co., Wis.
21.—W. B. Burt, Suffolk Co., L. I., N. Y.

CROP AND MARKET NOTES.

The hay market is quiet, with a moderate demand.

It is hoped that the Easter trade will clean up the accumulation of eggs.

Trade in California dried fruits of all kinds has been steadily improving of late.

Creamery butter is higher than one year ago, by at least two cents per pound.

An association has been formed in Denmark to increase the export trade of that country.

It is estimated that Canada has shipped to British markets since January 1, 300,000 boxes of cheese.

The heaviest snow storm for several years has greatly interfered with business in this city during the week.

There is much complaint recently of the mottled color of the creamery butter. This lowers the price usually, at least, a cent a pound.

The New York Board of Health has found several cases where the meat from tuberculous cattle has been sold in this city, and has entered complaints with the State Board of Health. Some of these cases will be investigated.

The German duties on beef have been reduced about two-thirds. Most of the shipments of beef from this country are made directly from the Western packing houses. Under the reduced duties, exports are likely to increase largely.

The wholesale produce receivers of Philadelphia have organized for protcetion against dishonest and unscrupulous dealers. They have heretofore suffered heavy losses, and believe that a proper organization will remedy this, to a large extent, at least.

The sub-committee of the House Ways and Means Committee having in charge the many bills relating to filled cheese, have agreed on a substitute bill therefor, "defining cheese and imposing a tax upon and regulating the manufacture, sale and exportation of filled cheese." It defines cheese as the food product known as cheese, which is made from milk or cream, and without the addition of oils, fats, vegetable or other foreign matter. Substitutes for this article are to be known as "filled cheese," upon which special taxes are imposed as follows: Manufacturers to pay $400 per annum for each factory operated; wholesale dealers, $250 per annum, and retail dealers, $50 per annum. "Filled chese" is to be branded as such, and failure to do so is made punishable by a fine of $500 and imprisonment for one year. The bill is broader than the oleomargarine law, in that it imposes a tax of one cent per pound on all filled cheese exported. About the only opponents to this measure, are the manufacturers of filled cheese.

The annual meeting of the New York State Breeders' Association will be held at the City Hall, Hornellsville, March 26 and 27. The programme embraces addresses on various topics of interest to breeders, by well-known authorities, a question box and discussions. C. K. Mason, secretary, Hornellsville.

NIAGARA COUNTY, N. Y., PEACH BUDS.—Our peach buds were entirely killed on the night of February 17. There is not one bud alive in 1,000 Such a wholesale destruction of buds never occurred in this locality before. For the past 30 years, there has never been an entire failure of fruit in this vicinity. HENRY LUTTS & SON.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Experience

has proven conclusively that better **grapes** and **peaches**, and more of them, are produced when Potash is liberally applied. To insure a full crop of choicest quality use a fertilizer containing not less than **10%**

Actual Potash.

Orchards and vineyards treated with Potash are comparatively free from insects and plant disease.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

The Price of Wheat

has advanced 20 cents per bushel. Now get a big yield by applying, this spring,

NITRATE OF SODA,

75 to 100 pounds per acre. The increase in STRAW ALONE will pay for the Nitrate.

The Nitrate can be obtained of any dealer in fertilizers. A PAMPHLET, telling how to save $10 per ton on fertilizers, FREE. Address

S. M. HARRIS, Moreton Farm (P. O.). N. Y.

Seventeen Farmers

Have reported comparative tests which they have made recently with different kinds of fertilizers on potatoes in comparison with the Stockbridge. Several farmers made two and three tests at the same time, so that there were twenty-six experiments with other kinds as compared with nineteen experiments with the Stockbridge. The Stockbridge yields averaged 109 1-5 barrels per acre, and the other kinds of fertilizer 75 4-5, leaving a difference in favor of the Stockbridge per acre of 33 2-5 barrels. These experiments are detailed in full in the Stockbridge catalogue.

There is some reason for this. If the Stockbridge had been wanting in any particular, no such record would have been made.

For 23 years the **Stockbridge Manures** have led in field results. Everything that would improve their effectiveness has been done. For 1896 more potash has been added, in one case nearly 40 % increase, but there is no advance in the price.

The **Stockbridge Manures** are made **"Double Strength,"** and one ton will therefore go as far as two tons of other kinds. The forms of the plant food furnished are also best adapted to the different crops, and they can be relied upon to **insure** good results, as they have done for the past twenty-three years.

See our local agents or address

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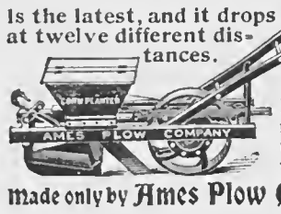

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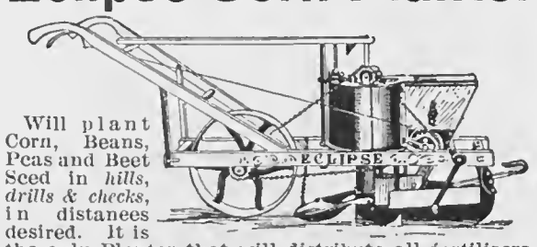

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MARKETS

BUTTER—NEW.

Creamery, Western, extras	22	@—
Western, firsts	19	@21
Western, seconds	16	@18
Western, thirds	13	@14
State dairy, half-firkin tubs, fancy	20	@—
Firsts	16	@18
Seconds	13	@15
Welsh tubs, fancy	19	@—
Welsh tubs, firsts	16	@18
Welsh tubs, seconds	13	@14
Tubs, thirds	11	@12
Western imitation creamery, firsts.	15	@16½
Seconds	12	@13
Western dairy, firsts	12	@14
Seconds	11	@11½
Thirds	10	@10½
Factory, fancy	—	@—
Factory, firsts.	12	@12½
Factory, seconds	10½	@11
Factory, thirds	9	@10
Rolls, choice	12	@13
Poor to good	9	@12

OLD BUTTER.

Creamery, State, fall make	13	@18
Western, summer make	12	@18
State, dairy, tubs, finest	15	@—
Firsts	13	@14
Seconds	11	@12
State dairies, firkins and tubs, finest	15	@—
Firsts	13	@14
Seconds	11	@12
State dairy, firkins, finest	15	@—
Firsts	13	@14
Seconds	11	@12
Tubs or firkins, thirds	10	@—
Western factory	8	@11

EGGS.

New-laid, fancy (nearby)	12	@	12½
Pennsylvania & Md., country marks	12	@	—
Western, fresh collections, fancy	11¼	@	11½
Southern, fresh collections, choice	11	@	—
Common to good	10½	@	10¾
Duck eggs, Md., per doz	28	@	29
Western, per doz	25	@	26
Southern, per doz	24	@	25

MEATS—DRESSED.

Veals, country dressed, prime	8½	@	9
Fair to good, per lb	7	@	8
Com. to med., per lb	5	@	6½
Small, per lb	3	@	4
Barnyards, per lb	4	@	5
Spring lambs, each	2 00	@	5 00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	7
60 to 80 lbs. per lb	6	@	6½
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4¼	@	5
Rough, per lb	3½	@	4½

POTATOES.

Bermuda, No. 1, per bbl	4 50	@	5 50
No. 2, per bbl	2 00	@	3 00
Havana, per bbl	4 00	@	5 00
Houlton Rose, per d. h. bbl	1 50	@	1 75
Maine Rose, per d. h. bbl	1 50	@	—
State Rose, per d. h. bbl	1 25	@	1 40
Maine Hebron, per sack	90	@	1 00
Long Island, in bulk, per bbl	65	@	85
State Rose and Hebron, per 180 lbs	75	@	1 00
Burbank, etc., per 180 lbs	50	@	80
Jersey, in bulk, per 180 bbl	50	@	75
State and Jersey, per sack	60	@	70
Common, per sack	50	@	60
Sweets, Vineland, fancy, per bbl	3 50	@	4 50
South Jersey, per double-head bbl	2 75	@	3 25
South Jersey, cloth top, per barrel	5 00	@	3 50
Jersey common, per barrel	1 50	@	2 00

DRY-PACKED POULTRY.

Capons, Phila., large, per lb	18	@	20
Medium sizes, per lb	16	@	17
Small and slips, per lb.	13	@	15
Western, large, per lb	16	@	17
Western, small and slips, per lb	11	@	13
Chickens, Phila., 3-4 lbs. per pair, per lb.	25	@	28
Phila., 4-5 lbs. per pair, per lb	18	@	20½
Phila., fancy, per lb	15	@	17
Phila,, fair to good, per lb	12	@	14
Jersey, per lb	11	@	13
State and Penn., choice, per lb	11	@	12
Western, choice, per lb	10½	@	11
Western, fair to good, per lb	8	@	9½
Chickens & fowls, mixed, West'n. choice.	10½	@	11
Fair to good, per lb	8½	@	9½
Inferior, per lb	5	@	6
Fowls, State and Penn, per lb	11	@	11½
Western, choice, per lb	10½	@	11
Western, fair to good	8½	@	9½
Western, inferior	5	@	6
Old cocks, per lb	6	@	7
Ducks, choice, per lb	16	@	17
Fair to good, per lb	12	@	15
Geese, Western, good to prime	8	@	10
Western, poor to fair	6	@	7
Squabs, tame, white, per doz	2 75	@	—
Mixed lots, per doz	2 25	@	2 50
Dark and poor, per doz	1 75	@	2 00
Turkeys, dry-picked, choice young hens.	14	@	—
Mixed young hens and young toms	12½	@	13½
Choice young toms	12	@	13
Fair to good	11	@	12
Old toms	11	@	12

VEGETABLES.

Asparagus, Charleston, prime, per doz bunch.	5 50	@	7 00
Charleston, shorts, per doz bunches	4 50	@	5 00
Charleston, culls, per doz bunches.	3 00	@	4 00
Beets, New Orleans, per 100 bunches	3 00	@	5 00
Florida, per crate	1 50	@	—
Florida, per 100 bunches	3 00	@	6 00
Brussels sprouts, per quart	5	@	15
Cabbage, domestic, per 100	2 50	@	5 00
Florida, per barrel-crate	2 00	@	2 25
Foreign, per 100	6 00	@	8 00
Carrots, washed, per bbl	85	@	1 00
Unwashed, per bbl	75	@	—
Cauliflower, Fla., per half bbl	—	@	—
California, per case	2 00	@	3 50
Celery, fancy, large	75	@	1 25
Average, prime, per doz	40	@	65
Small, per doz	15	@	30
Cucumbers, hothouse, per doz	1 00	@	1 50
Egg plant, Florida, per box	3 00	@	6 00
Green peas, Fla., per crate	1 00	@	2 50
Horseradish, per lb	3	@	5
Kale, per bbl	1 25	@	1 50
Lettuce, Florida, per half-bbl basket	1 00	@	2 50
New Orleans, per bbl	1 50	@	3 50
Charleston, per bushel basket	50	@	1 00
Bermuda, per crate	1 00	@	1 50
Onions, Orange County, red, per bbl	60	@	90
Orange County, yellow, per bbl	1 00	@	1 25
Eastern, white, per bbl	1 00	@	2 00
Eastern, red, per bbl	75	@	1 00
Eastern, yellow, per bbl	1 00	@	1 75
Bermuda, per crate	1 75	@	2 00
Peppers, green, Fla., per crate	—	@	—
Radishes, Fla, per 100 bunches	1 00	@	4 00
Spinach, per bbl	1 00	@	2 00
Squash, Marrow, per bbl	1 00	@	1 50
Hubbard, per bbl	75	@	1 00
Florida, per crate	—	@	—
String beans, Florida, per crate	1 00	@	2 50
Tomatoes, Fla., per carrier	2 00	@	3 50
Per crate	1 50	@	3 00
Key West, per carrier	1 50	@	2 50
Key West, per peck box	25	@	50
Turnips, Jersey, Russia, per bbl	75	@	90
Canada Russia, per bbl	90	@	1 00
Watercress, per 100 bunches	1 00	@	2 00

MILK AND CREAM.

The total daily supply has been 21,491 cans of milk, 199 cans of condensed milk and 395 cans of cream. The average price paid for the surplus on the platforms has been $1.30 a can of 40 quarts.

Miscellaneous Advertising.

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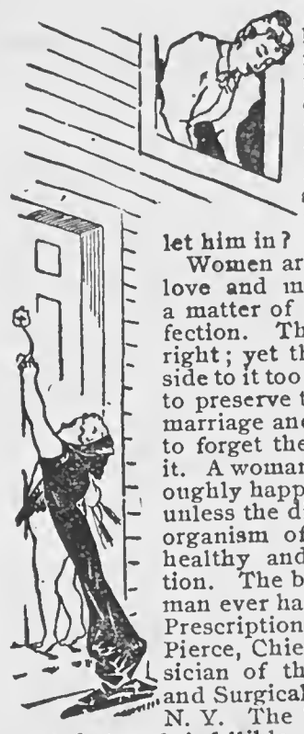

When love knocks at a woman's heart he usually comes in disguise. Doesn't want it known what he's up to. If she knew all about the little rascal, would she let him in? That's a question.

Women are apt to look upon love and marriage as purely a matter of sentiment and affection. That is pretty nearly right; yet there is a practical side to it too; and the best way to preserve the ideal aspect of marriage and maternity is not to forget the practical part of it. A woman cannot be a thoroughly happy wife and mother unless the distinctive physical organism of her sex is in a healthy and vigorous condition. The best friend that woman ever had is the "Favorite Prescription," of Dr. R. V. Pierce, Chief Consulting Physician of the Invalids' Hotel and Surgical Institute, Buffalo, N. Y. The "Prescription," is a perfect and infallible remedy for every form of "female weakness." It cures by restoring health and strength to the internal organism, which cannot be reached by "local applications;" thus the cure is radical, complete and constitutional.

Dr. Pierce's eminent reputation as a physician of wide learning; and his special knowledge of the delicate and intricate organism of women, accounts for the unparalleled confidence, which women place in his "Favorite Prescription," over every other remedy. Its use obviates the necessity of dreaded "examinations" and the stereotyped "local treatments."

Dr. R. V. Pierce, *Dear Sir*:—I suffered fourteen years with female weakness, nervousness, and general debility, trying everything I could find to help me—all to no avail. I then heard of Dr. Pierce's medicines and although I was thoroughly discouraged, I thought I would try once more to find relief. I took your "Golden Medical Discovery" and "Favorite Prescription," and too great praise cannot be given for the rapid relief they gave me. I am now free from the former troubles. Very sincerely yours,

(Mrs.) Mary J. Stewart.

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FOR SALE Peas for improving the land, and furnishing plant-food for future crops. The vines and roots add nitrogen and vegetable matter to the soil. The peas make fine food for growing animals, for eggs and for milk. I have the following varieties: Wonderful, Clay, Whippoorwill and Black.
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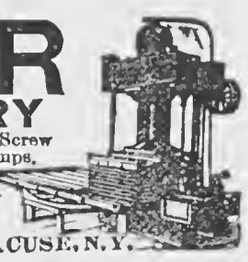

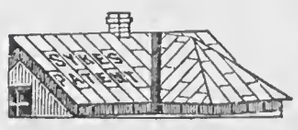

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HURRAH! FOR THE NEW WHITE CAP YELLOW DENT!

EVERY FARMER GETS A PRIZE WHO PLANTS WHITE CAP!

It is a Prize within itself. It is both a Gold Mine and a Silver Mine. The Kernels have a Golden Body and are Silver Tipped.

This corn is placed at the "head of the heap" by most large seedsmen, and that is its place. It originated within eight miles of my place and hundreds of farmers in this locality will plant no other.

It contains more solid merit than any corn ever catalogued. It is suitable for **all climates and soils,** grows large ears and matures early.

It is from 7 to 10 days earlier than Leaming, and on **poor, thin land** will yield 30 per cent more corn.

After growing different varieties of merit, S. H. Todd, **the largest breeder of Chester White hogs in the world,** says: "White Cap Yellow Dent beats them all. It is sure to yield me a good crop of sound corn. It makes more bone and strength than any other corn, and I will grow no other." **Mr. Todd took $2,175 in prizes at the World's Fair on his hogs;** is a large grower of corn, and his recommend on this corn is honest and reliable.

Grown in a section with over 60 other varieties, it outyielded all other kinds, and withstood the drought much better than others. This corn will be appreciated by those living in drought sections and by farmers who have poor, thin soil, while on strong soil it has no superior.

There are more fine points combined in this corn than in any other in general cultivation. Large growers in the great corn belt, as well as those out of it, will be pleased with this corn, because—

1st. It yields good crops on poor, thin land.
2nd. The ears are large, handsome and well filled.
3d. It is sure to mature in from 90 to 95 days.
4th. It husks easily and shells easily.
5th. It commands the highest price in market.
6th. It will grow more bushels on poor, thin land, than any other corn in the world.
7th. It stands drought better than 60 other varieties grown in the same section.
8th. It will outshell and outyield the Leaming.
9th. It grows its fodder strong, rank and quick, and from seven to eight feet high.
10th. It is sure to please those who give it a trial.

Compare my prices with those of other large seeds men. You will find mine much the lowest. Why?

Simply because I am located in a section in which this seed is largely grown. **Nearly all the large seedsmen come here for their seed.**

I Make This Corn a Great Specialty.

My seed is superior to that offered by other seedsmen for the reason that mine is **Selected,** and all tips taken off before it is shelled. It is a fact that seed corn is seldom tipped.

Please compare my prices with those of other large seedsmen. My prices are as follows, sacks free:

Pint, postpaid, 20c.; quart, 30c. Express or Freight paid by purchaser—Peck, 50c.; half bushel, 90c.; bushel, $1.50; five bushels or more, $1.25 per bushel; 10 bushels or more, $1.10 per bushel. Sample ear, postpaid, 25c.

This corn is **Pure** and **Vitai,** tips of ears taken off, and thoroughly cleaned, especially for my large and growing trade.

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I am the largest shipper of seed oats in this country. I have now the famous **Lincoln, Bonanza King, American Banner and Black Russian.** They are all good ones.

Send for my **Seed Catalogue,** describing all kinds of **garden seeds, oats, corn and other seeds.** Send money order, bank draft, or registered letter to my risk. **Birmingham is my money-order office.** Don't delay. First come, first served.

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Then save her strength, save her health, save her beauty and make her happy by buying her a **FAULTLESS QUAKER DISH WASHER.** It is a marvel of simplicity and a wonder for utility. Washes, rinces, dries & polishes in two minutes. Lasts a lifetime. It sells quickly. Everybody wants it when they once see it. Agents make money rapidly. Write today for terms, etc.
The Quaker Novelty Co. Salem, Ohio.

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FARM FOR SALE.—PRICE, $1,100. Farm, 31½ acres, in a hop district of New York State. No better hop land outdoors. House, Barn, Hophouse, Hennery, &c. 50 apple trees; splendid flat of 3½ acres in stumps yet; 7 acres woods; water, house and barn, from never-failing springs. Assessed, $1,000. Worth $1,000 a year if in small fruits. Few miles from Sharon Springs on turnpike. Would like to work it in small fruits for capitalist. T. GILLILAND, Sharon, N. Y.

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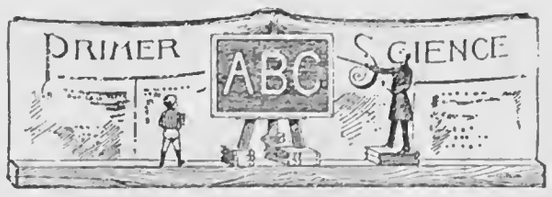

FEEDING A HEN.

PART XII.

These articles were designed to suggest some facts about feeding a hen. We did not expect to have much to say about the feeding of other animals, but as all living things eat, and as food costs money, we find it impossible to keep people from asking questions about the feeding of cows, horses, and even humans.

The mere fact of obtaining a "balance" to a ration is only one side of the matter. There are other things to be considered besides the figuring. For example, here is a question from our old friend, O. W. Mapes:

Can an animal become cloyed by eating a "balanced ration"? Good pasture is said to be such a ration, and I never knew an animal to become cloyed on it.

This is an important and interesting question, and we feel that we are justified in giving our space, this week, to a discussion of it.

An Important Point Considered.

The day your letter was received, we had two cows cloyed on a balanced ration. The grain fed these cows, was a mixture sold us under a guarantee similar to that used by fertilizer manufacturers. Each of the feeds was analyzed before mixing, and the grains put together so that the mixture contained a certain percentage of digestible protein, carbohydrates, and fat. We gave sufficient ensilage and hay to bring the total feed up to the standard ration. In the summer of 1894, we bought 70 grade cows, fresh in milk, to eat our surplus ensilage. As cotton-seed meal was cheap, we fed large quantities of it to these cows, always, however, mixing it with bran. We frequently had cows "off feed," and sometimes sick, and were troubled with garget. Our Guernsey cows in the same barn, fed the same ensilage and hay, but fed a grain ration not containing cotton-seed meal, gave us no trouble. Finally, as a matter of profit, we were forced to drop the heavy feeding to the grades of cotton-seed meal, and give them the same grain ration the Guernseys were receiving, and we had no more trouble.

In our feeding, we have found that a ration must have other qualities besides being simply "balanced." With our methods of feeding, watering and handling the cows, it is necessary to keep their bowels in such shape that the droppings will be like those made when the cow is on good pasture. Whenever the droppings begin to get hard and dry, the milk yield begins to shrink. We have found it profitable to feed linseed-oil meal heavily on this account.

At present, our grain mixture is made in the proportion, bran, 1,250 pounds; corn meal, 100 pounds; ground oats and barley, 100 pounds; gluten feed, 100 pounds; cotton-seed meal, 150 pounds; Cleveland linseed meal, 300 pounds. It requires, daily, about 10 pounds of this mixture in addition to the ensilage and hay we feed, to make a balanced ration for a 1,000-pound cow. During the cold weather, we used the old process oil meal instead of the Cleveland, on account of the greater amount of oil in the old process. We think that more oil is required in cold weather than in warm, to keep the bowels right. We have not tried it, but all our experience indicates that, if we were to throw out the linseed meal in our ration and substitute sufficient cotton-seed meal to balance the ration, our milk yield would decrease, and we would have cows cloyed and with caked udders.

It is surprising to us how often this point is overlooked in compounding rations. As an illustration, several papers have published, this winter, as a good ration, one formulated by a prominent station worker, and made up of hay, corn stover, wheat middlings, corn-and-cob meal and cotton-seed meal. These feeds were combined so as to furnish the necessary digestible muscle-makers, fat-formers and fat, but, for all that, every one of the feeds used is constipating. It may be that, if cattle are turned out most of the day in cold weather, are kept in a cold barn at night, and drink out of a hole cut in the ice, the ice water will act as a physic sufficiently to keep the bowels in proper condition with such a ration; but under our conditions—a stable above 50 degrees, water constantly before the cattle at the temperature of the barn, and continuous stabling in cold weather—such a constipating ration, although perfectly balanced, would be very unprofitable.

We have found that, besides being balanced, a ration must not be too bulky. The cheapest grain ration we can feed to-day, is a mixture of two parts bran to one part linseed meal, and we have tried to feed this mixture to several cows this winter. It is very bulky, and many of our cows will not eat enough to obtain sufficient nutriment for a good yield.

We get the best results when our balanced ration is "appetizing," and it is for this reason that we use several grains in making a ration. Fresh cows are often very "fussy" about eating when we are trying to push them, and show strong likes and dislikes for various feeds. If the best yield is desired, it pays to humor these fancies, and balance the ration with the feeds the cow likes.

One point needs explanation. Feeds may vary sufficiently from the average composition as published in feeding tables, to make trouble without careful watching. In 1894, our corn was poorly eared on account of the drought, and we found it necessary to use a good deal of corn meal in our ration. In 1895, our ensilage corn was heavily eared, and we find it best to use only enough corn meal in the ration to make it taste good. We have had to guess each year how much our ensilage varied from the published analyses, and figure a ration accordingly.

We are greatly interested in your hen-feeding talks, and in compounding our poultry ration, used your figures for animal meal—42 per cent muscle-makers, 12 per cent fat. The feeding results were not exactly satisfactory, and as animal meal was an important source of our muscle-makers, we had it analyzed, and found the meal we were using contained 33.7 per cent muscle-makers and 8.4 per cent fat. A new ration on this basis gave better results. H. M. COTTRELL.

Keep Changing the Food.

A "balanced ration," when composed continuously of the same kinds of food, is not as appetizing as when the foods are changed in character, preserving at the same time the proper balance. For some unexplained reason, animals, as well as man, like a change of food, although the constituents of the food or the ration may be virtually the same as those used before. I suppose that this desire for change is due to physiological laws, and is founded upon the aromas or peculiar tastes which the foods have. After the salivary glands and digestive organs have become accustomed to any particular volatile oils or flavors, they become, as it were, immune, hence stimulation is diminished. Now if a change of food, preserving the balance, can be introduced, we get a new kind and quality of volatile oils or flavors. These rouse the stomach to better action, hence there is no doubt that a change of food, other things being equal and the change not being too radical, is beneficial.

An animal may be injured seriously by overeating, either a balanced or unbalanced ration. Whenever, from any cause, an animal eats more than it can fairly well digest, it is injured, and this is as likely to be true of a balanced as of an unbalanced ration. The only nice point about it is, that the animal could eat more of a balanced ration before it might be called overeating, than it could of an unbalanced one. For instance, oats alone are a well-balanced ration for a horse; yet we know how easy it is to feed oats so exclusively and abundantly as to produce undesirable results. I. P. ROBERTS.

Miscellaneous Advertising.

In writing to advertisers, please always mention THE RURAL NEW-YORKER.

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Thinness is often a sign of poor health. A loss of weight generally shows something is wrong. If due to a cough, cold, any lung trouble, or if there is an inherited tendency to weak lungs, take care!

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It churns Easier, Quicker, Closer, and is more Convenient than any other. Every user's word for it. Send for circular and introductory price, if we have no agent in your locality, to *Mention this paper.* Diamond Balance Churn Co. Ballston Spa., N. Y.

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Please mention this paper. Helps them, helps us, may help you.

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Little Chickens Thrive

When they are daily fed with a ration of

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as it supplies them with the well-cooked meat and bone that they must have in order to attain a sturdy growth.

Our little book "Feeding for Eggs and Growth" will tell you all about it. Sent free.

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CANNED MEAT FOR POULTRY
This food is nice, fresh meat, carefully cooked, ground fine, seasoned, and hermetically sealed. Will keep an unlimited time until opened. Conveniently put up in eight-pound cans. Especially adapted for chickens and moulting fowl.
Being ground fine, it can be readily mixed with the soft food, and fed so as to give each fowl an equal share. Price, 30 cents per can; $3 per dozen.
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Bone Meal, Crushed Oyster Shells, Calcite, Crushed Flint, Ground Beef Scraps. *Send for Price List.*
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ORR'S Clear Grit Quarterly. Free to any address. A postal brings it. Box 13, Orr's Mills, N. Y.

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"Suckling colt cut on barb wire, healed without a scar." "Mare lame in shoulder 6 yrs., used *Pasteura* cured in week." "Jersey heifer with badly inflamed udder (garget) cured in 12 hrs." "Had a pig with rheumatism, no use of hind legs, applied *Pasteura*, recovered in one week." No bad smell or stain. 50 cts. per box, postpaid.
Pasteura Medicine Co., Chittenango, N. Y.

Live Stock Matters.

HORNS AND GRUBS ON COWS.

ANSWERS BY DR. F. L. KILBORNE.

The New York Law of Veterinary Practice.

J. P., Marshville, N.Y.—If I own a machine for dishorning cattle, have I the right to dishorn for other farmers and charge for the same? I am informed that it can be done only by a veterinary surgeon, or one holding a diploma as a graduate of some veterinary college. Do the State authorities claim that dishorning cattle is practicing veterinary medicine? If so, the sooner such a law is repealed, the better it will be for the farmer, for I know I can do it as well as any veterinarian, and as well as though I had studied veterinary medicine all my life.

Section 170 of the Laws of New York for 1893–4 reads: "No person shall practice veterinary medicine or surgery, or any branch thereof, as a profession, in this State for compensation, or shall directly or indirectly receive or accept any compensation for his services as a practitioner of veterinary medicine or surgery, unless he has been duly registered, etc." The penalty for violation of the act is that such practitioner "shall forfeit to the county wherein such practice is engaged, or such violation occurs, the sum of $50 for every such violation."

You will thus see that it is unlawful for any one to dishorn cattle or perform any other operation upon the domestic animals in this State, for compensation, unless he has been duly registered to practice veterinary medicine and surgery. Dishorning cattle is certainly practicing veterinary surgery. I cannot agree with you that "the sooner such a law is repealed the better it will be for the farmer." If you had seen as many sore, badly suppurating cows' heads as I have during the past year or two, due to improper dishorning, or the lack of a proper dressing, by ignorant, incompetent men, you might, possibly, change your opinion. In such cases, the farmer might better have paid a competent operator the exorbitant price of $2 to $5 per head, rather than have the operation performed as it was for nothing. If the farmer is to employ and pay an operator, it will be more profitable to him in the end to employ a skillful or competent one.

Grubs in a Cow's Back.

C. W. S., Frankton, Ind.—What ails my cow? Her back, from her hip bones up to and partly over her ribs, is all covered with lumps about the size of a hickory nut. On examining them, I find a small hole about the size of a buckshot, and by squeezing the lumps, large worms from three-quarters to one inch long and half an inch thick will come out. What causes them, and what can be done to get rid of them? The cow eats well, but doesn't look well and her hair looks rough.

These lumps are commonly known as warbles, and are due to the presence under the skin of the larval form of the botfly or gadfly of cattle, the Hypoderma linerta. The life history of this grub or larva is thus given by Dr. Cooper Curtice.

"During the months of June to September, the adult botfly lays its eggs somewhere on cattle, presumably the back, by attaching them to the hairs. The eggs hatch while yet attached to the hair, when the young grubs are licked by the cattle and swallowed, or lodged in the back of the mouth or esophagus. During the early part of winter, the grubs may be found in the walls of the gullet or esophagus. Later, about Christmas time, the grubs first appear under the skin of the back and loins, when the warbles are formed. The larva continues its development in the warble, and having attained its full growth by April or May, (earlier in a warmer climate), it effects its escape from the abscess, through the hole in the skin, falls to the ground, where it develops from the larval to the pupal stage. It remains in the pupa state about six weeks, when the fly appears, and is again ready to attack the cattle."

Treatment consists in squeezing the grubs from the warble, first enlarging the opening which already exists if found necessary, and then killing them. They rarely occur in sufficient numbers to cause any serious inconvenience to the cow.

HOW ABOUT THE PRUDENCE of allowing a Cough to run on, rasping the Pulmonary and Bronchial organs, when that approved and speedy remedy, Dr. D. Jayne's Expectorant, can be obtained from any Apothecary.—*Adv.*

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Is not an egg-laying hen. She must be kept warm and dry and supplied with egg-making food. She cannot lay eggs unless she has something to make them of. **Bowker's Animal Meal** contains a large amount of egg-and-shell-forming material. It is good, it is pure, and it is cheap.

It makes hens lay;
It makes chickens grow.
Enough for 10 hens 3 months, $1.
Four times as much for $2.25.
Little book, "The Egg" (free), tells about it.

Bowker Company, 43 Chatham St., Boston.

Feeders of Stock Kindly Stop a Minute.

We wish to remind you of the importance of using liberally

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Never before has linseed oil meal been anything like as low in price as now, and as prevailing prices are not remunerative to the manufacturer, feeders can readily reason that prices must soon be higher.

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GOMBAULT'S **Caustic Balsam**

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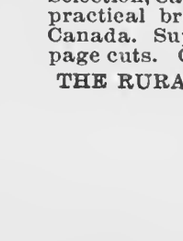

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The OLENTANGY Incubator has proved to be the best. Have taken prize after prize. Brooders only **$5.00.** Before buying elsewhere, send for free description and testimonials. Also breeder of 40 varieties of high-class poultry. 110 yards 110 houses. Address

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Simple, durable, economical. Best workmanship and materials guaranteed. Most reliable and successful in the United States. **Absolutely self-regulating. Perfect ventilation assured.** Our hot-water brooders guarantee uniform heat. No crowding nor smothering. Send stamp for catalogue. Circulars free

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WE are the firm That always please.

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Prize-winning Poultry.—Cochins, Brahmas, Langshans, Wyandottes, P. Rocks, Andalusians, Leghorns, Minorcas, P. Ducks. 19 varieties, 6 Buff breeds. Buff eggs, $1.50 per 13; others, $1. Illus. cat. FREE. DAVIS BROS., Box 1005, Washington, N.J.

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The best egg producers; eggs, $1 per 13.

Extra Fine Stock.

Write to **R. S. COLE, Harmans, Md.**

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I have been working for years to perfect these two new breeds, and they now have more purely BUSINESS qualifications than any other type of fowl on earth. They are made to order for UTILITY purposes. Send for free catalogue and learn all about them. ISAAC F. TILLINGHAST, La Plume, Pa.

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To dairymen or others who will use it, we will send half a ream, 8x11, free, if they will forward 30 cents to pay postage. Why not try the Best Butter Wrapper?

A. G. ELLIOT & CO., Paper Manufacturers, Philadelphia, Pa.

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ONION GROWERS

the country over are fast finding out that they can grow a larger quantity of better quality Onions, at less cost for fertilization cultivating, weeding, etc., by using Bradley's Fertilizer instead of stable manure or inferior fertilizer compounds. Note what these three Onion Growers working under widely differing conditions of soil and conditions say:

BRADLEY FERTILIZER CO., No. HATFIELD, MASS., Nov. 12, 1895.

Gentlemen: — My 2 acre field by the exclusive use of Bradley's Complete Manure has produced good crops of onions for five successive years, no stable manure having been applied to the land for the past seven or eight years.

The yield the present season has been 1,314 bushels on the 2 acres, and although we cannot give the exact yield for the five years, we are confident that for the five consecutive years there has been an average yield of upwards of 600 bushels to the acre.

EUROTAS MORTON & SON.

BRADLEY FERTILIZER CO., PERRY, LAKE CO., OHIO, Sept. 30, 1895.

Gentlemen: — I feel more than pleased with the results obtained from your Potato Fertilizer on my onion crop, which I used at the rate of 400 pounds per acre on 12 acres. I believe it unquestionably doubled the yield. You have a photograph which I sent you last year which was published in your Western edition, *American Farmer*, showing a yield of 900 bushels per acre, and the yield this year was even larger and of best quality without any additional manure. Would not think of sowing my crop without it.

JAMES MCVITTY.

BRADLEY FERTILIZER CO.: REVERE, MASS., Oct. 10, 1894.

Gentlemen: — I reclaimed several acres of land by blasting rock and digging out stumps, with the intention, as soon as the soil could be made fine, of raising onions upon it. As it was a very rough piece of land, I planted squash in 1893, using manure in the hill and a very light coat broadcast. This season I planted 1¾ acres with Danvers onions. Not feeling content to depend on stable manure, owing to its slow decomposition, I resolved to place my reliance on commercial fertilizer. After applying broadcast about five cords per acre of stable manure, one ton per acre of Bradley's Complete Manure for Potatoes and Vegetables was used in the spring at seeding time, with the result that on this 1¾ acres I harvested 1,855 bushels of as fine onions as I ever grew. This fine yield exceeds that on adjoining land that has had a very heavy manuring each year it has been worked.

A. BURT HILL, *Manager*, John P. Squire Farm.

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THE WORLDS BEST.

Notes from the Rural Grounds.

TORNADO-STRUCK POTATOES.

(CONCLUDED.)

VICK'S ABUNDANCE. — From E. H. Vick, Rochester, N. Y. Three pieces yielded four pounds—16 large and 15 small tubers; white-buff skin; shape rather long, cylindrical, often contracted in the middle; eyes medium. Vines tall, stems slender, but upright and strong. Yield, 329⅓ bushels per acre.

MAGGIE MURPHY.—From same. Three pieces yielded 4½ pounds—12 large, 7 small tubers; pinkish-buff skin, irregular shape, eyes rather deep. Yield, 363 bushels per acre.

VICK'S EARLY ADVANCE.—From same. Three pieces yielded five pounds—20 large, 16 small tubers: white-buff skin; rather long, cylindrical; eyes few and not prominent as shown in the illustration. Yield, 403⅓ bushels per acre. Vines vigorous and upright. See Fig. 67.

VICK'S EARLY PRIDE.—From same. Three pieces yielded 4½ pounds—14 large, 19 small tubers. About the color of Early Rose, shape rather long, variable; vines of medium vigor. Yield, at the rate of 368 bushels per acre.

VICK'S EARLY EXCELSIOR.—From same. Three pieces yielded five pounds—16 large, 12 small tubers. This resembles the Early Rose. Vigorous vines. Yield, 403⅓ bushels per acre.

COLUMBUS.—From Frank Ford & Son, Ravenna, Ohio. Three pieces, yield five pounds—16 large, 7 small tubers. Buff skin; shape rather long cylindrical. smaller at the ends; eyes numerous but not deep. Vines vigorous. It would seem to be a promising potato. Yield 403⅓ bushels per acre. See Fig. 69.

QUAKER CITY.—From same. Three pieces yielded seven pounds—23 large, 8 small tubers. Buff skin; shape somewhat longer than wide, truncated, *i. e.*, somewhat squared at the ends. A solid, heavy potato, evidently well worthy of trial. It seems to be tornado proof. Heavy stems, spreading and vigorous. Yield, 564⅔ bushels per acre. See Fig. 71.

ARIZONA.—From Edward F. Dibble, Honeoye Falls, N. Y. Three pieces yielded 2½ pounds—8 large, 16 small. Pinkish skin; long, irregular, variable shape. Vines of medium vigor only. Yield, 201⅔ bushels per acre.

PROLIFIC ALEXANDER.—From same. Three pieces yielded 5¼ pounds—16 medium and 2 small. Buff skin, variable shape, but usually like the illustration. Few eyes, not deep. It would seem as though this might prove a valuable variety. Vigorous vines. Yield 423½ bushels per acre. See Fig. 70.

(Continued on next page).

ALL STEEL FARM TRUCK

LOW DOWN. Durable.

SAVES HALF A HORSE.

25 per cent. stronger than wood. 25 per cent. less draft than the common wagon, and many other superior points—all are described in our descriptive circulars. We are very anxious to have you know all about it. Write today; mention this paper.

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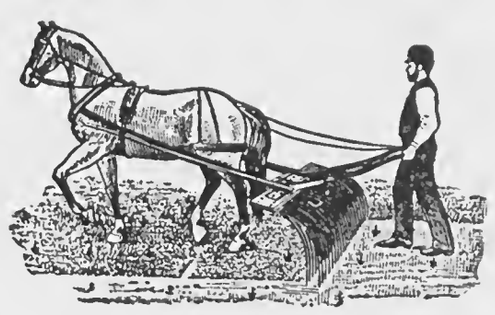

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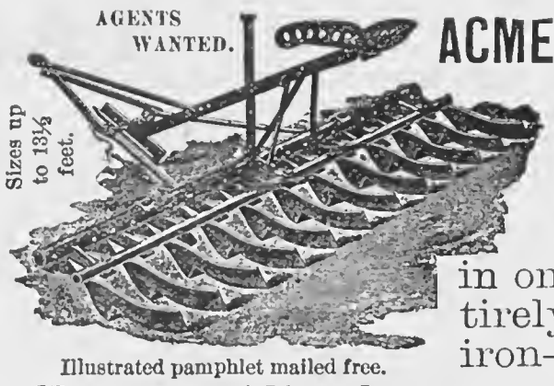

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THE RURAL NEW-YORKER,
NEW YORK.

TORNADO-STRUCK POTATOES.

(CONTINUED.)

HONEOYE ROSE.—From same. Three pieces yielded 3½ pounds—12 large, 21 small. Pinkish buff skin, very irregular in shape; purplish flowers, green stems, medium vigor. Yield, 232⅔ bushels per acre.

BLIGHT PROOF.—From same. Three pieces yielded 3½ pounds—16 large, none small. Skin buff-colored, often russeted; shape oblong, truncated, flattened. Rather a square-shaped potato of handsome appearance, eyes medium, upright vines of medium vigor. Yield, 282½ bushels per acre.

SPANISH BEAUTY.—From same. Three pieces yielded four pounds—17 large, 9 small. Buff skin; rather long, cylindrical, eyes flush with the surface; a handsome smooth potato. Yield, 322⅔ bushels per acre.

PEERLESS JUNIOR.—From same. Three pieces yielded three pounds—12 large, 8 small. Round, oval flattened, often russeted; few eyes, not sunken; buff skin. Habit of R. N.-Y. No. 2; purple stems. Yield, 242 bushels per acre.

EARLY CALIFORNIA.—From same.. Three pieces yielded three pounds—10 large, 3 small tubers. Buff skin, eyes medium; shape oval, somewhat square at the ends. Vines of medium vigor only. Yield, 242 bushels per acre.

BADGER STATE.—From same. Three pieces yielded 1½ pound—7 large, 2 small tubers. Buff skin; rather long, cylindrical, eyes medium, vines feeble. Yield, 121 bushels per acre.

EARLY WASHINGTON.—From same. Three pieces yielded 4½ pounds—16 large, 13 small. Light buff skin; rather long, cylindrical; eyes medium in prominence and number. Vines of medium vigor—a great bloomer. Yield 363 bushels per acre

EXCELSIOR.—From same. Three pieces yielded. 3½ pounds—15 large, eight small tubers. Buff skin, variable in shape, roundish, oblong, flattened; few eyes. Yield 282½ bushels per acre. Vines of medium vigor.

SACKSETTS EARLY.—From same. Three pieces yielded 5 pounds—15 large, 6 small. Pinkish buff skin, oblong or roundish flattened. Few eyes not prominent. Yield 403⅓ bushels per acre.

RUNDLE ROSE.—From same. Three pieces yielded 5½ pounds—16 large, 3 small. Pinkish skin; of the Wall's Orange type. Eyes numerous and quite prominent; rather long, elliptical. Habit like R. N.-Y. No. 2. White flowers. Yield 443⅔ bushels per acre.

PAT MURPHY.—From same. Three pieces yielded 3 pounds—11 large, 6 small. Buff skin, variable shape, eyes medium. Vines of medium vigor only. Yield 242 bushels per acre.

PARIS ROSE.—From same. Three pieces yielded 5½ pounds—23 medium sized and 15 small tubers. Much the same as Early Rose in shape and color. Vigorous vines. Yield 443⅔ bushels per acre.

NEW YORK STATE.—From same. Three pieces yielded 3½ pounds—13 medium, 14 small tubers. Buff skin; rather long, cylindrical. Eyes medium; vigorous vines. Yield 282⅓ bushels per acre.

WHITE MAY QUEEN.—From same. Three pieces yielded 4½ pounds—16 large, 4 small tubers. Buff skin; long cylindrical, sometimes elliptical; few eyes flush with the surface. A smooth, good-looking potato. Yield 363 bushels per acre. Vigorous vines.

THE CORMICK SEEDLING.—From same. Three pieces yielded five pounds—18 large, 11 small tubers. Buff skin; variable shape; eyes medium. Vines of medium vigor. Yield 403⅓ bushels per acre.

PRIDE.—From same. Three pieces yielded 4¾ pounds—14 large, 4 small tubers. Buff skin, variable in shape; eyes medium. Yield 383.17 bushels per acre.

LIVINGSTON'S BANNER, from A. W. Livingston, Columbus, O. Three pieces, yield 4½ pounds—17 large, 6 small tubers. The shape is almost exactly that of THE R. N.-Y. No. 2. The color and growth of the vines are also similar. Yield 363 bushels per acre. See Fig. 72.

IRISH DAISY, from Wm. Henry Maule, Philadelphia, Pa. Second season's trial. Six pieces yielded 6½ pounds—26 large, 21 small tubers. Average small. Buff white skin; variable shape, eyes medium. Yield 262 1-6 bushels per acre. Vigorous vines, upright habit.

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WITHOUT NAME.—From J. C. Remington, Chester, Mass.—One piece yielded two pounds—six marketable, none small. Buff-white skin; eyes medium, vines vigorous. It is a fine looking potato and apparently worthy of trial. Yield 484 bushels per acre.

MAULE'S EARLY THOROUGHBRED RED. — From Wm. Henry Maule, Philadelphia, Pa. Three pieces yielded 2½ pounds—8 large, 16 small. Pinkish-buff skin, variable shape, eyes medium. Vines of only medium vigor. Yield 201⅓ bushels per acre.

HOWE'S DAISY BELLE.—From Geo. T. Balley & Son, La Plume, Pa. Originated with H. W. Howe, same place, who claims that it is rot and blight proof. Three pieces yielded 3¾ pounds—11 large, 17 small tubers. Rather long, elliptical cylindrical, somewhat flattened, often smaller at one end than the other. Yield, 302.5 bushels per acre. Vines of medium vigor only.

BEAUTY OF RED HOOK.—From R. N. Lewis, Bright Side, Red Hook, N. Y. Two pieces yielded two pounds—four large, nine small tubers. Buff skin; eyes feebly pinkish; roundish, flattened—a good-looking potato. Yield, 242 bushels per acre.

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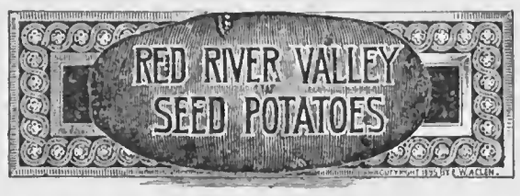

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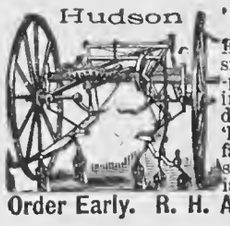

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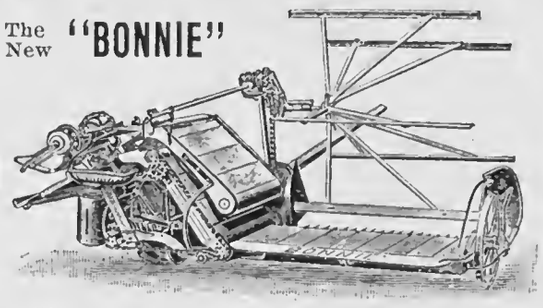

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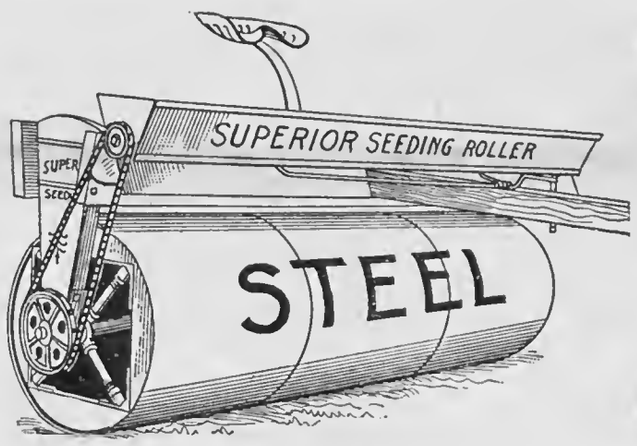

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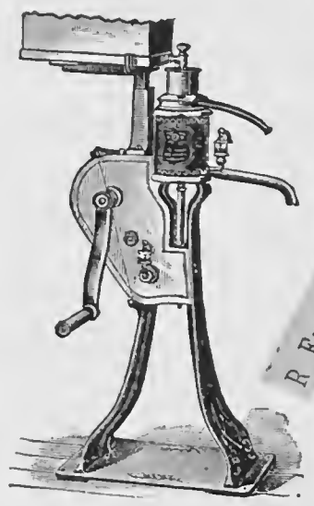

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A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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"CHEMICALS AND CLOVER."

GREEN CROPS GIVE RIPE RESULTS.

Keep the Land Constantly Covered.

BY J. H. HALE.

Starting life, as I did, with little, if any capital, upon a poor New England farm, the question of plant food has required careful study. Farming in the eastern part of our country is, essentially, a manufacturing process, and while some of the raw materials for many of our crops may be locked up in the factory of the soil, finished products in the form of profitable crops, can be obtained annually only as we supply plant food and well-directed labor.

Before the establishment of our agricultural experiment stations, the vast majority of us knew little or nothing of the science of plant nutrition, and the trinity of agriculture—nitrogen, phosphoric acid and potash—savored more of the drug store than of the farm. The greenest of all green manuring I ever practiced, was the purchase of the product of the horse-car stables of New York, brought up the Connecticut River on barges, and sold at $15 per cord. I did not know then, that the organic matter so desirable for the soil, and the mechanical condition imparted to it by this bulky substance, could be more easily and cheaply obtained by the plowing under of green crops; and further, that, by the selection of the right species for the purpose, we might also trap from the atmosphere nitrogen, that most valuable and costly element of plant food, either in stable or commercial fertilizers. Success in agriculture, as in any other manufacturing business, comes largely through greatest production at least possible cost, and by judicious green manuring we decrease the cost of plant food, while increasing the crop output.

Commercial fertilizers of average price and quality contain, say, $10 worth each of nitrogen, phosphoric acid and potash; when mixed and bagged for market, the makers say, "Three times $10 are $40," and we have to pay it. While, if we will buy only our phosphoric acid and potash, and depend upon green crops entirely, they will trap our nitrogen from the air, and we may reduce our fertilizer bill one-half. In this manufacturing process of agricultural productions, we are not called upon to supply plant food in equal quantity and proportion for every crop; neither have we to depend always upon the same sources for our nitrogen, phosphoric acid and potash. Yet, as we get them in their various forms, it may be roughly stated that potash costs from 4 to 5 cents per pound, phosphoric acid from 7 to 8 cents, and nitrogen from 16 to 20 cents. Knowing, as we do now beyond question that, by growing and plowing under such green crops as clover, cow peas, vetches and soja beans, we may gather from the air and store up in our soil, all the nitrogen we require for our most ravenous crops, and even more than is desirable for some of them, is it not a wise business policy to establish and maintain the fertility of our farms in this way, rather than to pay 16 to 20 cents a pound in the open market for nitrogen? I most certainly think so, and for some years now, with several hundred acres under the plow, have depended almost entirely upon green crops to secure nitrogen, as well as to supply organic matter to the soil.

How the Crops are Managed.

Just what the green crops shall be when planted, how cultivated, and when and how turned under, are all local questions that each individual farmer must answer for himself. My own practice is that every bit of land on my farm, when not occupied by some crop of value, during the growing season, shall have growing upon it some one or more of these nitrogen traps.

FARMER POTASH AND HIS WIFE PHOSPHORIC ACID GIVE THE YOUNG FOLKS THEIR BLESSING. FIG. 73. SEE BREVITIES. PAGE 242.

The strawberry fields, at the close of fruitage late in June or early July, are plowed and harrowed and sown with cow peas, one bushel of seed to the acre, in drills 2½ feet apart. Or, if the land is dry and sandy, soja beans instead of peas are sown; these seeds germinate very quickly in midsummer, and make very thrifty plants, which, in their early stages, are greatly stimulated by frequent cultivation, so that before frosts come in the fall to kill the tender plants, they will make an enormous growth, covering the ground with many tons of organic matter, rich in nitrogen. This I do not attempt to plow under till frost has so thoroughly killed and dried out the plants that they may be turned under without the trouble it would be to manage such an amount of

matter in its green state. The one objection to plowing under these green crops in autumn, is the liability to the escape of nitrogen, and to guard against this, I sow the field to rye or wheat. The roots of these plants will catch and hold the nitrogen through late fall and early spring, till the ground is ready to be occupied with some more valuable crop.

Another plan is to drill in the peas or beans 3 to 3½ feet apart, and when well growing late in July or early August, sow clover between the rows. The young plants will make but little growth for two months in the shade of the beans or peas; but as soon as frost comes and lets in sunlight, the clover will begin to grow, not only holding the nitrogen gathered by these other plants, but daily gathering from the air more unto itself, as well as with its deep feeding roots bringing up from the soil below, mineral elements not reached by other crops. In Connecticut, I prefer the Crimson to the Red clover, as it comes to maturity several weeks earlier in spring, in ample time to be plowed under, so that the land is available for all but the earliest spring crops. Of course, if one can spare the land earlier than July, the cow peas or beans can be put in much earlier, and make a proportionately heavier growth in the longer season, while the clovers, being hardy, may be sown late in August and make a full growth of top and root by the next June.

When and How to Start Green Crops.

The last of July is the best season of the year to put in clover seed for surety of crop, and it may well be cultivated in between the rows of corn or other field crops at the last cultivation of midsummer. The clover will make a moderate growth, while the main crops occupy the ground, and when these are removed, it can attend to its special business of growing and trapping nitrogen. On my own farm, which is devoted entirely to fruit production or nursery plants and trees, potash and phosphoric acid are the essential elements in fruit production, while for tree and plant growth, nitrogen is more largely required. In young orchards where I wish to crowd a rapid tree growth, my plan is to crowd culture by frequent plowing and harrowing through May, June and early July, and then by sowing the ground to clover, its vigorous growth during the late summer and fall checks tree growth so that wood and buds ripen up early in best condition to stand the frosts of winter.

To get the full benefit of the clover growth the following spring, we are unable to plow the orchard quite as early as would be best; still with Crimson clover, we are able to get it in full bloom by May 20, turn it under, and continue liberal culture till clover is sown again, and so on year after year; of course, annually supplying what phosphoric acid and potash is required for a properly balanced ration. Where there is no danger of winterkilling of trees and plants, even though they do make strong growth late in summer and early fall, an enormous growth can be stimulated by sowing peas or beans in drills, between the trees in early summer, and the culture of one would answer for the other; then, by plowing under the peas in August and sowing clover, nitrogen traps could be kept at work throughout the entire growing season. In the nursery, where it is essential to grow the largest tree or plant in the shortest space of time, I find that one good crop of cow peas is equivalent to a liberal dressing of stable manure, and at one-tenth the cost. While, if I can spare the land for a year, and grow a full crop of both peas and clover, results show that I have added to the soil more organic matter and nitrogen than would be had, even by a very heavy dressing of stable manure.

Useful for General Farming, Too.

My farming is such that all crops grown for green manuring, are turned under, root and branch; but upon stock farms, where it is desirable to preserve as much forage as possible, green manuring may be made to join hands with the production of hay or other forage. Thus, one of the mowing fields, after haying, may be plowed and sown to clover, from which a full crop of clover hay may be cut the next June. A month later, the second growth and roots plowed under will leave the ground richer than it was the year previous. This plan may be followed several years with profit, and finally, a full crop of clover be turned under in time for the planting of corn, or some other staple product.

The southern planter shows his appreciation of the value of cow peas, by planting his corn rows wide apart, and in midsummer, planting a row of cow peas between each row of corn; this so enriches the land, that the corn is planted the following year along the row where the peas were the year previous, and cow peas along the old corn row, and by alternating in this way, full crops of corn are produced, year after year, without expense for other fertilizers. This same plan, on a modified scale, might well be practiced here at the North with many of our field crops, just how, when and what to do, depending entirely upon local conditions. Of course, a wise business policy would suggest the application of some phosphoric acid and potash, rather than always to draw it from the soil. In fact, in all this talk of green manuring, we must not forget that all these plants can add to the soil is organic matter and nitrogen; we must buy the other elements of plant food, or impoverish our land.

While a thorough believer in the science and practice of green manuring, and knowing that, if intelligently practiced on every farm in the country, it would annually add millions of dollars to the wealth of the nation, I do not recommend it as a cure-all for that "tired feeling" in agriculture. Yet what manufacturer is there who, if one-third of his raw material could be had free for the asking, would not accept it, especially if it came from Mother Nature and not from the other fellow. Of course, under any plan of green manuring, only leguminous plants should be used, for it is only these that, through the tubercles that grow upon their roots, are able to trap and hold the free nitrogen of the air. Rye, wheat, buckwheat, corn stover, etc., gather no nitrogen, and are only of value for the organic matter that they add to the soil; therefore, in any attempt to work out the nitrogenous salvation of your farms and pocket-books, hold fast to the clovers, cow peas and soja beans.

MORE ABOUT CURRANT CULTURE.

Some Lessons of Forty Years.

I was very much interested in C. A. Green's article on new ideas in currant culture. I hope that he may be successful in producing as large fruit as he saw in Belgium, but I doubt it; in my opinion, one very essential element will be lacking, and that is, climate. The currant delights in a cool, moist climate and soil; it is not grown successfully on the warm, sandy soils of New Jersey and farther south, and even in this State, succeeds best on deep, moist soils (not wet).

My father commenced the growing of currants in a commercial way on this farm, about 40 years ago, and it has been continued ever since. Naturally, we have learned some things about them during this period. Clean culture, abundance of fertility, and judicious pruning, is our motto for successful production of fruit. I would use the plow as little as possible, depend on the cultivator, and aim not to disturb the roots. I think that many make a mistake in the beginning, in not planting deep enough; set deep. I agree with Mr. Green about cutting out wood that has borne four or five crops; one cannot grow fine currants on old wood.

In regard to the falling of the blossoms and young fruit, we have generally ascribed it to cold spells, that are likely to occur at that time. Some seasons, we have much more such weather than in others. I have also noticed that overloaded bushes drop worse than those having a lighter crop, which may strengthen Mr. Green's views, as, being caused by disturbance of the roots, Nature in this case removes a portion of the crop to offset the root pruning. I shall be interested in Mr. Green's experiments. J. R. C.

Newburgh, N. Y.

Gooseberries and Currants in Vermont.

Those who desire to engage more or less largely in the cultivation of fruits, usually and very properly, begin with the small fruits; among these, I have always, in Northern Vermont, found currants and gooseberries by far the most satisfactory and profitable. If there be any limit to the demand for them, I have not yet found it; and I keep on enlarging my area of these fruits from year to year.

The chief faults in currant culture, as I have observed it, are the lack of clean culture, and the lack of shade. The currant is a native plant in northern New England; and its preferred habitat is near the edge of a wood, and near to water. The same characteristics are also found in our native gooseberry; and in fact, the two are often seen growing together, in the wild state. The currants of Europe closely resemble our natives; but I have not found the latter generally so productive; though by selection, as it has, no doubt, been followed for a long time in Europe, productive varieties might be developed.

Though, as a native, the currant favors moist soils, yet in cultivation, it does well in a dry one when well enriched, and with some degree of shade. I have had very much the best results, in all respects, from planting my currants and gooseberries between the rows of trees in young orchards. This gives sufficient shade, and not too much. There is also an incidental advantage in the shade given the pickers.

As to varieties, the larger ones are much preferred by purchasers, not only for looks, but also for the decreased labor in preparing the fruit for use. My plants are kept free from grass and weeds, which also benefits the fruit trees; while between the rows, beans grow well. By this method, the young orchards are made more than to pay their way from the start. The currants and gooseberries thus treated continue to thrive for a good many years, their cost being very small; as in a tilled orchard (and I would have no other) the same culture is required, whether the small fruit is grown or not.

As to profit, I find currants and gooseberries a far better money crop than strawberries or raspberries; the selling prices are about the same. Most of the gooseberries are sold while green. I have several varieties of both in my grounds, but have planted only the Fay currant, and the Red Jacket gooseberry, since THE R. N.-Y. called attention to their merits. And, by the way, THE R. N.-Y. has in the past 30 years, put a good deal of money in my way by its recommendations of valuable novelties; I would not hesitate, at any time, to make large orders, solely on its recommendation. I may add that it saved me something in warning me as to the "Japanese Wineberry."

Vermont. T. H. HOSKINS.

Mulching the Ground for Currants.

This subject was briefly touched upon by C. A. Green in his article "New Ideas in Currant Culture," page 174. I wish to add a word of testimony in favor of the practice. A few currants are grown upon the station grounds, and it has been my opportunity to make observations upon them during two successive seasons. The location is on the crest of a ridge where the plants are liable to suffer in a dry season. Irrigation has never been practiced. The soil is a rather light, sandy loam which has been fertilized abundantly in years past. Each spring, the ground is well covered with marsh hay, and no cultivation is practiced except to eradicate an occasional weed which finds its way through the mulch. The results have been very satisfactory. The bushes produced excellent crops of fruit during both the seasons of 1894 and 1895. The mulch conserves moisture and, at the same time, prevents the weeds from growing.

The chief objection to mulching, probably, lies in the fact that the mulch provides an excellent place for insects to hibernate; but, perhaps, this is not sufficiently serious to condemn the practice, and will be thrown out of account entirely if the mulch be replaced late in the fall. As the currants were not subject to an experiment, and all were treated in the same manner, I am not able to say that better crops were produced because of the mulch, but it is certain that an excellent yield was obtained.

Of the four varieties—Fay, Cherry, Versaillaise and White Grape, the Fay is the most satisfactory here, all things considered. The berries are larger and more uniform in size, color and time of ripening, than is the case with the other varieties. It is true that the Fay is rather unsatisfactory as regards habit of growth, but in my opinion, this is more than counterbalanced by the good points that it possesses. The plants were set some five or six years ago, three feet apart in the row, in rows six feet apart. So far, little or no pruning has been given them, except to remove stalks infested with borers; but this spring some of the older stalks will be pruned out. W. E. BRITTON.

Connecticut Experiment Station.

NOTES ON HORTICULTURAL NOVELTIES.

No. II.

PE-TSAI, OR CHINESE CABBAGE.—Although a number of Oriental vegetables, are grown about the large cities by Chinese gardeners, and several have been recently offered by leading seedsmen, none has yet made much progress in general cultivation, and in truth, most of them are not likely to please the average gardener. By all odds, the "cabbage" of the Chinese (Brassica Pe-tsai) is the most useful of the lot. It is not a novelty in the usual sense of the word, as it was cultivated in Europe as far back as 1840, and has been quite widely tested in this country, but its real merits are still known to few. Prof. L. H. Bailey, in bulletin No. 67, of Cornell Experiment Station, has given the best obtainable account of this and other Chinese vegetables. He recommends the Pe-tsai as a useful fall and winter vegetable, as in common with all members of the cabbage tribe, it thrives best in cool and moist weather. The seeds are usually planted in a seed-bed in June or July; transplanted before they begin to crowd, and the heads are ready for use in September or October, as they make their most rapid leaf growth during the cold weather. The "heads" are not compact like the ordinary cabbage, but form a loose roll of leaves like a gigantic Cos lettuce, weighing four or five pounds, if well grown. It is very palatable and nutritious, and may be cooked in any of the ways of common cabbages. The flavor is milder and sweeter, approaching more nearly that of a well-frosted Savoy cabbage.

But we have had an abundance of succulent vegetables all summer, and we do not feel the need of additional variety in the fall. With this idea in view, a trial was made of the Pe-tsai as an early summer

esculent by sowing the seeds at the beginning of April, in a hotbed, and planting out as soon as they had made a few rough leaves. They were given the same soil and treatment as early cabbages, and grew rapidly, not being troubled with insects, as the leaves are somewhat hairy like a turnip, and do not appear to invite the cabbage worm. By the first week in June, they formed an immense mass of herbage, large enough to fill a bushel; one plant made a mess of "greens" for a large family. They cook quickly and tender, and are little diminished by boiling. Coming in just after spinach and kale have disappeared, the Pe-tsai will form a very substantial addition to the farmer's bill of fare, as a few well-grown plants afford provender for a large number of persons, and the quality and ease of preparation are all that may be wished. The plant is robust and easily managed from the start, but as with all members of the cabbage family, hot and dry weather will diminish the tendency to form heads, and in midsummer the Pe-tsai will run rapidly to seed. I found that a fair succession could be kept up by allowing the plants to crowd and starve in the seed-bed, and transplanting from time to time. Taken altogether, I believe that we have in the Chinese cabbage, a decided acquisition to our list of practical farm vegetables.

SAINTPAULIA IONANTHA (USAMBARA VIOLET).—Additions to the list of plants adapted to dwelling-house culture, are few and far between. Genuine interest has, therefore, been aroused in the announcement that this pretty, little, recently-discovered plant had proved entirely suitable for the window garden. Like many of the plants available for this purpose, it was discovered at a considerable elevation, growing on the mountains of a tropical country, and is, therefore, suited to a comparatively low, even temperature. The Saintpaulia is related to the gloxinia, and has similar fleshy leaves, somewhat hairy, dark green above and reddish brown beneath, but has fibrous roots instead of a tuber. The plant forms a low, compact tuft of handsome foliage from which are constantly arising numerous branched stems, bearing a profusion of deep, violet blue flowers, looking not unlike a single violet, but having no fragrance. The clear violet color becomes deeper towards the center, where it contrasts finely with the deep, golden yellow stamens. It is seldom out of bloom, but produces its charming flowers most freely during the winter months. It seems best suited in a shaded window, in company with the primrose and cyclamen, as much sunlight bleaches the foliage in irregular blotches. It grows well in ordinary soil, and is content with a small pot, seldom requiring one more than four inches in diameter. It is likely to prove a general favorite, and may be increased from leaf cuttings like a gloxinia or Rex begonia. The seed is very fine and rather difficult to grow. FAIRFAX.

A FIVE-DOLLAR HENHOUSE.

The house outlined at Fig. 74, has the following proportions: Sills 3x4, 8 feet long; posts 2x3, 2 feet long; rafters 2x3, 6 feet long. The amount of lumber used was, for sills, 32 feet; posts, 8 feet; rafters, 24 feet; boards, 190 feet; in all, 224 feet. The house is eight feet square, and has a sand bottom.

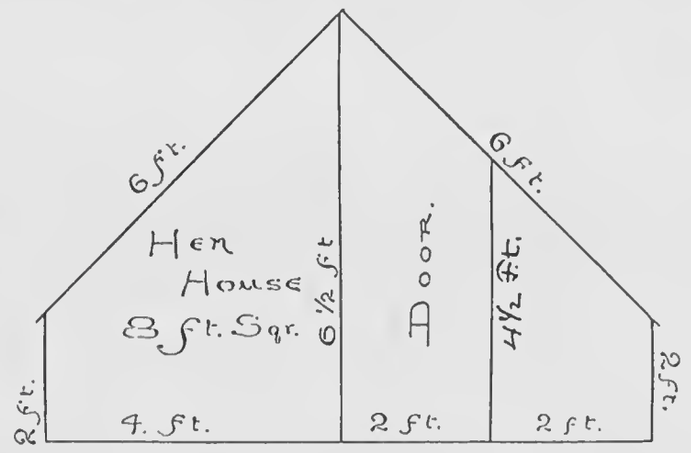
COST OF HOUSE.

Lumber, 254 feet	$2.00
Building paper, 10 pounds at 2½ cents	.25
Shingles, 700 at $1.50 per M	1.05
Two bunches cheapest clapboards	1.00
Nails	.50
Cost of materials	$4.80

A manure platform two feet wide extends the entire length. There is one roost at the back side of the house. The nest platform is in the front left hand corner two feet from the floor. Two cheese boxes are used for nests. It is papered on the sides, back and roof, under the shingles and clapboards. It may do with just paper if one wish, and that will make it cheaper. I don't think that it pays, however.

Now let us see what we have. A tight, warm house that looks neat and tidy, and will hold 10 to 20 hens according to the season and the care they have; an ideal place to put a dozen hens and a rooster, to get some eggs that will hatch. No better place to set hens, from one to six in a house, according to the care they have. Do you let biddy take care of her chicks when they are hatched? All right, don't carry them off somewhere; throw out the nests, etc., and put biddy and the chicks on the ground; they are safe, and you don't need to spend much time over that problem. With some poultry netting (small mesh), you can fix a little yard for the chicks outside, when it is time; this will be a good thing till they are big enough to have free range, also in wet weather. A brooder and 50 chicks will just fit one of these houses, too. When fall comes, if you have marketed the male birds, there will be pullets enough left to stock the house for the winter all wonted to their quarters, a point often overlooked by those who want early eggs and many of them. If you have sitters to break up, put them in one of these houses, put in a lively rooster (no nests) and the thing is soon done. No time is spent in making a place to break them up, and their health doesn't suffer during the process. If you wish eggs, you will get about as many from one of these houses, as from one twice as big with twice as many hens in it! Did you ever hear a man say, in substance, "Last year, I had 20 hens and they laid tiptop; this winter I have 50 hens and they don't lay worth a cent"? Don't put too many hens together.

This house will stand the weather all right for years. You can stand up straight in it. It is quickly cleaned. It is easy to catch a hen in it. A man with brains enough to make poultry pay, can build it himself, and can change the size, or shape, a little. It can be built cheaper, if desired. The man from whom I got the idea, had simply two planks, eight inches wide for sides at the bottom, and the roof was boarded up and down—no rafters or cross pieces, except one at the top. He had no window, summer or winter, just a door covered with netting, not tight; but hens stay in there all winter, and lay, too. He



OUTLINE OF A CHEAP HENHOUSE. FIG. 74.

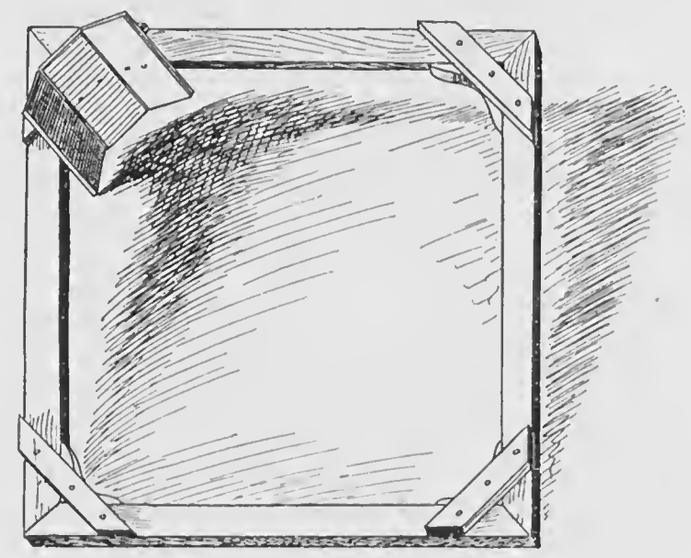
had over 100 of these houses, set in his orchard. He sold about 1,600 barrels of apples the year before I visited him. I do not think that any one gains anything in the end by building too cheap to begin with; shingles and clapboards outlast paper. G. R. J.

Ashby, Mass.

THAT "TEST CASE" SILO WELL TESTED.

WELL-CURED CORN FODDER FOR ENSILAGE.

On page 791 of last year's R. N.-Y., Mr. L. D. Gale, of Stedman, N. Y., described quite a remarkable experiment with ensilage. The silo was filled at "odd spells," beginning October 12 and ending in one day less than four weeks. The corn was cut at the time of ripening, with a corn harvester, and shocked as is usual with field corn. Part of the ears were broken off and husked. The stalks were taken from the field at the farmer's convenience, cut in the usual way, and elevated into the silo—a stream of water running on the elevator so as to moisten the corn. Several days intervened between the periods of cutting. In



A SILO FOR CORN STOVER. FIG. 75.

fact, this "ensilage" was nothing but corn stover cut into the silo and moistened. Mr. Gale now sends us a report as to the condition of the ensilage.

"I found the contents of the silo in perfect condition—not a particle of mold in any part of the silo. The ensilage does not contain an excess of moisture; on the contrary, it is rather too dry. It has no acid taste or smell, as usually found in ensilage. We used water very sparingly, as it had to be hauled some distance, on account of the prevailing drought at the time of filling. I never saw better preserved ensilage in any of the many silos I have visited. I concede that much of the success is due to the silo. It is simply perfect, both as to design, workmanship and material. A picture of it is shown at Fig. 75. The frame is mitered together at the corners, and held in place by bolts. Inside the corners, are curved pieces to which to nail the boarding as shown in the picture, with pieces of 2x8 joist spiked across to strengthen the frame. The boarding is nailed on all around to all the frames, so that there are no corners in the silo. The first timbers at the bottom are 8x10 hard wood, the second frame two feet above, the third spaced a little farther, and so on until the top is reached, lighter timbers being used towards the top and spaced three feet apart.

"The best of southern pine flooring, three inches wide, was used. At the bottom a heavy wall of masonry was built to correspond with the rounded corners of the frame work, the boarding extending down inside of the wall. The bottom of the silo was thoroughly grouted and cemented, extending up the sides of the stone work to meet the ends of the boarding. It is so strong and well made, I almost believe that it might be used for a cistern. So perfect has the ensilage kept, that the sides of the silo are not stained; the boards are nearly as clean and bright as before filling. The dimensions of the silo are about 16x16 feet, and 30 feet deep. No paper, paint or tar was used in its construction.

"The silo referred to as being filled at the rate of 60 loads a day, was equally as well built, of studding, boarded horizontally with rough lumber, then tarred paper, and inside of that matched flooring was used put on perpendicularly. The corners were square, in each of which moldy ensilage was found; otherwise, it was well preserved, but had a decidedly acid smell and taste. The inside of the silo had a wet, water-soaked appearance, some of the boards showing a tendency to huff up." L. D. GALE.

Mr. Gale sent THE R. N.-Y. a sample of this stover ensilage by mail. It reached us in perfect condition—sweet and fragrant—with no suggestion of acidity.

WOOD ASHES VS. POTASH SALTS.

In THE R. N.-Y. of March 21, comparison is made between wood ashes and muriate of potash, and a statement is made to the effect that wood ashes at $9 per ton, and with a guarantee of five per cent of potash, would be preferable to muriate of potash. A thorough examination of the matter reveals the following facts:

One pound of actual potash, in the form of muriate (selling at $45 per ton), will cost in the New England markets, 4½ cents, while in wood ashes at $9 per ton, the cost of a pound of actual potash will be 7.45 cents—this after deducting for the value of 1.55 per cent of phosphoric acid which wood ashes contain on an average. In other words, the price of potash in the ashes is 65 per cent more than in the form of muriate of potash.

If sulphate of potash be taken in place of wood ashes, the comparison is likewise much in favor of the sulphate. The average price for sulphate of potash is $52.25 per ton; at this figure, one pound of actual potash costs 5¼ cents, while in the ashes, it is, as stated, 7.45 cents. Of course, it is not necessary to purchase sulphate of potash except for tobacco, potatoes, and, perhaps, a few other crops. Muriate of potash can mostly take its place. The value of lime in the wood ashes was not considered in the above calculation, but it would not change the results materially, and on many soils lime would not be necessary.

Wood ashes (with the guaranteed amount of five per cent potash) would have to be sold at $6.05 per ton before they could be compared in price with muriate of potash; but it is a fact that wood ashes are often sold for more that $9 per ton, and in many instances, the content of potash is much less than five per cent, and the farmer never knows what he gets.

Wood ashes are largely bought and used by farmers who are not able to make these calculations, and thus they pay a double price for their fertilizer. This has frequently been called to the attention of farmers by experiment stations, as will be seen from the following in Bulletin No. 104 of the New Jersey Station:

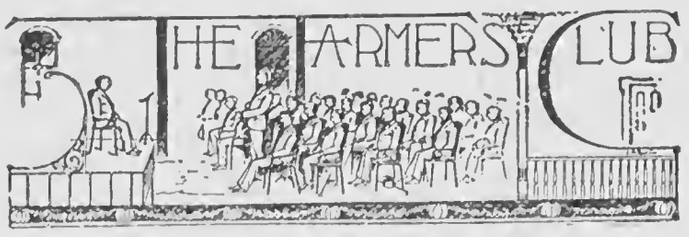
On the basis of guarantee and selling price given, the charge for potash was 9.24 cents per pound, and for phosphoric acid 8.8 cents per pound, or 76 per cent greater than on the average is charged for the same elements in high-grade sulphate of potash and in superphosphates.

The cost of hauling has not been taken into consideration in the above calculations, but this is quite an item since ashes, with a fair average of potash, contain only five per cent, while in the concentrated potash salts, as much as 50 per cent of potash is present; therefore, the farmer has to haul 10 times as much weight in case of ashes as he does in case of these concentrated materials. The evidence produced above will make it clear to every consumer and intelligent farmer, that it is a gross waste to purchase wood ashes at prevailing prices. B. VON HERFF.

CARROTS OR MANGELS FOR HOGS?—I wish information concerning carrots and mangels as a food for brood sows and growing pigs, fed in connection with wheat middlings, bran, etc. Which is the better of the two? What variety is best? Should they be cooked before feeding? E. J. S.

Hanover, Wis

R. N.-Y.—Will our readers tell us which is the better to make a case of "Root hog and live!"?



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

"Tumble-Bugs" and Their Curious Habits.

J. R., Burr Oak, Ia.—Last spring, I plowed about one-half acre quite early, on which I had spread during the winter a coating of manure. After plowing I harrowed it thoroughly, planted about one-half of it to beans, and left the rest for late cabbages. When I was ready to set out the cabbages in early June, the weeds and pigeon grass had started so that I gave it a thorough cultivation with a Planet Jr. cultivator, and as I neared one end of the piece, I noticed a small hole at the bottom of the furrow made by a tooth of the cultivator. My curiosity being aroused to know what made that hole, I dug down about an inch further, when I found the hole enlarged forming a pocket about two inches in diameter, which was packed full of what appeared to be little balls of earth about five-eighths of an inch in diameter, some, however, being larger than others. On opening these balls, I found that they were composed, mostly, of manure, and in the center of each was either an egg about a quarter of an inch long, or a white grub. I found in this cluster of balls, white grubs in various stages of development, the largest being about an inch long, or two-thirds grown. Were those balls deposited there after the ground was plowed in the spring? It seems almost impossible that they could have been there when I plowed the ground, without having that hole disturbed by the plow. A little later in the season, I saw scores, I may safely say, hundreds, of beetles in the road near here in the early evening, rolling similar balls made from the manure of passing teams. Where they deposited them I do not know. Were they deposited in the ground like the ones I found, or in some manure pile to hatch out the same or the following season?

ANSWERED BY M. V. SLINGERLAND.

The insect is our most common kind of "Tumble-bug," or "Tumbledung beetle," its scientific name is Canthon lævis. There are many different kinds of these "tumble-bugs," and their peculiar habits have attracted much attention from the earliest times. The one so common all over our country, is black in color, and resembles the two shown at Fig 76, but it is a little larger. The name "tumble-bug," or "tumbledung," refers to their habit of forming round balls of dung, which they often roll long distances. The rolling of these balls is an exceedingly interesting operation to one who cares to study Nature's ways. Usually a male and female beetle work together, and this is one of the instances, rare among insects, where the male realizes that he has some responsibility as a father, and assists the female in providing for the young. One observer states that he often saw the male (distinguished by his smaller size) resting or clinging to the ball, and endeavoring to preserve his position on the upper side thereof, possibly acting as a sort of balance to change the center of gravity of the ball, and thus assist in moving it. Not infrequently, the ball was rolled completely over him by a hasty push of his partner, and the favorable nature of the ground. If the male were carefully and quickly removed, the "widowed survivor" did not realize his absence for several seconds. When she discovered it, she stopped pushing the ball, looked all around it and under it, and often deserted it entirely, sometimes moving away a few feet and pushing her head beneath a clod of earth, remained perfectly still as if lost in hopeless grief for many minutes.

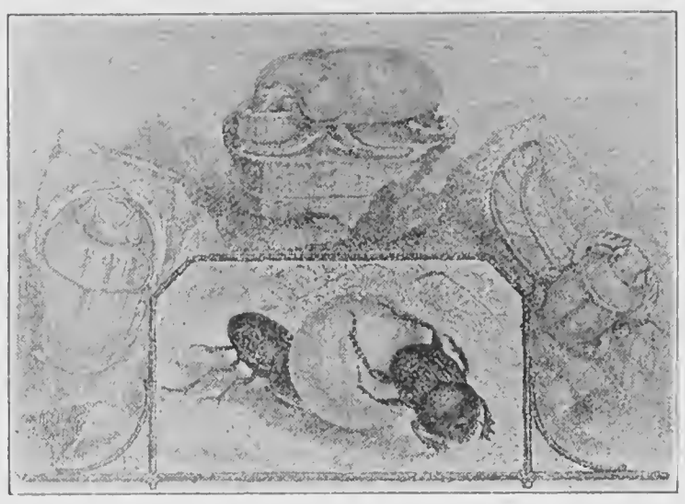
Another observer saw a female rolling her ball single-handed, when it accidentally tumbled into a deep depression made in soft clay by a horse's hoof. After a momentary pause, she recovered from her surprise, and tumbled down into the pit to reconnoitre. She made strenuous efforts to push the ball up and out, but after five or six vain attempts, she gave it up and escaped from the pit on the shallowest side having, apparently, abandoned the ball. But what was the observer's surprise a few minutes later to see her coming back with an assistant. They toiled and tugged to push the coveted ball out of the pit. After three or four trials, they at last raised it to the verge, poised it, and out it came, and they trundled it off in triumph to its destination. Well may the observer have asked, "Can a beetle reason?"

The beetles form their balls by working small pieces of dung into irregular shapes with their legs; they then begin the rolling process. The balls are often rolled several yards to a hole, previously dug by the beetles for their reception. The females push the balls by seizing them with their hind legs, peculiarly fitted for the purpose, and with lowered heads, moving backwards. When first formed, the balls are often irregular in form, but the rolling solidifies and rounds them. What are these balls for? If the beetles be closely watched, they will be seen to make a hole in one side of a ball, and lay an egg therein, so that each ball contains an egg when it is finally buried. As each female lays many eggs, their industry is something remarkable. What happens within the buried balls? The eggs hatch, and each grub finds its food supply right at hand in the ball of dung so carefully stored away by its parents. Doubtless, each ball suffices for the food of one grub, which, when it becomes full grown, pupates, and the next spring emerges as a "Tumble-bug."

The strange habit of rolling these balls has occasioned much speculation as to its object, and has been the source of many superstitions, especially in ancient times. The only reasonable theory thus far advanced is that, as many predaceous insects frequent the masses of dung from which the balls are obtained, in order to prey upon the grubs which live there, the more intelligent Tumble-bugs remove their food for their young to a safe distance.

The most noted Tumble-bug is the Sacred beetle of the Egyptians. This insect, represented less than half natural size at Fig. 76, was held in high veneration by this ancient people. It was placed by them in the tombs with their dead, and is now often found with mummies; its picture was painted on sarcophagi, and its image was carved in stone and precious gems, see Fig. 76. These sculptured beetles may be found in almost any collection of Egyptian antiquities. The Egyptians evolved a remarkable symbolism from the structure and habits of this Sacred Tumble-bug. The ball, which the beetles were supposed to roll from sunrise to sunset, represented the earth; the beetle itself personified the sun, because of the sharp projections on its head, which extend out like rays of light; while the 30 segments of its six tarsi, represented the days of the month. All individuals of this Sacred beetle were thought to be males, and a race of males symbolized a race of warriors. This latter superstition was carried over to Rome, and the Roman soldiers wore images of the beetle set in rings.

Probably the balls J. R. found were deposited in the hole after the ground was plowed. Although this Tumble-bug is so common in many parts of our country, there is but little accessible information about its life. I wish that the next time J. R., or any one else who reads this, finds any of these curious balls, he would send me all he can get; send the beetles, also, if possible. It is such an interesting insect that we should know more about its life story. So far as I can learn, the balls are always deposited in the ground, and not in manure. Thus, although the grubs are dung-feeders, they are not dung-worms in the sense that they inhabit manure piles. The insect, in any stage, does not injure living vegetation.



THE TUMBLE-BUG AND ITS INTERESTING HABITS. FIG. 76.

The Scurfy Bark Louse.

J. G. S., East Milton, Mass.—What kind of a scale is on the specimen that I inclose you? I cut it from a crabapple tree. Does it injure the tree, and what will remove it?

ANSWERED BY M. V. SLINGERLAND.

The white scales, scarcely an eighth of an inch in diameter, closely adhering to the bark of the branch sent, are commonly known as the Scurfy Bark lice. They resemble a small fish scale adhering to the bark. In the winter, most of the scales, or, rather, the insects that secreted them, are dead. But if J. G. S. will carefully lift some of the scales with a pin or knife, and examine the spots closely with a small microscope or pocket lens (an instrument that every fruit grower ought to own), he will find many minute, purplish eggs just underneath the white scale. The body of the mother insect which secreted the scale, will be found all shriveled up at one end of the scale. She has fulfilled her destiny, and her scale affords a winter home for her progeny. In early spring, usually in May, the eggs hatch out minute, purplish lice which crawl from under the scale, and scatter over the tree. When a suitable place is found, they insert their little beaks in the bark and there remain, sucking the juices of the tree. They rarely move after once establishing themselves. The white scales soon begin to be secreted, and by midsummer they render the insect quite conspicuous. Hundreds of them often occur on a small branch. All parts of the trunk and branches may be infested, and the thousands of little beaks pumping out the life blood of the tree, may seriously weaken, and cause the death of the affected portion.

Although this scale is widely distributed and quite common, it is not often reported as killing the trees it infests. In short, it is not considered a very serious insect pest. Of course, where very numerous, it must greatly weaken a tree, and should, therefore, be checked as soon as possible. Its scale-like covering under which the insect itself lives, renders it hard to reach with insecticides. Poisonous applications would, of course, have no effect, as the insect sucks and does not bite its food. I would advise brushing off, with a stiff wire brush, all the scales practicable in the fall or winter, and early in the spring as soon as the young lice are seen crawling about the tree, spray thoroughly with kerosene emulsion diluted with from five to eight parts of water. The young lice will begin to appear in May, and for a few days, will be unprotected by scales; they are thus easily reached by the spray, and the emulsion is death to every one it hits. Spray thoroughly and in time. Probably a good washing of the bark of the tree with whale-oil soap, one pound to three gallons of water, in the fall, winter or early spring, would also kill the eggs under the scales.

How to Kill Quack Grass.

W. M. H., Ellsworth, Me.—What is the quickest and surest way to exterminate Quack grass?

ANSWERED BY E. C. GILLETT.

In 1893, a four-acre field which was full of Quack, was planted to beans. By frequent cultivation, and a large amount of hand hoeing, we succeeded in keeping the beans from being smothered by the Quack, and made a fair crop. Late in the fall, just before the ground became frozen, it was plowed about six inches deep. The next spring it was plowed again after the Quack had started to grow, the field was thoroughly harrowed and planted to potatoes, quite deep in trenches or furrows, and the field was harrowed several times before the potato showed through the ground; then the cultivator was kept going till the tops were too large to admit of further cultivation. No hand work was done. Not a Quack root was found when the crop was dug, or the next spring when the field was plowed.

Again, in 1894, another four acres were in oats; the Quack took possession to such an extent that the crop was nearly ruined, yielding less than 30 bushels per acre, and the straw had more the semblance of hay. The field was plowed as soon as the oats were taken off, and I intended to give thorough cultivation through the fall; but rains were frequent, and the Quack got the start of us, so in December the field was plowed again. In the spring, it was cultivated twice, then plowed again, thoroughly worked and planted to potatoes, giving them the same treatment the other field had received the previous year. The harrow and cultivator were used early and often, with the same result—total annihilation of the Quack.

A third field having been in cabbage in 1894, fall-plowed and re-plowed in the spring of 1895, was planted to cabbage again and gave nearly as good results. A very few roots of Quack were to be seen in the soil this past fall, when it was plowed; but I am confident that another spring plowing, and a crop of potatoes will finish them. Hence, from this experience, I conclude that shallow, late fall-plowing, followed by deeper spring plowing and the planting of some cultivated crop, preferably potatoes, because they can be planted deep, and be harrowed for three weeks before coming up, will kill Quack. The late fall plowing leaves the soil open and loose, and the roots exposed to the action of the frost, which kills some and weakens the vitality of others which, in the spring, are turned under and smothered. The roots which were not turned up in the fall, are now brought up on the surface, and the harrow and cultivator finish them.

Potash, Subsoiling and Winter Pears.

J. R. T., Long Island.—1. Is potash in the form of carbonate, as good for fertilizing purposes as muriate? What is the difference between the shell marl, advertised in THE R. N.-Y., and the green New Jersey marls? Are both as good as, or better than, air-slaked lime for sour land? 2. I have a field of about three acres which I wish to use for a pear orchard; it is a sandy loam, underlaid with gravelly clay, and has not been plowed for years. The sod is poor and weedy. I wish to break it up, and prepare it this year for planting next spring. I wish to fertilize it and plow under as many green crops as possible. What shall I plant? Shall I subsoil it? The land is naturally good, but run down and pastured to death. 3. I wish to plant winter pears, not more than two or three varieties. Which are best for profit, standard or dwarf? The farm is on the north side of Long Island, and no fruit except apples grow anywhere within five miles or more, so I can't ask local advice. Apples seem to do well without any care. Trees of all kinds flourish. What do you know of the new varieties, such as Dorset, Directeur Alphande, P. Barry etc.? What do you think of Anjou, Bose and Winter Nelis? What are the weak points of any or all of them? Shall I plant dwarfs between the standards?

ANS.—1. Carbonate of potash is, probably, the best form for agricultural use, especially on acid soils. The potash in wood ashes is in the form of carbonate. The shell marl has been heated to a high temperature. It is finer than the green marl, contains more lime, and is more available. Airslaked lime is quicker in its action on the soil than either of the marls. On very sour lands, we would use the airslaked lime. 2.

Read the articles printed on page 174. Similar treatment will suit your land. Do not subsoil such land. It will do more harm than good. 3. Mr. Edward Hicks, of Long Island, sends the following notes on pears:

"We know that the Anjou, Bose and Keiffer are the pears that do well on the north side of Long Island. The Vicar overbears, and is then nearly worthless; good culture and a severe thinning of the fruit, would give fine, large, salable fruit. The Keiffer has been largely planted in good fruit sections on the north side, and where the orchard has had good culture and the fruit has been thinned out one-half or more, the crops have been very fine, and the prices realized very satisfactory. Dwarf pears have been failures, generally on the Island. Angoulême and Louis Bonne are the most successful of the varieties on dwarf stock, and they are late ripening varieties. We know nothing of the new varieties mentioned."

Two Hardy Russian Peaches.

H. H. G., Northville, Tenn.—Will you describe the two new peaches, Bokhara No. 3, and Yenshi Hardy? Are they as hardy as Crosby, Hill's Chili, Salway, or Mountain Rose?

ANS.—The Hill's Chili does not endure our winters at Ames, Ia. The Crosby, Salway, and Mountain Rose have not been tried. Bokhara No. 3, and other varieties grown from pits received by us from North Bokhara, in Central Asia, have proved fully 30 per cent hardier than any varieties of the Persian strain. We grew the Yenshi from pits from Northwest China. It is not quite so hardy as the Bokhara varieties, but hardier in tree and fruit bud than Hill's Chili. Bokhara No. 3 and Yenshi are freestone varieties, and in size, color, and quality, compare favorably with the best sorts grown in Tennessee and Georgia. J. L. BUDD.

Oats Better Than Spring Rye.

D. M., South Meriden, Conn.—Will spring rye pay sown for grain or straw, almost as well as fall-sown rye? My soil is in good condition for raising a good crop of oats.

ANS.—So far as I am able to learn, spring rye is not so productive as that sown in the fall. We have been trying to get a sample of the so-called "spring rye," but have not, as yet, succeeded in doing so. Is it not probable that "spring rye" is simply rye sown in the spring, and not a distinct variety? The best results would likely be secured by sowing to oats, taking pains to fit the ground unusually well, and if a superior crop is desired, use some commercial fertilizer containing a high per cent of potash and phosphoric acid, and little or no nitrogen. I. P. R.

Best Varieties of Peas and Sweet Corn.

C. H. P., Stockbridge, Mass.—What are the best six up-to-date varieties of dwarf and half-dwarf peas giving a complete succession for the home garden, where quality is desired above everything else? What are the best six varieties of sweet corn up to date, giving a complete succession for the family garden? I wish you could have some one who has tested all varieties of peas, give us a list of what was found to be the best.

ANS.—There are few varieties of either peas or sweet corn that we have *not* tried. These trials began nearly 20 years ago, and have since been kept up with the exception of last year. The tornado destroyed nearly all of our trials last summer. Our present choice of peas as to quality and succession, would be as follows, avoiding those kinds that grow over three feet high: Nott's Excelsior, Exonian, Station, Abundance, Heroine, Juno, Stratagem Improved. Sweet corn: Extra Early Vermont, Melrose, Crosby, Concord, Zig-zag, Stowell's Evergreen. We have mentioned these in the order of maturity. C. H. P. will make no mistake if he accept this list.

Corn for Fodder; Grass for Hog Pasture.

C. L. B., Grooms, N. Y.—How much corn shall I sow per acre for fodder to feed in July and August, with a grain drill, using all of the spouts? What varieties of grass seeds, and how much per acre shall I sow in an orchard for a hog pasture?

ANS.—If sowed by hand, 16 quarts, if drilled, 12 quarts per acre would suffice; but the corn would much better be drilled by stopping up four-fifths of the tubes, thereby securing rows about 40 inches apart. Harrow just before the corn comes up, and two or three times afterward, or until the corn is four inches high. Cultivate shallow every 10 days until the corn is in milk, and you will secure much more potential milk than by sowing the corn. Bulletin IV of the Cornell Experiment Station, 1888 (out of print), gives the results of different modes of culture and time of cutting.

TABLE I.

Plot.	Mode of Culture.	Yield, lbs. per acre.	Dry matter, lbs. per acre.	Value per acre compared with Timothy hay at $12.
	Timothy hay.	3,000	2,595	$18.00
1.	Hills	20,610	4,431.3	30.08
2.	Drills	24,555	5,291.6	35.74
3.	Broadcast	14,535	3,196.	19.72
4.	Broadcast, harrowed	17,065	3,488	21.64

TABLE II.

Period.	Date of cutting.	Yield, lbs. per acre.	Muscle-makers.	Fat-formers.	Pure fat.
1.	July 24	18,762	250.6	1,543.6	42.
2.	Aug. 8	24,578	368.4	3,328.9	81.99
3.	Sept. 3	27,674	585.8	6,166.7	199.1

The latest investigations show that orchards do best when cultivated up to July, when they may be seeded to Crimson clover which should furnish some excellent pig pasture in September and October. The land should be re-plowed the following May, and cultivated as in the previous year. If the orchard be seeded, sow four pounds Orchard grass, four quarts Timothy, two quarts Red and one quart Alsike clover per acre.

Hay Crop to Follow Clover.

H. W., Minaville, N. Y.—I have four acres seeded to clover, which I would like to mow about June 25, then plow, and sow with peas and oats to be cut and cured for hay. Would July 1 be too late to sow them to procure a fair growth? Would Hungarian grass be better than peas and oats? Would I be able to cut it in time to plow and sow the land to wheat by September 10? The soil is a strong, black slate, well drained. I would use some fertilizer.

ANS.—All depends on the season and the amount of moisture present, especially at the time of sowing the oats or Hungarian grass. There is not quite time enough from July 1 to September 10 to secure a paying crop, unless the land is in the best of tilth, rich and moist enough to germinate the seeds quickly, and maintain through August a continuous, rapid growth. Hungarian grass is more likely to succeed than oats. Try a little of both, treat a part of the field to a short summer fallow after it is mowed, and report results next year, noting the yield of wheat on the areas double-cropped and on that treated to a short fallow, and call attention to this article. Some years, intensified cropping is a success, others, it is not; in many places it was not last year.

Attempt to Explain a Fertilizer Analysis.

E., Tennessee.—I inclose a circular relative to fertilizers, giving prices and formulas of three different brands or grades. I don't understand the various terms used in these formulas. What is the difference in value between "insoluble or acid soluble," "water soluble," and "citrate soluble" phosphoric acid? Also between "nitrogen" and "ammonia by nitrogen determined"? Is not the percentage of potash in all these formulas too small for almost, if not all, crops? Is not the price for formula No. 1 very high?

ANS.—Here is analysis of fertilizer marked No. 1:

	Per cent.
Moisture at 212 degrees Fah	12 to 14
Insoluble or acid soluble phosphoric acid	2 to 3
Water soluble phosphoric acid	7½ to 9
Ammonium phosphoric acid citrate soluble	2½ to 3
Available phosphoric acid	10 to 12
Nitrogen	2.06 to 2½
Ammonia, actual and potential, by nitrogen determined	2½ to 3
Potash K_2O soluble	2 to 3

The price charged is $33. The company offering it state that they "brought a man from Pennsylvania to examine the soil in this section, and give us a formula adapted to our east Tennessee lands!" If the above analysis and price form the result of this man's journey, he would much better have remained at home. The Tennessee Experiment Station would have done a much better job. Now to pick this analysis apart in detail:

"Moisture at 212 degrees Fah."! That means that when heated to that temperature, 12 per cent of the weight was evaporated as water. There are three forms of phosphoric acid, as we have often stated. "Insoluble or acid soluble," means the portion that cannot be taken up by plants until it has been dissolved by an acid. "Water soluble" refers to the portion that dissolves in water, like salt or sugar. "Citrate soluble" means the portion of the phosphoric acid that will not dissolve in pure water, but *will* in a weak solution of vinegar which has about the strength of the acid secreted by the roots of plants. We know that "ammonia" is nitrogen combined with another gas called hydrogen. "Ammonia" weighs more than nitrogen and, therefore, represents a greater per cent of the whole. Potash, we already understand; there should be three times as much of it in this fertilizer.

The value of such an analysis is expressed as follows:

200 pounds phosphoric acid at 5½c	$11.00
41 pounds nitrogen at 16c	6.56
40 pounds potash at 4½c	1.80
Total	$19.36

Thus, even after giving the fertilizer every advantage in the highest comparative prices for plant food, the actual value falls far below the selling price. A mixture of cotton-seed meal and dissolved rock, with a little muriate of potash, will make a far better fertilizer at 60 per cent of the price of this one.

Will Moldy Ensilage Keep?

E. L. B., Stantontown, O.—Will ensilage that is slightly damaged by a thin, white mold on portions all through the silo, spoil any more if left in the silo through the summer? The walls of the silo are good and tight. The mold is, probably, due to slow filling, or lack of moisture in the stalks when put in, or both. The corn was a common yellow variety, grown the same as for husking, and cut into the silo, corn and all, when ripe enough to shock. It was grown on high land, and the past season was a very dry one. Sweet corn stalks put into the silo in the same way after the ears had been removed, came out in good condition.

ANS.—It is self evident that the ensilage was too dry when put into the pit. If it had been treated to a liberal amount of water sprayed upon the material as it went up the carrier, the mold would not have appeared. Perhaps its growth can still be arrested by pouring cold water upon the ensilage, the colder the better, though it would hardly be safe to trust this ensilage which is already fully permeated with the mycelium of the mold, to keep through the summer. It is well known that sweet corn and sweet corn stalks, cure much more slowly than the common varieties, and without doubt, in this case, the sweet corn stalks had much more moisture in them than the others. There is no particular objection to ensiloing corn when it is mature, if the right amount of moisture be added to it as it goes into the silo. I. P. ROBERTS.

Some Points About Fertilizers.

G. R. R., Lowville, N. Y.—1. What plant food is contained in kainit, and what is its value? 2. Is there any fertilizing value in insoluble phosphoric acid as contained in commercial fertilizers? 3. One per cent nitrogen is equivalent to what per cent of ammonia?

ANS.—1. Strictly speaking, the only actual plant food in kainit is the potash, which will average about 250 pounds to the ton. This potash is valued at 4½ cents a pound as compared with that in sulphate of potash—which is valued at 5¼ cents. 2. There is no immediate value in the insoluble phosphoric acid in rock phosphates, though the chemists give it a value of two cents a pound, assuming that some of it will gradually become more available. This valuation is not fair to coarse bone which may not dissolve in the chemist's acid, yet will become available when left for a while in the ground. 3. One per cent of nitrogen is equal to 1.21 per cent of ammonia, and one per cent of ammonia equals .82 per cent of nitrogen.

Making a 75-Acre Lawn.

R. R. P., Quebec, Canada.—Four years ago, I rented this farm from a French Canadian who has just sold it to a new club to play golf on. The club wishes me to stay on and get it put in order. The object is to have a fine sod that will not require frequent cutting. What kind of grass seed is best to sow on the 75 acres of land to be used for golf? Should it be sown alone or with a crop of oats? How much seed per acre? What would be the best way to pull out scrubs along the fences, from one inch to four inches in diameter?

ANS.—There is no question but Kentucky Blue grass and Red-top with a liberal admixture of White clover, are the grasses needed. All the grasses represented in the Red-top and Blue grass groups, such as Wood-meadow and Canada Blue grass, and the Rhode Island and Creeping Bent grasses, make a fine, close turf, and need but little cutting, as they flower only once in early summer. White clover, although always objectionable in lawns and dooryards, on account of the spotted effect caused by its numerous white flowers, is exceedingly useful in large areas, owing to the abundance of dark green foliage, and the binding action of its creeping stems on the sod. Grasses of the Red-top family may lack something in hardiness in Canada, but no trouble of this kind will be found with the Blue grasses. It will require from 25 to 30 pounds of each of the fine grasses, and five to seven pounds White clover to seed each acre in anything like a satisfactory manner. This will cost at present prices about $8.50 per acre. Expensive as this appears for so large a tract as 75 acres, it is barely the minimum, and a much larger quantity of seed could be used to advantage. It would, of course, add much to the pleasant effect of such a pleasure ground, to include a pound per acre of sweet-scented vernal grass, for the sake of its agreeable odor when cut or bruised.

As to the preparation, it should be as thorough as when making any lawn, as half-way measures will always prove disappointing and, in the end, doubly expensive. It is best to enrich the soil with fine manure, as free from weed seeds as can be secured, or good commercial fertilizers at the rate of 600 to 800 pounds to the acre. Work the ground as fine as its condition will allow, sow the seed evenly, and roll well after harrowing it in with a very light steel harrow. The clover should be sown separately, as it does not mix well with the other seeds, owing to its weight. Better success may be expected when these grasses are planted alone than with oats or other "nurse crops."

I can suggest nothing better to get out the scrubs along the fences, than a couple of good grubbing hoes, in the hands of as many able laborers. Horses can seldom be used to advantage in such confined places, and special tools for clearing scrub land have generally proved failures. Once out, the brush may easily be kept down by midsummer cuttings. It is a somewhat formidable undertaking to reduce so extensive a plot of ground to a park-like condition, and it should be well done, if done at all. W. VAN FLEET.

What Ailed the Pullets?

J. K. H., Shawville, Conn.—Two of my pullets died very suddenly, a short time ago. The first one ate at night, corn and oats, as well as ever, and in less than half an hour was dead. In about two days, the other one died one night; she was, apparently, well when she went to roost. She passed considerable of a liquid substance, about the color of sulphur. Two or three years ago, hens died here of a disease that was called cholera.

ANS.—The trouble is, probably, due to overfeeding with grain, the hens dying from apoplexy. The apparent cholera is indigestion, due to the same cause. The fowls are, perhaps, too fat. Males should be separated from the hens. Cease all grain for a week, giving only one meal a day, of raw lean meat, one pound to 16 hens. Add a teaspoonful of tincture of nux vomica to one gallon of the drinking water. You should have stated the method of feeding.

WHAT CROP FOR A POND BOTTOM?

CORN IS RULED OUT?

About seven years ago, I built a dam, and turned a 35-acre meadow into a small lake or pond. The meadow was an intervale, surrounded by cultivated hill fields or farms, and was the outlet of 750 acres of watershed. A spring brook runs through it. On about 10 acres, I laid about 1¼ mile of two-inch round tile, with collars. These were all laid systematically, 60 feet apart, each drain about 650 feet long, with a fall of 2½ to 5 feet to each drain. At first, it was my intention to flood the ground only winters, and thereby detain the detritious matter from the hills on the meadow. But I got into the ice business, kept the water on the year 'round, and stocked it with fish. The great flood or high water in February washed out a large portion of the dam, and now it is all dry ground again. It is my intention to rebuild the dam, but can I raise a profitable crop this summer? It has been submerged three full years, now. Some say that the ground is so sour that nothing of importance will grow this year. All the vegetation is rotted, and there is a deposit over the whole surface. Others say that, by harrowing early in the season a few times, to let the air and nitrogen in together with the sunlight, I can grow some crop such as buckwheat. One professor told me to plow the ground and plant to corn. This I don't wish to do, as it is too much work, and lasts too late in the season to cover with water again. Others have recommended millet as a fodder crop and milk producer. How about oats and Crimson clover, one for a grain crop, the other for a fodder crop? The soil is a clay loam underlaid with clay. E. V. R. G.

Orange County, N. Y.

Oats and Crimson clover would hardly prove a satisfactory crop in this case. I would suggest sowing oats and peas, one bushel of each, per acre. These, either cut and cured as hay, or used for filling a silo, would provide a large amount of excellent food without entailing too much labor, which seems to be one point under consideration. M. H. BECKWITH.

If the land in question is drained, so that the water will pass off very early in the spring, and it could be plowed or cultivated, so as to let the air into the soil and warm it up in time, it would, probably, produce a good crop of corn; or, if it could not be prepared in time for corn, millet might be sown a little later in the season, with good results. If it would be rich enough and warm enough, it might do for onions, but this is doubtful. We doubt whether buckwheat would be a paying crop on this kind of soil. SMITHS & POWELL CO.

I never have had any experience of this kind, but I would favor a corn crop. But as E. V. R. G. does not wish to grow corn, and does not say for what he wishes to use the crop, I would suggest to get all the air and sunlight he can in the soil and then either drill or plow in about eight inches deep, one bushel per acre of Canada field peas, and then cross-sow 1½ bushel per acre of the strongest-strawed variety of oats he can find. He can, by cutting when the oats are in bloom, make a fine quality of hay; or, if he choose, let them ripen and cut for a grain crop. The mixture is one of the best butter-producing foods I can grow, both for cheapness and quality. I think that, with good corn ensilage, and oats and peas ground, I can make June butter in winter, at least so say my customers. The crop should not be allowed to get too ripe, but should be cut as soon as the oats are nicely turned, as the peas will not shell and waste so badly as when fully ripe, and the straw will be more readily eaten. A. D. BAKER.

Millet should do extremely well on this soil. Oats would be likely to fall down, and Crimson clover would not grow tall enough for a fodder crop, if started with the oats. Crimson clover is an annual, and should be sown in June or July and cut the next May; but usually it is not a successful fodder crop in the North. It is a most excellent plant to use to cover the ground in midsummer, fall and winter, and to digest the cruder products of the soil, and prepare them for the crop which is to follow. It is customary to plow the Crimson clover under in the spring, and follow with the "white grains" or corn. Care should be taken to cut the millet before the seeds are fully ripe, or they may be dangerous if the hay be fed liberally to the cattle. I. P. ROBERTS.

If corn is out of the question owing to the labor, I think that buckwheat would be the next most profitable crop. Sow the Japanese variety, about June 10, just after a shower of rain. The yield should be 40 or 50 bushels to the acre, and at very little outlay of money or labor. Oats would, undoubtedly, do well and make a profitable crop; but the Crimson clover would defeat his plans for the winter's ice crop. Better sow oats and Canada field peas, if a combined grain and fodder crop other than corn be desired. JOHN L. SHAWVER.

What to Add to Packing-House Fertilizer.

J. E. L., Chattanooga, Tenn.—I have a packing-house fertilizer costing $18 per ton, with the following analysis:

	Per cent.
Ammonia	7.25
Insoluble phosphoric acid	7.04
Available phosphoric acid	7.62

I wish to add potash to this to make a complete fertilizer for green beans and for melons. What form of potash do you recommend? Would it be advisable to use any cotton-seed meal, which may be purchased quite cheaply now? The land on which I wish to use it, is a red clay loam of moderate fertility.

ANS.—This is, probably, a mixture of blood, bone and meat. If you can obtain wood ashes or cotton-hull ashes at a reasonable figure, we would advise you to use potash in these forms. Do not attempt to mix the ashes and fertilizer,

(*Continued on next page.*)

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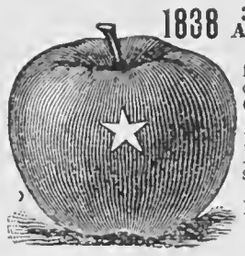

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(CONTINUED.)

but broadcast them separately. If ashes are not to be had, muriate of potash will answer. You may use 300 pounds of muriate with a ton of this fertilizer, or use 1,200 pounds of fertilizer, 550 of cotton-seed meal and 250 of muriate.

Ben Davis Apple in New England.

R. W. M., Brooklyn, N. Y.—Is the Ben Davis apple grown to any extent in the New England States? Is it productive there?

ANS.—It has been planted quite extensively in Maine, but, I believe, not elsewhere in New England; and there is much complaint of its poor quality, the truth being that the season is too short for it. It is a Southwestern apple, and needs a long, warm season and climate to develop the small dessert value it may have at its best. I lived 12 years in Kentucky; but even in that State, it is not so good as in Tennessee or Alabama. Very few trees of it will hereafter be planted in New England. The fruit, I am told, sells pretty well in England, and may be as good as the average native apple there; while its large size and fine color give it another advantage. Well-ripened, Ben Davis is a very fair cooking apple for pies or sauce.

T. H. HOSKINS.

Catalogue Reviews

ENOS W. DUNHAM, Stevensville, Mich.—A catalogue of 55 kinds of strawberries with conservative descriptions. Satisfaction is one of the kinds described, and, from our own experience, it would seem worthy of a trial. Eleanor is another kind that we have hopes of. At the Rural Grounds last year, it promised to be early, of good quality and of large size. William Belt is much praised. We have not tried it.

J. H. TRYON, Willoughby, O.—A circular and price list of "the best and most popular varieties of grape vines and small fruits." The prices are moderate. Dozen collections of grape vines will be sent by mail prepaid for $1.

E. J. HULL, Olyphant, Pa.—A catalogue of small fruits. Over 100 varieties of strawberries are offered, among them the Clyde, which is said to be the "best all around berry to be obtained," perfect flowers, early, fine color, large and firm.

ENTERPRISE SEED COMPANY, Newark, N. Y.—A catalogue of vegetable, flower and farm seeds, small fruits, roses and ornamental shrubs and trees. There is a long list of potatoes. They are offered in all sorts of ways—potato eyes, special boxes by mail or express, and various collections. The White Stone, it is claimed, is the greatest acquisition that has been added, in many years, to the class of late potatoes—heavy, solid, resembles the Freeman in shape and quality, but is an immense yielder.

J. G. HARRISON & SONS, Berlin, Md.—A wholesale circular and price-list which our readers would do well to look over. Sixty kinds of strawberries are offered for from 20 to 50 cents a dozen, postpaid by mail. By the 100, they are offered for from 40 cents upwards. Peach trees "grown on virgin soil and free from any taint of disease," are offered from 30 cents to $1 a dozen, and from $2.50 to $5 per 100. These trees range from one foot to six feet in height. Heavy, first-class apple trees are priced at $5.50 per 100; plum trees, on Marianna stock, for $2 per dozen, and so on. Particularly note what is said regarding the two new strawberries, Berlin and Ocean City. It is claimed that, on one field of five acres, 10,000 quarts of the latter were picked at one picking. One is perfect, the other imperfect as to blossoms.

(*Continued on next page.*)

"BIG FOUR" to ST. LOUIS.

"NO TUNNEL ROUTE."

The National Republican Convention will be held in St. Louis, June 10, 1896. There will be many thousand people in that city on that occasion. The "Big Four" offer to the public the most comfortable and luxurious line to St. Louis with elegant Through Wagner Sleeping Car service and unexcelled Dining Car service from New York, Boston, Buffalo, Cleveland, Columbus, Cincinnati, Indianapolis, Washington and all Eastern and Southeastern cities.—*Adv.*

Miscellaneous Advertising.

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ONIONS ARE CHEAP SO ARE POTATOES OATS and CORN

but no cheaper comparatively. They are a reliable standard vegetable, and the grower who has the skill and soil to produce a good crop every year will make it pay in the end.

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Red Wethersfield..	5c.	15c.	35c.	$1.00
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Yel. Globe Danvers	5c.	15c.	30c.	1.00
Large Red Globe...	5c.	15c.	45c.	1.40
Early Red Globe...	5c.	15c.	50c.	1.75
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Ideal White Globe.	10c.	25c.	60c.	2.25

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THE COLUMBIAN RASPBERRY

is extremely hardy and vigorous, resists drought, has no suckers, as it propagates from the tips only. Largest in size; best for canning, as it retains its form, size, color and flavor. It adheres firmly to the stem, does not crumble in picking, is a good shipper and wonderfully prolific. 8,000 quarts to the acre.

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EUREKA RASPBERRY.

is the Money-Maker. Early as Palmer; large as Gregg. More productive than either. Send for Price-list of small Fruit Plants to

W. W. FARNSWORTH, Waterville, Ohio.

Columbian Raspberry

The best Raspberry grown. Fruit and Ornamental Trees, Shrubs, Roses (on own Roots.) For low prices address C. L. YATES, Rochester, N. Y.

Golden Queen, Cuthbert, Herstine and GREGG RASPBERRY PLANTS. Brandywine Strawberry. Japanese Wlueberry. Good assortment of Trees, Plants and Vines. Price List free. Also, Purebred Poultry and Eggs.

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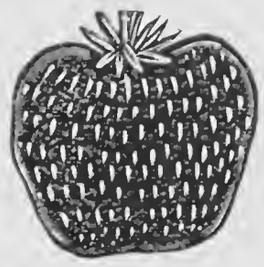
Plants Golden Mayberry, Strawberry, Raspberry, large stock; Asparagus Roots; Sweet Potato, Celery, Cabbage, Tomato, Egg and Pepper Plants. Lincoln and other Plum Trees at greatly reduced rates. Price list for the asking. I. & J. LEONARD, Iona, N. J.



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A great prize-taker: received $125 in prizes from Massachusetts Horticultural Society. Price, 50c per dozen; $2 per 100. The only sure way to get the Marshall and plants to suit is to get the real root by buying direct of the originator, M. F. EWELL, Marshfield Hills, Mass.

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Marshall and Rio Strawberry,

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YOU WANT MY NEW **STRAWBERRY CATALOGUE** Tells you what to plant; and about reliable Honest Plants that will grow and prove profitable.

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STRAWBERRY PLANTS. Send for price list. WILCOX BROS., Roscoe, Ill.

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Grown in the cold North, produce larger and better crops in any soil and climate than those from any other source.

SEED POTATOES.—All the new and standard kinds at *hard times* prices.
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Catalogue free. Send for it to-day. Special prices on quantities.

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New Catalogue of

GARDEN SEEDS

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SEEDS Always Fresh and SURE TO GROW.

Send 5 cents to cover postage and receive by return mail package of my New Hybrid Everblooming Pansy Seed, all colors; finest varieties known; and my Beautiful Seed and Plant Book of Garden Novelties all sold at lowest prices ever known.

H. W. BUCKBEE, Rockford Seed Farms,
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Cut this coupon out, and mail to us with only 25c., and we will send you one full-size package of each of the following eight choice selected varieties Sweet Peas, all different colors:

Blanche Ferry, Butterfly, Boreatton, Blushing Beauty, Cardinal, Her Majesty, Mrs Eckford, Orange Prince, and one package of extra choice mixed (over 60 named sorts) worth at all catalogue rates, 50 cents, with beautifully illustrated catalogue.

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All old and new varieties. Extra quality. Warranted true. *Lowest rates.* Descriptive Catalogue Free.
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Largest Stock in the World. Small Fruits. Introducer of unrivalled new Red Jacket Gooseberry & Fay Currant. Catalogue *free.*
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Largest growers of Grass and Clover Seeds in America. 5000 acres. Our Grass Mixtures last a lifetime. Meadows sown in April will give a rousing crop in July. Prices dirt cheap. Mammoth catalogue and 10 pkgs. Grass and Grains, free for but 10c. postage. Catalogue alone 5c.

JOHN A. SALZER SEED CO., La Crosse, Wis.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

CRIMSON CLOVER Thomas McElroy, European Seed Commission Merchant, Mercantile Exchange Building, Harrison St., N.Y. Continues the largest importer of fine grade Crimson Clover in the U. S. Prices to dealers only.

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BERLIN FRUIT BOX CO.,
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PLANT BOXES $2.25 PER 1000.
For HOT-BED USE

4-inch cube, 4½-inch cube, or 5-inch cube.

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Berry Baskets.

Quarts, Shorts, Pints, Thirds, &c.

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Sizes, 2, 4, 6, 8, 10, 12, 14 and 16 quarts.

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Wood, burlap and cotton.

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Manufacturers and Agents,
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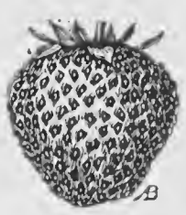
WE ARE HERE WITH OCEANCITY, AND BERLIN.

TWO NEW STRAWBERRIES THAT COME TO STAY.

Millions of Plants! Sixty Other Varieties!!

Donald's, Elmira and Palmetto Asparagus, Japan Plums, Apple and Peach Trees by the car load, from natural seed. A postal with your name will bring our 20-page Catalogue, if sent now to

Tenn. Peach Seed. **HARRISON'S, Berlin, Md.**



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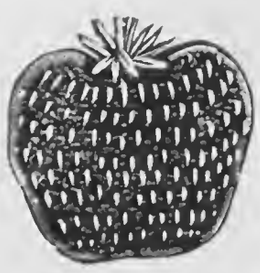
3,000,000 Plants. 100,000 Fruit Trees.

All leading varieties. Our 1896 Catalogue, mailed free, gives descriptive list. It tells what to plant for profit. Specialties: JAPAN PLUMS, PEACHES and STRAWBERRIES.



T. J. DWYER, Orange Co. Nurseries, CORNWALL, N. Y.

CATALOGUE REVIEWS.

(CONTINUED.)

J. CHAS. MCCULLOUGH, Cincinnati, O.—A catalogue of flower and farm seeds and implements. Among the latter we are glad to see the Reddick mole-trap which, as we have often said, we regard as the cheapest and most effective mole-killer yet devised. Extra Early Huron dent corn, the Mammoth Cluster oats, Rural Branching sorghum (Millo maize), Kaffir corn are offered.

E. M. BUECHLY, Greenville, O.—This is a catalogue of small fruits, fruit trees and plants. The Greenville strawberry is highly praised by many authorities. The Eldorado blackberry is gaining friends. We hope that our plants will fruit the coming season, and that both plants and berries will prove to be all that has been claimed. We have before alluded to Downing's Winter Maiden Blush apple. It seems that it closely resembles its parent, Maiden Blush, except that it keeps from December to April. What is said regarding the Champion peach and Eureka raspberry, should be noted.

D. M. FERRY & Co., Detroit, Mich.—A beautiful catalogue of 90 pages with colored portraits of Nott's Excelsior pea, Siebert's Early Lima and the two new sweet peas, Katherine Tracy and Blanche Ferry. We take pleasure in again alluding to Nott's Excelsior for the two reasons that it is the best and earliest dwarf wrinkled pea, and that THE R. N.-Y. was the first to try it and publish its merits. Siebert's Early Lima was planted at the Rural Grounds last season, but the tornado utterly destroyed every vine; there was nothing left but a few poles. Ferry & Co. regard it as the earliest true Lima, furnishing the largest green beans, and the beans are more easily shelled than those of any other kind. We would further call attention to the following as well deserving of trial: Davis wax bean which bears perfect-shaped pods and white seeds; Detroit Dark-red Turnip beet; Ferry's Improved Short White carrot, the best for field culture; Albino cucumber; Cosmopolitan and Osage, muskmelons; Michigan Yellow Globe onion, the largest cropper of any yellow onion, and Columbian Mammoth White asparagus, introduced three years ago. Ferry & Co. claim to be, by far, the largest seed growers in America.

LUTHER RICE, Manchester, N. Y.—A small fruit circular and price-list. The Champion of England strawberry leads the list. The old and excellent Agawam blackberry is illustrated, a variety that is simply perfect in some places, but not very prolific in others.

B. M. WATSON, Plymouth, Mass.—A wholesale price-list of plants, ornamental, deciduous and evergreen trees, roses, bulbs, herbaceous plants, fruits, etc. Among currants, we notice the old Gloire des Sablons, the oddest and prettiest currant known. It is really valuable as a unique curiosity, the berries being variegated, white and crimson. Grosse Blanche de Dessert is described as a new currant of the largest size. The list of Chinese and Japanese pæonies, plants not half appreciated, is excellent.

SHADY HILL NURSERY Co., Boston, Mass.—A very valuable catalogue (240 pages), of shrubs, trees and hardy herbaceous plants. The catalogue is "up to date" in every way. A long list of the best of the later introductions among evergreen and deciduous trees, is presented. The illustrations are especially good, that is, true to nature. Among the best we would mention Sophora Japonica pendula, Teas's Weeping mulberry, Nordmann's Silver fir, and the Concolor fir which the catalogue mistakenly calls Picea concolor. It offers a golden-tipped Umbrella pine (Sciadopitys verticillata aurea), a very rare tree.

P. EMERSON, Wyoming, Del.—There is a good deal to interest the farmer and fruit grower in this little catalogue of small and large fruits, nuts and hardy ornamental plants. The Ridgeley chestnut is making friends everywhere as THE R. N.-Y. predicted it would in 1894. Our own tree has not borne yet. It is claimed that, though the tree grows to a large size, it bears when two or three years old from the graft. As we have stated, the nuts are nearly as large as those of the Paragon, and of about the same quality as our wild natives. Mr. Emerson offers Mr. Kerr's new strawberries, the Oriole and Ideal, and the Miller Red raspberry. He guarantees his plants to be "pure and true to name."

AN IDEAL HARROW.

BY HENRY STEWART.

It would be strange indeed if all persons could agree upon the same thing. And in regard to that most important work of the farm, harrowing, it may be thought not unreasonable that some writers should miss some point that appears conspicuously to others. I consider harrowing to be the most important part of the preparation of the land for crops, inasmuch as it completes the work of the plow. And I consider that the best harrow is that one that will pulverize and break up the soil after the plow, and that—in some instances and for some uses—will act as a substitute for the plow, leaving a sufficient depth of mellow soil for the seed to germinate in. And I have always been an advocate of deep sowing, even of such small seeds as grass and clover, believing that this depth of soil is a surety against failure of the seeding, by any dry time succeeding it, soon after the seed has been sown and before the roots have got a firm hold on the soil.

Harrowing is not a mere smoothing of the surface, leaving the under soil lumpy and full of holes and spaces between the furrow slices, and any harrow that merely does this smoothing, or a mere cutting of the surface, or simply scratches it, is not the kind of implement that the farmer wants, or that should be recommended to him by writers whose opinions are accepted in the way of advice. But true harrowing must consist of the breaking of all the surface clods; the cutting of the furrow slices to a sufficient depth to make a perfect seed bed; the settling of the soil together to make it compact; turning and mixing the soil so that seed sown is covered equally and completely, and cutting every inch of the surface in this way. An implement that does this answers more than one purpose, it finishes the work of the plow, and in addition to this, by its very thorough working of the soil it sifts as it were the weeds from the soil, especially the small young ones, and leaves them helpless, so that an hour's exposure kills them. And even those that may be still covered by the soil, are so effectively separated from it that they perish. And thus the farmer has his work done in the most perfect manner, and as well has such an excellent finish on his land as to give it a pleasing appearance. It is quite true that there are several harrows made that will put this finish on the land, but like the whited sepulchre, when you look under the surface, the imperfections are very apparent.

Now let us take what I call a perfect harrow, and study its work. We have a plowed field, plowed as it should be, turned evenly in depth with straight furrows if possible—but as such work as this is not often seen we will suppose there are uneven places, cloddy furrow slices, balks, and such common imperfections in the work. And we put an "ACME" Pulverizing Harrow on the land in either case. The first thing we notice is that the flat crushing spurs in the front shave off and crush the rough, uneven places, break down the slices, fill the hollows, level the surface, and the sharp curved coulters, like small, long plowshares following, cut into the soil, and turn it, leaving small furrows, as if a number of small plows in a gang had passed over the land. And on whatever soil this is done these coulters bury themselves in the soil and leave a seed bed, finely pulverized and mellow, quite deep enough to take in the seed, and afford room for the young roots to spread in and find ample food. And when the farmer has spent a lot of money for fertilizers he will be pleased to see how every square inch of the soil, down to as deep as he may wish—and as deeply as this machine is prepared and especially intended for, gets its equal share of the plant food provided for the crops. And if the plowing has been done in the most perfect manner, or if it has not, the work is done all the same, and the perfect adaptation of the harrow to its work really overcomes the imperfection of the plowing and remedies the errors of it to a great extent.

To secure this end and purpose, the "ACME" Pulverizing Harrow has a lifting lever by means of which the angle of the coulters is altered, instantly changing the action of the coulters and forcing them deeper or shallower into the soil. This point is too often overlooked by writers who describe their farm work, and doubtless by many farmers who have not studied the action of this harrow, especially in clay land. The perfection of an implement, indeed, to a great extent, depends upon its adaptation to all kinds of soil, so that its use may be universal, and this is one of the good points of this harrow.

I have walked miles and miles behind the "ACME" Pulverizing Harrow, and have closely watched and studied its manner of working, and I must say that much of what I have learned and known of the culture of the land and the preparation of it for the seed, and the growth of plants, has been the result of work with this implement. Just as my work with the plow has taught me what good plowing is and must be. And this study has given me a firm belief that a part of the study of the young men at the agricultural colleges should be just in the same way, behind the best implements that can be procured for the work to be done. And this should be done while other scientific education is not to be left undone. In fact, the study of the work of a perfect implement, made on scientific principles, is nothing less than a scientific one.

Agriculture is passing through a crisis, and changes are impending. These can only happen in the way of better work and more intensive culture, thus growing better crops at less cost on less surface. And the means for this most certainly consist, to a very great extent, in the selection and use of the most perfect implements. It is no use giving food to an animal that cannot digest it. And equally it will be useless to give costly food to the crops in the form of fertilizers, unless the very best implements are used to prepare the soil, so that the food may be properly digested and fitted for the plants. And it may be said most truly, that while the plow is not to be slighted in the least, the harrow is to be studied even more as the implement by which the digestive ability of the soil for its food is to be mostly perfected and stimulated.—*Adv.*

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MIXED PAINTS
AT WHOLESALE PRICES and SAVE Dealer's Profits.—Delivered FREE,
FROM THE OLDEST MIXED PAINT HOUSE IN AMERICA,
Manufacturers of INGERSOLL LIQUID PAINTS, proved by 54 years use to be the most durable and color-lasting, and the only Paint "Officially Endorsed" by Grange and Farmers Alliance.
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We can Save you Money.—You may as well use the BEST PAINT, when it COSTS LESS than common paints at Retail. Write for Wholesale Discount Prices Beautiful Sample Color Cards and Our Book, mailed free.
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PATENT VARIABLE FRICTION FEED.

Medal and Highest Award at the World's Columbian Exposition.
SAW MILL & ENGINE
BEST SET WORKS IN THE WORLD. Warranted the best made. Shingle Mills, Machinery, and Standard Agricultural Implements of Best Quality at lowest prices. Illustrated Catalogue.

FARQUHAR SEPARATOR
LARGEST CAPACITY.
Most economical, lightest draught, wastes no grain. Cleans ready for market. Send for catalogues.
A. B. FARQUHAR CO., Ltd., York, Pa.

DO YOU SAW WOOD

DON'T follow the old Backaching and Backbreaking Methods of your ancestors, but use modern "up-to-date" machines. Use Smalley "Battle Creek" Wood Saws and do DOUBLE THE WORK WITH HALF THE HELP. Our "Electric" Circular Saw Machine is positively the best general purpose Farm Saw Ever Made, perfect as a pole saw and unequaled as a Cord Wood Machine. Smalley and Battle Creek hand or Self-feed Drag Saws are unequaled for both quality and quantity of work. Smalley Cutters for Ensilage and Dry Fodder Cutting—Feed Mills, Corn Shellers, Root Cutters—Sweep and Tread Horse Powers.
Price Lists and Latest Silo Book Free to any address.
SMALLEY MFG. CO., Manitowoc, Wis.

FARMER'S SAW MILL. 4 H. P. and larger. Corn and Feed Mills Hay Presses & Water Wheels
DELOACH MILL MFG. CO., Box 367, Atlanta, Ga

More Brains
Are often required to determine what shall be "kept out" of a harvester than to say what shall "go into" it. It is so easy to do the wrong thing—and the wrong thing has such an inviting appearance—that less experienced manufacturers than the McCormick Co. frequently find themselves "putting their foot in it" and building a machine one season which they are obliged to abandon a season or two later.
Because a good thing is a good thing in its place, it doesn't necessarily follow that it is a good thing in a harvester or mower.
Fight shy of the machine whose best recommend is that "it seems to have a bright idea" in its make-up. Remember this every day in the year:—McCormick Machines will work where others fail.
The makers of McCormick Machines have been at it for sixty-five years. By long experience they have found out how to build the best binders and mowers.
The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower and the McCormick Corn Harvester are unequalled for capacity, light draft, efficiency of service and long life. Built, sold and guaranteed by the
McCormick Harvesting Machine Co., Chicago.
Agents Everywhere.

A NEW strawberry is offered by a French firm, Letellier & Sons, of Caen, named Louis Gauthier. This firm introduced the spineless gooseberries which have not as yet been tried in this country. These claims are made for the new strawberry: Great vigor of vines; enormous production of fruit; white or nearly white color, a rare characteristic among large-sized berries; large size. Its first crop ripens in France in late June. The plants send out runners early, and these bear a second crop in September.....

MR. H. M. ENGLE, the introducer of the Paragon chestnut, favors us with this note:

> The R. N.-Y. has, on several occasions, referred to the Paragon chestnut as a Japan seedling, which is not correct. The original tree bore nuts before any Japan nuts were grown in this country, or at least, before they were brought to public notice. It is considered to be a Spanish seedling. Recently THE R. N.-Y. referred to it and Ridgeley as Japan seedlings. The latter is claimed to be of French origin, that the Duponts brought the original stock from France. It is, however, not certain that either is from seed direct from their respective countries, but the strains may have been impregnated with native pollen, which improved their quality, since pollen is often carried great distances.

Some years ago, Prof. Thomas Mechan gave us the history of the Paragon. He traced it to Spanish origin. He compared the leaves and branches, and those of the Paragon resembled the Japan more than the Spanish. We know nothing of the parentage of the Ridgeley further than what is said of it in the catalogue of the introducer.....

IN the matter of cultivating potatoes, how to prepare the land, the depth to plant, the size of the pieces, the variety to select, the method of cultivation, we know of no better guide than that which is given to us in bulletin 29 (October, 1895) of the Georgia Experiment Station. We are speaking for the South. But the general principles set forth in this bulletin will serve just as well for the North. THE R. N.-Y.'s Trench method, as it may be applied to field culture, is approved. For fertilizers, 1,000 pounds are deemed the right (economical) quantity to use, even for poor land. It should be balanced in this way: 600 pounds of soluble phosphate, 250 pounds of nitrate of soda, and 150 pounds of muriate of potash, applied, as THE R. N.-Y. has advised, either all under the seed pieces, or (preferably) half under and half over after covering the seed pieces before the trench is filled. As to the size of seed pieces, Mr. Starnes, the horticulturist, again agrees with us; they should be cut according to the *weight* of the individual pieces; that is to say, the pieces should have a certain amount of *flesh*, regardless of the number of eyes they have. The rows should be three feet apart, the pieces, dropped a foot apart in the trenches. This distance, we would remark, should be varied to suit the habit of the kind planted. The Early Ohio, for example, may be planted closer together than ranker-growing kinds. As to the *depth*, the result of these experiments in the South, is just that which has given us the best yields, one year with another, viz., four inches. "It does not pay to hill up," says Mr. Starnes, a conclusion that we have tried to impress upon our readers for 15 years.....

A SOUTHERN TRIUMPH FOR THE CARMAN No. 1 was the result of the trial of 59 kinds in 1894. It gave the largest yield, viz., 137 bushels to the acre, "large and fine." Last year 240 different kinds were tried. Carman No. 1 stood the 72nd in yield, not so good as in 1894, but the average, considering the quality and size, is still satisfactory. For first choice, as a succession, the bulletin recommends Pride of the South, Early Rose, Beauty of Hebron, Carman No. 1 and Peerless. The kinds more recently introduced, and cracked up as doubling the yields of the older varieties, are simply "nowhere." The R. N.-Y. No. 2 is among them. In both seasons, it yielded among the lowest.....

AN experienced peach grower writes us that, in his opinion, the Crosby peach has been overrated, and that it will never prove to be the peach that Elberta has proved itself to be.....

FRIENDS of THE R. N.-Y., we wish you to consider this proposition, whether you own one acre of land or 500 acres: As may be seen by our catalogue reviews, absolutely trustworthy firms offer collections of evergreen and deciduous trees sent by mail, postpaid, for $1, and the number of little trees so offered varies from 25 to 100. For example, 100 arbor vitæ, 100 Scotch pine, 100 Norway spruce, 75 White pine, 100 Hardy catalpa, each lot for but $1. We know from actual trial that these little trees may be trusted to live just as surely as the larger trees sent by freight or express that cost from 50 cents to $2 each if bought singly. An investment of this kind may be made profitable in several ways. Plant these little trees in nursery rows in the garden or field. In three years, they may be set where they are to remain, or sold to neighbors. Larger trees when transplanted, receive a check from which, as compared with the little trees, they are slow to recover. The little trees do not mind this check much. They are sure to overtake the larger trees, while they do not suffer in symmetry.....

Miscellaneous Advertising.

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possesses all the nutritive elements requisite in plant food. Being rich in ammonia, phosphoric acid and potash, combined in just the right proportions, they are highly efficacious for all crops, but especially adapted for corn, potatoes, grain, root crops, and top dressing for grass land.

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75 to 100 pounds per acre. The increase in STRAW ALONE will pay for the Nitrate.

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We will sell you the *LEADER* **SEED SOWER** the finest in the market, for $1.25; sold last year for $2.50. Send for cat.

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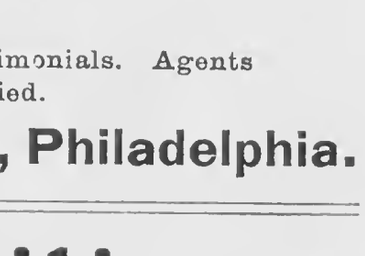

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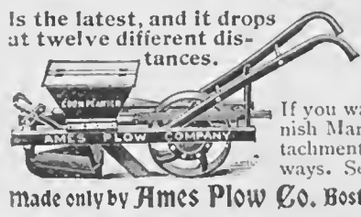

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If you want them, we furnish Marker and Trip Attachment for rowing both ways. Send for Circulars.

Made only by **Ames Plow Co.** Boston and New York.

Farquhar Keystone Corn Planter

Warranted the best Corn Dropper and most perfect Force-feed Fertilizer Distributor in the world. Send for Catalogue.

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THE

The Rural New-Yorker.

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Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, APRIL 4, 1896.

EVERY reader ought to turn to page 246, and see how profitably he can devote a little spare time this month to the work there referred to. It is doubtful, whether such an opportunity will ever again be offered any people by any responsible firm.

⊙

IT must be that the Cuban question and the chance that McKinley will secure the Republican nomination, have made our readers forget that great book offer. Here it is again. Note these books:

	Cloth.	Price.
First Lessons in Agriculture	"	$1.00
American Grape Training	"	.75
The New Potato Culture	"	.75
The Business Hen	"	.75

They are the best of their kind. Think of it! We give any one of them as a reward for obtaining one new subscription (not your own). Why not start that farm library of yours in this way? *Do it now!*

⊙

A NORTH CAROLINA road supervisor figures that, with convict labor costing 21 cents a day, he can build a mile of good rock road for $1,100. With hired labor at 50 cents, the road would cost $2,350! He also claims that the convicts will do better work. "*Good roads by bad men!*"

⊙

THERE is little doubt that many potato growers will cut down their acreage of this crop this season. THE R. N.-Y. does not consider it likely that we shall have the combination of conditions that prevailed in 1895, again inside of 10 years. Our opinion is that potatoes will be a safe crop this year, and we would invest money in new and improved varieties, plant them with the greatest care, and not cut off an ounce of fertilizer or manure from the amount that former experience has proved necessary.

⊙

THAT is an interesting article by J. H. Hale in this issue. Those who have ever been in the Hale orchards—either in Connecticut or Georgia—will quickly see that this method of securing a "balanced ration" for fruits, is not only sound in theory, but sounder in actual practice. Mr. Hale is not a man who stays in the "old ruts." He makes new ruts for himself. A striking illustration of this is seen in the way he has prepared his catalogue for this season. It reads like a story book, and well it may, for it tells a story of American enterprise and pluck that will inspire many a struggling young man to renewed earnestness and care.

⊙

THE fact that ensilage may be made from dried corn fodder, as described by Mr. Gale on page 235, is a very important thing for farmers to know. With many farmers, the greatest objection to ensilage has been the fact that the season of cutting was so short that one must own cutter and power, as well as hire a large gang of men, in order to save the corn. Now we see that the corn may be cut as for fodder, and put into the silo at the farmer's leisure. It is no more necessary for every farmer to own a cuttter and power than it would be for each one to own a thrashing machine. At least, that is what this experiment teaches. It ought to lead to the building of 1,000 new silos in New York State this year!

⊙

IT is said that there has been a considerable falling off in the attendance of students at veterinary colleges, under the impression that the decreased use of horses in some lines, would decrease the demand for veterinarians. We think that this is a mistake. While fewer horses will undoubtedly be used, the general quality of those in use is likely to be better on the average, and skilled veterinarians will be in demand to care for them. A greater number, too, are becoming interested in breeding other purebred live stock, and these will often require a veterinarian's attention. There have never yet been enough competent, skillful, intelligent veterinarians, although there have always been too many incompetents, and the outlook for the former is still good.

⊙

ONE of the worst results of the past two dry seasons in the northwestern States, is the failure to get a catch of clover, the loss of which will be seriously felt in the future. As a temporary substitute many Wisconsin farmers will sow oats and peas, both for hay and for the grain, hoping in this way, to get feed rich in muscle-makers. A good deal of land will be sowed this spring with clover seed alone. If sowed early, on land free from weeds, it is pretty sure to grow and produce a partial crop the first year. One farmer reports that clover sown in this way last year, bloomed in 90 days, and stood 18 inches high. This is, at best, but a makeshift, for in that part of the country, at least, winter grain (preferably wheat) is best to nurse the clover plant.

⊙

IN many parts of the West, rabbits are reported plentiful and destructive. They are an expensive pest. Quite a business has heretofore been done in trapping and sending them to this and other markets. Many car-loads of rabbits are sold in this city every year, coming from hundreds of miles away. They are an excellent and healthful article of food. Yet efforts are now being made so to amend the law in this State that they shall be sold here only during a short period of fall and winter. What a farce this law-making business is getting to be! About the only thing Congress has done since it assembled in December—besides talking—is to enact that most disgraceful seed distribution law. Many of our State Legislatures have made an equally brilliant record. If half of them would go home and stay there, the country at large would be much better off.

⊙

WHILE the Babcock milk test has proved to be one of the most valuable of modern inventions for the dairyman, yet its value is greatly depreciated by careless manipulation. Investigation has shown that too many dairymen and factorymen abuse this valuable test. The idea seems to be quite prevalent that accurate work may be done by a rapidly working, inexperienced operator. This kind of work, in many instances, has given great dissatisfaction to the patrons of butter and cheese factories where the milk is bought or dividends declared on the Babcock test. Many persons seem to think that the Babcock test is so simple that any one can make it with very little or no preparation, and because this idea is entertained, the patrons are often dissatisfied with the test when the fault is wholly with the operator. Good, honest, accurate work is required in the use of the Babcock milk tester, and to this should be added a thorough knowledge of the operations of the test.

⊙

IT is reported in market circles here, that French prune growers are trying to check the importation of California prunes into European territory, which they have considered their own private market. The French prune crop was short last year, and as that country had been the chief source of supply, growers asked extreme high prices. This led to the shipment of large quantities of California goods to those markets, and the French growers became alarmed. The first movement to check this trade was to reduce the price to a point to compete with the California stock. As the preference is, naturally, for the French fruit with which the consumers are familiar, this will, of course, check the demand for our own; but as the market there has had a taste of the California prunes which are of acknowledged extra quality, and as it is improbable that France can supply the demand with her short crop, there is likely to be a considerable outlet there for the products of our California orchards.

⊙

REPRESENTATIVE D. F. WILBER, of New York State, has introduced a bill in Congress which provides that seeds, plants and vines to be distributed by the Department of Agriculture, are to be purchased from the agricultural colleges and experiment stations. These institutions are to make application for the sale of such stock, and to guarantee that it was grown on their own grounds, and that the varieties are suitable for planting in the locality or State in which the institution is located. The Secretary of Agriculture is authorized to use $30,000 of his appropriation to be advanced to the stations or colleges to aid them in growing the seeds, etc. He is also to distribute free of charge among the stations and colleges, a fair proportion of the seeds, bulbs, etc., received from foreign countries. The effect of this bill would be to take the seed business almost entirely out of the hands of the seedsmen, and give the experiment stations and colleges a chance to earn considerable money. There would be several evident advantages in this. We think that the seeds would be purer and more likely to grow. There would, doubtless, be fewer worthless old varieties sent out, and there would be no such ridiculous blunders as that of sending cotton seed to Wisconsin and coffee seed to Maine. The system would also tend to make farmers better acquainted with the stations and colleges. As for disadvantages, it may be fairly questioned whether it is a desirable thing to try to turn these institutions into money-making affairs. On some of the farms, this business of seed growing would be developed to such an extent that other branches of agriculture would be neglected. Again, some of our agricultural colleges are like a mere shed built to a literary college. All that was earned on the farm would be spent in educating more people to live on the farmer, rather than on the farm. The fact is that the whole system of our agricultural colleges and experiment stations needs a thorough overhauling before increased amounts of money are poured into it. Mr. Wilber would have served his country better if he had fought harder against *any* distribution of seeds. Better not try to patch up a useless shoe!

⊙

BREVITIES.

Peter Potash was a citizen respected far and wide,
When Miss Phosphoric Acid smilingly became his bride.
The years dealt with them kindly—though the lady ran to bone;
With Potash fat enough for both, life sang a hearty tone.
Their two adopted daughters, Crimson Clover and Miss Red,
Were prettier than any peach, yet Potash often said
He envied neighbor Nitrogen each big and strapping son,
Organic and G. Minerai—big fellows—full of fun,
But purposeless and lazy, with a clumsy wish and crude,
To imitate the manners of a brainless city dude.
"If I could have those fellows," said old Potash to his wife,
"I'd sharpen their ambition till it cut things like a knife."
But even as he grumbled, up the path came walking free,
As handsome a procession as you'd ever care to see;
Red Clover and Organic, in a perfect frame of mind,
With Crimson and his brother but a step or two behind.
How old man Potash chuckled—he was tickled half to death—
While dame Phosphoric Acid smiled herself all out of breath.
The Misses Red and Crimson blushed far redder than their name;
The Nitrogens each stole a kiss—and no one called out, Shame!
And so the brothers, Nitrogen, have dropped their lazy life
To form a "balanced ration" with old Potash and his wife.

THE laze of the lazy hen is often caused by maize.

DON'T make your stomach a dumping ground for dumplings.

WHY should a farmer with plenty of cream ever buy cod-liver oil?

LEARN how to say, "no," and thus say whoa to many a woful woe.

"GREEN" manuring! Buying nitrogen when your soil needs potash!

BOIL the weevil-eaten beans for hen food—better yet, keep the weevils out.

MOST of the blue birds have been decidedly "blue" with sore throats thus far.

WHY is a one-legged man like a clover plant? One is leguminous and the other is leg-minus.

"CATTLE Killing Commissioners" is the latest appropriate name for the tuberculin experts.

WHO can report a success in seeding land to grass in sowed corn? We have failures enough!

THE R. N.-Y. advised against feeding raw potatoes in large quantities to cows. It's bad for the butter.

THE most useful college paper we have ever seen, is the M. A. C. Record, published at the Michigan Agricultural College.

A VERY interesting article on "Tumble-bugs," page 236. There is a husband only too glad to husband his wife's strength.

A KITCHEN blackboard of small size, is easily made and painted, and will be found very convenient for recording wants and current events.

GENERAL WEYLER is fighting hard to save Cuba from becoming a mere "Castle in Spain." There are too many general wailers at large all over the world.

ONE great secret of Mr. Hale's success with green manuring is that he always has something growing on his soil. That "nitrogen trap" is always baited and set.

THE chances are that there are more cattle that "take" consumption from consumptive humans, than there are humans who "take" the disease through tubercuious milk.

THOSE milk bacteria have one object in life. It is to spoil your milk. Throw cold water on their plans. Don't throw the water directly into the milk, but run it on the inside of the cooler while the milk runs over the outside.

THERE are more inquiries about the value of potatoes as a fertilizer. At one point in Michigan, potatoes bring six cents a bushel, while it costs nearly three cents to load them on the cars. The plan now is to haul them to the corn fields and let them freeze into fertilizer.

WE hear frequent complaints that bone dust will cause sore throat or nose in those who broadcast it. The best remedy is to keep the mouth shut and the nose well smeared with vaseline. It is always well to dampen dry fertilizers before sowing, or to mix them with damp soil.

AFTER July 1, the post office authorities will begin to stamp weather forecasts as a part of the postmarks on letters. Thus our messengers of business and friendship will pass about the country preparing all hands for approaching sun or storm. The service will begin at about 40 of the largest cities.

THE ARKANSAW APPLE.

DEFINITE INFORMATION ABOUT IT.

After considerable correspondence and study over the history and nomenclature of the valuable new apple which has gone under the names, Mammoth Black Twig, Black Twig, Paragon and Arkansaw, I have recently come to the conclusion that, according to the rules of the American Pomological Society, the latter, perhaps, has the preeedence, and is, therefore, entitled to the place of honor. That it is a distinct variety, originated from seed in Arkansas, is fully proved by several persons who have seen the original tree. It is reported, by Mr. E. F. Babcock who formerly lived in Arkansas, that about 1831, Mr. John Crawford brought seeds of Winesap and Limber Twig from Tennessee and planted them near Rhea's Mill, Washington County, Ark., and from the seedlings, planted an orchard. One of these trees (probably a seedling of Winesap), is the original of the variety under discussion, and is still in bearing condition. Whether Mr. Crawford ever gave it a name, I cannot learn, for my letter to him, written long ago, is unanswered.

Perhaps the first person to bring it to public notice and give it a name, was Mr. Babcock who collected a large and attractive exhibit of fruit for the great exposition at New Orleans in 1884-5. As I understood the matter at the time (for I was present during nearly the whole of the exposition and greatly admired the Arkansas fruit exhibit), Mr. Babcock got his samples of this apple from young trees in an orchard about 10 years old; but he then said that it was claimed to be a seedling of Arkansas origin, although I do not remember of any mention of the above history of the old tree at that time, and never saw it in print until within the past few months, from C. M. Stark of Missouri. However, Mr. Babcock may have then known of the old tree. The name Mammoth Black Twig was then and there spoken of as having been given to it by some persons in Arkansas, and if Mr. John Crawford did this, this name has the prior right, although it is too long, and, for this reason, contrary to the approved rules.

When specimens became more numerous, and were examined by many pomologists, several, (myself among them), thought the variety to be the same as the Paragon which originated in Tennessee. This we concluded from similarity of specimens and wood, and from the absence of information as to the existence of the old tree which we now know positively. The evidence was only circumstantial, which is, in many cases, good enough to hang people, but in this case, it led to much confusion, and I regret the mistake as much as any one.

The name Arkansaw (purposely spelled according to the local pronunciation), would be short and simple, and from my present understanding and belief, should have preference, although there are other very similar names for apples, as, Arkansas Black, Arkansas Red, Arkansas Beauty and Arkansas Traveler. Who can show a better way out of the muddle than to adopt Mr. Babcock's name, Arkansaw? Black Twig will not do, as some now have it, for that is a common synonym of Winesap in the South and also of Paragon.

Paragon is a chance nursery seedling which originated about 1870 near Fayetteville, Lincoln County, Tenn., in the orchard of Maj. Rankin Toole, and was named by Dr. W. L. Moores of that State. Recent experience among nurserymen and orchardists, proves that it is somewhat different and inferior in both tree and fruit when compared with Arkansaw, although, for a long time, this was not discovered. It is quite probable that it is also a seedling of Winesap, and is described under the name Black Twig by Downing in his third appendix. H. E. VAN DEMAN.

WHAT THEY SAY?

"LIKE FATHER LIKE SON."—The question is asked as to what readers would do in the place of the young man in "Like father, like son!" "I have obtained and read several copies of THE R. N.-Y." Good! Obtain and read more—all of them. "I secured the position of janitor." Better!! "I invested the money earned in thoroughbred poultry and Berkshire swine." Best!!! "Now the other is not so bright." Is it not possible that the father of the young man is as much interested in his welfare as the "people" that came to see his stock? Is not 16 about the age at which "I" would be used 22 times in a letter of that length? When about that age, my father told me that "you must creep before you walk," and since the responsibility has been mine, I know that his heart was bigger than my head. F. T. K.

Lisbon, Ill.

PLANTING NURSERY TREES.—Your striking frontispiece picture of March 14, is an invaluable object lesson to young growers of nursery trees. It shows, on the one hand, just how the roots and tops of young plants, one year from the bud or graft, should be cut in to a mere straight stick, ready for setting out, either in the orchard, or in wide nursery rows to remain a year or two before final planting. On the other hand, it shows the usual growth made during the next summer in fairly good soil by plants so prepared. Stakes are only necessary for such trees in the case of some bend or crook which the shortening could not sufficiently remove. But the general direction given that "a final cutting back of the roots should be done shortly before planting, so as to present a fresh surface for the callus to form," needs modification. True, it is the old empiric habit of gardeners so to pare the bases of cuttings and stocks just when planting in spring; but it is attended with trouble and loss that can and should be prevented. If the stocks or cuttings, made as soon as the leaves strip off readily in the fall, are trimmed and at once heeled in in damp, sweet mold, permeable to the air, and protected from excess of wet and cold through winter, as in an airy cellar or cave on the damp floor, or in a dry bank, there will be a slow ooze of growth, a callus will slowly form and film over the wounds, and rootlets will be formed in its soft texture or behind it, ready to issue with the first impulse of outdoor growth, as quickly and strongly as in the case of plants not moved. The growth will then be full and strong, and it will ripen fully early in the fall. Only when the bases have become too dry and hard for a callus to issue through, is a paring off of them needed in spring, and the issue of roots is necessarily much delayed. W.

Blair County, Pa.

RAW POTATOES SUIT MILCH COWS; ANOTHER'S EXPERIENCE.—IN THE R. N.-Y. for March 21, M. A. G. has an interesting article on raw potatoes for milch cows, giving his experience in that line. Our experience in that line is diametrically opposite. Our three cows, which are young to middle aged, came in during September. On being placed in the stable for the winter, we began feeding them one-half bushel of beets and turnips chopped, with about seven quarts of corn and oats ground, at noon. The morning and evening feed was corn fodder, and during the middle of the day, for two hours, when they were turned out for exercise, providing the weather would allow, they had all the wheat and oat straw they desired. Later on—about holiday time—our supply of turnips becoming exhausted, we used potatoes in their place. As we wished to reserve our beets for our yeaning ewes, the proportion of potatoes was gradually increased, till the entire noon feed was composed of nearly one-half bushel of potatoes with about eight quarts of ground oats, corn, and wheat bran, equal parts, and now they have hay at night instead of corn fodder.

The result is most satisfactory, a churning just completed this morning "coming" in eight minutes; the butter is strictly first-class as to quality, both in flavor and consistency, and the quantity under this feed has actually increased since the potatoes were fed alone. This may be partially attributed to the slight increase in the ground feed, but of one thing we are certain, we can feed eight-cent potatoes to milch cows with profit when we can receive 22 cents per pound for our butter, while store butter is quoted at 14 cents. Possibly the reason M. A. G. did not derive equal benefit from potato feeding, was that he did not feed them enough. But whatever it may be, facts are indisputable things, and what may be true in regard to one man's experience, may appear impossible to another. So, after all, the only way to decide these matters is to experiment with them ourselves, and thus prove them to our own satisfaction.

South Byron, N. Y. I. C. H. C.

SEX IN ANIMAL BREEDING.—I have read the article, Sex in Animals and Plants, on page 194, and I think that we should have more information on the subject. Some years ago, I read that the sex of the offspring was the same as the weakest of the parents; that is, if the father were the stronger both physically and mentally, the offspring would be female, but if the mother were the stronger, the offspring would be male. I looked around to see whether I could find any proof of the statement being correct. One of my neighbors who was a large, strong man, and active intellectually, married a small woman who always submitted to her husband in all their affairs. Their children were eight girls and one boy. Another case is a man who married a woman comparatively larger than himself, and more active intellectually; the result was seven boys and one girl, the girl being the youngest of the family.

I think that any person who looks around among his acquaintances, will find similar proof that the sex of the offspring is the same as the weaker of the parents. The question may be asked, "What has that to do with breeding stock? We do not wish to make our cows weaker, to get heifer calves." Very true, but can't we make the bulls stronger? Here the Jersey bulls are kept in the stable all the time, because it takes too strong a fence to hold them in the field, and as a result, the pet Jersey cows have more bull calves than their owners desire. My theory is that, if the bulls were well fed, and had as much exercise as the cows, the percentage of heifer calves would increase. Last year, some of the readers of THE R. N.-Y. told us to take the sow to the boar after she had been in heat two or three days, if we wish large litters of pigs. Result, my sow had 14 pigs the third day of March, 1896. I got a Jersey bull calf a few days ago, and burnt his horns with caustic potash so that he can't tear down the barn and fences with his horns. I thus expect to let him have more exercise, and get more heifer calves. F. W.

SOME OLD RUTS.—In some cases, it is well to keep in the old ruts; but again, there are many instances in which it would be of decided advantage to get out and strike new ones. Farmers, as a class, may be placed among those who follow the former course. Over a large part of the country, where there has been little snowfall, the grass fields have suffered severely, and the hay crop will, in consequence, be short should even a favorable season follow. Under such conditions, it has become quite common to sow corn for fodder as a substitute for hay, also other coarse grasses, all of which I have practiced; but the most satisfactory method has been to sow oats, and when the grain is in the milk, cut and make into hay. When thus cut and properly cured, horses and cattle relish it as much as any ordinary good hay, and I believe that it is equally nutritious. By sowing the oats not too thickly, and sowing clover seed, I have had as good a stand of clover as by any other method. My course has been to harrow in the oats, then sow clover seed and follow with a plank drag. As the oats will be cut before wheat harvest, the young clover will grow ahead of that sown in winter wheat or rye, and if the season be favorable, may be cut for hay in late August or early September, and still make sufficient growth for winter protection.

Crimson clover is a late but valuable addition to the farmer's resources, and has, no doubt, come to stay, and gives the farmer an additional "string to his bow." It makes excellent hay. I have tested it this winter for the first time, alternating with Medium clover, and find that horses and cattle prefer it to the latter. Both were grown side by side in the same field, and both were well cured with little or no rain. The Crimson is softer and not so coarse and brittle as Medium. I regret that the Crimson is nearly a total failure in this section, caused by the dry season which prevented seeding or germinating until too late in the season to make sufficient growth to withstand the past open winter; but the Medium clover promises little, if any, better.

Wheat generally grows too rank to fill well, especially when it lodges; in such cases, it is worth more for hay than if left to ripen, make half a crop, and, be sold at 50 to 60 cents a bushel. Powell Brothers of Shadeland, Western Pennsylvania, famous stockmen, sow wheat purposely for hay, which is also ignoring old methods. The most successful farmers nowadays are not those that sail with, but those that sail against the current. We sometimes quote Horace Greeley—who said that his Tribune did not gain its reputation by sailing with the current, but against it. H. M. ENGLE.

BUSINESS BITS.

F. J. MEECH & SON, seedsmen, Charlevoix, Mich., are reported as not responsible, and accounts against them uncollectable.

WE know of no advertiser who has pursued a more honorable course in any and every way, than Macbeth, the maker of "pearl glass," "pearl top," and "tough glass" lamp chimneys—that get good light from a lamp without smoke or smell (provided you use the chimney made for your lamp—and he prints an Index to Lamps).

WE are often asked the cost of advertising space under "Business Bits." Sometimes we are offered three or five times our regular rate for the space here. To all we say, "No." Whatever appears here is our say. It is either our experience or our best information, at least, and the experience or information we give readers never has been, and never will be bought or influenced by trade considerations.

THE Empire fence machine has an advantage in being able to weave from three to nine cables with wood pickets of any size or kind. Or where wood is not available or desired, they will furnish steel pickets which make one of the very best farm fences ever devised. Their catalogue contains much valuable information in regard to fence building. It will be sent free on application to Empire Machine Co., Richmond, Ind.

Two years ago, we offered one of the Osborne spring-tooth, adjustable harrows as a premium to club raisers. C. E. Chapman, Peruville, N. Y., won it by sending a club of subscriptions. In a subsequent article in THE R. N.-Y. he told of its merits. He was evidently very much pleased with it. Mr. Chapman is a successful potato grower, and used the harrow for preparing the ground, and he reported that he never had a tool to do the work so well. It is made by D. M. Osborne & Co., Auburn, N. Y. This house makes a large and complete line of farm implements, and their name on an article is a guarantee of a first-class article. They publish an illustrated article that will be mailed free on application.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

EASY ENOUGH TO BE PLEASANT.

It is easy enough to be pleasant
  While life flows by like a song,
But the man worth while is the one who will smile
  When everything goes dead wrong.
For the test of the heart is trouble,
  And it always comes with the years,
And the smile that is worth the praises of earth,
  Is the smile that shines through tears.

It is easy enough to be prudent
  When nothing tempts you to stray;
When without or within no voice of sin
  Is luring your soul away.
But it is only a negative virtue
  Until it is tried by fire,
And the life that is worth the honor of earth
  Is the one that resists desire.

By the cynic, the sad, the fallen,
  Who hath no strength for the strife,
The world's highway is cumbered to-day;
  They make up the items of life.
But the virtue that conquers passion
  And the sorrow that hides in a smile,
It is these that are worth the homage of earth,
  For we find them but once in a while.

—*Ella Wheeler Wilcox.*

THE breaking of lamp chimneys is one of the housewife's trials. The following suggestion will, probably, prevent some breakages. After cleaning the lamps and returning the chimneys to the burners, see that the burner does not fit too closely to the chimney. When the lamp is lighted, the heat expands the glass, and if held very tightly by the burner, this expansion may result in a cracked chimney. Only a small proportion of breakages is from this cause; but the careful person will avail herself of every little help.

*

A CHANGE of fashion receives due appreciation from the woman to whom it affords advantage by permitting her to practice economy. Often the popularity of a style is the result of its adaptability to the woman of limited resources. A feature of the spring styles is the ripple basque. This is not altogether new, but its introduction after a season of round waists, is sure to make it popular, because it gives a decided change in effect, yet may be made an addition to the round waist. "Basque" does not mean, as we old-fashioned folks use it, a waist entire. It refers only to that portion of the waist below the waist-line, when it is cut separate and joined to the waist. The ripple effect has usually been attained by widening each part of the waist at the bottom; but the ripple basque is made by cutting, for each side, a piece so shaped as to give the same effect when joined to the garment. The economical woman will appropriate this idea and accomplish wonders. Last year's waist may be given this year's style. A skirt that needs piecing to make it long enough, will not be trimmed all around the lower edge, as the round waist made necessary, but may be lengthened at the top.

GAMES FOR GROWN-UPS.

GOOD ENTERTAINMENT FOR LARGE COMPANIES.

MORE and more, as public appetite is whetted, do invited guests of every degree grow to depend on the hostess for entertainment. If dancing be out of order, my lady is expected to fill the evening with some special form of interesting amusement. People of this generation, evidently, are not conversationists, and one doesn't "amuse himself" any more.

It is not so difficult to entertain small numbers of guests, without outside help, for there are plenty of amusing things in which a few people can engage. But if dancing and the various "progressives" be left out, there seems to be, generally speaking, little but music to fall back upon. And unless the affair announce itself as a musicale, one doesn't wish music all the evening.

Games, as such, are considered to be a little below the dignity of full-grown guests; but there is a variation of what used to be regarded as a game, and known as "Yes or No," which may be used to the interest of an indefinite number of guests, and which proves very pleasing, and often instructive as well, while it is dignified enough to be engaged in by all classes of people, and simple enough for quite young maids and laddies. These last two facts make it of especial value in a company of mixed ages and interests, and it thus works very well, indeed, for sociables and kindred affairs.

The preliminary work consists only in preparing a large number of slips, plainly written or type-written, each containing a name. These may be of people living or dead, of characters of fiction, or even of abstract characters, like the new woman. As the company gathers, a few of the active ones may be detailed as aids to the leader, for the purpose of pinning the slips on the backs of the various individuals. As soon as they are thus named, each tries to find out who he may be, by asking such questions as may be answered by yes, or no, of any of his neighbors. A word of explanation is allowed in case the simplest answer may really mislead; but some mystification is "in the game," if strictly within the bounds of fact. Such questions as "Am I alive?" "Am I real, or imaginary?" etc., may be heard, as one passes here and there among the guests, and there is plenty of scope for bright questioning and witty answers. Seldom is anything seen that will so quickly break the ice, remove barriers of every sort, and set all tongues to buzzing, as this simple and easy amusement.

A shrewd 14-year-old girl attacked the lady near her with the abrupt demand, "Who am I"—against the rules, but hoping to betray her into a definite answer. But her interlocutor was also quick and bright. "You're a fraud," was the reply, as the lady moved away with laughing eyes.

As soon as any member of the company has guessed his character, he may have the first slip covered with another, and the person guessing the most characters during the evening, may receive a prize, if the one who plans the affair so please.

Playing at Artist.

The other amusement to be noted, I saw gotten up almost as an impromptu entertainment, in the parlor of a great hotel, where the guests were not only from all over this country, but from many foreign lands. It was on Thanksgiving night, and one of the ladies, hoping to interest all these people away from home, and make them forget homesickness for a time, prepared during the afternoon, two sets of slips. Of one set, each bore a number, and a character of some sort. Of the others, which were larger, each bore *all* the numbers of the first set consecutively. Both sets of slips were passed about among the company, to all who would take them.

"We want 30 artists," began the bright leader—and a chorus of subdued "ohs" and "ahs" went 'round the room. "They need not be finished workers; indeed, if they can draw a cat as we used to when at school—thus—(doing some peculiar triangular work on the little blackboard at her elbow) we will accept them." On these terms, the slips were distributed, and it was explained that each artist was to present her character to the audience in black and white, as her turn came, upon the blackboard, while all the rest were to record upon the larger slips guesses as to the character intended. Of course, rapidity was a necessary feature, in order to keep up the interest.

As the first somewhat unwilling "artist" passed to her place at the board, all faces were alert and eager. She had, evidently, had some instruction, for, with a few hasty lines, a vessel with white sails stood off before us. Was it the Valkyrie, or the Defender? Most of the company were shrewd enough to guess that patriotism would be ahead, and recorded the first guess as "The Defender."

No 2 happened to be the most aristocratic and handsomely dressed young woman in the room. Evidently drawing had not been included among her accomplishments, for a nondescript cow with sticks for legs and a three-cornered face, was only to be distinguished by the company as such, when a very exaggerated crescent appeared high in front of her. "Cow"—"jumped"—"moon" were the loud whispers here and there.

The foreign missionary and bishop essayed to make plain to us the story of Simple Simon with his fish-line and pail, while another struggled with the wheels of the Hotel 'Bus.

The literary woman was lucky. She couldn't "draw a straight line," but she knew one cute little trick, of drawing a cat hastily to amuse children; and she happened to get the slip which read: "Old Dog Tray." A minute's surreptitious practice before her time came prepared her. The picture finished, she turned to the company and said, roguishly: "The ears may be the ears of a cat, friends, but the tail is the tail (tale) of a dog." Strange to say, few failed on this guess.

"Mark Twain" with his two marks as exemplar (II), "The Bloomer Girl," "The Stream of Life," "Love among Thorns," and many others, most of them easily shown, followed hard after those described. When the 30 had all "made their mark," the company agreed that seldom had a more amusing hour-and-a half been spent. MYRA V. NORYS.

MIXING A CAKE.

SOME of the amateur cooks may wonder why the cake is not a success when the ingredients are according to the recipe. Mrs. Lincoln, in the American Kitchen Magazine, explains the right procedure in mixing a cake:

"A correspondent writes, 'I would like some one who knows, to tell me why, when mixing plain cake, after beating the butter and sugar to a cream, then adding the milk (after the eggs), it always curdles, and then my cake is always very coarse-grained.'

"In rubbing butter and sugar to a cream, the warmth of the bowl, or the hand, if that be used, or the friction, causes the butter to soften and become almost a liquid or like thick cream; that is why we call it 'creaming the butter.' Some of the sugar, also, is melted and combines with the soft butter. When milk is added, especially if it be colder, and it usually is many degrees colder than the creamed butter, it immediately chills the butter, and causes it to harden again in tiny lumps. It also unites with the sugar which has melted, and dissolves any that may be still in a crystallized form, and separates it from the butter. The milk does not become sour as it does when curdled by an acid; but the hardened butter separates from the liquid and gives it a curdled appearance. Probably the fat in the butter unites with the fat and with the casein of the milk; but as fat does not unite readily with water, the whey or water of the milk separates from the other parts.

"In beating the eggs, we make bubbles of air similar to soap bubbles when air is blown into soapy water; the albumen of the egg forms the tough, tenacious wall of the air cell. When the eggs are beaten into the butter, the fat combines with the albumen and helps to entangle and hold the air; but when we stir a watery liquid, like milk, into the mixture, we break up some of these fine bubbles, this makes large cells, and the result is a coarse-grained cake, unless we beat in at the last, enough more air to make another lot of bubbles. This may be avoided by simply pouring the milk into the bowl and not stirring it until the flour is added; or, better still, by adding a few teaspoonfuls of flour first, then a little of the milk, and then a little flour, beating well after each time, and so on alternately until the full measure is used. Add the beaten whites last. All cakes made with butter require to be beaten long and vigorously after the flour is in, that they may be smooth and fine-grained. But in sponge cakes, the flour should be mixed in lightly and carefully, with no more stirring or beating than will suffice to cover it up in the batter."

IN THE LAUNDRY.

TO launder white shirts properly, is quite a task for young housekeepers, who have not had special training for the work. For the benefit of such, I give the following directions:

If no washing machine is used, soak well in warm suds, and rub the starched portions between the hands, never on the board, as it injures the fabric. Use plenty of rinsing water with a little bluing.

Allow one tablespoonful of starch and a piece of prepared polish the size of a navy bean, for each shirt. The polish is made by melting together equal parts of spermaceti and white wax. Mix the starch with a little cold water, then add the polish and boiling water until of the proper consistency, and let boil five minutes. When cool enough to handle, rub well into the shirt, squeeze dry, and remove with the hand any starch adhering to the surface of the linen.

After the shirt is dry, dampen it thoroughly and roll up. If not stiff enough,

storms

The Weather Bureau employs a skilled force of men, supplied with the most delicate scientific instruments, to foretell the weather. Perhaps you know when a storm is brewing without any word from the papers. Your bones ache and your muscles are sore. Your chronic muscular rheumatism gives sure warning of the approaching storm. **Scott's Emulsion** of Cod-liver Oil, with Hypophosphites, would be a most valuable remedy for you. The oil, with its iodine and bromine, exerts a peculiar influence over the disease, and the hypophosphites render valuable aid.

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (*Ask your doctor.*) This is because it is always *palatable*—always *uniform*—always *contains the purest Norwegian Cod-liver Oil and Hypophosphites.*

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

use a little raw stareh in the water with whieh it is dampened. After it has lain an hour or two, it is ready to iron. Rub the iron on wax, then on salt to remove stareh, rust, etc. Use a little kerosene on a eloth on whieh to rub the irons, to prevent stieking, then rub on a elean eloth. Squeeze a eloth from eold water and rub the starehed parts of the shirt to remove superfluous stareh. Iron one sleeve, then spread a thin eloth over the wristband and pass the iron over it a few times. Iron the wrong side of the wristband in the same way; then remove the eloth and iron both sides until dry. Proceed in the same way with the other sleeve, then iron the baek of the shirt, folding it down the middle. Iron the neekband, then the front of the shirt, and last, streteh the bosom on the board and iron it, first with a eloth over, and then without until perfeetly dry. Now go over it lightly with the wet eloth, then iron with a quiek, hard stroke to insure a good polish. Polish cuffs and eollars in the same way.

R. E. MERRYMAN.

ODDS AND ENDS.

USE HARMONIOUS COLORS.—Make the rooms bright and eheerful. Let the windows be dressed with some soft, pretty material; it need not neeessarily be expensive—even eheese eloth drapes prettily. If the earpet must be homemade, do not dye the rags all the colors of the rainbow; the first thing that strikes the eye as one enters many farmers' homes, is the earpet, in whieh there is a mingling of red, yellow, green and blue, as bright as the dye ean make them. How one's heart and eyes do aehe to see sueh goings on in the family where harmony should prevail. Color light rags with drab or brown. A pretty stripe may be made in this way, three red, two white; white between red, on eaeh side of this three dark-gray, six light gray, two garnet, five gray, two garnet. A. P.

SERVICEABLE PILLOWS.—This ehat is about the ever-present sofa pillow; we relegate the dainty silk ones to the parlor, and have for the home sitting-room those that are not too fine to rest a tired head on. I have two whieh have stood every-day wear for three years, and look as well now as when new. The first is of four white linen squares, narrowly hemstiteh; on eaeh is outlined a floral design in wash silks. These are set together with a three-inch insertion of eroeheted antique laee; narrower lace of the same design borders the edge. The baek is plain, and under this slip the pillow is eovered with yellow silesia. Number two is made of a heavy quality of blue denim, with a full, hemmed, three-ineh ruffle surrounding it. The front of this pillow is beautified by a wreath of white daisies and wild roses painted in oil eolors. It shows no signs of wear or soil yet. Of eourse the linen one is washed when neeessary.

SWEET FERN.

HARD ON THE BACHELOR.—Many stories are being told of the late Eugene Field; this one is from the Literary Digest. He was very fond of ehildren. He loved to "ehum" with them, to tell them horrible stories that would keep them awake at night, and to put them up to "devilment" that would drive their mothers erazy. On one oeeasion, he invited a baehelor reporter to Christmas dinner at his house. He seated him at table between the two youngest Fields, and with the utmost sineerity said to the ehildren, "Now, boys, I want to eat my Christmas turkey in peace, and I don't want you to bother me. When you want anything you must not reaeh. Ask Mr. Blank for it and he will get it for you; and when your hands get smeared with gravy, don't wipe them on your mother's elean napkins, but wipe them on Blank's eoat sleeves. He won't eare, and that's what he's here for." And the boys obeyed instruetions literally.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

INSPIRE YOUR HUSBAND.

THERE must be thousands of readers of this department who want a first-elass piano or organ in their homes. We wish to say to them that they will, probably, never have so good an opportunity again to get one. In our premium eontest, whieh eloses May 1, we give a first-elass $400 Emerson piano, and two of the best makes of organs in the eountry. There is yet nearly a month; and up to this time no speeial effort has been made by any one for them. It should be remembered that these premiums are in addition to the liberal diseounts. We would like to see some of the women readers of THE R. N.-Y. earn one of these fine musieal instruments.

It is not going to take very mueh work. At this season of year, they are sure to go to small elubs. We have had agents send more names after three days' work than any one has to his eredit now for these magnifieent premiums. What exeuse ean a husband possibly offer a wife for not getting her one of the instruments? How ean a young man take his bride to a new farm house during the next year and say that he is not able to get her a piano?

Don't take any exeuses, make life a burden to husband or sweetheart until he starts out to get you one of the instruments.

....ALEXANDRE DUMAS FILS: "Women should grave this in their memories: that man alone is worthy of their love who has judged them worthy of his respeet."

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THE BIT OF BITS.
Will controll the most vicious horse.
Sales Greater Than Ever.
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Send us $10, and we will send you on trial, to be returned (and your money refunded) if not satisfactory.
ONE BARREL ELITE BURNING OIL, containing 50 to 54 gallons; and ONE 60-GALLON GALVANIZED IRON TANK (as shown by illustrations). Free on board cars Titusville.
The oil is made with care for family use, from the best Pennsylvania Crude. The tank is made of heavy galvanized iron, with pump and cover, with attachment for lock. Write for further particulars, if desired.
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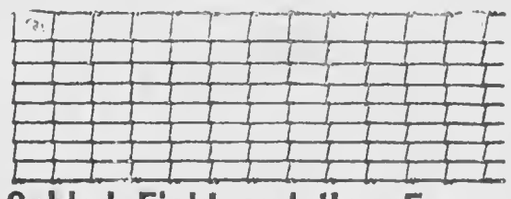

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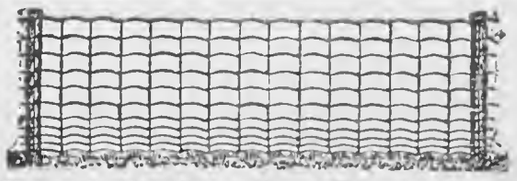

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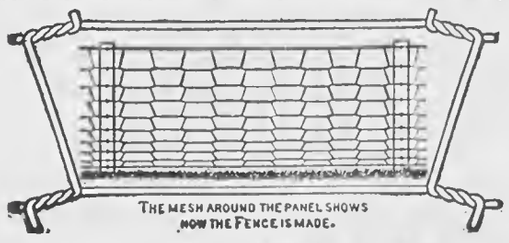
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

KEYSTONE WOVEN WIRE FENCE



IS THE BEST FOR FARM USE.
25 and 28-inch for hog lots. 46, 55 and 58-inch for general use.
Send for illustrated catalogue.
KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., PEORIA, ILL.

CYCLONE FENCE
PATENTED 1885. PATENTED 1894.
Don't you believe it when they say just as good as CYCLONE. Ask how heavy cross-wires they use and how many to the rod, and are the latterals, cables their entire length.
CYCLONE WOVEN WIRE FENCE COMPANY.
HOLLY, MICH.

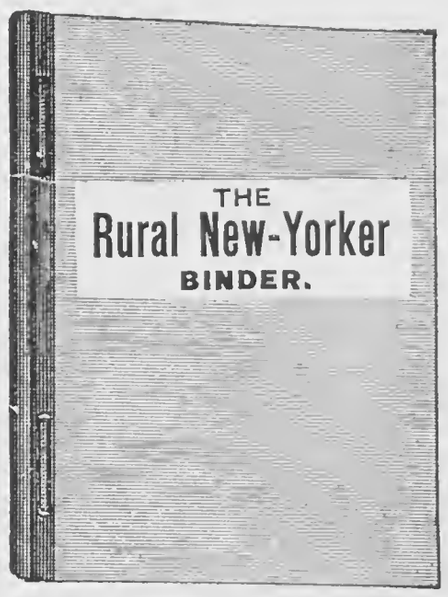
WOVEN WIRE FENCE

Over 50 Styles
The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from
14 to 22c. a Rod.
Illustrated Catalogue Free.
KITSELMAN BROS.,
Ridgeville, Indiana.

FENCE MACHINES STRETCHERS, RATCHETS, ETC. FREE CATALOGUE
SUPERIOR MFG. CO. MARTINSVILLE, O.

25-cent Binder.

We have been looking for years for a cheap, neat binder for readers of THE RURAL, so that the paper could be kept elean and preserved for years. Now we have it; we ean send it, postpaid, for 25 cents, or will send it to any old subscriber who takes the trouble to send us one new subseription. Many readers would like to preserve THE R. N.-Y., but the ordinary binder is too expensive This one is so eheap, and, at the same time, so serviceable, that we think almost every reader will want one. Address THE RURAL NEW-YORKER, NEW YORK.



$ $ $ $ $ $ $ $ $

The first of May, the following eight premiums will be sent to the eight agents who shall have sent the largest eight clubs since February 11 :

One Emerson Piano,	worth	$400
One Estey Organ,	"	120
One Wilcox & White Organ,	"	100
One Kalamazoo Buggy,	"	60
One Superior Land Roller,	"	56
One Farmers' Handy Wagon,	"	30
One Breed's Weeder,	"	18
One Sherwood Harness,	"	15

Besides, the agent gets his cash commissions and daily prize.

NOW, JUST LISTEN!

Nearly two-thirds of the time for the work has passed. Less than one month remains, yet little effort has been made for any of these premiums. Hundreds of friends have sent in small clubs of four or five names, but no one has started out as though he really meant to have that piano. Three days' good work now would put any hustler in the lead. If the contest closed to-day, some of the best premiums would go for 10 or 12 names, and the smaller ones for less.

We can't understand why this should be so. There are no better articles of the kind made ; every one is worth, in cash, the price set opposite it above.

There is a chance here to make more money in a single month than some who read this, will make all summer. Just think of it ! Any one of the first six articles is worth a month's wages for an ordinary man, and the commissions and daily prizes besides.

We didn't expect large clubs thus late in the subscription season. We knew that all the big clubs had renewed ; but we made the terms to encourage our agents to work new territory, and we made an extra liberal commission besides for new names. But, thus far, we are disappointed in the results. Unless some one does more than has yet been done, this $400 piano will go to an agent who will not have sent us in all $100 for subscriptions. The premiums will go out just the same, no matter how small the clubs ! But, once for all, we say, here is a chance not often offered to make money.

We are afraid that few of our friends know just how easy it is to win the dollar that goes out to some one every night. Here are the winners for the last week, with the number of names sent by each :

	Yearlies.		Yearlies.
March 23.—C. W. Weston, New York	3	March 26.—Ronson German, Michigan..	8½
24.—W. S. Moore, New York.....	23¼	27.—S. S. Chandler Jr., Wisconsin	14
25.—S. P. Bell, Maryland.....	3	28.—C. H. Stilz, Tennessee.....	2

CROP AND MARKET NOTES.

Honey is in only moderate demand.

Good Russia turnips are scarce and firm.

Filled cheese must be sold as such if sold at all.

The game market is very dull and supplies small.

Dried fruits are generally dull and little is doing.

Duck and goose eggs were scarce for the Easter trade.

Fancy Florida strawberries are scarce and the demand is good.

Cabbage is lower in price with heavy receipts and a dull market.

Onions seem to be doing a trifle better under decreased receipts.

The butter market is firm, arrivals light, stocks on hand well cleaned up.

Receipts of milk are increasing, and the price of the surplus is decreasing.

The supply of fancy apples is light, and such are in good demand at good prices.

Sterilized air is now put forward as a substitute for cold storage in preserving farm products.

It is said that it takes 13 barrels of potatoes to buy one barrel of apples in some parts of Maine.

Capons, broilers, and the fancy grades of chickens are all scarce and firmly held at good prices.

Some very good sweet potatoes have come in from Virginia during the week, but as Jersey stock is so plentiful, they sell slowly.

Receipts of eggs have been heavy and the market has dropped off slightly. After Easter, it is probable that receipts will be somewhat lighter.

Catawba grapes are still in market, but are about through for this season. Western New York has furnished us grapes for about seven months.

The Montreal Butter and Cheese Association wisely discourages the making of hay and fodder cheese this spring, as the best trade does not wish such goods.

The butter market is in a pretty satisfactory condition, and prices have been very uniform for some time back. Dependence for supplies is mostly on fresh goods.

Heavy live poultry has sold for one to two cents per pound more than light, during the Hebrew Passover market. Receipts have not been heavy with the exception of geese, and prices have been well sustained.

The potato situation seems to be growing worse. Except for some choice marks for seed purposes, prices tend to range lower, and the supply exceeds the demand. This market is a poor outlet for potatoes this year.

Bad dreams distress the man whose digestion is out of order. Constipation creates more dreams than are in the infernal regions. People who are troubled with constipation sleep badly and restlessly. Sometimes they cannot sleep at all, and when they do sleep, the dreams come. It doesn't take so very long to wear a man out with that sort of thing. He gets up in the morning feeling worse than he did when he went to bed. He is listless and without energy. The chances are he is dizzy, has "heartburn," palpitation, sees black spots before his eyes, has headache and is bilious. What nonsense it is to let a condition of that sort continue. Nine-tenths of all the sickness in the world comes from constipation and neglect of it. It is a simple thing to cure if you go about it right. It's a bad thing and a serious thing if you don't take the right medicine. Dr. Pierce's Pleasant Pellets are designed for the cure of constipation. The "Pellets" are tiny, sugar-coated granules. One is a laxative, two a mild cathartic. Everybody who has ever used them has a good word for them. They have prevented more serious illness than any other remedy ever sold. Druggists sell them, and an honest druggist will not try to sell you something else.

Dr. Pierce's Common Sense Medical Adviser is the greatest family doctor book ever published. It explains human physiology and the laws of life and health in plain yet scientific language. It has had a tremendous sale; 680,000 copies at $1.50 each, bound in cloth. The present free edition is the same in all respects except that it is bound in strong manilla paper covers. A copy will be absolutely given away to anyone who sends 21 one-cent stamps to pay cost of mailing *only*, to World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

A COOLER THAT COOLS YOUR MILK

and aerates it at the same time. A convenient, economical and simple device that every dairyman should have. Our circular telling all about it sent FREE. Prices from $7 to $10. Agents wanted

CHAMPION MILK COOLER CO., Box R. Cortland, N. Y.

STOCKBRIDGE

SPECIAL COMPLETE

MANURES

FOR DIFFERENT CROPS, ARE MADE

DOUBLE STRENGTH.

IN MANY OF THESE WELL-KNOWN FERTILIZERS, THE

POTASH HAS BEEN INCREASED

FOR 1896, IN ONE CASE OVER 40 PER CENT., BUT NO ADVANCE HAS BEEN MADE IN THE PRICE.

SEE LOCAL AGENTS, OR ADDRESS

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston, 27 Beaver St, New York

Now is the time
To secure the Agency for the

Quinnipiac Fertilizers.

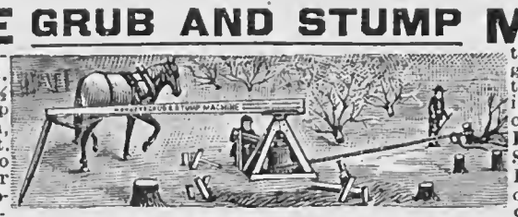
ESTABLISHED 1852.

FERTILIZERS FOR ALL CROPS.

ADDRESS THE QUINNIPIAC COMPANY, 83 Fulton St., New York.

HAWKEYE GRUB AND STUMP MACHINE

Works on either standing Timber or Stumps. Pulls an ordinary Grub in 1½ minutes. Makes clean sweep of 2 acres at a sitting. A man, boy and horse can operate it. No heavy chains or rods to handle. You can not longer afford to pay taxes on unproductive timber land. Illustrated catalogue FREE, giving prices, terms and testimonials. Also full information concerning our I. X. L. Grubber, Iron Giant Grub & Stump Machine, 2 Horse Hawkeye and other appliances for clearing timber land.



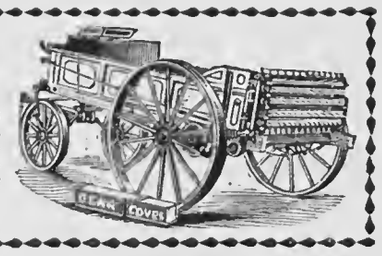
Milne Mfg. Co., 250 8th St., Monmouth, Ill. Address Milne Bros. for Shetland Pony Catalogue.

Kemp's Manure Spreader

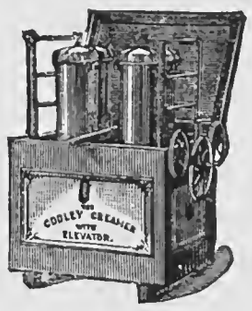
15 Years on the Market. Improved for 1896.

Spreads any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. *Largest and Oldest Manufacturers of Manure Spreaders in the World.*

KEMP & BURPEE MFG. CO., Box 38, Syracuse, N.Y.



A SUGGESTION



You want the only milk setting apparatus on the market that gets all the cream. We furnish it, viz., the world-renowned

COOLEY CREAMER.

The efficient apparatus of the famous Maine test, where the skimmed milk of 240 dairies was tested by the Experiment Station, and **20 per cent.** of the number contained

Less than 0.1 of 1 per cent. of fat.

A RECORD NEVER EQUALED.

Know the quality of your milk, the thoroughness of separation, and the results of every step, by using

THE V. F. M. BABCOCK TESTER

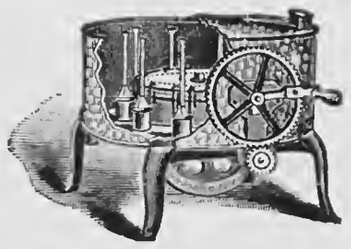
Combining accuracy, simplicity and efficiency.
Send for our special book on "Babcocking."

U. S. Separators, Babcock Testers, Vats, Etc., Etc.
Everything for the Creamery and Dairy.

Agents Wanted in Every Town and County where we have None.

SEND FOR OUR CATALOGUES.

VERMONT FARM MACHINE CO., - - Bellows Falls, Vermont.



MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 22	@1	25
Medium, 1895, choice	1 20	@1	22
Pea, 1895, choice	1 15	@	—
White Kidney, 1895, choice	1 30	@1	35
Red Kidney, 1895, choice	85	@1	00
Black Turtle soup, 1895	1 35	@1	40
Yellow Eye 1895, choice	1 25	@1	30
Lima, Cal., 1894 (60 lbs)	1 80	@1	85
Medium, foreign, 1894	85	@	90
Marrow, foreign, 1894	85	@	90
Pea, foreign, 1894	90	@1	00
Green peas, bbl., per bushel	80	@	82
Bags, per bushel	77	@	80
Scotch, bags	77	@	80

BUTTER—NEW.

Creamery, Western, extras	22	@—
Western, firsts	20	@21
Western, seconds	17	@19
Western, thirds	13	@15
State dairy, half-firkin tubs, fancy	20	@—
Firsts	17	@18
Seconds	14	@16
Welsh tubs, fancy	19	@—
Welsh tubs, firsts	17	@18
Welsh tubs, seconds	14	@16
Tubs, thirds	11	@12
Western imitation creamery, firsts	15	@17
Seconds	12	@13
Western dairy, firsts	12	@14
Seconds	11	@11½
Thirds	10	@10½
Factory, fancy	—	@—
Factory, firsts	12	@13
Factory, seconds	10½	@11
Factory, thirds	9	@10
Rolls, choice	13	@14
Poor to good	9	@12

EGGS.

New-laid, fancy (nearby)	12	@	12½
Pennsylvania & Md., country marks	12	@	—
Western, fresh collections, fancy	11¼	@	11½
Southern, fresh collections, choice	11	@	—
Common to good	10½	@	10¾
Duck, Md., per doz	28	@	29
Western, per doz	25	@	26
Southern, per doz	24	@	25
Goose, per doz	65	@	70

MEATS—DRESSED.

Veals, country dressed, prime	8½	@	9
Fair to good, per lb	7	@	8
Com. to med., per lb	5	@	6½
Small, per lb	3	@	4
Barnyards, per lb	4	@	5
Spring lambs, each	2 00	@5	00
Roasting pigs, 10 to 25 lbs. each, per lb	8	@	12
Pork, country dressed, 40 to 60 lbs., per lb.	6½	@	7
60 to 80 lbs, per lb	6	@	6½
80 to 120 lbs., per lb	5½	@	6
120 to 180 lbs., per lb	5	@	5½
200 lbs and up, per lb	4¼	@	5
Rough, per lb	3½	@	4¼

POTATOES.

Bermuda, No. 1, per bbl	5 00	@6	00
No. 2, per bbl	3 00	@4	00
Havana, per bbl	4 50	@5	00
Houlton Rose, per d. h. bbl	1 50	@1	75
Maine Rose, per d. h. bbl	1 25	@1	50
State Rose, per d. h. bbl	1 00	@1	25
Maine Hebron, per sack	75	@1	00
Long Island, in bulk, per bbl	60	@	80
State Rose and Hebron, per 180 lbs	75	@1	00
Burbank, etc., per 180 lbs	50	@	75
Jersey, in bulk, per 180 bbl	50	@	75
State and Jersey, per sack	50	@	70
Common, per sack	50	@	60
Sweets, Vineland, fancy, per bbl	3 50	@4	50
South Jersey, per double-head bbl	2 75	@3	25
South Jersey, cloth top, per barrel	5 00	@3	25
Jersey common, per barrel	1 50	@2	50

POULTRY—LIVE.

Fowls, local, per lb	12	@	12½
Western, per lb	12	@	12½
Southern, per lb	12	@	—
Chickens, local, per lb	11	@	—
Western, per lb	11	@	—
Southern, per lb	11	@	—
Roosters, old, per lb	6	@	7
Turkeys, mixed, per lb	11	@	12
Ducks, local, per pair	75	@1	00
Western, per pair	70	@	90
Southern, per pair	65	@	70
Geese, local, per pair	1 25	@1	75
Western, per pair	1 25	@1	50
Southern, per pair	1 00	@1	12
Pigeons, per pair	30	@	40

VEGETABLES.

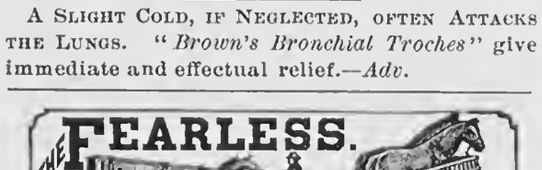
Asparagus, Charleston, prime, per doz bunch	6 00	@8	00
Charleston, shorts, per doz bunches	4 00	@5	00
Charleston, culls, per doz bunches	3 00	@3	50
Beets, New Orleans, per 100 bunches	2 50	@6	00
Florida, per crate	1 25	@1	50
Florida, per 100 bunches	2 50	@5	00
Brussels sprouts, per quart	5	@	15
Cabbage, domestic, per 100	2 50	@5	00
Florida, per barrel-crate	2 75	@3	00
Foreign, per 100	6 00	@8	00
Carrots, washed, per bbl	85	@1	00
Unwashed, per bbl	75	@	—
Cauliflower, Fla., per half bbl	—	@	—
California, per case	2 00	@3	50
Celery, fancy, large	75	@1	25
Average, prime, per doz	40	@	65
Small, per doz	15	@	30
Cucumbers, hothouse, per doz	50	@1	50
Egg plant, Florida, per box	1 00	@3	00
Green peas, Fla., per crate	1 00	@2	00
Horseradish, per lb	3	@	5
Kale, per bbl	2 00	@	—
Lettuce, Florida, per half-bbl basket	1 00	@2	50
New Orleans, per bbl	1 50	@3	00
Charleston, per bushel basket	50	@1	00
Bermuda, per crate	1 00	@1	50
Onions, Eastern, white, per bbl	1 00	@2	00
Eastern, red, per bbl	75	@1	00
Eastern, yellow, per bbl	1 00	@1	50
Bermuda, per crate	1 50	@1	60
Peppers, green, Fla., per crate	—	@	—
Radishes, Fla, per 100 bunches	1 00	@4	00
Spinach, per bbl	1 50	@2	25
Squash, Marrow, per bbl	1 00	@1	2
Hubbard, per bbl	75	@1	00
Florida, per crate	—	@	—
String beans, Florida, per crate	2 25	@3	25
Tomatoes, Fla., per carrier	1 25	@2	75
Per crate	1 00	@2	25
Key West, per carrier	1 00	@2	25
Key West, per peck box	25	@	50
Turnips, Jersey, Russia, per bbl	85	@1	00
Canada Russia, per bbl	90	@1	00

MILK AND CREAM.

The total daily supply has been 21,583 cans of milk 204 cans of condensed milk and 401 cans of cream The average price paid for the surplus on the platforms has been $1.32 a can of 40 quarts.

A SLIGHT COLD, IF NEGLECTED, OFTEN ATTACKS THE LUNGS. "*Brown's Bronchial Troches*" give immediate and effectual relief.—*Adv.*

THE FEARLESS.



The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

This plain, honest statement from the Mayor of Trenton, N. J., needs no embellishment — it carries conviction.

Booth's "Hyomei" Pocket Inhaler Outfit

is sent by mail for $1.00. It is the new and wonderful Australian "Dry-Air" treatment of Asthma, Bronchitis, Catarrh, Coughs, Rose Colds, Hay Fever, Loss of Voice, and similar diseases. Plain statements, *unsolicited*, from men of such prominence, cannot be bought; you *must* believe them.

Office of the Mayor of the City of Trenton, New Jersey.

March 2 d 1896.

Emory N. Yard, Mayor

R. T. Booth Esq.,

23 East 20th St., New York.

Dear Sir:--

My absence from the city for the past two days prevented my answering your telegram of yesterday. You have my permission to say, that I believe "HYOMEI" to be one of the most wonderful cures for Catarrh and Throat trouble that has ever been discovered. It my case the effect has been marvelous: (and I have not been as persistent in the use of the Inhaler as I should have been to have received the best results.) I enclose you Money Order for $2.00 for two Pocket Inhaler Outfits for friends of mine, to whom I have recommended it, and who I am anxious shall have the benefit of this most remarkable panacea

Very Respectfully
Emory N. Yard

What more can be said, except to add that hundreds of letters come to us every day bearing witness to positive and permanent cures of Asthma, Bronchitis, Catarrh, Loss of Voice, and similar diseases.

Hyomei Cures by Inhalation.

It is a purely vegetable antiseptic, and destroys the germs and microbes which cause diseases of the respiratory organs.

The air, thoroughly charged with **Hyomei**, is inhaled through the Pocket Inhaler at the mouth, and, after permeating the minutest air cells, is slowly exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It stops all spasmodic coughing instantly, clears the voice, expands the lungs, and increases the breathing capacity.

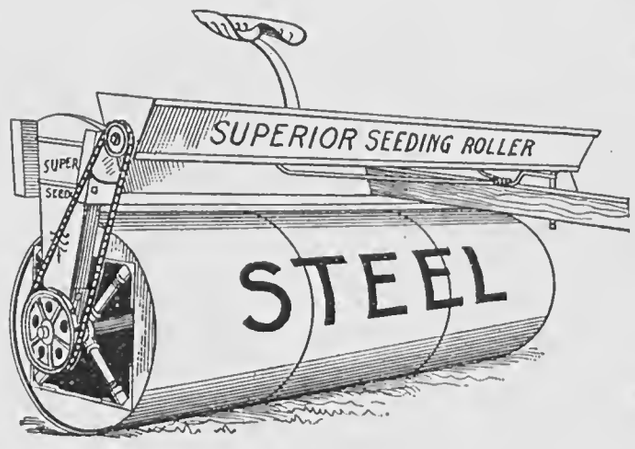
Pocket Inhaler Outfit, Complete, by Mail, $1.00, consisting of pocket inhaler (made of deodorized hard rubber, beautifully polished), a bottle of **Hyomei**, a dropper, and full directions for using. If you are *still* skeptical, send me your address, and my pamphlet shall prove that **Hyomei** does cure. Consultation free at my office.

Hyomei Balm.—An antiseptic skin food for weak chests, burns, scalds, chapped lips, rough hands, frost bites, eczema, etc. Nothing has been discovered so effective for the purposes named. Price by mail, 50 cents.

R. T. BOOTH, 23 East 20th St., New York.

We Deliver Freight Paid to any Railroad Station.

Also, Hand or One-Horse Steel Lawn Rollers.



Will Distribute Spring Grain, Grass Seed or Dry Fertilizers.

Over 6,000 in Use show No Failure.

JOHN MOORE'S SON COMPANY, RARITAN, N. J.

Peruvian Guano,
Containing 10 per cent of Ammonia at greatly reduced prices.

Also, Six Per Cent **Peruvian Guano.**
Fine Ground Dried Fish.

Prices on Application. BAUGH & SONS COMPANY, 412 Exchange Place, Baltimore, Md.

FOR SALE.—First-class farm, about 200 acres, within 3 miles of Poughkeepsie, cheap or on easy terms, or will trade for New York City property. Full information, John Dunphy, 29 Ferry St., New York, or Wilkinson & Cossum, Attorneys, Poughkeepsie, N. Y.

GARNER & CO.,
Produce Commission Merchants,
32 LITTLE 12th ST., NEW YORK.
Can get you highest market prices for fine goods. CHOICE CREAMERY BUTTER. FANCY LEGHORN EGGS, DRESSED POULTRY AND CALVES a specialty. Shipping cards and stencils on application. Reference: Gansevoort Bank.

PRINTING. We make a specialty of printing for farmers, fruit growers and stock raisers. Letter-heads, Envelopes, Cards, Tags, Circulars, etc. New type, good work, reasonable prices.
POULTRY MONTHLY, Albany, N. Y.

E. H. PECK (Successor) M. N. Edwards & Co. (Est. 1861
General Commission Merchant,
CALVES, POULTRY, LAMBS, Etc
No. 193 DUANE STREET, NEW YORK.
Liberal advances by arrangement. Sales and checks mailed daily.
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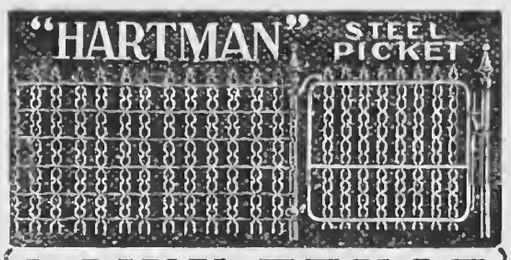
"HARTMAN" STEEL PICKET



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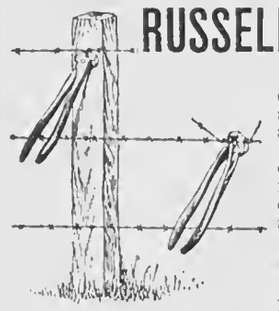
Ornamental, Durable, Effectual. Beautifies and protects the lawn. Increases the value of an enclosure. Suited to Gardens, Parks, Cemeteries, Churches and Schools. Cheaper, stronger and handsomer than either wood or iron fence. All about it in our circular
HARTMAN MFG. CO., and price list—free. Ellwood City, Pa.

POULTRY SUPPLIES.

EXCELSIOR WIRE & POULTRY SUPPLY CO.
WRITE FOR CATALOGUE OF POULTRY SUPPLIES
28 VESEY ST. N.Y.

CATALOGUE FREE.

RUSSELL'S *Staple Puller and Wire Splicer.*



Drives and pulls staples, cuts and splices wire. Its special use is in building and repairing wire fences, but may be used for many different purposes about a farm. Saves its cost in one day's work. You can't afford to be without it. Price, $1.25. Ask your hardware merchant for it. RUSSELL HARDWARE AND IMPLEMENT MFG. CO., Kansas City, Mo.

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Tanks
Shellers
Pumps
Cutters
Horse Powers

Many sizes, all from best material, best workmanship
Stay where you put them.
Practically storm proof. Write us.
CHALLENGE WIND MILL & FEED MILL CO.
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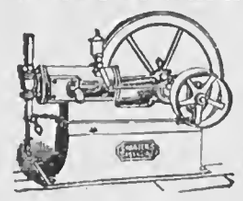

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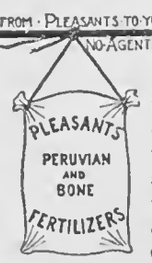

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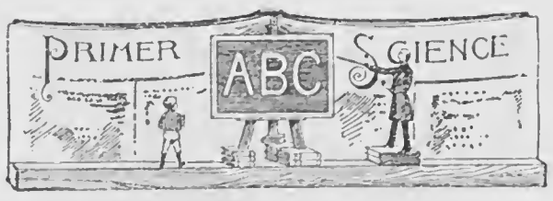

FEEDING A HEN.

PART XIII.

We have wandered about in discussing this subject, about like a hen in a 100-acre field picking up her dinner. The hen, under such circumstances, gets a pretty good "balanced ration," and we have picked up more facts about our subject than we would have done by simply nailing the discussion down to a few scientific rules. So if we keep on wandering from this point to that, remember that it is because we are attracted here and there by some new idea or thought, just as the hen is attracted from one point to another by a particularly juicy bug.

The first point we wish to consider is one not often considered, and that is, How many hens should a man attempt to care for? What is the limit? Here is a note from the man who describes the $5 henhouse on page 235:

I have kept hens eight years; from a beginning of 40 hens in a house that cost but $2 in money, till at the highest point, I had, one fall, of old and young, 2,000 birds. For their breakfast they ate an even full, half hogshead of dough. No dependence can be placed on hired help in the poultry business, at least in the care of them; the only man for a big poultry business is one who has children who can do a good deal of the work. As for myself, the constant strain of care wore me out, physically, and I was obliged to quit. At present I have only 100, choice P. Rocks. Five years will hardly enable one to learn the trade, even with a good subject to commence with. I have beaten the enemies of poultry, from those that wear feathers and hair, to those that wear pants. I have had a hen that laid an egg in the morning and another at night, and have got 39 eggs a day from 40 hens, and all the long string of bragging about what "my hens have done." I don't care a fig for it.

There is good sense in the idea that the average hired man is a poor hand to turn loose among hens. Our friend is right in saying that the best results will be obtained when the hens and all the members of the household belong to one big family. Another point well worth considering is the one relating to cheap houses. The cost of sheltering and warming each hen is almost as important as the cost of the food.

Another thing that seems to have puzzled some of our readers is the statement made last week about early-cut grass. If pasture or dried pasture grass is a "balanced" ration, why should not dry *hay* be the same, since both grass and hay grow from the same root? The chief reason lies in the fact that grass is more digestible. The food in it is more easily assimilated by the animal. For example, in good green pasture grass, 75 per cent of the muscle-makers, fat-formers and fat are readily digested, while in the same cured as hay 70 per cent were found to be digestible. In hay from mixed grasses cut late—as most hay is—only 50 per cent of the fat, 40 per cent of the muscle-makers and 60 per cent of the fat-formers were easily digested. Cut an ear of corn in the glazing stage, into the silo, and nearly 60 per cent of the muscle-makers in the cob will be found digestible. Let the cob ripen and dry, and only 17 per cent of the muscle-makers will be digested. You might make a similar comparison between milk and cheese, which will be evident to any one. The digestible foods always contain a large amount of water and, as a rule, they run pretty close to the standard "balanced ration" or are too narrow.

Last week, Mr. Cottrell told us how he tried to make up a balanced poultry ration by using "animal meal." The results were not satisfactory until he had the meal analyzed and found that it did not contain the amount of muscle-makers that he had estimated from a printed analysis. After changing the amount of meal needed to give the desired muscle-makers, the hens quickly showed a balance. Mr. Cottrell sends us the analysis of seven different "meals" made of meat or bone:

	Muscle-makers.	Pure fat.
Breck's	29.81	10.95
Preston's	33.70	8.40
Bradley's	36.62	11.37
Smith & Romaine's	38.00	13.75
Bartlett's	40.68	11.50
Bowker's	41.75	11.50
Liebig's	76.15	20.73

The second in the list was analyzed especially for the Ellerslie stock farm. The analysis of Liebig's is taken from the Massachusetts Station reports, and the others from the Connecticut reports. It is too bad that these foods vary so in composition. The best remedy would be for the manufacturers to mark and brand their goods with a guarantee of certain amounts of muscle-makers and fat. Unless that be done, it will be almost impossible to figure out an accurate ration with the use of these meals. Not only that, but you can see for yourself that, if this table is correct, some of these meals are worth from 30 to 40 per cent more than others. The trouble with most of them is that they contain too much pure fat. As a rule, you do not need to buy that substance—you can secure it cheaper elsewhere. What you want is *lean* meat that will furnish muscle-makers and little else. It must be admitted that the farmer who feeds grain and vegetables alone, is surer of the true "balance" in his ration, because the grains are far more uniform in analysis than these different meat meals.

We have many other interesting points to bring up, but most of them must go over for another week. Here is just one letter that we shall print without comment:

As I nearly always read "Feeding a Hen," the first thing when THE R. N.-Y. comes, I have been greatly interested, especially in J. A. W.'s talk, and thought that some hens which I know that are worked on the same plan as J. A. W.'s might be of some interest. One cold January day, we went for a visit to a man that keeps 22 hens in a large, single-boarded barn, so open that the wind and snow can blow through it. I was greatly surprised to have him bring in 21 eggs that day, and he was expecting the other egg before night. I found that he had averaged 18 eggs a day since November 1. Of course, I inquired what he fed them.

"Corn and buckwheat, and I always keep old plastering before them. I don't take any stock in meat, warm mashes and such fussing."

As I take a poultry paper, and read half a dozen agricultural papers, this went against all my theories; but you can't talk theory to a man that has the facts, and such facts as 21 eggs from 22 hens on a cold, winter day. He went on to say that the whole secret of having hens lay in the winter, was to feed them all the corn and buckwheat they would eat while they were moulting. He keeps the grain before them all the time, and he always has eggs from what you would call his "scrub hens." L.

Live Stock Matters.

FORKFULS OF FACTS.

"SICILIAN" POULTRY.—What information can you give regarding the breed of fowls known as the "Sicilians"? Would you consider them as adapted to general purposes on the farm? A. L. A.

Reading, Pa.

R. N.-Y.—The Sicilians are more ornamental than useful, are rare, and, probably, closely inbred. They have no reputation, either as layers or for the table, and are not hardy in this country. They are not regarded as a desirable breed for practical purposes.

MIXING THE MEALS.—Under "Various Foods for Stock," page 157, you say that cotton-seed meal is constipating, and linseed meal a laxative, and that four pounds of linseed may be fed. We feed linseed in connection with mangels and corn fodder, and find that we could not feed four pounds per day without making milch cows too loose. Would it be advisable to feed cotton-seed meal and linseed meal alternately, or mixed in a certain proportion, so as to balance each other? If any one has had experience in this method of feeding, I would be glad to hear from him. R. L. H.

Bellaire, Ohio.

R. N.-Y.—We think that one pound of cotton-seed meal and two pounds of linseed meal will give better results.

RAW POTATOES FOR BUTTER.—Don't throw the potatoes away by feeding them to milch cows; sell them for 25 cents per barrel if you can't get any more, and buy wheat bran. Here is my experience: I was feeding 1½ pound wheat bran, two pounds glucose meal, one pound cotton-seed meal, one pound corn meal, twice a day per cow to five

(*Continued on next page.*)

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Metal Wheels for your old Wagons.

A "NEW IDEA" in farm wagons, 30 in. high, 6-in. tire, recommended by the Agricultural Colleges and Farmers in every State in the Union. We wish agents, and will give special introductory prices in new territory. Other farm implements are used only in one kind of work and in one crop during the year, but our *Handy Wagon* saves you money and labor every day. Good on sidehill or flats. It is handy, cheap, durable, and leaves no tracks in the fields. Beautiful Catalog free. Costs nothing to investigate, and will interest every farmer

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Hosts of people go to work in the wrong way to cure a SPRAIN, when St. Jacobs Oil would cure it in the right way, right off.

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and its possibilities under the Silage system—being the theme of

"A BOOK ON SILAGE"

by Prof. F. W. WOLL of the University of Wis., neatly bound into a volume of 195 pages and now being sent out by the Silver Mfg. Co., Salem, O., is unquestionably the best work yet introduced on the subject. Includes:

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28 sizes and styles. Every mill warranted.

For All Kinds of Grinding.

A boy can operate and keep in order. "Book on Mills" and sample meal FREE.

All kinds mill machinery. Flour mills built, roller or buhr system.

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Hydraulic, Knuckle Joint and Screw Presses, Graters, Elevators, Pumps, etc. Send for Catalogue.

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That's dairying. Crystalize the sunbeams and dew drops of today into good butter or cheese tomorrow. Fancy products always have paid—always will. Would you like a factory in your neighborhood? If so, write us, we'll help you get one. 300 cows in a radius of 10 miles, will make one pay. Complete outfits for dairies and Factories. Everything you need, and at 1896 prices, which in many things are lower than ever. Agents in good dairy communities can make money selling our apparatus and supplies. Write for catalogue, it's free.

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POULTRY

60 Standard Breeds illustrated & fully described in my new Poultry Book. Reliable information for poultrymen & intending buyers. Good stock Ducks & Geese; also Shetland Ponies. Send 6c in stamps

E. H. COOK, Box 42, Huntley, Ill.

NEW MAMMOTH POULTRY GUIDE showing colored plate of chickens in natural colors. Finest book ever published. Almost 100 pages. Tells all about Poultry for Profit or Pleasure. Price only 15c.

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FOR 1896. Finer and larger than ever, the finest engravings of poultry, with descriptions of each variety, best plans for poultry houses, how to raise broilers, earing of fowls, remedies for all diseases, best lice destroyer, prices of eggs and stock from high scoring birds, send 10 cents for this noted book which will be deducted from first order.

Address, B. H. GREIDER, FLORIN, PA., U. S. A.

Free Catalogue of 22 varieties of prize winning fowls. 32 prizes at one show. Every bird bears a score card by F. H. Shellabarger. Scientific Poultry Yds. W. E. Schneff, Prop., Dixon, Ill.

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The J. W. Miller Co. Box 144, Freeport, Ills.

BEE KEEPERS SEND FOR Sample copy of CLEANINGS IN BEE CULTURE. A Handsomely Illustrated Magazine, and Catalog. of BEE SUPPLIES FREE. THE A. I. ROOT CO., Medina, O.

PASTEURA (A Solid Liniment.) FOR MAN AND BEAST.

"Suckling colt cut on barb wire, healed without a scar." "Mare lame in shoulder 6 yrs., used *Pasteura* cured in week." "Jersey heifer with badly inflamed udder (garget) cured in 12 hrs." "Had a pig with rheumatism, no use of hind legs, applied *Pasteura*, recovered in one week." No bad smell or stain. 50 cts. per box, postpaid.

Pasteura Medicine Co., Chittenango, N. Y

LIVE STOCK MATTERS.

(CONTINUED.)

cows—four new milch, one stripper. I was making 1¼ pound of butter a day per cow. I thought that I would try feeding raw potatoes, and gave the five cows one bushel per day at one feeding, milking before feeding. After feeding potatoes for a week, my cows fell off one-half pound of butter a day. I stopped feeding potatoes, feeding the same grain ration, and my cows came back to one pound per day. I trust that by another week, I can get them to their old weight, 1¼ pound of butter per day. I have one purebred Jersey. I think that if the other four were Jerseys, I could make two pounds per cow. The others are common stock. J. K. L.

Elnora, N. Y.

WANTED! A BULL.—Can E. A. Powell, or anybody else, put us on the trail of that young bull of any breed whose ancestors on both sides show records of 25,000 to 28,000 pounds of milk for 12 or more generations? What ought he to cost in these days of "cheap blood"?

Delevan, N. Y. C. M. T.

ANS.—Such a bull has never yet been known. If one of the kind should be produced, he would be cheap at $10,000, to head any first-class large herd. The largest showing within my knowledge, for an equal number of ancestors, is in the pedigree of the Holstein bull, "Sir Clothilde Duke," whose 16 nearest female ancestors, extending in every line, have made butter records which average for the whole number, 23 pounds 2 ounces in a week, and yearly milk records which average 17,655 pounds 4 ounces, while his 20 nearest female ancestors average 21 pounds 13⅓ ounces in a week, and 17,247 pounds 11 ounces in a year. This includes every ancestor which has been imported to, or bred in America. If any bull can make a better showing for both milk and butter, we have failed to see his pedigree. This bull is owned in the "Lakeside" herd. There may be others which can make an equal showing for both milk and butter for the same number of direct female ancestors, but I have not heard of them. If there be such, I would be glad to have their records given in THE R. N.-Y., for the benefit of myself, as well as that of other breeders, who will be glad to know the facts. E. A. POWELL.

EXERCISING A BULL.—N. B. White tells, in the Massachusetts Ploughman, of the following singular method of exercising a bull:

A few years ago, I had a fine Jersey bull three years old. He was kind, but at times when I took him out, he was rather hilarious. I became suspicious of him, as he had no ring in his nose, and thought that I must, in some way, give him exercise. Finally I adopted the following plan: I rolled into his stall, in front of him a stone, nearly round, that weighed about 300 pounds. It seemed to be just what he wanted. He attacked it as he would another bull—he rolled it over and over; he went down on his knees and rubbed his head against it, then up and went at it again. He had very slim horns, and he wore them off over an inch; he worked at it until he became thoroughly exhausted, and laid down to rest. Ever after that, when he needed exercise he would play with that stone. He had it for a year and always exercised himself in that way. I had no trouble with him, and he kept his horns well worn off.

BAD TIME WITH HOGS.—I started with four old sows and five young ones, one Cheshire boar, and 16 four-months-old pigs. In the middle of January, 1895, one of the old sows miscarried. The last of January, another one of the old sows farrowed her pigs all right, but she would not have anything to do with them; she seemed all right, but she would not nurse them. February 22, another one farrowed seven pigs; she had done all right, raised her pigs, and seemed well until May 29, when I noticed that she would not eat her supper. The next morning, she was dead; I don't know what was the matter with her. June 7, the other old sow was about to farrow when she died. The five young sows all farrowed between March 22 and April 3, but I raised only 12 pigs from the five sows. Between September 23 and 28, the five young sows had 35 pigs and all were doing well, until the middle of October, when I had 71 of the nicest pigs I ever saw all together. I had started to kill some of them, when hog cholera got among them, and I lost 42, and what I did not lose became so poor that it seemed as though it would have been better to bury them with the rest. I have seen accounts in THE R. N.-Y. about how well some men have done with pigs, but I am not one of them.

Vineland, N. J. A. P.

RYE AND BRAN.—How can I make up a ration of the following: The rough fodder will consist of rye straw and some Timothy hay cut in a cutter. I have rye of my own, and the rest of the grain I shall have to buy. I can sell rye for 35 cents per bushel. I shall have to pay 30 cents for corn, 28 cents for oats, and other grains as follows: Bran, $13 per ton; middlings, $14.10; corn meal, $13.50; corn and oats, $15; mill feed, $14. This is to be fed to work horses and cows. The cows will get some bean pods. J. O. T.

Brighton, Mich.

R. N.-Y.—Briefly stated, our advice would be to feed the rye to the horses. Buy bran and feed half and half rye and bran to the horses, and all bran to the cows, using as much grain as you can afford.

A DEEP-SEATED COUGH, cruelly tries the Lungs and wastes the general strength. A prudent resort for the afflicted is to use Dr. D. Jayne's Expectorant, a remedy for all troubled with Asthma, Bronchitis, or any Pulmonary affection.—*Adv.*

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Being ground fine, it can be readily mixed with the soft food, and fed so as to give each fowl an equal share. Price, 30 cents per can; $3 per dozen.
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New $5 Green Bone Cutter.

Cuts at the rate of a pound Green Bones, per minute by hand. Excels them all in ease and fineness of cut. $5 with crank, $7 with balance wheel in place of crank. Get special circulars.
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CLOTHILDE H. H. B. 1308.
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We have 100 of this cow's descendants for sale. If this is the class of cattle you want, write to
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Registered Jersey
BULL CALVES (under six months, none older) $40 delivered. Sired by a son of Ida's Stoke Pogis, out of dams of superior breeding and dairy quality. No catalogue. Farm Edgeworth Station, P. F. W. & C. R. R. P. O. address ROBT. F. SHANNON, Pittsburgh, Pa.
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Breeder of Thoroughbred Jersey Cattle, of the St. Lambert and Stoke Pogis 3rd families; and owner of the celebrated herd that produced 367 pounds of butter per cow. Calves, Yearlings, Two-year-olds and Full Aged Cattle for Sale. *Visitors Made Welcome.* CLOVER LAWN STOCK FARM, MYRON REIGHTMYER, Prop., West Richmondville, Scho. Co., N. Y.

CHENANGO VALLEY STOCK FARMS, Greene, N. Y., J. D. Van Valkenburgh, Jr., Proprietor. Dorset Horn, Shropshire and Rambouillet Sheep, Dutch Belted and Jersey cattle; also Poland-China, Jersey Red and Suffolk Pigs.

HARRY REEDER & CO. Breeders & shippers of imported stock, cattle, sheep, pigs, poultry, horse and hunting dogs. Illustrated catalog free. THORNDALE, Chester Co., Pa

When LIVE STOCK *shed* their hair, they *need* a *regulator* for the *system*. A Condimental Tonic, is best.
TRADE **P. & B. COMPOUND** MARK.
is not the cheapest, but goes the *furthest*. It is *pure*. Examined by Editor of THE R. N.-Y. Circular from compounder, Wills A. Seward, 207 Broadway, N. Y. City. Live stock from best herds. Willswood Farm booking orders for young stock. Quality and prices suit all.
Recorded Berkshire Swine, Registered Guernsey Cattle.

CHESTER WHITES
You are not buying a "Pig in a Poke," if you order from me, as I am the ONLY BREEDER who has ENOUGH CONFIDENCE in his stock to offer you the privilege of inspection at your express office FREE! I guarantee satisfaction, and agree to refund your money and pay freight, both ways, on any stock rejected. YOU are to be the judge. Have never had any returned. My stock is the best old original "TRUE TYPE," having broad, dished face, lop ear, straight hair and back; good body, bone and ham, and is growthy but not coarse. Prices reasonable. Ill. cat. for 2c. stamp. G. R. Foulke, Bala Farm, W. Chester, Pa

WHINERY'S IMPROVED CHESTERS
Are very Growthy, Prolific, Easy feeders. Go to every State, Canada and Mexico. 900 sold in 1895, over 1000 for 1896. Catalogue free.
"Whinery's Swine Advocate"
A 16 page monthly 25c per year.
Willis Whinery, Salem, Ohio.

Choice Poland-Chinas
and Berkshires. Boars and Sows all ages. Sows bred. To get pen room for sows soon to farrow, will fill orders *very reasonable*. Write for prices. State age. HAMILTON & CO., Coehranville, Chester County, Pa.

NOW is the time To have our catalogue sent you
HERE is the place } To buy Poland-China Hogs Poultry and Seeds.
WE are the firm That always please.
F. H. GATES & SONS, Chittenango, N. Y

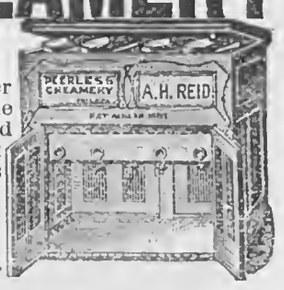
Prize-winning Poultry.—Cochins, Brahmas, Langshans, Wyandottes, P. Rocks, Andalusians, Leghorns, Minorcas, P. Ducks. 19 varieties, 6 Buff breeds. Buff eggs, $1.50 per 13; others, $1. Illus. cat. FREE. DAVIS BROS., Box 1005, Washington, N. J.

S. C. Brown Leghorns.
The best egg producers; eggs, $1 per 13.
Extra Fine Stock.
Write to R. S. COLE, Harmans, Md.

PEA-COMB BUFF WHITE P. ROCKS.
I have been working for years to perfect these **two new breeds**, and they now have more purely BUSINESS qualifications than any other type of fowl on earth. They are **made to order for UTILITY** purposes. Send for free catalogue and learn all about them. ISAAC F. TILLINGHAST, La Plume, Pa.

Every Bee-Keeper needs our style of **BEE HIVES**
Shipping Cases, Frames, Etc. Strong serviceable and convenient. Write for our price list. G. B. LEWIS CO., Box 20 Watertown, Wis.

REID'S PEERLESS CREAMERY IS THE BEST.



Especially adapted to operating with water alone. The cans have the largest cooling surface, and are the easiest cleaned. Arranged in pairs, with large space between and at the rear of them, thus insuring the rapid cooling of the milk and the greatest quantity of cream. **The Peerless** embodies everything that is desirable in a creamery for the dairy or family. Get it and you get the best. Send for Illustrated Catalogue. *AGENTS WANTED.*
A. H. REID, Philadelphia, Pa., and Elgin, Ill.

A Crimson Clover Crank.

R. S. C., ANNE ARUNDEL COUNTY, MD.—Not being able to do without stable manure in some form in the business of growing fruit and truck, and finding the cost of this indispensable article increasing as the market for the latter declined, I have been experimenting with Crimson clover as a catch crop, for green manuring, to supplement the costly manure heap. I have also cut it regularly for hay, as well as used it for fall and spring pasture. It is now one of the regular crops grown upon the farm, occupying every available space where it can be used to advantage. My soil, being a sandy loam which leaches badly, soon losing the effect of frequent dressings of manure, and blowing badly when exposed to the spring winds, is, in a great measure, saved from both these evils; the clover catches and holds what manure there is in the soil, which, under the old system of cultivation, would have been swallowed up by late-growing weeds and grass. Or, should the ground be left bare and unprotected through the winter, with no crop growing upon it, serious results would be sure to follow upon such soils. At least, that has been my experience.

Crimson clover changes all this. Sown among late summer and fall crops at their last working, or as soon as off the ground, it makes its growth during the interim between crops, and at a time when everything else grown upon a truck and fruit farm is dormant. I grew an excellent crop of corn in a peach orchard three years old the past season, after a crop of Crimson clover turned under during full bloom, which was the wonder of the neighborhood. The peach trees also show the benefit of such a course of treatment, and the experiment will be conducted another season with the addition of ground bone and muriate of potash.

A neighbor, several years ago, plowed under a most luxuriant growth of this clover at full bloom, and got a wonderful crop of corn and fodder, that drew the attention of the community far and wide. It was upon a light sandy loam that had been pretty heavily manured for several seasons previous, thus insuring a good catch.

My experience and observation have been that a little manure or fertilizer in the hill at the time of planting the corn, will give it a much needed start, as it usually starts off weak and spindling upon the sour, freshly-turned sod. I have grown good crops of corn and tomatoes upon the clover stubble and roots alone, after making the crop into first-class hay, and follow this plan whenever the fertility of the soil will permit. I also grow first-class crops of sweet potatoes and melons after it, the only trouble being the clogging of the plow in making up the ground afterwards; but as the clover soon rots, no trouble is experienced in after cultivation. The addition of lime helps the decomposition of the clover, and brings about the chemical changes necessary to fit it for immediate use as plant food. I find, however, that while I can dispense with stable manure in growing those after crops, I am compelled to use commercial fertilizers to give the necessary start.

Last season, I grew on well manured and fertilized soil, a fine crop of early cabbage followed by a large crop of turnips cultivated in after the cabbages were cut and marketed. There grew upon the stalks left standing, a fine second crop of cabbage sprouts, which I fed to my hogs and cattle, and now the ground is covered with a dense mass of Crimson clover, sown with the turnips, four inches high, upon which my cattle were grazing on December 11. How is that for four crops in one year? I shall endeavor to give, next week, my experience in seeding Crimson clover, having tried it in almost every conceivable way.

Winesap and Johnson's Fine Winter Apples.

W. M. E., AMHERST, VA.—D. O. M., Falls Church, Va., page 190, seems unfamiliar with our Winesap. What is sold here as the Johnson's Fine Winter is not larger, is not a better keeper, neither is it as perfect in shape, nor as fine in flavor and color; neither does the Johnson's Fine Winter here agree fully with the description of the York Imperial by the Geneva Experiment Station. There are several different apples called Winesaps. Our real Winesaps, which sell in New York and England for $1 per barrel above all other brands, and for 50 cents more than York Imperials, is in shape a cross between the Baldwin and Spitzenberg, and when grown fairly exposed to our Piedmont sunshine, is of a deep, even red color, and when rubbed

(*Continued on next page.*)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

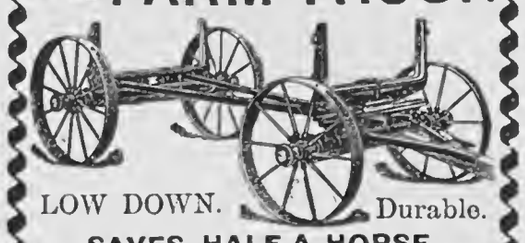
Lamp-chimney sellers can't give you the shape for your lamp, without the Index. They have it; but some don't care. Let us send you one; free.

"Pearl top" and "pearl glass" are trade-mark names for tough glass and fine work.

Geo A Macbeth Co

Pittsburgh Pa

ALL STEEL FARM TRUCK



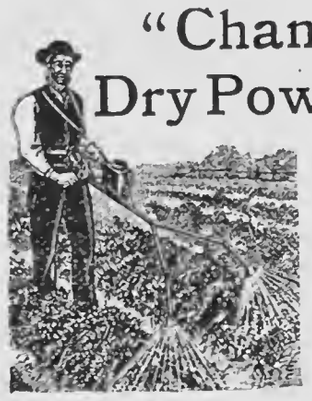
LOW DOWN. Durable.

SAVES HALF A HORSE.

25 per cent. stronger than wood. 25 per cent. less draft than the common wagon, and many other superior points—all are described in our descriptive circulars. We are very anxious to have you know all about it. Write today; mention this paper.

BETTENDORF AXLE CO.
DAVENPORT, IA.

Leggett's "Champion" Dry Powder Gun



will dust two rows of potato plants with Paris-green as fast as a man can walk, and do it well, covering the plants with a fine dust evenly distributed.

Write for prices and catalogue.

Ask for Leggett & Bro.'s Paris-green—it is the best.
LEGGETT & BRO., 301 Pearl St., New York
WM. T. LEGGETT, Pittsburgh, Pa.
Wholesale agent for Pittsburgh and vicinity.

SAVE YOUR FRUITS

from the Pests **BY BUYING A DOUGLAS SPRAYER,**
Only $9 complete, except barrel. Especially adapted for spraying Paris Green or London Purple. Throws a constant stream.
THE BEST PAY THE BEST
Our book on SPRAYERS will give you valuable information; it is FREE; ask for it.
W. & B. DOUGLAS,
MIDDLETOWN, CT.
N. Y. CITY. CHICAGO.

Electric Insect Exterminator.

Death on Potato Bugs and all Insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.
CHAS. H. CHILDS & CO., Utica, N. Y.

Mistakes of Moses
Were nothing compared to the MISTAKE made in buying poor spray pumps.
Buy the . . .
"ECLIPSE"
and we refund money if you call it a mistake.
SEND FOR CATALOGUE.
MORRILL & MORLEY,
Benton Harbor, Mich.

SPRAY PUMPS
EXPRESS PAID.
Satisfaction Guaranteed or Money Refunded. Endorsed by Leading Entomologists. 60,000 in use. We are U. S. Headquarters for Spray Pumps, and Insecticides. Catalogue, Spray Calendar, and full Treatise on Spraying, FREE.
$17 SPRAYING OUTFIT EXPRESS PAID, FOR **$5.50**
P. C. LEWIS MFG. CO., Box 95 Catskill, N. Y.

I SELL THE **ECLIPSE SPRAY PUMP**
Because it is the *BEST*. *Try* it and *you* will agree with *me*. Send for catalogue. WALTER F. TABER, Lakeview Fruit Farm, Poughkeepsie, N. Y.

PERFECT FRUIT
IS PRODUCED BY SPRAYING. Our 32-page Illustrated Spray Pump Catalogue tells How and When to Spray—mailed Free. THE DEMING CO.
Gen'l Western Ag'ts. Henion & Hubbell, Chicago. Salem, Ohio.

SPRAY PUMP "EMPIRE KING."

The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address **FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.**

Eight Years Cured:
W. L. WEDGER,
Roslindale, Boston, Mass.

Seven Years Cured:
J. L. TREVILLYAN,
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TO HAY-FEVER SUFFERERS
WE OFFER
A CURE THAT STAYS.
Our constitutional treatment not only gives relief, but eradicates the cause of the disease and cures to stay cured. Particulars and blank for free examination on application.
DR. HAYES, Buffalo, N. Y.
Rose Cold, June Cold, Hay-Fever, Asthma.

BINNER GHI.

BRADLEY'S FERTILIZERS

Thirty-five years' continuous use has demonstrated to thousands of farmers that no other fertilization is so profitable as the use of "Bradley's Standard Fertilizers" on all crops. Why not profit by their experience? Our "American Farmer" will tell you all about it. Though its preparation represents the labor of months, a postal card request will bring you a copy free of charge. Better send to-day before you forget it.

BRADLEY FERTILIZER CO., 92 STATE ST., BOSTON, ROCHESTER, N. Y., CLEVELAND, O., OR LOCAL AGENTS EVERYWHERE.

THE WORLD'S BEST

CREAM SEPARATOR INFRINGERS.

We notice, by the latest advertisement of our "would-be competitors" that they have succumbed to just what we predicted, the "slippery hold upon the stump" has given way, and they are "in the mire," and, although still **slinging mud**, we feel called upon to thank them for placing the

IMPROVED UNITED STATES SEPARATOR

out of reach of their mud-slinging, as they direct their *insinuating and intimidating advertisements* toward Infringers whose "agents and representatives—and many of the unfortunate buyers of their machines—have already been perpetually enjoined from the further use of the same;" which, even if any one had for a moment been hoodwinked into giving any weight to, would most assuredly and rightly place the **Improved United States Separator** where every truthful and honorable competitor knows it belongs, out of the range of their vituperations, as

> **No agent, dealer or user of the Improved United States Separator has ever been enjoined, or sued, or even molested, in its peaceful sale or use.**

But how ridiculous their insinuations on their face, because if persons have been enjoined, they can not be selling or using the Separators. Any "wayfaring man, though a fool," knows that; and it is very apparent to every experienced person that such advertisements are published in the hope of retaining the trade which the Improved United States Separator is winning away from them by its superior merits.

We call the attention of the dairy public still further to the fact that the Improved United States Separator has not only never had a suit brought against it by any one, and never been enjoined, but every person whom our mud-slinging competitors claim was enjoined under their trivial and greatly magnified **scarecrow patent suit** from using another Separator, entirely foreign in every way to the Improved United States Separator, and in no way relating to it or affecting it, has since that decree of the Court **purchased, and is now using, the Improved United States Separator,** without molestation; and, therefore,

To Escape all Liability,

All dairymen who wish to be free from such liability of claims of infringement should

Buy the Improved United States Separator.

Then they have the Separator that not only excels all others on its merits, but all liability of infringement is avoided, as the Improved United States Separators are fully protected by our patents.

VERMONT FARM MACHINE COMPANY, BELLOWS FALLS, VT.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

with a cloth or fine paper, shines with a maiden's blush. The flesh has a yellowish tinge. In shape, it is almost perfection. One kind has white flesh, another has the red skin with dark spots and is one-sided in shape. These seem to answer the Geneva description. All these appear to be hybrid Winesap mixtures.

The mountain cove black lands in Albemarle, Nelson and Amherst Counties are best adapted for raising the best Albemarle Pippins, while the red lands are the best for Winesap and other red apples. The more sunshine, the more saccharine matter, and the richer the color. This is the reason why our Winesaps top the world's markets, and why we now produce those apples that outsell all others. Put this prediction on record: This Piedmont region will yet be the best winter apple orchard for the world. Thanks to the Columbian Exposition, we are on top now in quality, only lacking the quantity. Tobacco has cursed this section, apples will redeem us.

Producer and Consumer.

G. W. K., CLARK STATION, KY.—A Louisville woman of my acquaintance recently told me the following story. It is quite instructive for the arithmetic it contains: In a basket of peaches which she bought last summer, she found a note which, evidently, was slipped in secretly before the basket left the farm. It was something to this effect: "Whoever purchases this basket of peaches, please let me know where you bought it, when, and how much you paid for it. I am a little girl, and these peaches are from my pet tree. I received six cents for this basketful." (Then followed the address). The Louisville customer wrote to her unknown young friend, who, by the way, resides in Michigan, giving her the information desired, and also the fact, that she paid 50 cents for the basket of peaches.

FOR ST. PAUL AND MINNEAPOLIS.

The "North-Western Limited," sumptuously equipped with buffet, smoking and library cars, regular and compartment sleeping cars, and luxurious dining cars, leaves Chicago via the North-Western Line (Chicago & North-Western R'y) at 6:30 P. M. daily, and arrives at destination early the following morning. All principal ticket agents sell tickets via this popular route.—*Adv.*

PRICES Owing to hard times, we have decided to reduce our prices for the balance of the season to rock bottom. Remember our stock is choice, true to name and carefully packed. Orders filled promptly. All Oats 75c. per bushel; 10 bushels or more at 50c.; bags free. All Field Corn $1 per bushel; 10 bushels or more at 90c.; bags free. Choice Canada Peas, $1. **REDUCED**

POTATOES.—Carman No. 3, $4; No. 1, Sir William and Great Divide, $2. Early Harvest, World's Fair, Great Northern and Irish Cobbler, $1.50. Leonarde's Favorite, New Queen, Early Ohio, Early Market, Burpee's Extra Early, Charles Downing and Freeman, $1.25. Rural New-Yorker No. 2, Orphan, Algoma, Dutton Seedling, Maggie Murphy, Irish Daisy, Early Puritan, Early Rose, American Wonder, Victor Rose, Bill Nye, Late Puritan, Lightning Express, Everitt Rose, Reeve's Rose, Late Hebron, Early Hebron, White Star, Monroe Seedling and Rural Blush, $1. All in new barrels, 165 pounds net. If in sacks, 15c. less per sack. Peerless Jr., $1 per bushel; 4 quart bags, 20 per cent off.

GARDEN SEEDS.—All 5c. packages, 3c.; 10c. packages, 6c.; ounce, 20 per cent off. 50c. collections, 40c.; $1 collections, 75c.

ONION SEED.—$1.50 prepaid; 4 pounds and over, $1.25, not prepaid.

EGGS.—Hens Eggs, $1; Duck Eggs, $1.25; Bronze Turkey Eggs, $2 per 13. All from high bred stock and carefully packed.

CHESHIRE SWINE.—Spring Pigs 8 to 10 weeks old, subject to registry, $5.

We shall have 250,000 Cabbage Plants ready June 1; also Celery Plants. See Catalogue, page 23. Catalogue free. Personal checks under $50 will not be accepted.

O. H. WHITE & SON, Miller Corners, N. Y.

CARMAN No. 1, $2 per Barrel.

Carman No. 3, $4 per barrel. Great Divide and Maggie Murphy, $2 per barrel. Freeman, World's Fair, Irish Daisy, Early Puritan and Vaughan, $1.50 per barrel. 100-Day Bristol Corn, $1 per bushel. Barrels and bags free.

MONROE SEED CO., Rochester, N. Y.

References.—Bank of Monroe, Rochester, N. Y.; Fourth National Bank, New York City.

A WARM SPRING DAY

reminds you of seed time; when it comes, quick action will be necessary, for Nature must make up for those March storms. Then you will remember

Vaughan's Seeds

and you will want them for the next day's planting. Don't take from the grocer or druggist, Box Commission seeds grown gray in the service, but remember, that we mail you fresh seeds prepaid from Chicago or New York at a day's notice. Take no substitute. Our prices on many kinds only 5c. per pkt. Mammoth Catalogue free.

VAUGHAN'S SEED STORE,
CHICAGO: 84 & 86 Randolph St.
NEW YORK: 26 Barclay St.

POTATOES $1.50 a Bbl.

Largest growers of POTATOES for Seed in America. The "Rural New-Yorker" gives Salzer's Early Wisconsin a yield of 736 bushels per acre. Prices dirt cheap. Our great Seed Book, 148 pages and sample 14-Day Radish for 6c. postage. JOHN A. SALZER SEED CO., LaCrosse, Wis.

10 VALUABLE NEW VEGETABLES FREE!

1, Electric Beet. 2, Faultless Cabbage. 3, Aurora Celery. 4, Arrowhead Carrot. 5, Mammoth Byzart Lettuce. 6, Early Captor Musk Melon. 7, Duke Jones Water Melon. 8, Early Bryant Tomato. 9, Crispy Carmine Radish. 10, Silver Coin Parsnip.

I will mail above 10 pkgs. and catalog, for 50 cts, and with each lot will return a Cash Check good for 50 cts in other seeds, thus making these practically *Free for Trial.*

ISAAC F. TILLINGHAST, La Plume, Pa.

CARMAN No. 1.

A splendid stock of this new potato of my own growing. Sound, true. Thorburn stock. $2 per barrel.
W. A. POTTER, Rockport, Ohio.

IT'S A GREAT POTATO

That outyields the Sir William, Carman No. 1, Rural No. 2, American Wonder, and half a hundred others Wise's Seedling did it at the Ohio Experiment Station. All the above varieties and many others for sale at popular prices. Lincoln Oats and White Cap Corn. Send your own and neighbors' names for free catalogue. J. M. FLUKE, Box 32, Nankin, O.

Bargain Sale of Seeds.—POTATOES. Selected Tubers: Hebrons, Freemans, Rurals. Most excellent seed I ever offered. Lowest in price. Corrosive-sublimate treated, to protect crop from scab. May plant safely in diseased soil, or use barnyard manure. Also, CHOICE WHITE MAINE SEED OATS. This variety never fails. Does well on wet, dry high or low lands. Heavy weight; large yield.
Address MAILON SAGER, Orangeville, Pa.

Chapman's Seed Potatoes

Only cost 9c. to raise. Hints telling how for 2c. stamp. *Prices way down on account of cost to grow.* Illustrated catalogue free. C. E. CHAPMAN, Peruville, N. Y.

CHOICE SEED POTATOES

FROM SPECIAL STORAGE.

"Free from sprouts, strong and vigorous." Early Ohio, Beauty of Hebron, Early Norther, Early Puritan, Early Everitt,

SIR WILLIAM,

Maggie Murphy, R. N.-Y. No. 2, American Wonder and Victor White. Quality high. Freights low. Prices very low. Send for circular.
ABNER WILSON, Tecumseh, Lenawee Co., Mich.

Seed Potatoes Rutland Rose, $1.50 per barrel of 160 pounds; also American Wonder at $1 per barrel. For sale by C. H. JOAN, Perry, N. Y.

PURE SEED POTATOES.

Rural New-Yorker No. 2, Green Mountain, American Wonder, $1 per bbl. Polaris, Ea. Puritan, Ea. Pride, $1.20 per bbl. Twenty other standard varieties, 25c. per peck f. o. b. Cash with order. Reference, Bank of Holland Patent, N. Y. F. H. THOMSON, Holland Patent, N. Y., Fairview Farm.

POTATOES Empire State Express (earliest of all), sample 6c., with Carman No. 1, 10c. Four quarts of most *new kinds* for 25c. Thirty newest varieties. Wholesale price list *free.*
GEO. A. BONNELL, Waterloo, N. Y.

IRISH DAISY POTATOES $1 per bushel, $2.50 per bbl.
JOHN ROONEY, Schroon Lake, Essex County, N. Y.

SEED POTATOES 500 bushels Carman No. 1, Thorburn Early and Beauty of Hebron. Send for prices. Address
STEPHEN HOYT'S SONS, New Canaan, Conn.

FOR SALE CHEAP. One Perpetual Baling Press. Size of bale 14 x 16 inches 3 feet, weighing 100 to 125 pounds. For full particulars address F. H. TUTHILL, Rocky Point, N. Y.

$1.50 a bbl. **$5.00** for four bbls.
RURAL NEW-YORKER No. 2,
DUTTON'S SEEDLING, OR
EARLY NORTHER SEED POTATOES.
All warranted true to name, and grown on our rugged slate land in Sullivan County, where the best quality of potatoes in the world are grown. Kept in ground pits all winter, they are in best possible vigor for seed. Orders may be sent to THE RURAL NEW-YORKER or to GROTTO FARM, Mongaup Valley, Sullivan County, N. Y.

POTATOES—Grown on highest land in county, with "lots of latent vigor in 'em." Carman Nos. 1 and 3 (Thorburn stock). Dewdrop Rose, Sir William, Ohio Jr., Leouard Favorite, Prolific Rose (Gregory), and standard sorts, at "must move" prices. No catalogue. Write your wants.
N. A. BAKER, Fishers, Ontario Co., N. Y.

Potatoes Maggie Murphys that are bred for business. Big yielders and good quality premium seed, $1.75 per bbl. Choice R. N.-Y. No. 2, Ea Norther and Am. Wonder, same price. Carman No. 1, pure stock, $2.50 per bbl. 15 lbs. potatoes, your choice from 25 varieties, $1. List free.
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Seed from Thorburn. **CARMAN No. 1** POTATOES. $1.75 barrel. "Maule's" Great Thoroughbred, one-third A. I. Root's prices (save $1 a lb.) *Don't be swindled.* Or "Everitt's" the same. R. N.-Y. No. 2, 75c. per bbl. List free. Bank or other references. S. J. SMITH'S STOCK AND SEED FARM, Padelfords, N. Y.

Potatoes—33⅓c. per bushel; sacks included. Freight paid to Chicago; lined cars. Ohio, Polaris, Freeman (earlies); Everett (elegant rose), Am. Wonder, R. N.-Y. No. 2, Monroe Co. Prize, and Scotch Regent. Also, Holstein Calves.
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$1 a barrel for Orphans, Dutton and White Seedlings. Am. Wonders and Maggie Murphys. Selected stock, 12 barrels, $10.
ED. S. HILL, Peruville, Tompkins, Co., N. Y.

SEED POTATOES—R. N.-Y. No. 2, pure stock. Withstands drought better than any other potato. Good looker; good quality, and a good seller. Bbl., 10 pecks, $1; 5 bbls., $4.50; 10 bbls., $8.50. L. H. CLARK, Alger, Ohio.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

SEED POTATOES You can buy them way down cheap. 16 varieties, warranted true to name. $1 and upwards per barrel. List free.
GEO. H. COLVIN, Crest Farm, Dalton, Pa.

Potatoes Carman No. 1 and Great Divide, $1.50; R. N.-Y. No. 2 and Burpee's Superior, $1 per 165 lbs.
LATIMER BROS., Arkport, N. Y.

Pure Seed Potatoes Reduced Prices. To close out. New Queen, Am. Wonder, Salzer's Earliest, Lightning Express, 35c. per bu; R. N.-Y. No. 2, Freeman, Early Sunrise, 30c.; White Star, 25c. C. A. LULL, Ellis, N. Y.

Early May Potato—Five years from seed. Yield in '94, Mich. Ex. Sta., 360 bu.; dug 60 days from planting. Excels E. Rose in quality and keeping. The potato for gardeners. 30c. lb., $3 bu., $6 bbl. E. HICKOK, Rose, N. Y.

SEED POTATOES Carman No. 1, $3 per bbl; R. N.-Y. No. 2, $1.50 per bbl. Write for freight rates. H. W. HOAR, Rangeley, Me.

Moneymaker 150 bbls. Carman, Sir William and 40 other choice varieties.
E. S. WISEMAN, Big Rapids, Mich.

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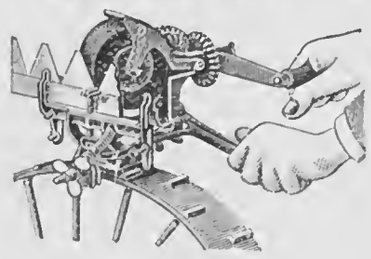

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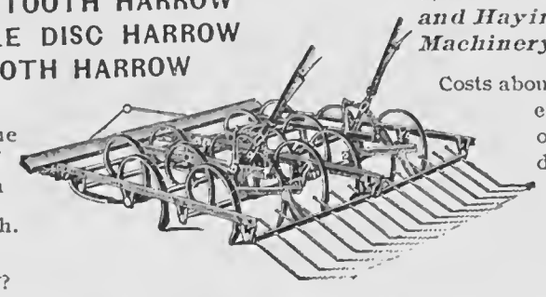

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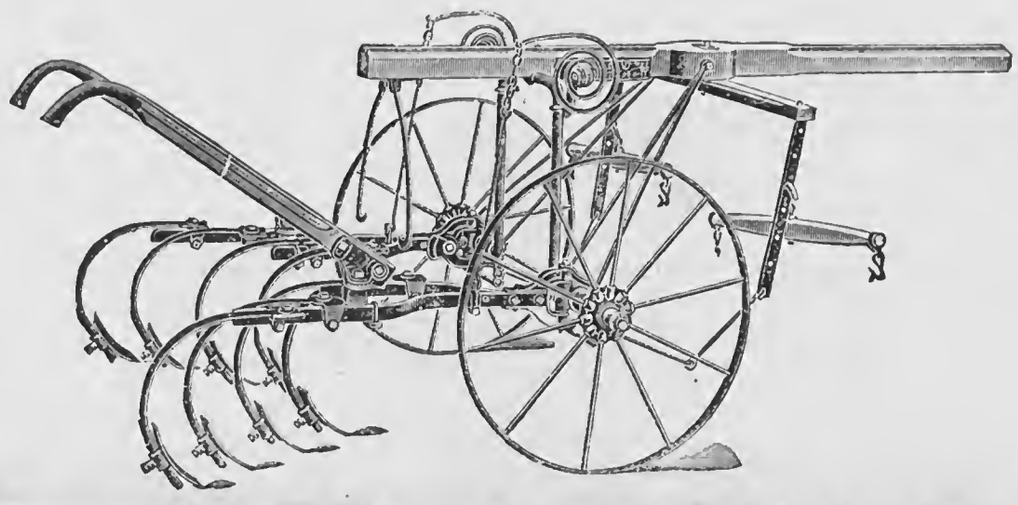

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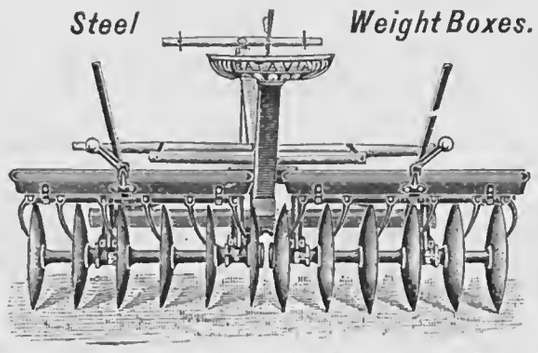

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO., N.Y.

VOL. LV. No. 2411. NEW YORK, APRIL 11, 1896. $1.00 PER YEAR.

COME, LET US PLANT THE STRAWBERRY!

AND THEN GIVE IT THE BEST CARE.

Thus Securing Plants, Berries, Dollars—Success!

Early springtime is the best season for planting the strawberry. Of the many methods which I have tested during 10 years copartnership with our ruddy little "business friend," no system pleases me so well, or gives such satisfactory results as that which I shall briefly describe and illustrate, as by it I not only obtain an abundance of fine, large berries, but am ever supplied with a generous stock of large, strong, well-developed plants for successive plantations.

Deep, moist, well-drained, fertile soil, deeply plowed, thoroughly pulverized and made very fine and level with harrow and drag, is a grand beginning. I would not, however, advise planting on sod, such ground usually being infested with the White Grub—a very undesirable citizen in a strawberry plantation. I would much prefer a plat that has been well enriched and under clean cultivation for two or three seasons previous.

As has already been intimated, I grow my own plants. Of course, the more promising of the new varieties are tested, these being purchased, usually, by the dozen or half dozen, and increased on my own grounds, or finally discarded, as their merits may warrant. But, however obtained, they should all be carefully prepared beforehand so that no time should be lost when planting. In digging plants I shake the soil from the roots and immediately place them, by handfuls, between the folds of a piece of wet carpet or blanket. They are then carried to the packing shed where they are prepared by clipping from them all dead leaves and runners, straightening the roots, shortening them to about three inches; they are then tossed into a bucket of water. From this bucket, they are taken and packed into neat bunches of 25, which are set very firmly in cool, moist soil, and kept moist. Plants thus prepared, will keep safely many days, and be in the best possible condition to plant.

A line and light hand-marker, spacing the rows at 3½ feet, should be used if we would have our plantation a model of neatness. A few bunches of the prepared plants are then pulled and placed, roots downward, in a bucket containing enough water to cover the roots only. I use a strong trowel for setting, by which method the roots, spread fan-shape, are inserted into the soil full length, and in an easy, natural position. The soil should be pressed back very firmly against the roots. The plants are taken from the bucket only as used; consequently the roots are inserted dripping with water. The fine, mellow soil, coming in contact with them, at once adheres and forms a moist, pasty coating conforming perfectly to their shape; thus, almost instantly, we gain the first stage of the plant's establishment. I set plants from 18 to 24 inches apart in the row, according to the habit of growth of the variety. To insure perfect pollination, every third row is planted with staminate or perfect-flowered varieties.

As soon as planting is finished, a light cultivation is given with a fine, steel-toothed cultivator; this leaves the soil fine and mellow, in which condition it will be retentive of moisture which is essential to the prompt establishment of the plants. A careful, thorough cultivation every week from this period until the frosts of autumn, should be the motto. As soon as the plants have started nicely, blossoms will appear; these should be removed at once. Runners will also begin to push out here and there, and should be promptly clipped off. By July 15, under this thorough culture, the plantation will consist of beautiful rows of great, stocky, robust plants, fairly boiling over with vigor and will appear as in Fig. 77. At that date, I am ready to form the fruiting rows for the next season.

THE STRAWBERRY PLANTATION AT THE MIDDLE OF JULY. FIG. 77.

THE STRAWBERRY PLANTATION AT THE END OF THE GROWING SEASON. FIG. 78.

A few strong runners from each plant are now allowed to strike root, until a thinly set row from 14 to 16 inches wide has been formed, after which all runners are clipped and the soil between the rows kept clean and mellow with the cultivator, throughout the remaining months of the growing season. Should weeds appear among the plants, they must be promptly rooted out by hand. At the close of the growing season, under such thorough management, we have a plantation beautiful to behold—a plantation inhabited by multitudes of great, vigorous, well-developed, heavy-crowned plants, upon every one of which is stamped the promise of rich reward to him who ungrudgingly bestowed so many hours of patient labor. See Fig. 78.

The last act of the season's drama is the application, in November or December, of a comfortable winter overcoat of straw, leaves, salt hay, pine needles or whatever light material the grower can best obtain in his locality. I use straw, as it is the cheapest and most convenient of any material I can procure. It is evenly spread over the plantation to the depth of

about three inches. When warm, settled, spring weather comes, the straw should be carefully raked from over the plants, and allowed to remain between the rows, where it will serve the triple purpose of retaining moisture, keeping down weeds, and keeping the fruit clean. F. H. BALLOU.

Ohio.

"THE NEW STRAWBERRY CULTURE."

SAFELY HOLDING YOUNG PLANTS.

At the Western New York Horticultural Society's meeting, Mr. L. J. Farmer described a system of double transplanting, which was, in its results, very similar to potting, but without the expense and some of the drawbacks. He digs and trims the plants in the usual way in April, and then, instead of setting them out in rows in the field plantation, he shears the roots, or cuts on a bench with a butcher knife, to a length of three inches, and opening a furrow, places the plants against the straight side, and fills to the crown with earth, packing it firmly as in planting. He places them close together, or 24 to a running foot of row. Put in carefully in this way, the roots will soon emit numerous feeding rootlets, and so connect themselves with the soil, that any time after two weeks, upon lifting them, a mass of earth will adhere to them, as great in weight, as would be contained in a two or three-inch pot. When in this condition, the plant does not flag or wilt if taken up or reset, as its hold upon the soil maintains it just as though the soil were in a ball from a pot, but with the added advantage that the rootlets are not cramped or pot bound, but in the best possible shape to strike out into the fresh earth and keep up an uninterrupted growth.

The advantages of this double transplanting are several. For one thing, one may begin digging plants at odd spells before the ground is dry enough to plow, and trench them in a dry, warm corner of the garden or back yard. As the plants, if properly trenched, may be held for six or eight weeks without injury, it is possible to plow and fit the ground and rid it of weeds, by weekly treatment through the month of May with a fine-toothed harrow or Breed's weeder, finally planting them about June 1, upon soil cleaned of all early weeds, with no expense of hand hoeing around the plants. Another thing is that plants may be held for market until those slow-going customers who never get around to strawberry planting until they see the ripe fruit in the groceries, wish them, and the plant grower can furnish them plants that, with a very little care, will grow right along and make just as good a growth as if set in the permanent bed two months sooner.

Experience with this Method.

I have trenched in strawberry plants for resetting or selling, every year of the past 17, and am sure that the claims made by Mr. Farmer are not too great. I have explained the method at the local horticultural society meetings, and at least a half dozen Ohio plant growers practice it to a greater or less extent. One very prominent strawberry grower who sometimes receives a consignment of plants worth, perhaps, 50 cents or more apiece, always trenches them in where he can water and shade for a time and pet them a little, until they recover from their journey, and he can plant them out in a permanent row, on a showery or cloudy day. In this way, he saves every plant if received in a reasonably good condition. For example, a reader is attracted by an advertisement of the Blood and Thunder strawberry, and gets a dozen for which he pays $3. They come late Saturday night, or just as he is starting down town to business. To trench in this dozen of plants in a trench 12 inches long, set a brick on edge at either end, put a bit of shingle on the bricks with a stone on top to keep the wind from blowing it away, and to water, is the work of only five or ten minutes, while to set the same plants in the garden two feet apart, and shade and water each separately, would be the work of a half hour, while the contingencies of danger would be ten times as great. Two weeks later, when there is an idle hour and the ground and weather are just right, these expensive plants may be removed to their permanent position without the wilting of a leaf, or the slightest danger of losing a single one.

I sometimes heel in 10,000 in a single day, as I employ some high-school boys who can work only Saturdays. I use a piece of plowed ground or a last year's potato patch, rake it and fine it, and leave it level just as for sowing garden seeds. I then lay down a board eight inches wide and twelve feet long, and open a V-shaped trench with a shovel about three or four inches deep. The plants are put in against the farther side of the trench at the distance of 12 to the foot, the board given one turn backward, and the earth taken from the next trench used to fill the first one. Six rows are put in, and then a space of 18 inches is skipped for a path. I shade by laying a fence rail or post at either end of the rows, and lay a rail or six-inch fence board over each space. This keeps the ground moist and cool, and still leaves plenty of light immediately over the rows. At night, the rows are thoroughly watered, and carefully inspected, and if the crowns of any plants show uncovered roots, some fine soil is carried along on a shovel and carefully applied with the hand. The success of the plan depends greatly upon doing it all in a thorough manner. After a few days, the shading is removed at night or during a shower. If it be very dry, it pays to give the beds of trenched plants a good soaking once a week. As 3,000 or more plants can be trenched upon a rod square, the watering is not tedious, and is far different from trying to water the same number of plants spread over a half acre of ground. Where trenching is done with a view to setting a plantation later in the season, the ground should be kept in readiness, and advantage taken of cool lowering weather for the second planting. By this method, a plant seller can utilize the plants left on his hands, and thus suffer no loss.

Mr. Farmer made another, to him, strong point, and that was the ease of spraying for rust. He thought that two or three sprayings during the six or seven weeks the plants were heeled in, would suffice for the summer. He uses Bordeaux Mixture.

Summit County, O. L. B. PIERCE.

SEEDING TO CRIMSON CLOVER.

Early seeding is the safest and most reliable. By early seeding, I mean during the month of August and early part of September for this latitude. The latter part of July, when the corn crop is usually laid by, is none to soon to sow. Usually at that time, copious rains fall, and with such conditions, the seed will take with even a careless scattering over the freshly-plowed ground. But this method is not to be recommended unless just before a heavy shower, when there is no time to harrow or brush in the seed. I got an excellent catch that way last season, in a tomato patch, and have frequently hurried out before a storm, to sow a piece which I had not time to prepare properly. My most successful seeding at the last working of corn was to sow half the seed before the cultivation, and the rest afterward. This is the better plan of the two, and if sown early, and a good rain follow, well and good; but woe betide the sowing that gets a light shower, followed by a scalding sun. The seed will germinate in 24 hours under such circumstances, and disappear from view in nearly the same time. In that case, reseed, if possible, at once.

One of my neighbors had fair success last season with his Crimson clover sown in millet, about the middle of July. In buckwheat, I have had fair success, also in cow peas. To insure the best success, however, it is advisable to plow the ground several weeks before sowing, keep the surface stirred sufficiently to kill off germinating seeds of weeds and grass, harrow and pulverize the soil well before seeding, and follow the seeding with a smoothing harrow and a roller.

If a continuous pasture be wanted, sow Orchard grass with it. This will not, in the least, interfere with the clover, as a crop to cut or graze, and will spring up like magic as soon as the clover is off. About 15 pounds to the acre, is the proper amount; when the conditions are favorable, 12 pounds is sufficient, but I would rather have it too thick than too thin, as I find that it protects itself better when thickly covering the ground. A too thin seeding is very frequently winterkilled, and a poor stand never impresses any one favorably towards Crimson clover. I believe much of the unsatisfactory experience recorded against this valuable farmers' friend, comes from too late and too careless seeding. I believe it to be perfectly hardy the coldest winter in this latitude, provided the plants get well established before cold weather sets in.

I am this year trying an experiment with Crimson clover sown among corn stubble after the crop was cut. Thus far, the clover, though small, is looking well, and will, undoubtedly, pull through the winter all right. One disadvantage in sowing among the growing corn, is the liability of the corn drawing all the moisture away from the young clover, causing it to die out before the corn is off the ground. Especially is this the case when a prolonged hot, dry time follows the seeding. I have made it an invariable rule to sow Crimson clover at the last working of beans, corn, tomatoes, melons, and other crops, whenever the land was not intended for such early spring crops as would not be benefited by following such a seeding. Although I believe that it would pay to seed for only the fall and winter months, if for the sake only of protecting the ground through the winter, and catching and holding the fertility of the soil, which might otherwise be lost by leaching or other causes. It is my honest opinion that Crimson clover can be made to reduce the manure bill on most farms one-half, and that, by its persistent use, our farms can be made, in a few years, to double their crops. R. S. COLE.

Anne Arundel County, Md.

SUMMER ROSES FOR THE GARDEN.

Every one who has a garden desires, yet rarely possesses, a class of roses to flower throughout the summer months. There is usually a great deal of disappointment to the one unacquainted with roses, who makes a selection as per catalogue. This is largely due to the misleading names of the classes, or some of them, at least. Take the hybrid perpetual, for example: under this head, are some of the largest and finest roses to be seen, and a great many, seeing the name, hybrid perpetual, at the head of the list, and knowing that a perpetual bloomer is just what they desire, order from that class. Roses of this class are not perpetual bloomers at all. They are the popular June roses, bearing a fine crop of flowers in the early summer, but no more, save a few stray blooms which sometimes appear towards fall. While an extremely hardy class of roses, it is not the kind to get where perpetual blooming is looked for.

The best bloomers are those in the Tea, China and Bourbon classes and their hybrids. Where there is not much room to spare, as is often the case about small gardens, a few plants of these summer roses will be sure to please, because of their constant flowering. Though not so hardy as the June roses, many of them will stand the winters of Pennsylvania unprotected, and nearly all of them will do so if covered slightly for the winter. At any rate, even though they had to be purchased every spring, they can now be had for a sum no greater than is asked for common bedding plants. Even quite small plants, when set out in spring in good soil, will thrive and grow so fast that from summer until frost comes, they furnish abundance of flowers.

Among some of the hardiest of these everbloomers are the following: Hermosa, Appoline, Malmaison, Louise Odier, Mrs. Degraw, La France, Caroline Testout, Sombreuil, Homer, Gloire de Dijon, Edward Desfosses, Archduke Charles, Aimee Vibert, Reine Marie Henriette, Marie Ducher and Madame de Vatry. Besides the above sorts, noted for their hardiness, all of the kinds used for forcing by florists, flower splendidly out of-doors in summer.

If small, dormant plants can be had, they may be planted out in the garden as early in the spring as the ground will permit, the earlier the better; but if in growing condition, the planting should be deferred until the days are warm enough so that the foliage will not be checked by cold.

It is the strong heat of the sun in late winter that kills so many partly-tender roses, and if they can be set where they will be shaded from the mid-day sun in winter, it will be found of great assistance to them.

Pennsylvania. JOSEPH MEEHAN.

TWO WAYS OF GROWING TOMATOES.

A DIFFERENCE OF FIVE HUNDRED BUSHELS PER ACRE.

There are few special crops of which the yield commonly obtained, even by good growers, is so much below the possible production as it is with tomatoes. Two or three hundred bushels per acre are considered a full crop, and few canneries secure more than an average of 150 bushels to the acre planted. This is far less than ought to be expected. There has not been a season for the past 10 years that I have not personally known of fields which produced from 700 to 1,200 bushels to the acre. The past year, a field of between three and four acres in Oakland County, Mich., gave over 3,000 bushels of beautiful fruit, and another of two acres in Jackson County, gave 1,850 bushels.

While there are many conditions of soil, culture and climate which account, in part, for the small yield commonly obtained, I am sure that it is generally due to unevenness in the rate of growth of the plants, more particularly when they are young, and before they commence to fruit. The tomato is an annual and a native of tropical America, where, during the growing season, the conditions of heat and moisture are constantly favorable, and there being no "cold spells," or "drying days" to check the growth of the plants, they move forward steadily from the starting seedling to the ripening fruit. A steady, uniform rate of growth from start to finish, is the natural and normal habit of the plant, and though, by cultivation and selection, we may make some changes in the character of the fruit, we cannot change the nature of the plant itself; so that any break in its growing habit, such as a serious shock, is sure to result in less perfect development and fruitfulness.

Here is an account of the Oakland County crop referred to, compared with one on an adjoining farm as an illustration. The seed was planted in a small

greenhouse, about April 1, and from one to four weeks later than most of the growers in the vicinity are in the habit of starting it. As soon as the first true leaves had started, one-half of the plants were given to a neighbor, and the rest pricked out about four inches apart, and so managed that they grew steadily, but at a constantly accelerated rate until June 1, when they were set in the open ground. In the meantime, the field which was rich from previous manuring, and had had a good dressing of well-rotted manure cultivated in, was again cultivated, plowed, cultivated, cultivated again, and then fined with a harrow. In cultivating before setting the plants, the implement was run as deeply as possible, so that the whole field was in fine tilth to the full depth of the plowing. The plants were so stocky and so carefully set in the fine soil, that they hardly wilted at all, and within four days had started into new growth.

From the day after the plants were set until they were so large as to prevent it, the field was cultivated from one to four times a week, great care being taken to stir the surface soil only. The plants grew steadily, and, though they never became very large, they were very productive, the yield of the field of about 3⅞ acres being at the rate of nearly 800 bushels of excellent fruit to the acre. The party who received the rest of the seedlings, thought that they were much too late and small, and setting them closer in the beds than those of his neighbor, pushed them forward as rapidly as possible, so that, by the middle of May, they were much larger than the others, and badly crowded, and when set in the open ground, were spindling and soft. The field where this lot was set adjoined the one where the first lot was planted, and was similar in character. It received a heavy dressing of manure, which was poorly spread on the hard surface and plowed under, and the field gone over with a harrow. The plants were in such condition and so poorly set, that it was fully 10 days before they commenced growth, and the first lot was now the largest and continued so for a week; but by that time the second lot had been cultivated and commenced a rapid growth, soon overtaking and passing the first.

This field was cultivated three times, as deep as the implement would run, and soon after each cultivation, the plants started into vigorous growth, which was joyfully noted as a promise of the big crop that was confidently expected, as the plants had made an enormous growth, and by August 1 were larger and, seemingly, more vigorous than the first lot. This expectation was never realized. The fruit was not there, and this field gave less than 300 bushels to the acre.

It seems evident that the vast difference in the outcome of these two crops, was due to the failure, in the latter case, to understand and humor the plants. They made an immense growth of vine, but it was made intermittently, whereas steadiness of growth is the great essential to the best development of all solanaceous plants. The field cultivation had much to do with the failure, but that the possibility of a full crop was gone before the plants were ever set in the field, is shown by the fact that a row of the second lot of plants was set in the first field; and though the proportionate yield was not ascertained by weighing, it was very evident that they were less productive than the plants in the adjoining rows. To start tomato plants 10 or 12 weeks before they can be set out of doors, and then starve them into a weak, disheartened growth, or so crowd them that they are drawn and spindling before they can be set in the open ground; to "nag" them into excessive growth by deep cultivation, or coax them into it by rich manure left in masses in the soil, is to limit a maximum crop to 200 or 300 bushels. Are you content to do it? WILL W. TRACY.

WHAT THEY SAY.

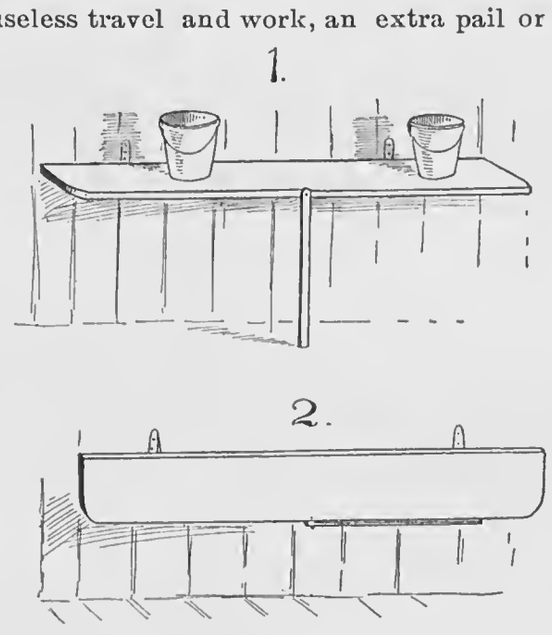
PLANTING OLD TREES.—During a period of time covering from 20 down to 16 years ago, I did a small jobbing business in fruit trees, and one spring I had quite a number left on my hands. The trees were then from three to five years old, and not wishing to lose them, and thinking that I might be able to sell them later, I set them in a long, double nursery row. From year to year, I set some and sold some, until seven years after setting in the row, there were nearly 100 trees left. Of these, I set about half in my orchard, and the rest I sold to a neighbor, on condition that if they proved satisfactory, he might pay me just what he thought they were worth. Two years later, he cheerfully paid me just what he would have to pay for common two or three-year-olds of nursery agents.

After all these years, those trees are large and healthy, and bearing good crops of good fruit, and to-day no man could pick them out, either in my orchard or his. I believe that my orchard and its fruit receive more compliments than any other 300-tree orchard in this vicinity.

I will cite one more case. An eccentric man living a few miles from here, had a farm about a mile from town, also a house and lot in town. He moved from the farm to town and back again about every year for six or seven years, and he had six trees that moved with him every time, until at last, they were so large that he had to go twice with a wagon to bring the six trees. The trees bore good crops—as good as trees that were not moved. I do not recommend this for common practice, but I have known thousands of four, five and six-year-old trees set that made good orchards. S. H. S.

Charlevoix, Mich.

A MILK SHELF.—During milking, the milk sometimes has to be carried a distance to be strained. To save useless travel and work, an extra pail or more,

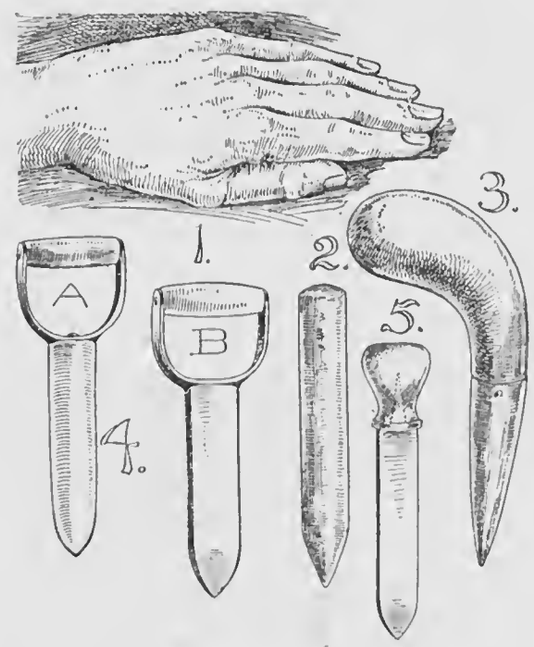


A FOLDING MILK SHELF. FIG. 79.

is set behind the cows to be filled, so that two full pails may be taken. To put these extra pails on the floor behind the cows during milking, is not a proper practice, as dirt is liable to get into them. So I built a couple of hinged shelves behind the cows in my stable, a proper distance apart; two strap hinges are fastened on the under side, and the leg is hinged to fold up lengthways of the shelf, so it is out of the way when folded. The inspector of the New York Condensed Milk Company who visits the farmers' stables here, thought it handy, and a good thing. Strike the bottom of the post with the foot and it folds itself when dropped as at 2, Fig. 79.

Orange County, N. Y. M. H. C. G.

BOOMS CRIMSON CLOVER.—My experience with Crimson clover has been very satisfactory, so far. Last summer, I purchased 15 pounds of American-grown seed from one of your advertisers, sowed it broadcast in a corn and melon patch of about one acre, and cultivated it in with a heavy garden rake. The seed was sown July 11, and as the ground was in good condition and contained plenty of moisture, in three days it was up. Although the weather in the latter part



DEVELOPMENT OF THE DIBBLE. FIG. 80.

of the summer and fall was very dry, it throve exceedingly well, and when winter set in, would have made excellent pasture. At this writing, March 24, 1896, it has stood the winter well, and looks as green as a lawn in May. I believe that it will stand more hard freezing, and make a surer crop than Red clover. It's a Godsend! Boom it! ELI SHAY.

Armstrong County, Pa.

MILLET ON THAT POND BOTTOM.—As to the best crop for a pond bottom of 35 acres, under water seven years, water now off except a brook, to which there is a fall of 6 to 12 inches to the 100 feet, the soil being of clay loam underlaid with clay, I have the same conditions of land and water. Tell E. V. R. G. to get a 48-inch Right Lap Cutaway, and a 10-foot Cyclone smoother. Four horses with that Right Lap, will plow his 35 acres in four days. He should plow it four times, crossing alternately, using the Cyclone smoother after each plowing. He can cover his 35 acres with this smoother in two days, and thus make a perfect grade. Plow first four inches, and finish with five inches; if the work be well done, the field will be a perfect park with a fine seed bed five inches deep. The 10 acres drained, and probably all, will be good for any roots. Onions would pay well. Southport, Conn., collects $1,000,000 a year from the solid onions. Fodder corn would, probably, grow there well on most of it. In some sections, sorghum is grown for hay. Two bushels of seed are sown broadcast to the acre. Rye, wheat, barley, oats and millet are sown for hay. Millet is best for a fodder crop; Crimson clover would be worthless there. I have tried millet under similar circumstances, and know that, if he will prepare the land as here directed, and seed it very thoroughly with millet, and then top-dress it with 200 pounds of the fertilizer I use, or 200 pounds nitrate of soda to each acre, he will see the largest crop of millet ever grown in America.

GEORGE M. CLARK.

TAR ON CORN.—I have never used tar as a protection against worms, but have, for 30 years, used carbonate of ammonia with success. I use a full ounce of the carbonate to one bushel of shelled seed corn. I dissolve the ammonia in a small quantity of warm water, then add quite hot water sufficient to cover the corn in a tub of sufficient size. In soaking one-half bushel or a bushel at a time, the water may be applied very hot if added slowly, stirring the corn well, so that it will be about as hot as a man can bear his hand in the corn. Leave the water on the corn for 24 hours, stirring several times and keep in a warm room; then drain the water off. If the conditions are all right, the corn will begin to sprout in about 36 hours, and should be planted as soon as the sprouts break through. I have never had cutworms trouble corn so treated, and if the ground and weather are fair, the corn will be from a week to 10 days earlier than if planted dry. Consequently, cultivation may commence sooner, so that weeds don't get the start of the corn.

Van Wert, O. A. R. S.

WILL A SILO PAY?—If any man keeps cows, he should not go another year without a silo. To do without one, is like our grandfathers in olden times who plowed with a wooden plow. I keep from 70 to 75 cows, and never feed anything but ensilage made from green corn, for coarse feed. My ration per cow is 27 or 28 pounds of ensilage. The grain ration is 14 pounds of mixed feed per day. One man can feed 50 cows ensilage, sooner than two men can feed the same number coarse fodder, and then each cow gets her exact number of pounds of feed. I had two silos, made on a cheap plan, and I find that they do as well as two of my neighbors' that cost, one of them over $300, and the other about $400. Mine are made from 2x4 hemlock, 16x24 feet and 18 feet high. I use a sill 6x8, then lay the 2x4's on them, and use plenty of spikes. I have the inside run up true, then cover with good oil paper. To protect the paper, I use three-eighths-inch boards running up and down. I wholesale my milk to dealers, and sell about $7,000 or $7,500 worth a year. J. H. S.

Trucksville, Pa.

"THE BEST TRANSPLANTING MACHINE."

THE DEVELOPMENT OF THE DIBBLE.

A team of steady horses, a man and two boys, all in their proper places on a Bemis transplanter, constitute the "up-to-date" transplanting outfit. The extensive tobacco growers and market gardeners of to-day, consider these transplanting machines a necessary part of their outfits. The machine sets and waters the plant at one operation, and there is, therefore, no need to wait for a rain. It is a very excellent machine exactly suited to the needs of these men. The gardener on a small scale, and the farmer, however, cannot afford to pay $75 or more for a machine that would be used but an hour or two each season.

The dibble, or dibber, is still the only tool employed by the majority of people who re-set small plants. The first gardener, probably, used the dibble shown at 1 in Fig. 80. This is a very excellent means, and sufficient if the number of plants to be set is not too great. The gardener who uses this plan will be sure of the main point in this work, that the ground is in proper condition before beginning.

Shortly after the first gardener's fingers were worn off, he devised another dibber, by cutting off the upper eight or ten inches of a retired fork handle, and sharpening the cut end like 2. This was used forever after by this gardener, and by many generations of his descendants. It saved the fingers, but in the palm of the hand was a very sore spot for weeks after transplanting, and besides, he could not properly press the soil around the roots of the plant after it was placed in the hole made for it. The roots also were bunched.

One of his descendants improved on the fork handle by making a dibber with a curved top or handle, and adding a metal tip like 3. This was a good move, and has been illustrated in many works on gardening.

Dealers in gardening tools all advertise it, even unto the present day. Fifty cents! The same objections apply to this as to the fork handle.

Some time about the middle of the Nineteenth Century, a descendant of the man who made the 50-cent dibber, a man who was somewhat more of a theorist than a gardener, planned a tool like the one at 4. The fork handle was changed for the spade handle. No more sore hands, no more air spaces, for a young son of this man one day lost his dibber in the tall weeds back of the barn, and was set to make another. His knife was dull, and to simplify operations, he flattened the shank instead of making it round. This was the greatest advance up to that time. The opening in the ground made by this tool, was such as to allow the roots to be spread out in a fan shape, and the soil to be pressed firmly about them. There are no records to prove it, but this must have been the same boy who conceived the idea of pouring water into the hole in dry weather, before the plant is set, instead of watering the surface inch after it was set. Mulching the wet surface about the plant with dry earth, came much later. Neither the fingers nor the palm suffered when this tool was used, but, alas! for the wrist. In using it, the wrist joint needs to be flexible and enduring to withstand the strain.

The next and most important move in the evolution of the dibber, was the construction, by a professor in horticulture, of the one shown at 5. After using it for several seasons, I do not hesitate to recommend it to the readers of THE R. N.-Y. as the most perfect tool of its kind yet devised. The hard-wood turned handle is 2½ inches in diameter, and exactly fits the hand. The blade is of steel, seven inches long, 1¾ inch wide at the top, tapering to one-half inch, and should be made sufficiently heavy so that it will not spring, even in hard ground. It is not patented, and can be made by a blacksmith for 50 cents.

Wisconsin Ex. Station. FREDERIC CRANEFIELD.

SPRAYING TO PREVENT APPLE AND PEAR SCAB.

BORDEAUX MIXTURE EFFECTS A CURE.

An effort to see whether the scab on apple or pear trees could not be controlled, was made here the past season. Two sprayings in recent years with Bordeaux Mixture, each year after the blossoms fell, had failed to give the desired effect. So bad had the scab become, that in 1893, not an apple was marketed from one variety, the Strawberry, though the trees were loaded with fruit. At my request, the Delaware Experiment Station took charge of the work. Three varieties of apples and one of pears were sprayed. The experiment was successful in every respect, and results greater and in more directions than we had any reason to expect, were attained. As the results were obtained in a year decidedly favorable for fungous growths, they are still more emphatic.

I shall give only the results from spraying the Strawberry apple trees, as we were more desirous of controlling the scab on that variety, and the work on them was most satisfactory, though the experiment was successful throughout. Seven trees, alike as to size, general appearance, etc., were sprayed. Numbers 1, 2 and 3 were sprayed five times; numbers 4 and 5, four times; and numbers 6 and 7 once. Numbers 6 and 7 were intended as check trees, and should not have been sprayed even once, but were because of the carelessness of the men doing the work. I say carelessness, as I painted a broad, brown band as a warning around each tree not intended to be sprayed.

The first spraying was made when the fruit buds had swelled nearly to opening, the second just as the blossoms were ready to open wide the petals, but before they were attracting any bees; the third when the fruit was the size of peas; the fourth and fifth at sucessive intervals of two and three weeks. The fruit was picked for market beginning July 22 and ending August 12. It was counted and weighed after classification as No. 1, without scab; No. 2, a little scab; No. 3, badly scabbed.

Tree No. 1 had 9,095 first class, 2,000 second class, 130 third class, weighing 795 pounds, 166¼ pounds, and 8¼ pounds respectively.

Tree No. 2 had 6,370 first class, 1,950 second class, 187 third class, weighing 651¼ pounds, 178¼ pounds, 10¼ pounds respectively.

Tree No. 3 had 4,155 first class, 928 second class, 110 third class, weighing 443¾ pounds, 96¼ pounds, 6¾ pounds respectively.

Tree No. 4 had 3,905 first class, 1,600 second class, 367 third class, weighing 346¼ pounds, 125 pounds, 22¼ pounds respectively.

Tree No. 5 had 3,418 first class, 2,475 second class, 365 third class, weighing 559 pounds, 210 pounds, 23½ pounds respectively.

Tree No. 6 had 1,275 first class, 3,010 second class, 1,016 third class, weighing 124½ pounds, 270½ pounds, 59¼ pounds, respectively.

Tree No. 7 had 1,830 first class, 1,685 second class, 437 third class, weighing 212¾ pounds, 177¼ pounds, 31¾ pounds respectively.

The Bordeaux Mixture was made by dissolving 48 pounds of sulphate of copper in 50 gallons of water, slaking one bushel of stone lime, and using enough water to make 200 gallons. The mixture was all passed through a fine wire screen. The fine screen was reinforced below with one-fourth inch screen. I use the wire screen, because one trial years ago, of the authorized use of sacking for a screen, gave so much trouble, on account of lint, which clogged the nozzles. The first spraying was with simple Bordeaux Mixture. In the other sprayings, one-fourth pound of Paris-green to 50 gallons of mixture, was used to kill the Codling moth maggot.

Many varieties of fruit trees are badly injured by leaf blight, all our experiment trees particularly so. The unsprayed trees lost their foliage and fruit late in the summer, while the sprayed trees retained their foliage and fruit until late in the autumn. To-day the sprayed trees show more and better developed fruit buds, and, in general appearance, are every way better, so much so as to attract the attention of a boy who was passing through the orchard. I shall watch the sprayed trees with interest this year, and now predict a crop of fruit from those trees, as they bore only a crop of fruit, and not a crop of leaf blight and scab.

Delaware. S. H. DERBY.

WHAT SAY?

SILO FOR SMALL HERD.—I would like to know whether or not a silo will pay where only six or eight cows are kept for high-class butter making. What is the best plan for such a small affair? E. W. V.

Overlook, N. Y.

R. N.-Y.—Yes, we think some facts in reply to this question will be valuable.

WITHOUT A PLOW!—I wish, this spring, to seed down with clover and grass, ground that, last spring, failed to make a catch, and grew nothing but rag weed, vines, etc. Also ground that grew corn, kept clean and free from weeds. I have fine manure to work in, or top-dress with. Is is practicable or possible to prepare the ground properly with either of the following tools, without plowing: spading harrow, Acme, disc, or Cutaway harrow? My soil is very light and mellow when once the sod has been broken. Which of these tools shall I buy for this work, if any? M. J. F.

R. N.-Y.—With Cutaway or Acme you ought to be able to make a fair seed bed on such land.

HOW CAN WE CAN?—It will be a great boon to the health and wellbeing of my family, also to the lessening of our store bill, if I can learn some practical way of canning asparagus, peas, string beans and corn. We have an overabundanec of all of the above in the growing season, and have tried various recipes in reputable cook books without success. I appreciate the fact that the canning of these articles, as done in a business way, is a seience not generally understood. Yet, among all the intelligent subscribers to THE R. N.-Y., it seems as though some one could put us on the right road. We have excellent results with strawberries, peaches, pears and tomatoes, and believe that, if proper instruction is given, we can carry it out. The last named articles are, in a large measure, luxuries, whereas the first named are solid foods, any one of which will make a mid-winter meal enjoyable and inexpensive. F. H. P.

Melrose, Mass.

R. N.-Y.—Here is a good chance for some wise person to shed a little wisdom.

GOOD ROADS IN NORTH CAROLINA.

Some time ago, I saw a picture in THE R. N.-Y. of a road in North Carolina, and I thought I would try to tell the readers something of our roads. As a general rule, we have good roads, but they are naturally so. The usual method of working is to call on the people to work out their tax. A few counties are progressive enough to collect taxes and hire labor for the work. We have two classes of roads, depending upon the soil: The sandy road, which is smooth and dry, but sand beds are formed in places, which make hard pulling. Then the red clay makes an almost impassable road, when wet, but when dry becomes nearly as smooth as glass.

It is easier to construct good, permanent roads here than in the New England States. This is how our road supervisor does the work. As he is the authority on the subject, his method will show the best plan for us: He makes what he calls a Macadam-telford, a combination of the two general systems. First, a survey is made and a profile drawn. This is studied carefully to get familiar with the natural drainage. In grading, the angle of repose is aimed at. That is, a fall of one inch in thirty, at which a wagon will stand. The first thing put down is four to six inches of gravel or sand; this is followed by rocks 12 to 14 inches thick; these are set upon edge and close together. The projections on the upper side are knocked off and allowed to fall into the crevices. The steam roller is then run over the rock. After this, a sprinkle of sand sufficient to fill the crevices is put on followed by crushed stone—first, stone which will not pass through a two-inch hole. Then they roll again, and put on three inches of crushed stone which will pass through a two-inch hole, and top-dress with stone which will pass through a one-inch hole, or finer, and roll again. There will be some dust remaining, but the first rain will carry this into the crevices, thus cementing the work. The first layer of sand prevents the oozing up of clay, which would loosen the rocks, and also affords drainage.

The plan for boggy places is first to build corduroy with pine poles, then put on a layer of sand, and the rock road as above. A road built 30 to 35 feet wide, with convict labor, cost $1,100 per mile, the convicts costing 21 cents per day. With hired labor, at 50 cents per day, a mile would cost $2,350. It is not necessary to build a road wider than 16 feet in the country. Our road supervisor says that better work is done by convict labor than by hired labor. The tools required for the work are a road machine, wheel-barrows, scrapers, picks and shovels. Rock costs $3 per car-load of 40 tons. A. H. P.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Fertilizing and Pruning the Apple Trees.

A., Petersham, Mass.—I have 20 good apple trees in a meadow near the walls; on many of them, the branches are so low that I cannot plow, and I do not wish to plow the piece anyway. The trees are large and thrifty, about 25 years old, but have been neglected as to pruning and feeding. What shall I do to make them do their best?

ANS.—As to feeding, we would broadcast muriate of potash and bone, all that you deem necessary considering the fertility of the land, from 300 to 1,000 pounds or more to the acre, using about three times as much bone as potash. As to pruning, we may only suggest that all branches which interfere should be cut out as close as possible to the main stock.

Some Facts About Fertilizers.

H. S., Pattenburg, N. J.—I have some land that I expect to set to strawberries in April; it grew potatoes last season. It has been manured for two years past. Should I sow wood ashes on the ground before setting the berries, with fine ground pure bone, or would muriate of potash be better than ashes? Would a mixture containing 1,600 pounds of fine pure bone, and 400 pounds of muriate of potash be best to put on strawberries in bearing? Would this mixture be of less value if it had been mixed last year? Is phosphate of any less value if kept from last year?

ANS.—Our opinion is that the bone and muriate will give you better results than ashes and bone. We would prefer three parts bone to one of muriate, or 1,200 pounds of bone instead of 1,600. If fertilizers are kept away from moisture, they will not lose their strength. Sometimes they "cake" when stored in damp places, and must be crushed or fined before they will spread easily; but this "caking" does not always mean that they have lost plant food.

Sulphur for Potato Scab.

J. W., Tilden, Ind.—What is the process of using sulphur on seed potatoes to prevent scab?

ANS.—You will find this matter well described in Bulletin 112 of the New Jersey Experiment Station (New Brunswick). In a series of experiments, flowers of sulphur scattered along the drill or mixed with the seed, proved more effective in preventing scab than even the corrosive sublimate solution. The R. N.-Y. proved the value of sulphur for this purpose on the Rural Grounds years ago. In THE R. N.-Y.'s experiments, the sulphur was scattered through the drills above the seed pieces. For large plantings, Prof. Halsted says that the sulphur may be mixed with the seed pieces in the hopper of the planter.

Waste as a Fertilizer.

M. L. B., Sparkill, N. Y.—What is the value of a waste sold as fertilizer at a factory near me for $9.75 per ton? Is it worth the price asked, and on what soil or crops could it be best used? It is guaranteed to contain 81 to 82 per cent carbonate of lime, 9 to 10 per cent bone phosphate of lime, and one-fourth to two per cent of ammonia.

ANS.—The only guaranteed plant food in that fertilizer is one-fourth of one per cent of ammonia, and 4½ per cent of phosphoric acid. "Bone phosphate" is a name given by fertilizer men to the *combination* of lime and phosphoric acid found in bone. In round figures, half this combination is phosphoric acid. You then have 90 pounds of phosphoric acid and five pounds of ammonia guaranteed. This has a value of less than $5. Possibly the lime may be needed on your soil, but on general principles, we would not advise you to buy a fertilizer showing such a wide range in its per cent of ammonia.

Mixing Hen Manure With Fertilizer.

S. S. D., Coram, L. I.—Will it do to mix hen manure with a high-grade fertilizer? If so, would such manure make a good fertilizer for asparagus? Would it be too strong to open the rows and sow it in?

ANS.—There will be no advantage in mixing hen manure with the fertilizer. No particular harm will result, but nothing is gained by it. Much better crush the manure and scatter it alone in the rows—using the fertilizer broadcast.

Beans for a Fertilizer.

I. W. G., East Avon, N. Y.—What amount of plant food is available in 2,000 pounds of beans—the number of pounds of nitrogen, phosphoric acid and potash? I have a quantity that are unmerchantable, that I would like to mix with chemicals to make a fertilizer for cabbage.

ANS.—A ton of beans contains about 82 pounds of nitrogen, 26 of potash and 24 of phosphoric acid. Of course the proportion of these substances will vary more or less, but this is a fair average. If the beans were ground up as fine as cotton-seed meal, they would be worth, for manuring, about two-thirds as much as that material. You would, in this way, lose all their feeding value—which is considerable. They can be fed raw to sheep or, when cooked, to any kind of stock.

Japan Plums for Profit.

S. L. C., Okemos, Mich.—1. Are the Japan plums good for market? 2. Would it be well to plant them quite largely for a money crop? 3. What sorts are best for this climate?

ANS.—1. Yes. 2. We think so. 3. At present, we would choose the Abundance, Burbank and Satsuma; but there are a number of other kinds, not so well tried, that may prove superior—the Hale, Gold, and Splendor, for example.

"June-Budded" Trees," Etc.

E. S. K., Reddick, Ill.—1. What are June-budded trees? 2. When is the best time to bud the peach? 3. Will pears grafted or budded on apple stocks, grow?

ANS.—1. Trees grown from buds set in June, the tops being cut off as soon as the bud has made a union with the stock, the bud growing and forming a top the same season. They are smaller, feebler and less desirable in every way. 2. In late summer or early autumn. 3. Yes, they will grow if grafted; they will be less likely to do so if budded. Neither will thrive.

Feeding the Asparagus Bed.

L. M. F., Taunton, Mass.—I have three-fourths acre of asparagus; the soil is sandy loam. I applied, last year, at the rate of 2,000 pounds of ground bone, the same of muriate of potash, and 800 pounds of nitrate of soda to the acre in the spring, as soon as the ground was fit to work. I was told that it was better to apply when I had finished cutting for market the middle of June. What is your opinion? How much fertilizer should I use, and what kind?

ANS.—The nitrate of soda, though a very heavy application, will probably be of little help to the asparagus of this year. There ought to be enough phosphoric acid and potash to last the plants for al the food they need this year. We would give the plo a dressing of farmyard manure this fall. We do not agree with those who insist that it is better to apply food to asparagus after cutting than in early spring.

What Seedlings for Chestnut Grafting?

G. E. K., Carey, O.—1. Is it preferable to use Japan seedlings on which to graft scions of Judge Coe's varieties, the Ridgeley or Paragon, or would you advise planting American nuts? 2. Is the quality of the average Japan seedling good enough for market to pay to plant them?

ANS.—1. I have grown and fruited three strains of Japan nuts (grafted), neither of which is as vigorous as Paragon. I would prefer American nuts, upon which we grafted Paragon at first, and still graft some on the same; but we find Paragon seedlings preferable to graft upon, and expect to use no others when we can raise enough of the latter. It frequently outgrows the native when grafted upon it. Natives would be vigorous enough to graft any of the Japans upon that I have seen thus far. I have not seen the variety which G. E. K. wishes to graft, but judging from other Japans, I would consider natives sufficiently strong to graft it upon. Ridgeley is about as strong a grower as the average of our natives. Paragon is claimed to be a Spanish seedling, but we have purchased Spanish seedlings to graft Paragon upon, but find them not so strong as natives. There is, consequently, more in a strain, than in a name. 2. We would not plant Japan seedlings while we have varieties of better quality. H. M. ENGLE.

Salt and Lime for Onion Maggots.

C. J. R., Chetopa, Kan.—Would it pay to sprinkle common salt as thick as peas, on the rows of onions after planting, and again in June? Would it be a good thing to sow airslaked lime over the onions after they are up? If so, how much, and how often?

ANS.—So far as the effect upon the onion maggot is concerned, it would not pay to apply salt or airslaked lime on an onion bed at or after planting. When enough of these substances is applied to kill the maggots (and enough can be put on to do this, of the salt), the plants will also usually succumb. This is our experience with the cabbage maggot, a near relative of the onion pest. M. V. S.

Barley for Hog Feed.

C. L. W., Zearing, Iowa.—Which is the most profitable, wheat or barley, to feed hogs? I have a piece of land that must be used for one of these crops this season, and would like THE R. N.-Y.'s advice as to which crop to put in for the purpose mentioned. The land is a deep, black loam, very rich in humus broken from virgin soil in the spring of 1895, cropped with buckwheat, and is now mellow and loose.

ANS.—For this kind of land, barley will be the surest crop, as wheat would be almost certain to lodge before perfecting itself. The barley should yield 50 bushels per acre, or 2,250 pounds of grain. If sown to wheat and the crop perfected itself, 30 bushels or 1,800 pounds of grain would be an excellent crop. As compared with corn, for hog feed, there is very little difference in the value of the two grains. Wheat, in so far as it has been experimented with, makes a little more pork than the same weight of barley; but the difference is so slight that it is hardly worthy of notice. In this case, where the quality of the land is so much more favorable for the production of the barley than of wheat, the slight feeding advantage of the latter should not be counted against the barley. Either wheat or barley should be ground and wet before feeding. Hogs will not relish the barley as they will the wheat, but will eat it better after it has soaked from one feeding time to another. Pigs or young stock eat it readily when first mixed with water or slop. One property belonging to barley should be considered. It will grow bone and muscle rather than make fat. It will save corn, give less risk from disease, and have the hogs in better condition to finish off with corn, at market time. JOHN M. JAMISON.

New Canaan Nurseries.

The Only Nursery in NEW ENGLAND which Grows a General Assortment of Nursery Products.

We have a very large and fine stock of FRUIT, ORNAMENTAL, FOREST and EVERGREEN trees; SHRUBBERY, ROSES, SMALL FRUITS, GRAPES, ASPARAGUS, etc., etc. This stock is grown with great care, and is ESPECIALLY ADAPTED to meet the requirements of our NEW ENGLAND people, who want only first-class stock.

All persons wishing anything in our line will receive a copy of our Catalogue free, by addressing

STEPHEN HOYT'S SONS, New Canaan, Conn.

TREES GROW WHILE YOU SLEEP, before you know it your reward comes in fruit & shade. Begin NOW by writing for our low prices.

Flower City Nursery Co., 27 Crescent Ave., ROCHESTER, N. Y.

☞ Remember we pay the freight.

BEST OF THE SEASON FREE TO ALL

Moon's Nursery Catalogue

Samuel C. Moon, Morrisville, Bucks Co., Pa.

Dwarf Rocky Mt. Cherry Sample by mail 25c.; 5 for $1; low price on large number; big discount to the trade; genuine stock Sheridan Nursery, Geo. W. Barlow, Prop., Sheridan, Wy.

Pear, Apple, Plum Cherry and Peach Trees

We have a large block growing on rented land. The lease expires this spring. The stock must be sold without regard to cost of raising. Have fixed the lowest prices ever quoted. THE TREES ARE FINE. This is, no doubt, the best opportunity offered planters during the past 25 years. WHITING NURSERY CO., Roxbury, Mass. Nurseries at Geneva, N. Y.

1840—1896.

Old Colony Nurseries,

Hardy Trees, Shrubs, Vines, Evergreens and PERENNIAL PLANTS.

A large and fine stock of well-rooted plants. Plants grown in a sandy Loam. The best sizes for planting very cheap for cash. Price catalogue free on application.

B. M. WATSON, Plymouth, Mass.

HALF MILLION of the choicest Evergreens, Vines, Flowering Shrubs, Hedge Plants, etc., etc.

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SMALL FRUITS, GRAPES, SHRUBS, ROSES, EVERGREENS, HARDY PLANTS, Largest and choicest collections in America. NEW CATALOGUE, beautifully illustrated, free to regular customers, to others 10c for postage.

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Everything of the Best at Right Prices for Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse, Rarest New, Choicest Old.

Elegant 168 page catalogue free. Send for it before buying. Half saved by dealing direct. Try it. Seeds, Plants, Bulbs, Small Trees, etc., sent by mail to any office in the U. S. postpaid. Larger by express or freight. Safe arrival and satisfaction guaranteed. 42nd Year. 1000 Acres. 29 Greenhouses.

THE STORRS & HARRISON CO., Box 300 Painesville, O.

Trees FRUIT and ORNAMENTAL.

GRAPES, ROSES, SHRUBS. *SMALL FRUITS AND EVERGREENS.* Staple Sorts and new kinds cheap. Send for New Illustrated Catalogue, mailed free on application.

GEO. A. SWEET NURSERY CO., Dansville, N. Y.

SYSTEM AND SUCCESS

GO HAND IN HAND. YOU WANT YOUR ORDER SUCCESSFULLY FILLED, then why run the risk of getting disappointed when you can place your order with a man who keeps a systematic record of his business, a man who knows what he has, and if he doesn't have just what you want will tell you so. That's

ROGERS, DANSVILLE, NEW YORK.

Orders filled as accepted, and your order once booked, you can depend upon getting what you buy. Our system does away with substitution insures success to customers, prompt shipment and satisfaction. Remember,

ROGERS, FRESH-DUG TREES. Our SYSTEM. Your SUCCESS.

You'll find all by addressing ISAAC C. ROGERS, Rogers Nurseries, DANSVILLE, N. Y.

PLANTS AND TREES AT FIRST COST, All the leading varieties of Apple, Pear, Peach and Cherry Trees. SMALL FRUITS A SPECIALTY. FREE CATALOGUE.

PLEASANT VALLEY NURSERIES. ARTHUR J. COLLINS, Moorestown, N. J.

TREES IN SURPLUS.

Speak quick if you want to take advantage of our surplus in Peaches. A few thousand Elberta, Crosby, Champion and others, 4 to 5 ft., 100 for $5 and 1,000 for $50. In 2 to 3 ft. sizes, 100 for $3 and 1,000 for $30. About 2,000 Standard Pears, 3½ to 4½ ft., at $7 per 100; 4 to 5 ft. at $10 per 100. Dwarf Pears at $3.50, $5.50, and $9 per 100. 25 of any of above at 100 rates. A few Abundance and Burbank Plums, 3 to 4 ft., at $10 per 100. Early Richmond Cherry, 3 to 4 ft., at $4 per 100, and 4 to 5 ft. at $8 per 100. Write to-day if you want a bargain. Best assortments. Send list of wants. All stock guaranteed free from disease. New Jersey's Leading Nursery.

ROGERS NURSERY CO., Moorestown, N. J., Box 100.

EMPEROR PEACH The Latest and Largest Yellow Freestone PEACH. Send 10c. for catalog describing the wonderful Mercer Cherry and receive

TRIUMPH PEACH The only Yellow Freestone PEACH Ripening with Amsden. Col'd plates of 3 new fruits and one Emperor Peach June bud, postpaid.

JOS. H. BLACK, SON & CO., Village Nurseries, HIGHTSTOWN, N. J.

EVERGREENS. Largest stock in America, including Colorado Blue Spruce and Douglas Spruce of Colorado. Also *Ornamental, Shade and Forest Trees, Tree Seeds, Etc.*

R. DOUGLAS & SONS, Waukegan, Ill.

Mention this paper.

EVERGREENS and ornamental trees, Nursery grown. 250 choice evergreens, 10 varieties, $2; 400 ornamental trees, 6 varieties $2; 6 other $5 and $10 bargains. 100 Scotch Pine, 2 ft. high, $8; 1,000 10 to 12 inches, $10. All other varieties & sizes cheap. Local Agents Wanted, Illustrated catalogue Sent Free. D. HILL, Evergreen Spec, Dundee, Ill.

PARAGON CHESTNUTS.

Grafted Trees, five to six feet, at $1.25 each, packed
Grafted Trees, four to five feet, at $1 each, packed.
ENGLE & BRO., Marietta, Pa.

PEACH TREES

By the 100, 1,000 or in car lots.

Strawberry Plants Michel's Early (earliest), Gandy's Prize (latest), Timbrell, Marshall and Greenville. Trees and plants, all kinds. Write for prices. None lower.

N. P. BROOKS, Lakewood (Nurseries), N. J.

Surplus of Peach Trees, Cheap

Also, Apple, Pear, Plum, Cherry and Nut Trees. RIDGELY Chestnut; STAYMAN Apple and MILLER Raspberry. STRAWBERRY PLANTS by the million, from young beds ONLY, and of the best quality Write now for prices.

CHAS. WRIGHT, Seaford, Del.

WE HAVE A CHOICE LOT OF

Apple, Pear, Plum and Cherry

TREES

Grape Vines and Small Fruit Plants,

on which we will quote moderate prices for No. 1 stock. Car lots or less.

SEND FOR WHOLESALE PRICE LIST.

W. A. WATSON & CO., Normal, Ill.

WANTED to engage a working practical Celery Grower to take full charge of crop; labor assistance provided. House for married man. Address A. E. CARSWELL, Montague, N. J.

Catalogue Reviews

W. A. WATSON & Co., Normal, Ill.—A wholesale price-list of large and small fruits, ornamental trees and shrubs, roses, etc. The prices are very low, indeed.

ABNER WILSON, Tecumseh, Mich.—A list of "choice seed potatoes" in special storage, free from sprouts, strong and perfect. Mr. Wilson keeps his potatoes in a cellar built for the purpose, in which the temperature is so controlled that they do not begin to sprout until May. For an additional charge of 25 cents a barrel, potatoes will be kept in cold storage until July 1.

I. & J. L. LEONARD, Iona, N. J.—A descriptive list of fruits, asparagus roots, sweet potato plants, tomato plants, celery plants, etc. The prices should be noted: Asparagus plants, two years old, $1 per 100; sweet potato plants, prepaid, 40 cents per 100; celery plants, 50 cents for 100. The firm makes a specialty of the Strawberry-raspberry, Golden Mayberry, and Lincoln plum.

C. E. KELLEY, Newark, N. Y.—A circular of choice western New York seed potatoes. Twenty-four of the most popular or promising varieties of potatoes are offered for from $1 to $2 per barrel. It may be years before our friends will have the opportunity of trying the kinds best suited to their soil for so low a price. It matters a good deal whether we raise 100 or 300 bushels to the acre with the same care and cost.

GEORGE A. BONNELL, Waterloo, N.Y.—A circular of seed potatoes. Several new kinds are announced, Bonnell's Columbian, Bonnell's Acme, Bonnell's General Purpose, Rutland Rose, Bonnell's Ex. Early, Ideal among them. Other kinds now popularly advertised are Early Norther, American Beauty, Great Divide, Burpee's Ex. Early, Chapman's Orphan, Banner, Vick's Abundance, Dutton Seedling and Irish Daisy. Collections offered at low prices.

THE WILLIAM H. MOON Co., Morrisville, Pa.—There is much taste shown in the get-up of this catalogue of fruit and ornamental trees, shrubs, vines, small fruits, etc., and valuable information as to planting. Keiffer pears are offered at $3 per dozen; Paragon chestnuts, $1 each; apple trees, 20 cents each; pears, $4 per dozen; Japan plums, 35 cents each; peaches, $2 per dozen; currants, $1 per dozen; raspberries, $2 per dozen. The lists of both evergreen and deciduous trees are full and well selected.

DENDROLENE.—Insect lime, or Raupenleim, has been used in Germany for a number of years to catch certain insects which injure the trees. It has also been useful in preventing rabbits from eating the bark. This insect lime, or glue, has been somewhat extensively used in Massachusetts by the Gypsy Moth Commission with some success. There are, however, two objections to this substance, first its cost, and second, losing its stickiness. Prof. F. L. Nason of the New Jersey Station, succeeded in obtaining a substance which, though by no means the same as the German insect lime, is produced at a lower cost and retains its viscidity or stickiness for a much longer time. This he calls Dendrolene, derived, we presume, from Dendron the Greek for tree. It is a product that has for its base crude petroleum, which, as we are told by the New Jersey Station, is sufficiently viscid at ordinary temperatures not to flow at any angle, and never becoming soft enough to run much

(*Continued on next page.*)

READ the advertisement on page 267, *100 pigs given away*, and write for particulars at once.—*Adv.*

Today

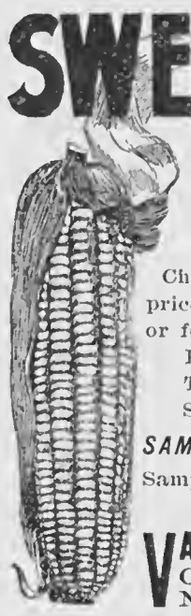
Buy Hood's Sarsaparilla, the favorite Spring Medicine. It will just meet your case, give you pure blood, keep up your strength and appetite.

Hood's Sarsaparilla

Is the One True Blood Purifier. All druggists, $1.

Hood's Pills do not purge, pain or gripe. All druggists. 25c.

SWEET CORN



Stowell's Evergreen

Choicest Seed ever offered, at a price for table use as green corn or for fodder.

Per bushel.....$1.60
Two bushels for..... 3.00
Six bushels for..... 8.00

SAMPLE FOR 2-CENT POSTAGE.

Sample, with our 116-page complete catalogue, 6 cents postage.

VAUGHAN'S SEED STORE
CHICAGO: 84 & 86 Randolph St
NEW YORK: 26 Barclay St.

New Sweet Corn. No. 33.

Early, sweet, large. Per qt., 25c.; ½ pk., 50c; bu., $1.50.
CHAS. E. PECK, Westville, Conn.

ESTABLISHED 1822.

BRECK'S SEEDS PRODUCE PRIZE CROPS

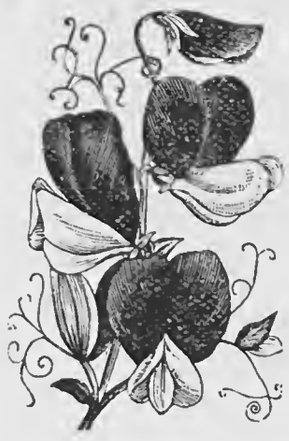
Because they are raised by specialists who exercise more care in growing and selecting than is usual; for this reason they cost the retail merchant a trifle more and therefore not always to be obtained locally. Our method of Free Delivery is equivalent to having **Breck's Store in your Town**; promptness in filling orders and due consideration of customers' wishes, without the fatigue of shopping, are features that enhance its value. Full particulars in our illustrated, **Indexed Catalogue** (170 pages). It also contains news about novelties and standard varieties of **Flowers, Bulbs, Plants and Vegetables**, approved agricultural and horticultural implements, valuable cultural directions, information how to prevent and destroy plant pests, and particulars of our unique offer to duplicate first prizes offered by all agricultural and horticultural societies in the United States. **We Mail It Free,** *and with it to those who mention this paper*, either of the following selections for 15 cts., or the two for 25 cts.

(1.) 1 oz. Breck's Boston Mixture Sweet Peas (60 varieties). 1 pkt. Harvard Sweet Peas, the fashionable crimson. 1 pkt. Blushing Bride Sweet Peas, lovely pink and white. (2.) 1 pkt. Wild Garden Seed, a genuine surprise. 1 pkt. Mixed Cosmos, Autumn's Queen. 1 pkt. Shirley poppies, new shades.

Everything for Farm, Garden and Lawn.

JOS. BRECK & SONS, Boston, Mass.

25c. WORTH OF SWEET PEAS FREE

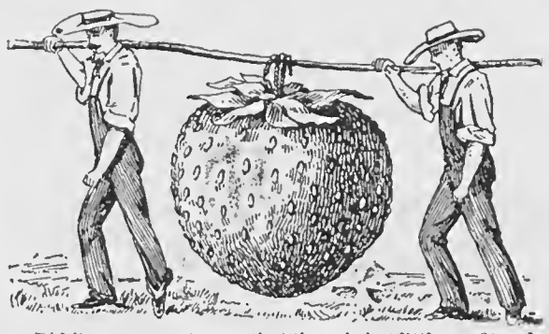


Cut this coupon out, and mail to us with only 25 cents, and we will send you one full-size package of each of the following eight varieties SWEET PEAS:

Blanche Ferry, Butterfly, Boreatton, Blushing Beauty Cardinal, Her Majesty, Mrs. Eckford, Orange Prince, and one package of extra choice mixed (over 60 named sorts) worth at all catalogue rates, 50 cents.

If you mention this paper, you get our 1896 handsome illustrated catalogue, which contains more valuable information than any catalogue sent out this year.

Ross Bros., Worcester, Mass.



Did it ever occur to you that there is but little profit and no pleasure in growing small berries? If you need any Strawberry Plants send for my illustrated Catalogue, full of valuable information, before ordering elsewhere. Also Novelties in Small Fruits, Asparagus, etc., etc.

C. S. PRATT, Reading, Mass.

HIGH CLASS SEEDS.

Our Ninety-Fifth Annual Catalogue is now ready, and will be mailed FREE on application. It contains the largest collection in the world of

Vegetable, Flower and Farm Seeds,

including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

$100.00 FREE

To the persons making the largest yield from our VINELESS GOLD COIN PROLIFIC SWEET POTATO this year. Here is a chance to MAKE MONEY EASY, besides getting the best Sweet Potato on earth. Send for 1896 Catalogue.

ONION Yellow Globe Danvers, postpaid, 70c. per lb. Red Wethersfield, 80c. per pound.

MELON SEED, all leading varieties, 35c. per pound, postpaid. Can you beat this?

RADISHES, 45c. per pound, postpaid. Peas, Beans and all Vegetable Seeds at correspondingly low prices. It will pay you to let us hear from you before you buy. We are the Market Gardener and Farmer's friend. OUR PRICES SUIT THE TIMES.

THE HUNTINGTON SEED CO. Indianapolis, Indiana.

WORLD'S FAIR DIPLOMA

on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 50c.: bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed limited. Our Early Siberian Oats are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address HOWARD LOUCKS SEED CO., Chittenango, N. Y.

EUREKA RASPBERRY.

is the Money-Maker. Early as Palmer; large as Gregg. More productive than either. Send for Price-list of small Fruit Plants to
W. W. FARNSWORTH, Waterville, Ohio.

Columbian Raspberry

The best Raspberry grown. Fruit and Ornamental Trees, Shrubs, Roses (on own Roots.) For low prices address C. L. YATES, Rochester, N. Y.

Plants Golden Mayberry, Strawberry, Raspberry, large stock; Asparagus Roots; Sweet Potato, Celery, Cabbage, Tomato, Egg and Pepper Plants. Lincoln and other Plum Trees at greatly reduced rates. Price list for the asking. I. & J. LEONARD, Iona, N. J.

MY catalogue of 100 varieties **STRAWBERRY PLANTS FREE**. E. J. HULL, Olyphant, Pa.

STRAWBERRY PLANTS. Send for price list. WILCOX BROS., Roscoe, Ill.

Strawberry Plants that Grow.

MILLIONS OF 'EM, CHEAP!
Write for Free Descriptive Catalogue.
C. E. WHITTEN'S NURSERY, Bridgman, Mich.

BUTLER'S BERRIES

are true to name, fresh dug, reasonable in price, and Standard varieties. *No Circus Poster*, but honest descriptive list free. All fruits.
G. S. BUTLER, Box B, Cromwell, Conn

BRANDYWINE,

Marshall and Rio Strawberry,

and a choice selection of Raspberry Plants. Carman Nos. 1 and 3 seed potatoes. Descriptive price list free. Address

EDWARD. T. INGRAM,
WEST CHESTER, PA.

HONEST SEEDS Seeds Prices Catalogue. Write for it To-day.

HOLMES & MacKUBBIN, SEEDSMEN, HARRISBURG, PA. **FREE.**

Name paper and receive packet seeds free.

10 VALUABLE NEW VEGETABLES FREE!

1, Electric Beet. 2, Faultless Cabbage. 3, Aurora Celery. 4, Arrowhead Carrot. 5, Mammoth Byzart Lettuce. 6, Early Captor Musk Melon. 7, Duke Jones Water Melon. 8, Early Bryant Tomato. 9, Crispy Carmine Radish. 10, Silver Coin Parsnip.

I will mail above 10 pkgs. and catalog, for 50 cts, and with each lot will return a Cash Check good for 50 cts in other seeds, thus making these practically *Free for Trial.*

ISAAC F. TILLINGHAST, La Plume, Pa.

GRASS SEEDS

For Your Money Reserve.

For *all kinds* of *Grass* and *Field Seeds*; also, a full line of *Garden Seeds* and Implements, write this old reliable house. Catalogue free and price list of Grass and Field Seeds mailed you on application.

The Henry Philipps Seed and Implement Co.,
TOLEDO, OHIO.

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber. Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

CRIMSON CLOVER Thomas McElroy, European Seed Commission Merchant, Mercantile Exchange Building, Harrison St., N.Y. Continues the largest importer of fine grade Crimson Clover in the U. S. Prices to dealers only.

BLACK COW PEAS.

The great soil improver. For light or medium soil this crop is superior to clover as a green manuring crop to turn under. It also makes a splendid nutritious forage crop and enriches the soil, even though the crop is cut off. Write for Price and Descriptive Catalogue, giving full information.
T. W. WOOD & SONS, Richmond, Va.

FOR SALE Peas for improving the land, and furnishing plant-food for future crops. The vines and roots add nitrogen and vegetable matter to the soil. The peas make fine food for growing animals, for eggs and for milk. I have the following varieties: Wonderful, Clay, Whippoorwill and Black. 2nd crop Early Rose Potato seed; price, $2.50 per bbl.
ORRIS A. BROWNE, Cape Charles, Va.

FAY'S CURRANT LARGE STOCK. EXTRA STRONG.
Two years old, 20 bushes for $1. or $4 per 100.
One year old. 25 bushes for $1, or $3 per 100.
FRED. H. BURDETT, Clifton, N. Y.

GRAPE VINES.

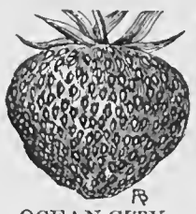
Largest Stock in the World. *Small Fruits.* Introducer of unrivaled new *Red Jacket Gooseberry* and *Fay Currant.* Catalogue *free.*
GEO. S. JOSSELYN, Fredonia, N.Y.

GRAPE VINES SMALL FRUIT PLANTS.

You can get of us THE RURAL'S favorite grape, Neetar or Black Delaware. Catalogue Free.
EUGENE WILLETT & SON, North Collins, N. Y.

850,000 GRAPE VINES

100 Varieties. Also Small Fruits, Trees, &c. Best rooted stock. Genuine, cheap. 2 sample vines mailed for 10c. Descriptive price-list free. LEWIS ROESCH, Fredonia, N. Y.



OCEAN CITY.

WE ARE HERE WITH OCEANCITY, AND BERLIN.

TWO NEW STRAWBERRIES THAT COME TO STAY.
Millions of Plants! Sixty Other Varieties!!
Donald's, Elmira and Palmetto Asparagus, Japan Plums, Apple and Peach Trees by the car load, from natural seed. A postal with your name will bring our 20-page Catalogue, if sent now to
Tenn. Peach Seed. **HARRISON'S, Berlin, Md.**

BERLIN.

GROWN IN THE RICH SOIL OF ORANGE CO.

3,000,000 Small
100,000 **FRUIT** Plants Trees

ALL FIRST-CLASS STOCK

OUR SPRING CATALOGUE MAILED FREE

Address T. J. DWYER, Orange Co. Nurseries, Cornwall, N. Y. Est. 1884.

CATALOGUE REVIEWS.

(CONTINUED.)

in the sun temperatures to which it has been exposed, it can be readily applied to trees with a paddle or trowel, and distributed with any stiff brush in such a way as to form a complete and continuous coat of any desired thickness. It has been found that even a thin application will last six weeks, and an application one-quarter of an inch thick has lasted five months in good condition, forming a perfect barrier against insects attempting to cross it.

It may be employed against the scale insect, like the San José scale, and even a thin coating applied early in the season, before the eggs are hatched, will prevent the emergence of the young from beneath the parent scale. The covering, we are told, is mechanical, and the action is simply to prevent the young from ever reaching the outer air after they have been hatched from the egg or brought forth by the adult insect. Growing shoots, however, would be injured by this material.

The application of a coating on the trunks of peach trees, made early in the season, will prevent the peach-tree borer from depositing its eggs, and many experiments have shown that it is the most satisfactory way to prevent injury by the peach borer. It will also protect apple, quince and pear trees from the attacks of either the round or flat-headed borers. Applied from the middle to the latter part of May, in a coating a quarter of an inch thick to the trunks of the trees from the ground to the branches, it would kill any insect that would attempt to crawl upon it, and larvæ of any kind could not possibly penetrate such a coating. The protection would be absolute. We have, therefore, a material which also kills the borers already in the tree, because it prevents the emergence of the adult.

Instances are mentioned in which beetles have been found half way out and dead; in other instances, they were found partially through the bark, prevented from coming out further. It forms a most effective barrier to the entrance or exit of insects of all kinds. Where mice, rabbits or other animals are liable to attack fruit or other trees, a coat of Dendrolene will serve as a protection through the entire season.

Practically, we know nothing about Dendrolene. A quantity of it has been sent to the Rural Grounds by the Bowker Fertilizer Co., Boston, and we shall endeavor to give it a thorough trial during the coming season. The price ranges from 7 to 15 cents per pound, according to quantity; freight paid. The Bowker Co. will send a little brochure to applicants, which will give any further information desired.

FARMERS' CLUB DISCUSSION.

Persimmons for Market.

H. R., FAIRMOUNT, KY.—A correspondent at Forest City, Ont., inquired about persimmons, whether they would grow at his home, and their desirability to cultivate as a fruit. The first query must be answered at his home, by observation, or trial. As the northern range is limited in Ohio to the central part of the State, they would scarcely withstand the climate of Ontario. Growing here spontaneously, they are the latest of forest trees to expand their leaf buds, and latest of fruit trees to bloom. They have no place among marketable fruits in the city. A few are sold at cheap fruit stands, but the demand is so limited, that no effort is made to buy and sell them, as other fruits are handled. Their future is all before them, and to make a desirable fruit, the taste of consumers will need cultivation, as well as the fruit. If your correspondent is anxious to try them, it would be better to go to a locality where they are indigenous, than to spend time and labor trying to grow them, where they are not known to flourish.

The Silo Conquers Drought.

G. C. H., ROSENDALE, WIS.—Southern Wisconsin has experieneed the severest drought known for many years. But little rain or snow has fallen for nearly two years, Lakes and streams are drying up, and wells are being deepened. In some localities, hay and straw are shipped in for the farmers. But most of our farmers have learned that a good corn crop can be produeed, during, the worst drought, by a proper system of tillage. So, with a well-filled silo, and with bran delivered at $8 to $10 per ton, and oil meal at $15, our stock are going through the winter, in average condition and profit. An uncommonly mild winter, also, helps in the matter of feed.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Do you protect your trees?

They cost money to buy, and are exposed out of doors to many dangers from insect pests. All sorts of creeping things climb up the trunks, and eat the foliage and damage the fruit.

"Dendrolene" stops them all;

and, when the eggs are deposited on the bark, it prevents them from hatching. It is the latest and a very important addition to the battery of insecticides.

Book about it free. Send for it now. Don't wait until the damage has been done for this season, but get to work early.

BOWKER FERTILIZER COMPANY,

43 CHATHAM ST., BOSTON.

AGENTS WANTED.

KILLS ALL BUGS

You can dust one acre of potatoes in 40 minutes by doing two rows at once. No plaster or water used. With this machine you can dust tobacco, cotton, fruit trees, currant bushes, etc. BOOK FREE. Write to

HOTCHKISS BROS., Wallingford, - Conn.

SPRAY PUMPS

21 STYLES. BEST and CHEAPEST.

Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address

WM. STAHL, QUINCY, ILL.

A SPRAYER $2.50

Express Prepaid.

THE COMET Double Acting

Sprays from bucket or barrel 50 feet. made on new scientific and mechanical principles.

Send for free catalogue which will make it plain to you that I have the sprayer you want. H. B. RUSLER, Johnstown Ohio, U. S. A.

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SO MANY PEOPLE HAVE PRAISED painting done with Pure White Lead that we scarcely need to; but the fact remains that Pure White Lead and Pure Linseed Oil make the best—the most permanent and satisfactory—paint. To secure this make sure that the brand of

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NATIONAL LEAD CO., 1 Broadway, New York.

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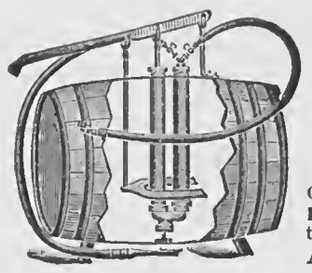
The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.



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Latest improved, **all-brass** pumps—**warranted** for **three years.** Over **75,000 in use.** Endorsed by leading Entomologists. Your **money back** if pump doesn't give **absolute satisfaction. Prices** to fit the times. Illustrated Catalogue, Spray Calendar, and Treatise on Spraying—all mailed **free.**

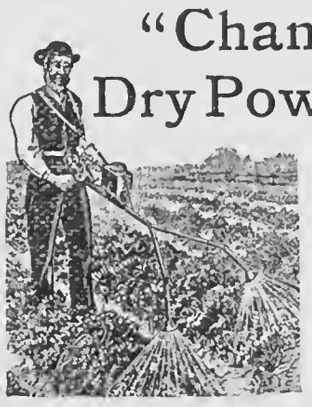
Agents wanted. P. C. LEWIS MANUFACTURING CO., Box 95, Catskill, N. Y.

Important to Celery Growers!

Are you troubled with Celery Blight? If you are you ought to know about FUNGIRENE, which effectually checks and prevents it. Write for pamphlet.

J. H. TIBBITS, Manufacturing Chemist. 213 Temple Street, ASTORIA, Long Island, N. Y

Leggett's "Champion" Dry Powder Gun



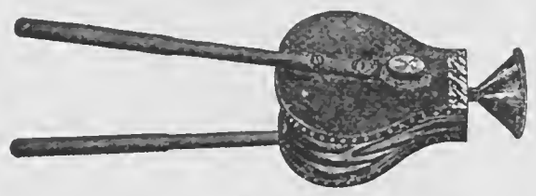
will dust two rows of potato plants with Paris-green as fast as a man can walk, and do it well, covering the plants with a fine dust evenly distributed.

Write for prices and catalogue.

Ask for Leggett & Bro.'s Paris-green—It is the best.

LEGGETT & BRO., 301 Pearl St., New York
WM. T. LEGGETT, Pittsburgh, Pa.
Wholesale agent for Pittsburgh and vicinity.

Electric Insect Exterminator.



Death on Potato Bugs and all insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.

CHAS. H. CHILDS & CO., Utica, N. Y.

SPRAY YOUR FRUIT

trees, vines, lawns, flowers, chickens, and kill the insects with the **Improved 'DAISY' Sprayer.** Very durable, guaranteed, and lasts for years. 150,000 sold in ten years; has rubber hose and throws constant stream 50 feet. Latest recipes for killing insects. No. 1, heavy tin, brass valve, $1.65; No. 2, iron, brass valve, $2.25; No. 5, heavy brass (tinc), $5.00. *Express prepaid. Agents wanted. Catalogue free.*

W. M. Johnston & Co., 25 Eagle St., Canton, O.

THE PEPPLER SPRAYER SIX-ROW

For Trees, Potatoes and Vineyards.

HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.

POSITIVELY WARRANTED THE BEST ON EARTH.

Catalogue free. Address

THOMAS PEPPLER,

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ONCE USED, ALWAYS USED.

Bigelow's Liquid Paris-Green and London Purple. Mingles freely when put in water. Never settles. Nothing to clog the sprayer. Guaranteed not to burn the foliage. Sure death to all insects that feed on vegetation

Bigelow's Bordeaux Mixture

Prevents and destroys all fungous growth, viz., blight, rust, smut, rot, etc. Circulars and calendars giving full instructions in spraying, sent free on application.

BIGELOW & CO., 679 Larrabee St., Chicago, Ill

SAVE THE POTATOES

From the bugs with one of my PARIS GREEN SPRINKLERS. (GRAY'S PATENT.)

If tried once will never be without it. Can sprinkle more than one acre in an hour with it. It saves half of the Paris Green against any other method. Price $3.50

Write for circulars to E. Goettsche, Mfr., 1049 Milwaukee Ave. Chicago, Ill.

MENTION THIS PAPER.

SAVE YOUR FRUITS from the Pests BY BUYING A DOUGLAS SPRAYER.

Only $9 complete, except barrel. Especially adapted for spraying Paris Green or London Purple. Throws a constant stream.

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Our book on SPRAYERS will give you valuable information; it is FREE; ask for it.

W. & B. DOUGLAS, MIDDLETOWN, CT.

N. Y. CITY. CHICAGO.

DON'T DO IT

NEVER BUY A *SQUIRT GUN* because it is CHEAP. Get the . . .

"ECLIPSE" *SPRAY PUMP*

if you want to do business. It knocks them all out.

SEND FOR CATALOGUE.

MORRILL & MORLEY, Benton Harbor, Mich.

I SELL THE ECLIPSE SPRAY PUMP

Because it is the *BEST*. *Try* it and *you* will agree with *me*. Send for catalogue. WALTER F. TABER Lakeview Fruit Farm, Poughkeepsie, N. Y.

IT is not often our best breeders of live stock give their finely bred animals away, but on page 267 of this issue one of our advertisers makes this unheard-of offer. We want our readers who are in need of improved stock to take advantage of this. Write at once.—*Adv.*

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
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Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, APRIL 11, 1896.

CRIMSON CLOVER AND WINTER OATS.

Many of our readers are trying these crops—some for the first time. We would like reports as to their behavior on your farm. Please tell us:

1. When and how were they sown?
2. What soil and fertilizer?
3. Have they survived the winter?
4. Do they promise to be as valuable as Red clover and spring oats?
5. For what purpose, and under what conditions, are they most valuable on your farm?

⊙

THE quantity of cotton-seed meal that is being used in the home mixing of fertilizers in New England, is almost beyond belief. It seems a little singular—this plan of feeding cattle and crops out of the same bin—yet here is a case where the cheapest muscle-makers and organic nitrogen are found in the same seed!

⊙

NEVER before did we see so much havoc by moles in lawns, as last year. Many fine lawns were nearly ruined. In spite of all the mole traps one sees recommended, the moles still flourish. In the suburban towns near New York, and we presume, in many other places, a good mole killer could do a thriving business ridding lawns and grounds of moles on contract. Here is an opening for some enterprising individuals.

⊙

A PETITION has been presented to the United States Senate from a number of learned and scientific men, asking the Government to set aside a reservation in the Rocky Mountain region for consumptives. As we understand it, the signers of the petition would have all who are hopelessly or dangerously ill with consumption, taken to this reservation as a measure of preventing the spread of the disease. It is possible that, about two centuries from now, such a plan will be seriously considered if its projectors can keep up the discussion about it from now till the year 2096!

⊙

DURING the past 14 years, the trade of the United States in exported cheese has *decreased* 40 per cent. During the same time, the export cheese trade of Canada has *increased* 400 per cent. Both countries have dealt in filled cheese. The Canadian government has prohibited the exporting of any cheese that was not filled with full cream. The United States government has permitted a lot of rascals to fill cheese with lard, suet or cotton-seed oil and send it abroad as "full cream." That is why our trade is falling off. You cannot give grease the name of cream and expect to fool business men into buying it as such. The Wilber Filled Cheese bill now before Congress, should be passed at once—in its original shape.

⊙

WHEN the "lightning express" trains on our railroads were first proposed, one great problem was to save the time spent in "watering" the engine. The usual plan of pumping water into the tank from watering stations, used up a vast amount of time on a long trip. It was finally decided to make long, shallow pans at the center of the track. These are filled with water, into which a scoop is dropped as the train rushes by, enabling the engineer to pump up a needed supply of water while his train is flying at full speed. There is a country road in Fresno County, Cal., that is sprinkled regularly during the dry season. A small irrigating ditch is made along the road and kept filled with water. A sprinkling machine carried on an ordinary wagon, draws the water from the ditch and throws it in a shower all over the road as fast as the team can travel along. Of course, a road must be perfectly smooth and level to permit such work; yet this is but one of many illustrations of the way our far western cousins take advantage of natural conditions.

⊙

RUN through the family history of the great men America has produced. Every one of them had a good mother. In fact, a fair estimate will generally show that such men have generally taken more good qualities from the maternal side of their pedigree than from the father. The same rule holds good in breeding animals. Take cows, for example. The dairyman who puts a good bull at the head of his herd, and then expects a heifer from any cow in the herd to show marked improvement, will surely be disappointed. The breeding cows must be selected with some definite type in mind, if a first-class herd of improved grades is expected.

⊙

THE following note was written in the dead of winter when many a hen had lost her egg flow while meditating on man's ingratitude and folly:

To-day I had a little work done by the old "village blacksmith." He has 17 hens (fine-looking birds), and he tells me that he gets more eggs in midwinter, than his neighbor gets from 70 hens, although this neighbor has a costly and elaborate hennery. The old blacksmith has a snug little coop, makes pets of his hens, and while he was shoeing a horse to-day, they walked in quietly and picked up the filings which he was rasping from the horse's hoofs. No wonder they lay eggs! J. R.

There were certainly plenty of "muscle-makers" in the feet of that horse. They formed the base of all the muscles in the horse's body. What we want to say, however, may be said in one sentence, "Seventeen *pets* will always beat 70 *frets*."

⊙

FARMERS and produce shippers are not the only ones who suffer from dishonest commission merchants. The latter often buy goods of other receivers to fill their orders, and then disappear without a settlement. A recent case of this kind in this city, involved too-confiding dealers to the extent of thousands of dollars. Another firm had supplied a large hotel with eggs for years, but was finally undersold by another firm that bid a price so low as to be suspicious. The outbidden firm insisted that something must be wrong, and requested the hotel to watch the eggs closely as to quality and count. The first investigation revealed the fact that every crate was from two to four dozen short in the bottom layers, thus more than offsetting the lower price. Needless to say, no more eggs were purchased of that firm. There seem to be tricks in all trades.

⊙

THE German farmers are after the oleomargarine dealers and manufacturers. The "oleo" business in Germany has grown immensely of late, and dairy farmers have become alarmed. A bill introduced in the German Parliament, places the manufacture and sale of "oleo" under the strictest regulations. Strong efforts were made to kill this bill, but the committee finally reported it, and even added these clauses to it:

(1) All margarine for home consumption is to be colored red or blue, so that it may at once be distinguished from butter, or (2) it is forbidden to color it yellow; the natural gray-white shade must be preserved.

It is said that this bill will "kill the oleomargarine industry." Why? Because it will prevent the manufacturers from coloring it to resemble butter. There is no reason why a counterfeit ever should live. Good butter secured the right to its yellow color long before "oleo" was dreamed of. Make the latter adopt a color of its own.

⊙

SEVENTEEN years ago this month, the writer went West "to grow up with the country." We started from Boston Monday morning, and went through New England and Montreal over the Grand Trunk Railroad. The train was crowded with persons leaving New England for the great West. We were six days in reaching Denver, Colo., and it was an interesting trip, for the throng of home-seekers that stuffed the train were never weary of telling why they were "tired of hillsides in New England." As we came nearer and nearer to the vast level stretches of western prairie, their enthusiasm grew louder; yet there was often a wistful look in the eye, as they seemed to miss the rocky old hills that had seemed so much in the way at home. These home-seekers left the train singly or in groups at little stations along the railroad, and disappeared—swallowed up in the marvelous development of the great West. It seemed, at that time, as though rural New England would surely be depopulated within 20 years; yet, to-day, we believe that the majority of the hill towns are more prosperous than they were in 1879. There are plenty of empty seats in the trains now leaving New England for the West, and scattered all over Connecticut, Massachusetts, Vermont and New Hampshire, you will find men who have come back after service on western farms, content to cultivate the old hillsides again. It is believed by those who ought to be best informed, that the tide of immigration away from New England, has been checked, and that a reaction has set in. Certain it is that the more prosperous class of farmers in New England, have seldom seen the time when they were better satisfied to stay where they are, than at present.

⊙

As our readers know, THE R. N.-Y. favors the appointment of Mr. S. D. Willard, of Geneva, for State Commissioner of Agriculture. Governor Morton will make no mistake if he select Mr. Willard for this important position. We have nothing to say against several other excellent men who are aspirants for the office, and should they be appointed, we expect to give them the heartiest support. Mr. Willard, however, is THE R. N.-Y.'s choice, and we hope to see him in the Commissioner's chair within a few weeks. It has been reported that Governor Morton has decided to appoint a man whose backing is almost entirely of a political nature. As before stated, we do not believe that report, for we have full confidence that the Governor knows what the farmers of the State want. We notice that the recent Republican convention of Ontario County, passed a resolution commending Mr. Willard in the highest terms. We do not believe that candidates for such an office should be determined at political conventions; still, if such endorsement is to have weight in deciding the matter, we suggest that other conventions where farmers are largely represented, put themselves on record in like manner!

⊙

BREVITIES.

Oh! Oliver Oat is a thrifty young blade,
Erect in his straw and correct in his grain.
By honest attention to farming he made
An excellent living—a moderate gain.
But new-fangled notions came in from the West.
Those far western farmers sent car-loads of feed
So cheap that poor Oliver Oat at his best
Could hardly compete, and he soon felt the need
Of some strong companion—the fellow was smart,
And so he went courting and down on his knees,
He offered himself—from his husk to his heart,
To that pretty maid, Miss Leguminous Pease.
Of course she accepted—the sensible girl.
They're planted together—see Oliver stand
Erect, while his active young wife seeks to curl
Around him and thus keep her dress from the sand
Oh! Oliver Oat—you're a sensible thing!
Far better to make yourself fodder and hay
And not grow to grain when the railroads will bring,
Your cousins so cheap—they drive profit away.

To abolish the fowl fly—clip a wing.

DON'T fall down before the spring work.

BOGUS potato seed is as bad a fraud as "oleo."

WHAT is the best fertilizer mixer? The clover plant!

HALF-HEARTED work is half departed before it begins.

THE check *row* system—"throwing oil upon the waters."

WILD turkey blood is best on the father's side—page 267.

MARCH came in promising good weather, and went out like a liar.

To cure that pale color in the milk pail, try a dose of Jersey or Guernsey blood.

IT is "leap year." That doesn't mean that you are to leap into new things without warning or experience.

A DROP of Jersey blood in a herd will always show. The first external mark is the beautiful, deer-like head.

MR. G. M. CLARK, who talks on page 255 about cultivating that pond bottom, is the man who grows the big hay crops in Connecticut.

THINK over the large human families with which you are acquainted, and see how that breeding theory given last week works out in actual practice.

IT is said that the city of Baltimore requires all houses to contain a bath tub. It is, probably, the only place in the country where such a law is enforced.

MR. TRACY (page 254) says that the possibilities of some tomato plants have been destroyed before they are put into the ground. Pushed and crowded too much.

THERE will be a boom for oats and peas for fodder this year. This combination will beat many of the so-called "new" fodder plants that are offered at high prices.

THERE is a tyrant, and his name is Mud;
He stops the moving wheel
And costly labor with a dull, hard thud
Goes down beneath his heel.

THE latest scheme is to use a cross of the southern "razor-back" hog to give some of our fine-boned breeds fresh vigor. A cross of one of these tough little boars on fine sows, will, it is claimed, give excellent breeding sows for pasturing.

THERE has been quite a little comment about that account on page 223, of feeding cows on early-cut grass. We met a man last week who said that he was "born and raised" near by the farm on which this cheap balanced ration is produced. "It's just so," he says.

MR. FARMER'S "New Strawberry Culture" is interesting, and will, doubtless, be useful for many growers. There is no doubt that holding the plants in this way, will enable the grower to get the field in the best condition for the plants. Some farmers find June the busiest month of the year, while others have a strong conviction that a plant should be put where it is to stay at once.

THE last report of the Department of Agriculture indicates a decrease of $82,500,000 in the value of farm stock since 1885. On January 1, 1896, there were 8,974,770 fewer sheep than in 1893, while their value had fallen from $125,909,264 to $65,167,735. Think of it—a shrinkage of $60,000,000 in four years! Cattle increased in value somewhat, while swine decreased a little. Horses and mules have lost $553,644,203 of the value they held in 1893. The loss in the value of sheep is charged chiefly to changes in the tariff. The horse and the mule have lost a part of their job, and have been beaten by electricity, cable and bicycle.

⊙

THE duties of citizenship can not be urged upon the attention of farmers too much. The thoughtful, conservative vote of the country, must be expected in large measure from those living outside the great centers of population. Many problems of government are pressing for more intelligent consideration and solution, and the farmers are directly interested in them. The granting of franchises for the performance of public services, has led to the creation of what are called "natural monopolies." The transportation of persons and freight has fallen into the hands of a relatively few persons in this country, and free competition for the regulation of charges can be, and is, destroyed. As population and traffic increase, the power of transportation companies naturally grows in geometric ratio. The citizen is in duty bound to consider this matter, and to seek to have intelligent convictions. We do not want to rush into greater ills, or, on the other hand, do we want to drift into ills equally great. If it be true that our measure of values—the dollar—grows greater in purchasing power annually on account of undue limitation in quantity of the material from which dollars of final redemption are made, then has the voter a serious problem before him. Farmers are interested in having an honest and reasonably stable measure of value—not one that grows dear or cheap. It is their privilege and duty to study the question, and to cast intelligent ballots. How far may all harmful adulteration and counterfeiting of products of the soil be prevented? What will be effective legislation? are questions every citizen should consider. Alcohol is used to bankrupt people mentally, morally, physically and financially, and to burden all of us; the control of its use is a puzzling matter, but intelligent and conscientious men can not cast it aside because it puzzles. Dozens of problems confront the voter, and both conscience and intelligence are in demand.

BUSINESS BITS.

C. E. CHAPMAN, Peruville, N. Y., wishes to sell some of his seed potatoes.

THAT seems to be a good chance for a practical celery grower, offered by A. E. Carswell, Montague, N. J.

E. GOETTSCHE, 1,049 Milwaukee Avenue, Chicago, Ill., has a very handy device for spraying potatoes. It will spray two rows at a time. The price is very reasonable.

MR. N. W. ALLYN, New Haven, Conn., reports that he has used Gombault's Caustic Balsam to reduce a hard bunch on a horse's knee, caused by knocking, with most satisfactory results. This is a good liniment to have in the horse stable.

THERE may be those who will overlook the auction sale announcement of Ridge Farm on page 267, and we make this note to refer to it. Mrs. W. C. Norton is a careful breeder, and some of the best Jersey and Berkshire blood in the country will be under the hammer in this sale, which takes place April 15, at Aldenville, Pa

THE Jarecki Chemical Co., of Sandusky, O., do a large business in chemicals and mixed fertilizers. Our western readers who need such goods, will do well to correspond with them. This firm uses a large amount of ground fish, and as they are located on Lake Erie, they are able to offer the best of bargains. Fish and potash, as our readers know, make a fine fertilizer for grass, grain or truck. Lake Erie can feed your land.

THE Creamery Package Mfg. Co., 1, 3, and 5 West Washington Street, Chicago, Ill., say that they can furnish everything in the dairy supply line to make first-class butter, except the brains. We assume that the exception is due to their modesty. They have the brains all right; but they are, probably, in the original package, and not in shape to retail. At all events, they have brains enough to provide an exceptionally fine line of everything needed in the dairy line from a skimming ladle to a complete factory.

IF there is anything under the sun that you need for the poultry yard, you can get it from the Excelsior Wire and Poultry Supply Co., 28 Vesey Street, New York City. An incubator to hatch the chicks, brooder to care for them, any kind of feed, meat, bone, grit or shell, drinking fountains, wire fencing, egg cases, bone mills, roofing paper—in short, everything. Prairie State Incubators and brooders at a discount from list prices. New York is a central shipping point, too. A large catalogue free! Send for it!

THE cooks at our house have discovered a use for Gold Dust washing powder that renders it almost as necessary as salt. After using a pan in which fat has been fried, a little of the Gold Dust powder is dropped into it, the pan partly filled with water and left on the stove. It is then a very simple matter to wash out the pan. In cleaning greasy dishes or anything else where fat accumulates, this powder is wonderfully effective. When used for "spring cleaning," it is about the most discouraging thing a bug can run against.

THERE is a great deal in a plow. It is true that some men will do better work with the same plow than others; but a good plowman will do better work with some plows than with others. Besides, some plows are much lighter draft for a team than others, and the light-draft plows always do the best work. Both the swivel and landside plows made by the Columbia Plow Works, Copake Iron Works, N. Y., are light draft, easily handled and leave the furrow in the best possible condition. Fuller description will be sent on application.

Special to Planters!

TREES AND PLANTS

FOR ORCHARDS AND GARDENS,

and for the embellishment of public and private grounds. Among our many specialties we direct attention to the

BEAUTIFUL NEW DROOPING MULBERRY.

CAROLINA POPLAR.—Rapid grower; for streets, screens, etc. Immediately effective.

LOMBARDY POPLAR.—Tall, spiry form.

GOLDEN ENGLISH OAK.—A superb tree.

SCHWEDLER'S PURPLE MAPLE.—A strong grower, with large, rich, purple foliage.

SUGAR MAPLES.—Of various sizes, for streets and shade.

JAPANESE MAPLES.—Medium-sized trees of rare beauty, two varieties. Purple and Cut-leaved Purple.

TARTARIAN MAPLE.—Novel and beautiful small tree.

WIER'S CUT-LEAVED SILVER MAPLE.—Most beautiful, rapid-growing ornamental tree, drooping habit.

AMERICAN ELM.—Nursery grown, well rooted, for streets, parks, shade and ornament.

DWARF PINE.—Hardy dwarf evergreen.

PYRAMIDAL ARBOR VITÆ.—Of fine, erect, compact habit for yards. Also, a large stock of the reliable old favorites, Norway Spruce, Austrian Pine, and American Arbor Vitæ for screens, borders, groups, etc.

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This experiment, which is detailed in our catalogue, proves what other farmers have also found true, that the Stockbridge furnishes all the plant food crops require for large yields, and in the best forms for the particular crop grown. The form of the plant food is as important as the quantity.

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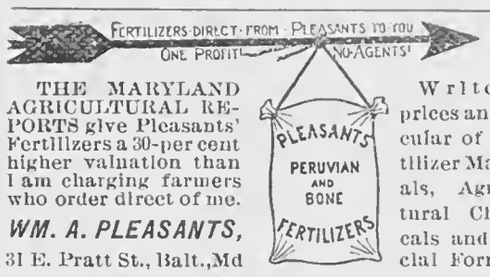

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Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE Imperial German Health Bureau reports that aluminum is especially suitable for cooking utensils, as it does not form poisonous salts, as copper, tin and lead do.

*

THE Young Woman's Christian Association of New York City intends to add to its other buildings a gymnasium to cost $250,000. Classes in physical culture have long been a feature of the association's work, and this determination is, no doubt, prompted by the results of past work, and the increasing demand for better opportunities. As soon as women learn the advantages of cultivating their muscles, they will begin to discourage their nerves. When the muscles become as active as the nerves have been herctofore, woman's nerves will be as insignificant as her muscles are now, and some of the patent medicines will have slow sales.

*

THE city working woman is more in need of exercise than her country cousin, because her daily routine includes less. The gymnasium is the device of theorists to meet this need, and the country woman can well do without it since Nature surrounds her with the very wellsprings of health, fresh air and sunshine. Outdoor exercise is better than any other; thus the country woman has the advantage of the woman whose blessings are mostly those provided by philanthropists laboring to overcome the effects of unnatural and unhealthful surroundings.

*

ONE of the first dangers to which a baby is exposed, is that which may result from its putting something injurious into the mouth. A close observer will notice that this habit of abusing the mouth is not confined to babies, and we must acknowledge that many of us besides the babies need watching and scolding. There's a long list of "don'ts" that would be appropriate just here, but we will make it short, to be continued some other time: Don't put a pencil in your mouth, before or after using it. Don't put your fingers in your mouth when turning the pages of a book. Don't carry needles, pins or anything larger in your mouth, unless it be something the dentist recommends.

SUMMER CARE OF FURS.

NICE furs, well cared for, may become almost lifelong possessions, lending themselves to all sorts of unforeseen remodelings and, like the proverbial all-wool gown, "good as long as even a scrap is left." Some articles seem to bear a charmed atmosphere, and remain year after year uninjured, though given but a modicum of care. Such a wonder was a white muff and tippet of my youth, which spent years in the attic merely tied in its box, and has now emerged an "ermine" cape which a tiny niece has worn two winters, her beloved "kitty," very warm and cozy, and much admired as she sits in her little carriage. Probably nearly every family can tell of some venerable fur articles, owned for years and still moth free; but in most instances, the story would be incomplete without mention of an equally venerable linen pillow slip and prompt brushing and putting away.

For anything so comfortable and serviceable, the best of care is none too good, and most of us prefer to run no risks. Safety lies either in putting articles where moth millers cannot find them, or in keeping them in constant use. I once heard of a lady who kept, satisfactorily, her sealskin coat hung on the inside of her closet door all the year 'round, giving it a shake almost every day. Also, I once had a heavy beaver-cloth cloak and its trimmings of fox fur, eaten the very first summer and while packed in a box with strips of paper pasted over every crack, but concluded that the furrier made a bargain fortunate for himself when he sold the fur, though it appeared to be all right. I forget the garment's length of years, but they were far too few, its final destruction being coeval with a long illness of mine which left it forgotten and neglected. Loth to part with my pretty fur, I attempted steaming it to kill the moths. Of course, it curled and shrunk into worthlessness. I threw it in the fire and had learned one thing.

Since then, being likely to lose a brown marten boa, I tried drenching it with kerosene, which rescued it from moths without injury to the fur. Naphtha or benzine would have evaporated quicker, and been better for the purpose; but kerosene was better than steam. Using enough naphtha (in the open air, remembering its inflammable nature) to drench infected articles, and putting away as soon as drained, would be my method now of dealing with suspected furs, and preserving what usefulness might remain in them.

But unless we have sickness or accident for excuse, there is no reason why that first mischievous moth should ever begin the story of labor and loss. Probably no better discourager of the visits of moth-millers than camphor gum is to be had, but tobacco is nearly, maybe quite, as good. The carbolic-smelling moth balls which seemed such a boon, are found to leave so permanent an odor that one hesitates before putting them among one's best garments. Pieces of old cotton wet in turpentine in which camphor gum has been dissolved (using as much of the camphor as the turpentine will hold in solution), are efficacious and convenient.

The long-haired furs are liable to come forth looking rather flattened and mussy unless given careful packing in plenty of room. Trimmings and small articles of this class are best coiled loosely in a box, the box being then wrapped and tied in several foldings of fresh newspaper. Bags and pillow slips answer well for smooth furs. Coats and capes suspended on yokes or hangers, and inclosed in bags of new unbleached cotton, may be trusted in most closets; a casing and drawstring make a poor closing for such bags, space to slipnoose a stout cord about the top being far preferable; let only the shank or hook of the hanger protrude, and the weight of the whole will pull the noose very tight.

Last fall I chanced to see a mink cape taken from its wrappings. The cape had been laid on a table and folded back and forth upon itself, each fold being copiously strewn with tobacco till nearly a package of the fine smoking tobacco had been used; into its bag the cape had then been slipped to be pinned securely. The box had held this roll snugly, and lastly, the box had been rolled and pinned in a whole sheet. Thus my friend had kept her cape safely, and saved a fee to the furrier. But another case comes to mind where an acquaintance had finally to resign her fur-lined wrap to surer quarters than she could provide. The garment was a valuable one with an edging of some fine, expensive fur. She watched it zealously as spring advanced, and felt sure that all was not well; faithfully she aired and beat and combed, using a fine steel tool made expressly for the latter work. Not moths but a tiny worm known to furriers, was pronounced the cause of the trouble. She ended by sending the garment off to be placed in cold storage where it must have been safer, for it seems to have lost none of its elegance.

I judge that dyed furs are far less inviting to moths than those merely dressed, which accounts for the fact that the more valuable sorts are likely to be the ones attacked. Thus, the cheap black coney fur may be said to be almost moth-proof, and it is the woolen lining of black goat carriage robes that most needs care.

Such experience as has come in my way leads to the following conclusions: Many wrappings and secure pinnings insure safety, if all is right when articles are put away. Camphor or tobacco helps make things doubly sure. New furs should be looked to once or twice during the first summer. Even moth-eaten furs may be rescued. Any fur is worth saving till its further use appears, though seven or twice seven years pass before it is disclosed.

PRUDENCE T. PRIMROSE.

THE POINT OF VIEW.

A CERTAIN prisoner, years ago, being in chains, was obliged to employ others to write his letters for him. However, he always endeavored to sign his name with his own hands. Once, after writing his signature, he plaintively adds, "Remember my bonds," as if to remind his friends to whom the epistle was sent, that however imperfect the script, his heavy chains were the excuse. Surely this would be a kindlier world now if we all could remember our neighbors' bonds. Who knows how the chain of quick temper, impatience, jealousy or even ill health, holds down the hands that really try to do better things?

Two knights once met on either side of a shield, and fell to fighting because one called it gold while the other thought it silver. Each was right from his point of view. Mrs. A wonders how Mrs. B can be so careless a housekeeper, while Mrs. B thinks Mrs. A painfully particular, while the first has a small family with every convenience to help her, and the latter a houseful of children and dyspepsia! Many troubles and quarrels in families come from the inability of the members to see from more than one point of view.

It does seem that we could all live happier lives if, instead of judging others harshly for every mistake according to our standard, we could look at them from another point of view, and remember what bonds they may have that hinder perfection, for do we not all need excuses? MOLLIE WIGGINS.

"OUT OF THE CRADLE INTO THE WORLD."

ONE of the good new books just published is entitled, "Out of the Cradle into the World, or, Self-Education Through Play," by J. Benjamin Atkins. I wish all parents and teachers could have the good fortune to read the book. It is so full of helpful suggestions, and is written in such an easy, readable style, that one reads from the beginning to the end of the volume without finding a dull page—something of a recommendation for a book of nearly 400 pages.

Since we are at the beginning of a long vacation for the children, it is a propitious time to call the attention of parents and teachers to the purpose of play. Among the many interesting chapters, one is devoted to the discussion of "Play, the Natural Occupation of Children"; another takes up the subject of "Physical Development Through Play"; following this is a chapter on "Mental Development Through Play." These headings may sound heavy, but the whole book is interspersed with such naïve sayings of children, given as illustrations of the views put forth, that it reads rather like a story than a treatise on child development. The book closes with the "Effect of Play on After Life."

There are few, perhaps, who read the book, that will not feel more or less guilty when they reflect upon their own experience, how many times they have put a damper upon innocent health and soul-giving play. We are too prone to consider our children idle when they are "just playing," and this book is just what we need to open our eyes to the fact that play is God's and Nature's method of teaching. "The child has a divinely creative mind and soul, stirring his inner life. It is what the child ought to be, and will be, which is beating beneath what he is now. He is the true poet, acting his own creation. He is a day dreamer, dramatizing his own dreams. Playthings are the trellis and play is the germinating mind climbing up the trellis to bud and bloom." "Provide innocent amusements that will entertain the child, awaken the intellect, and call out the affection of the heart. Make play educational, physically, mentally, socially, morally."

The philosophy of Spencer, Preyer and

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WORDS FOR WOMEN.

I wonder so that mothers ever fret
  At little children clinging to their gown;
Or that the foot-prints, when the days are wet,
  Are ever black enough to make them frown.
If I could find a little muddy boot,
  Or cap, or jacket, on my chamber floor;
If I could kiss a rosy, restless foot,
  And hear it patter in my home once more;

If I could mend a broken cart to-day,
  To-morrow make a kite to reach the sky—
There is no woman in God's world could say
  She was more blissfully content than I.
But, ah! the dainty pillow next my own
  Is never rumpled by a shining head;
My singing birdling from its nest is flown;
  The little boy I used to kiss is dead!

—*May Riley Smith.*

....LOUISA M. ALCOTT: "Food, fire and shelter are not all that women need, and the noble discontent that asks for more should not be condemned, but helped, if possible."

....H. E. HARVEY IN WESTMINSTER REVIEW: "As women have, on the whole, obediently conformed to the character which was required of them for 6,000 years or so, I think now that they have begun to announce publicly that they have opinions of their own, that they are due, at the very least, a fair hearing."

....T. W. HIGGINSON IN HARPER'S BAZAR: "However desirable and just it is that women's pay for the same work should be precisely what that of man is, we must remember that the whole question of their employment is in a transition state; and that one great aid in their introduction into a great variety of pursuits has been the fact that they would work for less."

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Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

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The fronts are arranged over fitted linings that close in the center in a style that is very becoming. The full vest portion is box plaited at the top, and gathered at the lower edge to droop softly over a smooth-fitting girdle section of velvet, closing at the left side under the jacket fronts. The short, pointed jacket fronts are decorated with large, fancy buttons, large ripple revers

6719—MISSES' BASQUE.

turning back at the upper edges and extending on the back to finish under the box plait in the center. The back is close fitting to the waist line, below which falls, in stylish ripples, the graduated box plait in the center flaring at the lower edge. The standing collar of light silk has a ripple collar of velvet drooping from its upper edge to match the cuffs that finish the wrists of the full sleeves. Pattern No. 6719 is cut in sizes for misses of 10, 12, 14 and 16 years of age.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

BRIGHTEN THE PROSPECT.—When there is no prospect of having garden vegetables, peas, beans, corn or strawberries, except by one's own exertions, then, oh, woman! take the hoe and weeder, and go forth conquering and to conquer! Have the garden at all hazards, and thereby, perchance, gain better health, a well-furnished table, and, possibly, a better filled purse. MAY MAPLE.

THE BABY'S BED.—The blessed baby—should neither, in winter, nor in summer, be put to sleep with its elders, but in a crib by itself. If you can't afford a crib, suspend a clothes basket from the ceiling. Make the baby's bed covers of wool—wool batting to line comfortables is far and away superior to cotton, so much lighter in weight for the warmth rendered. The best of mothers, and of fathers, are likely in the tossings of sleep, to injure a tender infant, so for the comfort and health of all concerned, give the baby a bed by itself—but not low down to the floor, where the bad air settles, after the style of the old-time trundle bed. M. W. F.

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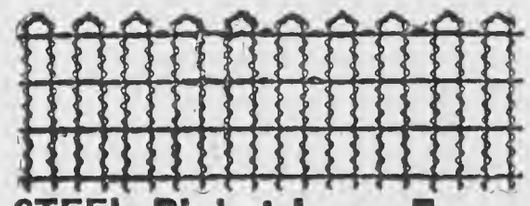

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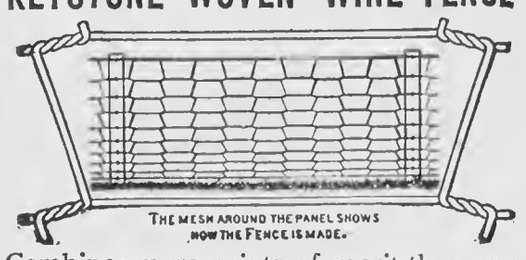

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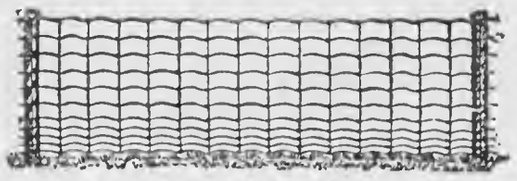

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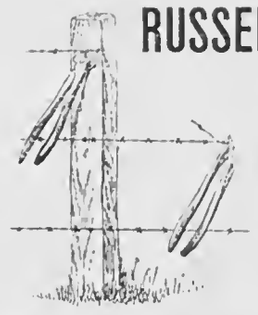

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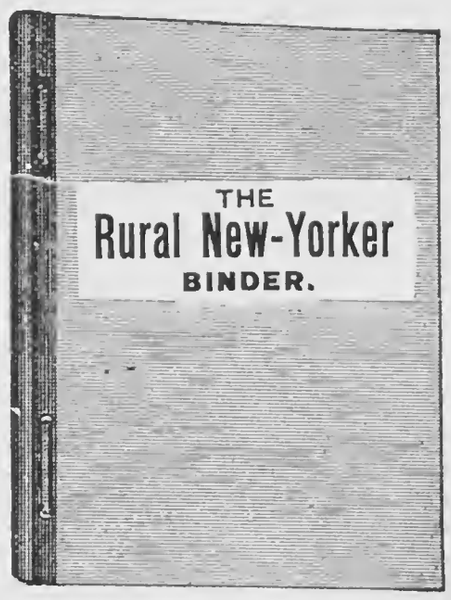

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"A" Grade, $60. Durability.

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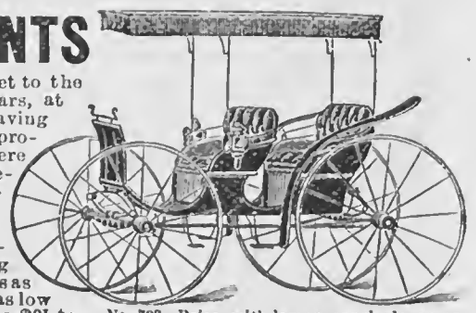
but have sold direct to the consumer for 23 years, at wholesale prices, saving them the dealers' profits. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 90 styles of Harness, 41 styles Riding Saddles. Top Buggies as low as $35. Phaetons as low as $55. Spring Wagons $31 to $50. Send for large Catalogue.



No. 16½—Surrey Harness, Price $14.50. As good as sells for $20.

No. 723—Price, with lamps, sunshade, apron and fenders, $60.00. As good as sells for $90.

ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

CROP AND MARKET NOTES.

Hay prices are unchanged.

Choice honey is not in large supply.

Furs are low, and market very dull.

Bermuda onions are arriving freely.

Butter has dropped slightly in price.

Lettuce has been in light supply of late.

The season is backward the country over.

Catawba grapes are still on the fruit stands.

A very few cranberries are still found in market.

Duck and goose eggs are bringing good prices.

Hops show no improvement, and sales are very slow.

Evaporated apples have gone still lower in price.

Wax beans sell higher than green, if clean and bright.

Exports of bacon to Cuba are increasing largely of late.

Dried beans are very dull, with no improvement in price.

Large numbers of hog-dressed veals have been received.

Florida beans are in light supply, and sell at full prices.

A light crop of maple sugar is predicted for this year.

Choice apples are scarce, and sell readily at high prices.

The law allows the sale of wild ducks, snipe and plover until April 30.

Marrow squashes sell for a higher price than Hubbards in this market.

It is reported that one-half of the Texas peach crop has been killed by frost.

Heavy snow melted by heavy rains, has caused disastrous floods in many localities.

A barrel of good turnips is now worth as much as a barrel of potatoes—something unusual.

Hothouse lambs have arrived in only moderate numbers, but outside quotations are extreme.

Fancy Florida strawberries sell readily at good prices, but many of the arrivals are too poor to fill the bill.

Two car-loads of Merino sheep have been collected in Vermont to be sent to South Africa for breeding purposes.

The demand for poultry has fallen off, and prices have declined considerably. Good turkeys sell well at fair prices.

There is trouble among the peanut dealers, the Virginia combination being at war with the combination of western dealers.

Egg prices have advanced somewhat and the market cleaned up well for the Easter trade. How it will be after this is over, is hard to tell.

In spite of the low price and immense stock of old potatoes, new potatoes from Florida and Bermuda are selling readily at considerably higher prices.

Pittsburgh market quotations seem to run nearly the same as those in New York. This being the case, it would seem to be wise for western shippers to investigate that market more fully before shipping produce.

A Philadelphia firm captured what is claimed to be the biggest bag contract ever awarded in this country. The number is 6,000,000—half cotton and half burlap—to be delivered to the Sugar Trust within the year beginning April 1, last.

The number of coffee plantations in Costa Rica is said to be 8,595, containing no less than 26,282,874 trees. Last year's crop, according to official statistics, was approximately, 34,000,000 pounds, representing a value of more than $9,000,000. Pretty good for a republic of not much more than 200,000 population.

The supply of pineapples is expected to be about up to the average this year, in spite of reports to the contrary. The orchards in Cuba have not been molested materially, and other sources of supply have a tolerable crop. The Florida crop is fairly promising, notwithstanding the freeze of two years ago.

It is stated that an ordinance has just been issued by the Secretary of the French Department of Agriculture providing that all cattle hereafter imported into France shall be subject to the tuberculin test. If, by such examination, it be learned that any animal is affected with tuberculosis, the owner must either have it killed or send it back. If the animal is to be killed in France, it must be taken to a public slaughter house. The French Government has already provided for the inspection of all cattle owned and kept in the country.

CONDENSED CORRESPONDENCE.

WIND-UP OF WISCONSIN INSTITUTES.—The tenth winter campaign of Wisconsin Farmers' Institutes has just closed with the annual round-up institute at Watertown. Over 100 institutes have been held. At each meeting, five sessions are held, occupying two days. The institutes are as popular as ever. In most cases, the number in attendance is limited only by the capacity of the largest hall in the place. The institutes are a branch of the college of agriculture, a system of university extension for the benefit of the farming community; 50,000 copies of the bulletin are issued for free distribution. The meeting at Watertown continued for four days, and was attended by representative farmers of Wisconsin and neighboring States. The last day there was a conference of international institute workers. Wisconsin cheese has had an excellent reputation in the markets of the world, and its manufacture has been a leading industry; but of late, the manufacture and sale of filled cheese have been a great injury to the business. Strong resolutions were adopted at Watertown, denouncing the stuff and urging Congress to pass some law to prevent the fraud. G. C. H.

HARD TIMES IN HENRY COUNTY, ILL.—This has been the hardest year ever known to the farmers in this vicinity. Oats yielded 14 bushels (on an average) of musty grain, worth 13 cents, and very little musty straw. Hay was a total failure, not cut. Hogs died of the cholera. Corn yielded 35 or 40 bushels per acre, worth 23 cents. As these are the main crops in this locality, can any one figure any prosperity to the farmer where rent is $5 per acre? F. N.

PEACH BUDS AT PENNSYLVANIA EXPERIMENT STATION.—An examination of the peach trees on the Pennsylvania Experiment Station grounds, on March 23, showed that the majority of the blossom buds were in good condition. On some trees, nearly all the buds were sound. On a few trees, a considerable number were killed, the estimated per cent of killed buds being 40. One or two trees showed a somewhat larger proportion of buds killed. The greatest proportion of killed buds on any tree will, probably, reach about 60 per cent. The injury, at present, is not sufficient seriously to injure the peach crop. If favorable conditions exist from this time until the peaches are set, the indications are that the peach buds killed at the present time may prove beneficial, rather than an injury, by thinning the fruit. G. C. W.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

THE STAR OF HOPE.

"I had lost all hope and gone to my father's to die," said Mrs. MOLIE EVANS, of *Mound, Coryell Co., Texas.* "I gave birth to a baby a year ago, the 5th of June last," she adds, "and seemed to do very well for 8 or 9 days, and then I began to feel very bad, my feet began to swell, my stomach was all wrong and I seemed to suffer with everything that could be borne. I was in bed 5 months and there was not a day that it seemed I could live. We had the best doctors that our country afforded. I was a skeleton. Every one that saw me thought that I would never get well. I had palpitation and pain in the heart, terrible pain in my right side just under the ribs, terrible headaches all the time; a bearing down sensation; a distressed feeling in my stomach all the time; could hardly eat anything and it looked as if I would starve. All the time I would take such weak trembling spells, and it seemed as if I could not stand it. There were six doctors treating me when I commenced taking your medicine. I had lost all hope and gone to my father's to die. I commenced taking Dr. Pierce's Golden Medical Discovery and his 'Favorite Prescription' together, and I took them regularly until I felt as if life was worth living again."

"I weigh more than I have weighed for ten years. My friends say that I look better than they ever saw me. The first two bottles did me more good than all the medicine I had taken. My stomach has never hurt me since. I can eat anything I want and as much as I want. If you want to use this in favor of your medicine, I am a living witness to testify to it, and will, to anybody who wants to know further of my case."

Molie Evans.

Unjust Taxation

has always merited condemnation.

AN UNJUST tax is contrary to every instinct of reason and equity. Men and nations rebel against it. The man who buys "cheap" harvesting machinery is doomed to pay tribute to the manufacturer for replacing parts that break—parts that wear out too soon. This is unjust taxation.

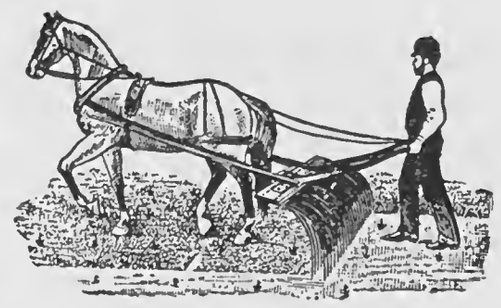
McCORMICK Harvesting Machines are built upon honor. They insure the purchaser against extortion for repairs; parts that should not break do not break, because scientific figuring enters into their construction; parts that wear do not show wear, and need not be replaced until after long, hard service. The first cost of a McCormick is a little more than the first cost of other machines, but with the McCormick you get more than you pay for, while with the others you pay for more than you get.

The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the McCormick Harvesting Machine Co., Chicago.

Agents Everywhere.

FARMER'S SAW MILL. 4 H. P. and larger. Corn and Feed Mills Hay Presses & Water Wheels
DELOACH MILL MFG. CO., Box 367, Atlanta, Ga

FOR SALE CHEAP. One Perpetual Baling Press. Size of bale 14 x 16 inches 3 feet, weighing 100 to 125 pounds. For full particulars address F. H. TUTHILL, Rocky Point, N. Y.



The Zephaniah Breed Weeder and Cultivator

Will work corn, sugar-cane, potatoes, peas, beans, squashes, melons, cucumbers, tomatoes, cabbages, beets, carrots, parsnips, cauliflower, celery, onions (think of it, *onions!*) strawberry plantations (both new and old), asparagus (during cutting season) and many other crops, all without other cultivation, hand-hoeing or hand-weeding, while for grain fields they have no equal.

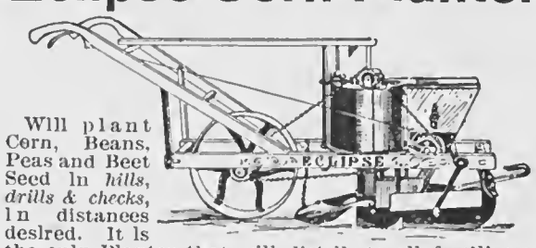
Our No. 1 and 2 (two horse) will work clean 25 to 28 acres per day. Nos. 3, 4 and 5 (one horse) will work 15 to 18 acres per day. With our No. 8 one man's time will care for five to seven acres of onions until they are ¾-inch in diameter without hand weeding.

Send *to-day* for circular describing nine sizes and styles of Sulky, Walking and Hand machines. It also contains an article on "Weeds and Tillage," by Prof. Taft, of the Michigan Agricultural College, "Shallow *vs.* Deep Cultivation," by Prof. Hunt, of Ohio Agricultural College, and "How I Grow 300 to 400 bushels of Potatoes in Massachusetts," by C. W. Russell, Esq., of Upton, Mass., an authority on potato culture. Address

Desk No. 12, The Z. Breed Weeder Co.

26 Merchants Row, Boston, Mass.

Eclipse Corn Planter



Will plant Corn, Beans, Peas and Beet Seed in *hills, drills & checks*, in distances desired. It is the only Planter that will distribute all fertilizers, wet or dry, with a certainty, in different amounts, each side of seed. Send for circulars.

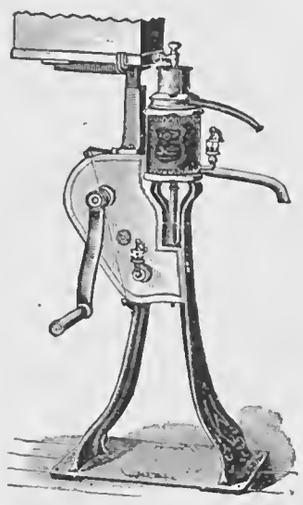
ECLIPSE CORN PLANTER CO.,
ENFIELD, Grafton, Co., NEW HAMPSHIRE.

SPRAY PUMPS

Being specialists in the manufacture of spray pumps, we produce a superior article. Our Barrel and Bucket Pumps are unsurpassed. No Codlin Moth, Bugs, Curculio, etc., escape where our pumps are used. Write for circulars. Big money for agents. We pay the freight.
ASHLAND MFG. CO. Box "B," Ashland, O.

THE IMPROVED
Excelsior Powder Duster
OR DRY SPRAYER.
One acre per hour. Simple, Effective. AGENTS WANTED Circulars Free.
The Excelsior Company,
New Haven, Conn.

ROUGH ON THE CAT



But the rest of the family greatly pleased.

The **No. 5 United States Cream Separator** gives the best of satisfaction. It makes the good wife laugh, the hired man smile, and the cat cry out, "no more skim milk, for it is too thin and poor for me." The **Separator** does its work perfectly, runs easily and steadily. We could not do without it. R. L. FROST,
March 30, 1896. West Brattleboro, Vt.

SEND FOR A NEW CAT
alogue giving full details, free to all.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.

Bradley's Standard Fertilizers are eminently adapted for growing Sweet Corn, either with or without stable manure. This is one of many letters received from delighted growers everywhere.

BURLINGTON, MASS., Nov. 26, 1895.

"On April 24 I planted sweet corn on a piece of sandy loam on a side hill slanting to the east containing 1 acre and 60 rods. I spread 1,800 pounds of Bradley's Fertilizer broadcast, and put 700 pounds in the hill. No other fertilizer was used. Although the crop was twice cut down by the frosts, I began marketing it August 8. The yield was fully 600 boxes. After harvesting the corn, I sowed the piece to grass without further fertilization and have a fine catch. I have used your goods for twenty years and have invariably gotten good results from them." F. E. HAM.

BRADLEY FERTILIZER COMPANY, Boston, Rochester, N. Y., Cleveland, Ohio and Local Agents everywhere.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	21 @—
Western, firsts	19 @20
Western, seconds	16 @18
Western, thirds	13 @15
State dairy, half-firkin tubs, fancy	19 @20
Firsts	17 @18
Seconds	14 @16
Welsh tubs, fancy	18½@—
Welsh tubs, firsts	17 @18
Welsh tubs, seconds	14 @16
Tubs, thirds	11 @12
Western imitation creamery, firsts	15 @16½
Seconds	12 @13
Western dairy, firsts	12 @14
Seconds	11 @11½
Thirds	10 @10½
Factory, fancy	— @—
Factory, firsts	12 @13
Factory, seconds	10½@11
Factory, thirds	9 @10

OLD BUTTER.

Creamery, State, fall make	13 @18
Western, summer make	12 @18
State dairies, firkins and tubs, finest	14½@15
Firsts	13 @13½
Seconds	11 @12
Tubs or firkins, thirds	9 @10
Western factory	8 @11

EGGS.

New-laid, fancy (nearby)	12½@ 13
Pennsylvania & Md., country marks	12 @ 12½
Western, fresh collections, fancy	11½@ 12
Southern, fresh collections, choice	11 @ 11¼
Common to good	10½@ 10¾
Duck, Md., per doz	28 @ 29
Western, per doz	27 @ 28
Southern, per doz	25 @ 27
Goose, per doz	70 @ 80

FRUITS—GREEN

Apples, extra, fancy, per bbl	4 50@6 00
Baldwin, per bbl	3 00@4 00
Greening, per bbl	3 25@4 00
Ben Davis, per bbl	3 50@4 50
Russet, Roxbury, per bbl	2 50@3 25
Russet, Golden, per bbl	2 25@3 00
Grapes, State, Catawba, per 5-lb basket	6@ 15
Catawba, per case	1 25@2 25
Strawberries, Fla., extra, fancy, per quart	30@ 40
Poor to good, per quart	15@ 25

GRASS SEED.

Clover, per 100 lb	6 25@ 8 25
Timothy	3 50@ 4 50

HAY AND STRAW.

Hay, No. 1 Timothy	90@ 95
No. 2	80@ 85
No. 3	65@ 75
Clover, mixed	70@ 80
Clover	60@ 65
Salt	45@ 50
Straw, long rye	75@ 95
Short rye	50@ 60
Oat	50@ 60
Wheat	40@ 45

HONEY.

State, white clover, comb, fancy, per lb	— @—
Fair, per lb	— @—
Buckwheat, comb, per lb	8 @ 9
Extracted, per lb	4 @ 6
California, comb, fair to prime, per lb	12 @14
Extracted, per lb	5 @ 6
Southern, in bulk, per gallon	45 @55

MEATS—DRESSED.

Veals, country dressed, prime	8 @ —
Fair to good, per lb	6½@ 7½
Com. to med., per lb	4 @ 6
Small, per lb	3 @ 3½
Barnyards, per lb	— @ —
Spring lambs, each	3 00 @6 00
Roasting pigs, 10 to 25 lbs. each, per lb	8 @ 12
Pork, country dressed, 40 to 60 lbs., per lb	6½@ —
60 to 80 lbs. per lb	6 @ —
80 to 120 lbs., per lb	5½@ 6
120 to 180 lbs., per lb	5 @ —
200 lbs and up, per lb	4¼@ 5
Rough, per lb	3 @ 4

POTATOES.

Bermuda, new, per bbl	7 00@8 00
Second crop, per bbl	5 00@7 00
Florida, prime, per bbl	5 00@6 50
Seconds, per bbl	3 00@4 00
Havana, per bbl	5 00@6 00
Houlton Rose, per d. h. bbl	1 50@1 75
Maine Rose, per d. h. bbl	1 25@1 50
State Rose, per d. h. bbl	1 00@1 25
Maine Hebron, per sack	75@1 00
Long Island, in bulk, per bbl	60@ 80
State Rose and Hebron, per 180 lbs	75@1 00
Burbank, etc., per 180 lbs	50@ 75
Jersey, in bulk, per 180 bbl	50@ 75
State and Jersey, per sack	60@ 70
Common, per sack	50@ 60
Sweets, Vineland, fancy, per bbl	3 50@5 00
South Jersey, per double-head bbl	2 75@3 25
South Jersey, cloth top, per barrel	5 00@3 25
Jersey common, per barrel	1 50@2 50

POULTRY—LIVE.

Fowls, local, per lb	10 @ —
Western, per lb	10 @ —
Southern, per lb	9½@ —
Chickens, local, per lb	10 @ —
Western, per lb	10 @ —
Southern, per lb	9 @ 9½
Roosters, old, per lb	6 @ —
Turkeys, mixed, per lb	11 @ 12
Ducks, local, per pair	70 @ 90
Western, per pair	60 @ 80
Southern, per pair	60 @ 65
Geese, local, per pair	1 25 @1 50
Western, per pair	1 12 @1 37
Southern, per pair	1 00 @ —
Pigeons, per pair	30 @ 40

VEGETABLES.

Asparagus, Char., colossal, per doz bunches	6 00@7 00
Charleston, prime, per doz bunch	4 00@5 00
Charleston, shorts, per doz bunches	3 50@4 00
Charleston, culls, per doz bunches	2 50@3 50
N. C., prime, per doz bunches	3 00@5 00
Beets, New Orleans, per 100 bunches	2 50@6 00
Florida, per crate	1 00@1 25
Florida, per 100 bunches	2 50@5 00
Brussels sprouts, per quart	5@ 15
Cabbage, Florida, per barrel-crate	2 25@2 75
Carrots, washed, per bbl	1 25@1 50
Unwashed, per bbl	1 00@1 25
Cauliflower, Fla., per half bbl	3 00@4 50
California, per case	2 00@3 50
Celery, fancy, large	75@ —
Average, prime, per doz	40@ 65
Small, per doz	15@ 30
Cucumbers, hothouse, per doz	50@1 50
Egg plant, Florida, per box	1 50@3 50
Green peas, Fla., per crate	1 50@3 00
Horseradish, per lb	3@ 5
Kale, per bbl	1 25@1 75
Lettuce, Florida, per half-bbl basket	1 00@3 50
New Orleans, per bbl	2 00@6 00
Charleston, per bushel basket	50@1 00
Norfolk, per basket	50@ 75
Bermuda, per crate	1 00@1 50
Onions, Eastern, white, per bbl	1 00@2 00
Eastern, red, per bbl	1 00@1 25
Eastern, yellow, per bbl	1 00@1 50
Bermuda, per crate	1 50@2 00
Peppers, green, Fla., per crate	—@ —
Radishes, Fla., per 100 bunches	1 00@4 00
Spinach, per bbl	1 50@2 00
Squash, Marrow, per bbl	1 00@1 50
Hubbard, per bbl	75@1 00
Florida, per crate	2 00@2 50
String beans, Florida, per crate	2 00@4 00
Tomatoes, Fla., per carrier	1 50@3 50
Per crate	1 00@2 50
Key West, per carrier	1 00@3 00
Key West, per peck box	25@ 40
Turnips, Jersey, Russia, per bbl	1 00@1 25
Canada Russia, per bbl	1 25@ —

MILK AND CREAM.

The total daily supply has been 21,169 cans of milk, 194 cans of condensed milk and 374 cans of cream. The average price paid for the surplus on the platforms has been $1.32 a can of 40 quarts.

Miscellaneous Advertising.

In writing to advertisers, please always mention THE RURAL NEW-YORKER.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE NAME THUS Stewart Hartshorn ON LABEL AND GET THE GENUINE HARTSHORN

BOWKER'S ANIMAL MEAL

Is better than

Scraps, because it furnishes meat and bone in a finer, dryer form, easier to digest, requiring no preparation for use. It is better than

Bone, because it furnishes meat as well as bone, both ready for feeding. It is better than

Shells, because it furnishes lime in connection with the albuminoids and protein required for the production of eggs and sustaining the health of the fowls.

It makes hens lay;
It makes chickens grow.
Enough for 10 hens 3 months, $1.
Four times as much for $2.25.
Little book, "The Egg," free.

Bowker Company, 43 Chatham St., Boston.

FREE To every farmer in the U. S. who grows CORN and POTATOES, who will send us his name and address plainly written on a postal card, we will send ABSOLUTELY FREE OF CHARGE, information that will be of great value to him. Write TODAY! D. Y. HALLOCK & SON, Box 305 York, Pa.

DREER'S RELIABLE Seeds, Plants & Bulbs

are everywhere known as the Best. Why risk poor ones when the best cost no more. Send postage stamp for Dreer's Garden Calendar for 1896—richly illustrated; two colored plates on cover, of popular flowers. It describes everything New and Old, of Merit.

HENRY A. DREER, 714 Chestnut St., Philadelphia.

FLORIDA Up-to-date Horticultural hand book. Past and present of the fruit industry. Experience and opinion of 400 leading growers. Latest practice and best methods of culture. Most recent experience in orchard and market with varieties new and old. Authoritative work by State Horticultural Society. Send $1 for "last Annual," to A. H. Manville, Secretary, Glen St., Mary, Fla. FRUIT GROWING

FOR ALLAYING HOARSENESS AND IRRITATION OF THE THROAT, use "*Brown's Bronchial Troches.*" 25c. a box. Avoid imitations.—*Adv.*

PIANOS! ORGANS! FREE!

TEST TRIAL FOR 30 DAYS IN YOUR OWN HOME. NO MONEY REQUIRED

PIANOS-ORGANS FROM $25.00 UP

Including a Complete Musical Outfit. CASH or EASY PAYMENTS.

NEW SOUVENIR CATALOGUE

A work of art illustrated in 10 colors. Worth its Weight in Gold. We pay charges on it and send it FREE, all you have to do is to ask for it to-day please. Remember this is the old established house of CORNISH & CO., the only firm in the world selling exclusively from Factory to Family direct. A single instrument at wholesale price. We save you from $25.00 to $250.00. Write at once to

Mention Paper. CORNISH & CO., Estab. 30 years, Washington, N. J.

DIBBLE'S SEED POTATOES

All New and Standard kinds at lowest prices ever made for the choicest stock. Only a few thousand bushels left. Buy of the Growers and save money. CATALOGUE FREE.

EDWARD F. DIBBLE SEED COMPANY, Honeoye Falls, N. Y.
The largest growers of FARM SEEDS in the world.

POTATOES $1.50 a Bbl.

Largest growers of POTATOES for Seed in America. The "Rural New-Yorker" gives Salzer's Early Wisconsin a yield of 736 bushels per acre. Prices dirt cheap. Our great Seed Book, 148 pages and sample 14-Day Radish for 6c. postage. JOHN A. SALZER SEED CO., LaCrosse, Wis.

CARMAN No. 1, $2 per Barrel.

Carman No. 3, $4 per barrel. Great Divide and Maggie Murphy, $2 per barrel. Freeman, World's Fair, Irish Daisy, Early Puritan and Vaughan, $1.50 per barrel. 100-Day Bristol Corn, $1 per bushel. Barrels and bags free.

MONROE SEED CO., Rochester, N. Y.

References.—Bank of Monroe, Rochester, N. Y.; Fourth National Bank, New York City.

POTATOES. 90c. a bbl. PRICES REDUCED

Am. Wonder, Irish Daisy, Orphan, Rural No. 2, at 90c.; Early Ohio, Six Weeks, Early Market, Ohio Jr., New Queen, Wisconsin Beauty, Polaris, Freeman, etc., at $1.50; World's Fair at $1.40; Great Divide at $1.75; Maggie Murphy at $1.25; Carman No. 1 at $2; Carman No. 3 at $5.50. Order quick.

L. L. OLDS, Clinton, Rock Co., Wis.

SIR WILLIAM You can get choice Seed Stock of this grand main-crop potato direct from its introducer. Write for his April prices.

BURR'S No. 1 A new and very promising early potato. For special introductory price and illustrated booklet that tells all about them, and Sir William, address

R. D. BURR, Gloversville, N. Y.

Carman No. 1

Potatoes; cheap, to close out.

T. GREINER, La Salle, N. Y.

$1 a barrel for Orphans, Dutton and White Seedlings. Am. Wonders and Maggie Murphys. Selected stock, 12 barrels, $10.

ED. S. HILL, Perryville, Tompkins, Co., N. Y.

SEED POTATOES—R. N.-Y. No. 2, pure stock Withstands drought better than any other potato. Good looker; good quality, and a good seller. Bbl., 10 pecks, $1; 5 bbls., $4.50; 10 bbls., $8.50. L. H. CLARK, Alger, Ohio.

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No. 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

SEED POTATOES You can buy them way down cheap. 16 varieties, warranted true to name. $1 and upwards per barrel. List free.

GEO. H. COLVIN, Crest Farm, Dalton, Pa.

Moneymaker 150 bbls. Carman, Sir William and 40 other choice varieties.

E. S. WISEMAN, Big Rapids, Mich.

Carman Potatoes No. 1 per lb., 25 cents; per peck, 60 cents; per bushel, $2. No. 3 per pound, 30 cents; per barrel, $4.

HAVEN SEED CO., South Haven, Mich.

Potatoes—Rural New-Yorker No. 2, per barrel, $1; pure.

J. BUTLER, Everittstown, N. J

POTATOES Empire State Express (earliest of all), sample 6c., with Carman No. 1, 10c. Four quarts of most *new kinds* for 25c. Thirty newest varieties. Wholesale price list *free.*

GEO. A. BONNELL, Waterloo, N. Y.

SEED POTATOES 500 bushels Carman No. 1, Thorburn Early and Beauty of Hebron. Send for prices. Address

STEPHEN HOYT'S SONS, New Canaan, Conn.

PURE SEED POTATOES.

Rural New-Yorker No. 2, Green Mountain, American Wonder, $1 per bbl. Polaris, Ea. Puritan, Ea. Pride, $1.20 per bbl. Twenty other standard varieties, 25c. per peck f. o. b. Cash with order. Reference, Bank of Holland Patent, N. Y. F. H. THOMSON, Holland Patent, N. Y., Fairview Farm.

CARMAN No. 3 POTATOES (Thorburn stock) at reduced price, to close out. Half bushel, $1; bushel, $1 25; barrel, $4, f. o. b.

W. W. HAVELY, Coal Center, Pa.

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AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Windgalls and Puffs.

My mare has windpuffs on her forward fetlock joints, and sometimes after a long drive, or after standing in the stable, the joints swell. She sometimes goes lame, but not often. Some say that I must blister. Is that best? She is a valuable mare, and this is her only trouble. F. J. S.
Charlotte, Me.

Blistering and rest will remove the puffs; but they will be liable to reappear if the mare is again put to hard work, or driven at a rapid pace. Rub the whole of both fetlocks thoroughly with ammonia liniment (equal parts of the stronger aqua ammonia and sweet oil well shaken together). Repeat the application in three days if the skin is not well blistered by the first application. Then, after the effects of this blister have nearly passed off, if the puffs still remain, blister them by rubbing well with biniodide of mercury ointment. During treatment, the mare should have light walking exercise daily.

Lumpy Jaw.

1. Is lumpy jaw contaglous? 2. Does it injure the milk of a cow? 3. What remedy should be used to cure it on a strong and otherwise healthy cow, that has but one lump about the size of a hickory nut? J. M.
Sheridan, N. Y.

1. Lumpy jaw or actinomycosis is rarely, if ever, contagious, *i. e.*, it does not spread from one animal to another. The cattle usnally get the fungous from the food. 2. Not in slightly affected cases. In advanced or badly affected animals, the milk could hardly be wholesome. 3. Iodide of potassium in one to two-dram doses once daily, in the feed or drinking water. From your description, your cow, evidently, has not the lumpy jaw, but a simple tumor from some other cause that could, probably, be most easily removed by the knife.

Bad Teeth in Horse.

I bought a three-year-old mare two months ago that had run on green pasture, but the grass was very short, until I bought her. She was very poor, and I have been feeding her good wheat hay and rolled barley, and have kept her in the barn with the best of care. She was lousy, but I got rid of the insects. She eats well, looks fairly well, has good life, and is shedding her coat; but she bites and scratches herself all over, and her breath smells very badly. She has no cough and no discharge at the nose, looks bright in the eye, and seems well every way except the itching and bad breath. What is the trouble? A. E. B.
Healdsburg, Cal.

Have her mouth examined by a veterinary surgeon. There is evidently either a decayed tooth or ulceration from laceration of the mouth by the teeth. For the itching, give the mare six drams each best aloes and ginger, and follow with a bran mash diet until purged. If not purged in three days, repeat the dose. Then give her, once daily, in her feed, one tablespoonful of Fowler's solution of arsenic, and one tablespoonful of Glauber salts.

Care of the Horse's Shoulders.

At the beginning of spring work, horses' shoulders are tender and soft. What is a good preparation to apply to toughen them? E. W. S.
Vilas, Wis.

In order to prevent soreness or galling of the shoulders in spring, first see that the collars fit properly, and that they are neither too large nor too small. I prefer a properly fitted leather collar without any kind of sweat-pad. Where there is danger of chafing of the skin, the collar should be washed after each day's work. The shoulder should be washed with cold water, and then bathed with some astringent wash, as white-oak bark tea, or two drams tannic acid dissolved in a pint of alcohol. If the shoulders become abraded and sore, either wind the collar, or preferably apply a sweat-pad so cut out as to relieve the pressure from this point, sponge off with castile soapsuds, rub dry, and then apply benzoated oxide of zinc ointment. A great variety of washes or preparations have been advised for sore shoulders and galls, most of which possess more or less merit. Much less depends upon the particular wash used, than upon the care given the harness and shoulders as regards proper fitting and cleanliness.

Retention of Afterbirth.

What food or medicine will best induce a cow to clean after calving? I have been troubled with several not cleaning; even when removed by hand there was some discharge which injures the cow's usefulness. The cows are fed ensilage, bran, oil meal and hay. E. J. R.
Concord, Mass.

With cows that are well fed and cared for, and that are in good, thrifty condition, there should rarely be any trouble from retention of the afterbirth. There must be some fault in the care or management of your cows. There is no food or medicine that is especially serviceable in causing the expulsion of the afterbirth. If not expelled naturally, it is usually necessary to remove it by hand. I would advise you to call a competent veterinarian to make a personal examination of your dairy and surroundings.

Milk Fever in Cow.

I recently had an extra good cow drop her calf. I gave her a bran mash, and she cleaned all right, and ate her supper and part of her breakfast Saturday morning. But she would not drink, and my son untied her, and she walked out of the shed and fell down. The boys tried to give her a horn full of linseed oil, but she would not swallow it or any water. She lay all day groaning, and when I came home, I found no fever. Her legs were cold. She lay in one place all day, and did not struggle, but groaned, and died about 10 o'clock that evening. G. B.

The cow died of milk fever. In cases that are so rapidly fatal, there is little or no hope from any known treatment. If treatment be attempted, a competent veterinarian should be called at the first indication of illness. The disease is one which should be prevented, rather than treated. It occurs most commonly at the third to the sixth calving, in cows that are heavy milkers, in good flesh and well fed, and that calve without difficulty. If the attack occur within three days after calving, it is usually fatal. After the third day, there is more hope of recovery. Prevention is sought by reducing the feed, especially the grain ration, for two or three weeks before calving. Then just before, or immediately after calving, give a dose of one pound of Epsom salts, one-half pound of common salt, and two ounces of ginger, dissolved in three pints of water, as a drench.

About Lampas in Horses.

1. Up to what age does a horse have the lampas? 2. What is the cause of the lampas? 3. Does it come from the stomach? V. B.
Langenburg, Canada.

1. Lampas is the name given to a congested, swollen condition of the gums or mucous membrane of the horse's mouth, just behind the upper incisors. In slight cases, the gums project, in a more or less prominent ridge, to the level of the teeth; or in severe cases, even beyond the teeth, when they become painful and may interfere with feeding. The condition occurs most commonly in young horses from three to six years of age, but it occasionally occurs in older horses. 2. In young horses, it is usually due to dentition, or cutting the permanent set of incisor teeth. In older horses, to digestive disorder, or to injury to the gums. 3. Yes, occasionally. In young horses, treatment is rarely required; the condition usually disappearing after the completion of the eruption of the permanent teeth. In extreme cases, where the gums project so as to interfere with feeding, scarify or bleed lightly from the ridge between the teeth and the third wrinkle. Then wash once or twice daily with a solution of alum or white-oak bark tea. Burning out the lampas, still occasionally practiced by the quack, is a barbarous practice, which is unnecessary and should never be permitted. In older horses, when due to digestive disorder, give five to eight drams best aloes, according to the size and condition of the horse, with an ounce of ginger, as a physic.

PROFIT IN HENS.—After living a half century, and being familiar with poultry from boyhood, I will say from my experience during the past 20 years in keeping hens for profit (and always with some profit, too), that J. A. W., or any other man who can breed and select 200 hens and keep them in one flock and get, on an average, 136 eggs a year for each hen, has an armor plate that is proof against those excellent shots fired at him by Myra V. Norys or any one else. J. A. W. knows a good laying hen when he sees it, and has not spent all of his 15 years of poultry experience in hunting up poultry appliances and condition powders. F. G.
Stuart, Mon.

(Continued on next page).

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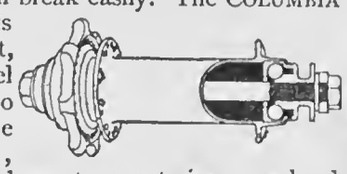

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WILD BLOOD IN TURKEYS.

A WORD OF CAUTION.

So much has been said about crossing turkeys with wild blood, that many who have not already tried it, will do so this spring. I do not think too much can be said in favor of this cross, as long as one breeds from turkeys with wild blood in the gobbler only.

Last year I had a large flock of one-eighth wild, Bronze hens, and a pure Bronze gobbler. They were all spring birds. The hens commenced laying the first part of April, making their nests near the house, but laying together badly. After they had laid about 10 or 12 eggs apiece—our turkeys generally average about 18 eggs apiece—they wished to sit. Of course, since there were two or more laying on the same nest, I was compelled to move them before giving them their eggs. I experienced much difficulty in doing this, since I find them less docile than the pure Bronze, often stealing from their nests before I could take them. Altogether they made restless sitters, although there were a few exceptions.

After they had hatched their broods, they were confined in coops for about three weeks, the poults running at large. They bore their confinement fairly well, and made passable mothers. When we finally let them out, we expected them to come back to the yard every night, as our turkeys had always done before. There we were disappointed, for they invariably went to roost wherever night overtook them, which was nearly always on our neighbor's farm, and, unless driven home, never thought of coming. They wandered far and wide, making themselves a perfect nuisance to the neighborhood, and no end of trouble for us. In the latter part of July, when the little ones were about six weeks old, they were doing so much damage in a neighboring wheat field, that we shut the old ones in their coops, thinking that the poults would stay with them; but the first thing in the morning they walked back to the field, paying no attention to their mother's plaintive calls, and we were compelled to let them stay without the old ones, until the wheat was harvested thus incurring a severe loss from exposure.

After repeated efforts in the fall, we were able to get our turkeys to stay permanently at home, that is, what were left of them, which was less than one-half the original flock. Many, we think, were stolen, and others had gone into neighboring flocks.

On another part of our farm, we had a flock of full-blood hens bred to a half wild tom. These turkeys stayed where they belonged, and the poults were the strongest and healthiest we had ever seen. The only drawback to this cross we found, was a habit they have when first hatched, of running off into the grass and hiding when anything frightened them, instead of going in the coop to their mother. This is serious if the grass is wet, and if they lose their way, which might often be the case.

I now have tried raising one-fourth, one-eighth and one-sixteenth wild turkeys, and, taking them altogether, much prefer the one-eighth, that is, a-quarter wild tom bred to pure Bronze hens. That amount of wild blood gives strong poults and early maturity, without perceptibly reducing their size, and only affecting their plumage in making the breast feathers more brilliant, and the tail a trifle dusky, where in the Bronze it is clean gray. S. M. H.

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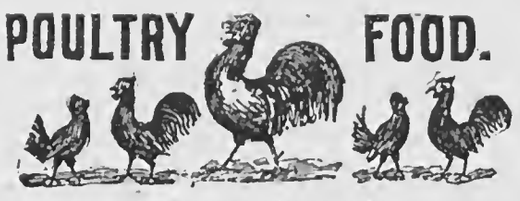

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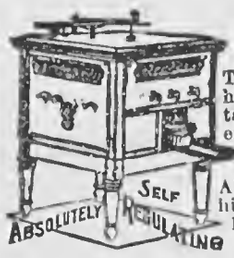

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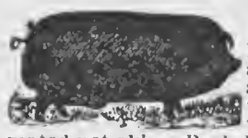

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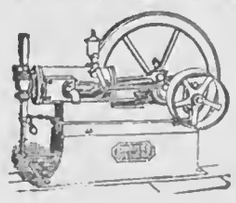

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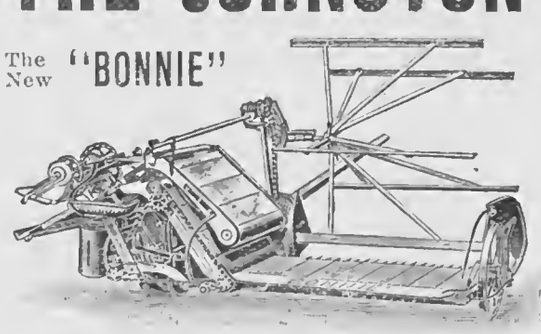

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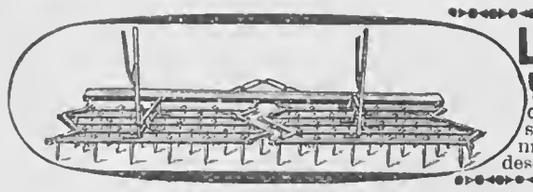

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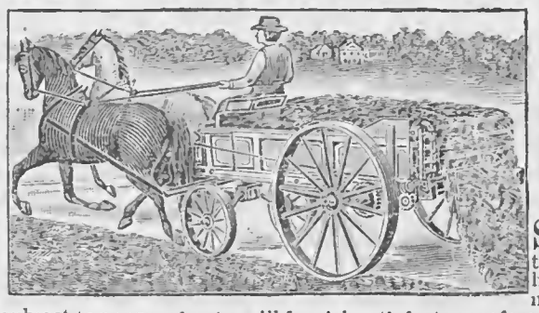

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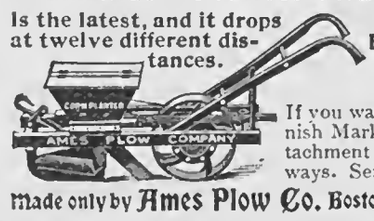

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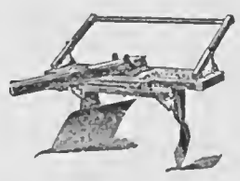

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Cuts the potato as if done by hand and leaves the field with its work completed.
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Look up its record. Catalogue sent free.
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2412. NEW YORK, APRIL 18, 1896. $1.00 PER YEAR.

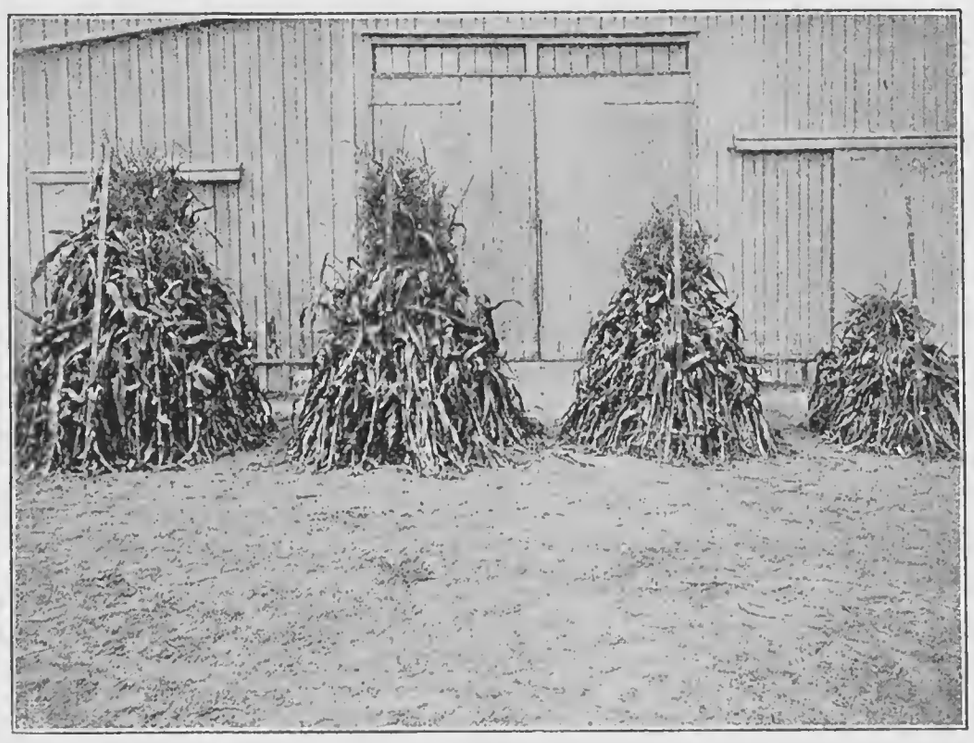
IRRIGATION THROUGH TILE DRAINS

PUMPING WATER UNDER GROUND.

Irrigation Pays in Wisconsin!

Last year, we gave an account of an irrigation experiment conducted in 1894 by Prof. F. H. King at the Wisconsin Experiment Station. On the station farm, is a field containing about five acres underlaid by a system of tile drains measuring 7,022 feet in length. In order to study the movement of water through soils under ordinary field cultivation, it was proposed to force water back into these tiles and observe how it disposed of itself. A pump and engine, shown at Fig. 84 were connected with the outlet of the drainage system into the lake—thus raising the water and forcing it into the tiles under the crops. It was decided to compare this method of tile irrigation with surface irrigation and natural rainfall. Accordingly, portions of different fields were cut off from the water, while others were irrigated by pouring the water directly upon the surface. In this way, a fair estimate of the difference in yield between crops that receive all the water they need, and those that depend on rainfall alone, was easily obtained.

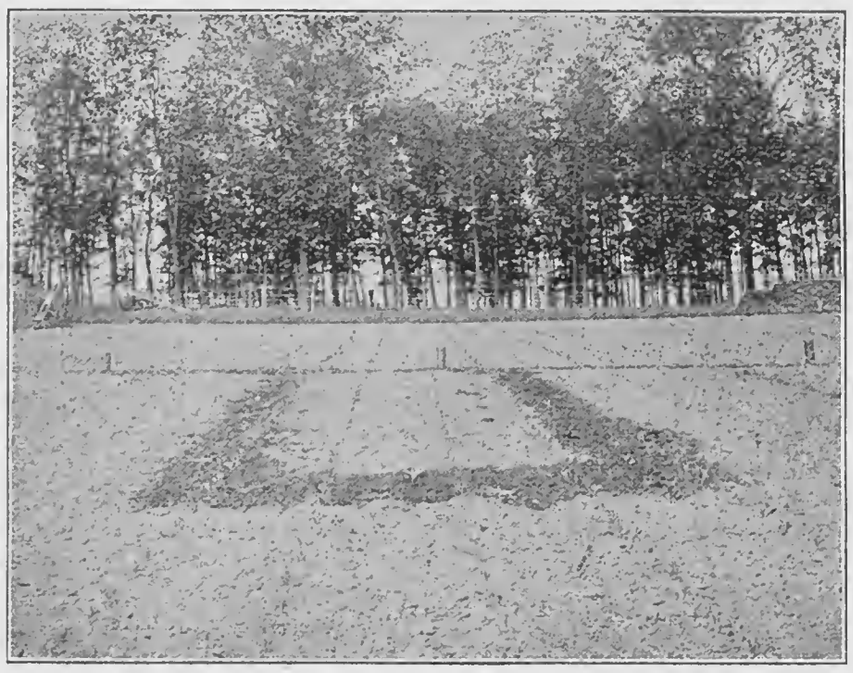
Fig. 81 shows four shocks of corn grown upon equal areas of land. The large shock (to the left) was grown upon land where surface irrigation was given. The next shock grew on near-by land, into which water was forced through the tiles. The third shock came from another part of the field where tile irrigation was given, and the smallest shock was grown alongside the first and second, but on land not irrigated. The fairest comparison is between the smallest shock which represents the natural rainfall, and the two larger ones which show the difference between surface and tile watering.



IRRIGATED AND NON-IRRIGATED CORN. FIG. 81.

The tiles through which the water was forced, were laid 18 inches below the surface, and in rows 10 feet apart. As may very readily be seen, this is not the best arrangement for such tiles, as in order to be most effective, they should be placed nearer the surface of the soil. When placed so deep in the soil, a portion of the water is lost—that is, it percolates below the level at which the roots feed most effectively while portions of the upper soil are often left quite dry. An illustration of this is shown at Figs. 82 and 83, which show views looking lengthwise and sidewise of the experiment rows. The dark spots indicate where the water rose to the surface when an attempt was made to saturate the soil. Water enough to cover the ground more than 15 inches deep, was pumped into the tiles. With this immense amount of water, a space about four feet wide over each row of tiles, was saturated to the surface, while midway between the tiles the ground was wet to within nine inches of the surface. Thus with the tiles so deep in the ground, more water is required to moisten the surface soil than when the water can be poured on top of the ground.

The corn crop for 1895, on this field, gave the following comparative results. The rainfall during the growing season was but 4.48 inches. The corn grown without irrigation yielded an average of 2,768 pounds of dry matter per acre. In addition to the natural rainfall, water equal to 26.60 inches was pumped upon the surface of another plot. This gave a yield of 10,587 pounds of dry matter per acre. The other plot had water enough to cover an acre to a depth of 30.32 inches pumped into the tiles, and yielded 7,615 pounds of dry matter per acre. This is a striking illustration of the value of irrigation. The addition of the water increased the weight of the corn by 300 per cent. There is no doubt about it—a plant a-thirst is a plant cursed and must be wet-nursed.



HOW THE WATER RISES OVER THE TILES. FIG. 82.

SIDEWISE VIEW OF TILE-IRRIGATED FIELD. FIG. 83.

A still more striking illustration of the value of water in a dry time is shown in an experiment with clover. A part of the field had no tile under it, and could not be irrigated. On June 15, the clover was cut from this part and yielded about 1 2-5 ton of hay per acre. The remainder of the field was irrigated by pumping water into the tile, and this, cut June 21, yielded at the rate of four tons of hay per acre. On June 17, and on July 12, the whole field was surface irrigated. This was done by pumping water to the highest point and permitting it to run over and soak into the soil. On August 13, after a growth of 56 days, the clover was cut again and yielded at the rate of 1 4-5 ton of hay per acre. On August 19, the field was again watered, and again on September 21, at which date there was a thick stand of clover on the ground, from six to eight inches high. On October 3, 58 sheep were turned on this clover and, by hurdling, found ample pasture for 31 days on 3 1-5 acres. Had no water been added, there would have been but a single crop of clover, not over 3½ tons on the entire field. The irrigation produced a gain of 5½ tons of hay and 31 days' pasture for 58 sheep. The cost of pumping the water is estimated at $18, which includes the wages of two men for three days, and an engine and fuel for the same time

Prof. King spent last summer in Europe, and he says that he was greatly surprised at the extensive irrigation of meadow and pasture lands in southern Europe. Thousands of acres of meadow land are irrigated regularly every year, whether the season is wet or dry. The common idea held abroad, he says, is that the chief value of irrigation lies in the fertilizing materials held in solution. Great volumes of water are permitted to run over meadows during the winter, as it is believed that this will deposit quantities of fertility.

There can be no question about the value of a constant and uniform water supply, and all over the country, men are studying how to devise means for utilizing the waters of ponds or streams. J. H. Hale has an ingenious device on his Connecticut place, that might be copied on many hill farms. Along the ridge at the upper part of the farm, runs a small brook. By digging out a small "pocket" in this brook, sufficient headway is produced to give a constant flow of water through a six-inch pipe which runs nearly a mile down to the lower end of the farm. This pipe, laid below frost, follows the highest part or "backbone" of the farm, curving around depressions and little hills to avoid extra digging. At intervals, it is tapped by hydrants to which a hose and sprinkler can be attached when needed, so that the entire farm may be watered. A portion of the water of the brook still flows away unused; but if more water be required, a reservoir can be built to store it—ready for use. This is the simplest form of irrigation. No pumping is required as the water supply is *above* the land to be irrigated. It is simply a matter of changing the course of the brook and turning its waters into the pipe, so that its own weight will force it wherever needed.

Years ago, the Southern farmers threw vast quantities of cotton seed into the rows—just to get rid of it. Now, when they are haunted by the ghost of an un-

paid fertilizer bill, they regret their old-time, short-sighted folly, and wonder how they could have thrown so much good fertility away. Many of us will live to see farmers wonder why, for years, they let the waters of the brook run idly away! Irrigation is the creation of a cheaper plant ration.

LETTING AN ORCHARD ON SHARES.

What Is a Fair Share?

We have an eight-acre orchard (as good as the average in this locality) that we would like to let to some neighbor on shares, he to do the necessary spraying and gather the apples when ripe. What share should he receive? If let for a number of years, what share should he have, he to prune the trees and do all the work (no cultivating)? C. E. B.

Cambria, Mich.

VARIOUS ANSWERS.

During the year I was in Europe, and during the Columbian Exposition year, when I was engaged in Chicago, I leased my orchards, vineyard and asparagus field, the lessee to prune, spray and cultivate properly, as I directed. He kept accurate accounts of all sales, and we divided the income equally between us. We were both well satisfied. The lessee has always contended that I was very liberal with him.

C. W. GARFIELD.

The difficulty which at once presents itself in estimating what would be considered a fair share in a case like this, is the uncertainty of the apple crop. Oftentimes, as here in western New York, it is greatly reduced, if not an entire failure. At the same time, pruning should be properly performed each year, and the work of spraying, it is assumed, is to be carried on as occasion requires. So it is made evident that much depends on the outcome of the orchard, in forming even an approximate estimate. And there is to be considered the amount of time consumed in the work of pruning and spraying, which would vary to a large extent in different orchards. The cost of harvesting could, ordinarily, be estimated at 10 cents per barrel, being, I believe, about the price paid in this part of the State; though, in case of a light crop, when the fruit is scattered through the tree, the expense would be greatly increased. Again, in the event of an unusually abundant crop, it would allow of the share being proportionately less, and at the same time be on a fairly paying basis. Accordingly, the fact presents itself that only in case of guaranteed fairly average crops continuously from year to year, could anything like a proper calculation be made relative to what a just share for one year, or a term of years, would be? Even then, as we consider the opposing influences connected with this crop of late, it would be a most difficult undertaking. So I give it up. IRVING D. COOK.

Orchards are rarely, if ever, rented in this manner; hence there are few, if any, precedents upon which to base a conclusion. Moreover, neither the age of the orchard, nor the number of years of the proposed rental, is specified. Nothing is specified respecting the very essential matter of manuring, which must, unavoidably, essentially affect results. Aside from the foregoing particulars, the varieties which go to make up the orchard, may easily constitute all the difference between profitableness and unprofitableness, financial success and failure, to say nothing of accessibility to a good market. If, however, it be assumed that the orchard is to be suitably cultivated and judiciously fertilized, that the lessee is expected to treat it with three or four thorough sprayings each year, that it is made up of fairly profitable varieties; and, farther, that the lease shall include a fair average of its life, from planting to decadence, it would seem but reasonable to compare such lease, so far as rates are concerned, with that of lands leased, under similar conditions, for ordinary farming purposes; or, perhaps, from one-fourth to one-third of the crop when properly harvested. T. T. LYON.

If the apples are hand-picked and put in barrels ready for market, or otherwise properly taken care of, one-third of the crop would be about right. If taken care of by a No. 1 man for a series of years, properly pruned, and the fruit marketed (no cultivating to be done) one-half of the fruit would be about right, and one-half of the proceeds of the windfalls. Much would depend upon whether the orchard was in meadow or in pasture, to be fed off by sheep or hogs. If the fruit in the orchard was much of it very choice in kind, the man who had it on shares, would have a good bargain. S. S. BAILEY.

So many variable conditions have a bearing on the subject, that no general rule as to the share of product which the owner or operator should have, can apply to every case. The location as to facilities for marketing the fruit, the varieties of apples in the orchard, the size and style of the trees (as the labor of picking fruit from very large trees is much greater than from trees of medium size and good form), also whether the orchard has, up to the present time, been properly cared for, and whether the orchard is in a good condition as to fertility or not, must all be considered. If in all these respects, it is in good, fair condition, it might be about fair that each party should have half the proceeds. Then again, the inquirer does not state how the fruit is to be disposed of, whether marketed at the orchard, or how far be drawn to market; or whether each party shall market his part of the fruit, or the lessee market the whole; whether part, little or much, of the fruit shall be evaporated by the lessee, or whether each party shall dispose of his own share in that or any other manner. Therefore, no specific answer can apply without taking all these points into consideration, which can only be done by those who are, or can become, familiar with the case in question.

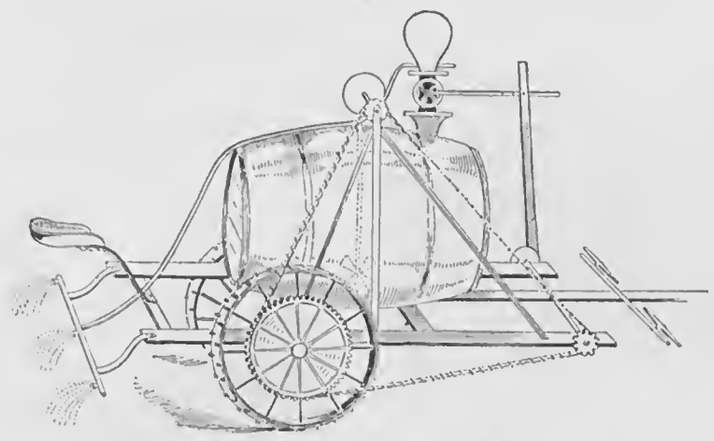
It is common for owners of farms throughout the country, to let them to tenants on some general plan of sharing, and the same rules generally govern whatever the quality, size and condition of the farm, or convenience to market, etc. As a result of such system, those who own the best farms, best conveniences and locations, are able to secure the best tenants, and thus they are graded downward, so that the poorer the farm, the less favorable location, and less conveniences, the poorer the tenant is very sure to be. The owners of the poor farms with the poor tenants are very likely to remain poor, and generally they do not know why it is so. If C. E. B. has a good orchard, well located, he should be able to find a good man to take charge of it. And if both are men of good sense, they ought to judge nearer than any one at a distance can, what share each should have, and let the orchard be cultivated so that the shares may be increased.

T. G. YEOMANS.

HOW THE WATER IS PUMPED FROM THE LAKE. FIG. 84.

SOME USEFUL HOMEMADE TOOLS.

A farmer with any mechanical genius, can make in winter and on rainy days, many tools at slight expense. A friend made a potato planter from a worn-out grain drill cut down to six feet wide, so as to plant two rows at once, and return in the wheel mark, thus avoiding marking the ground. The teeth are all



A HOMEMADE SPRAYER. FIG. 85.

removed, a seat attached in front for the driver, and two behind on which boys sit to drop the seed through tubes which reach the ground just behind a small plow which opens a trench. Each plow is followed by two hillers from an old cultivator arranged so as to cover the seed which is carried in the grain box. It does the work well and rapidly, and cost less than $5.

I made a sprayer, see Fig. 85, which has been in use two years, and works as well as those costing from $60 to $75, at an expense of about $15, which was mostly for pump, hose and nozzle. An old mower furnished wheels, axles, seat, frame and tongue. A large sprocket-wheel and two small ones with a binder chain, were found in a neighbor's pile of old iron. These furnished the power by fastening the large wheel to one of the drive wheels, one small one to a shaft which, with a crank at the other end works the pump handle, and the other one to an old gear from a binder, which runs an agitator in the barrel. The chain runs over all three wheels, which are placed in line.

For potatoes, a hose leads from the pump to a half-inch gas pipe fastened to the rear of the frame, to which are attached three Vermorel nozzles three feet apart. Of if preferred, two hose may be used, one attached to a three-foot gas pipe, with nozzle attached at a right angle, so that the driver can hold it over a row at one side. Attach the other hose to the center of another three-foot piece of pipe bent in a half circle, to each end of which is attached a nozzle by a short piece of hose. Another man hangs this over his shoulders, takes a nozzle in each hand, and covers two rows with the spray. I consider the latter plan the better, for occasionally a hill will be out of line, or the tops bent over, and a stationary nozzle will fail to hit all with the spray and leave bugs enough to "seed" many adjoining hills. An acre can be sprayed in a little more than one-half hour. The machine is equally effective on grapes and currants.

Another simple tool, which can be made in two hours, is a plank drag. Its manner of construction is known to nearly every one, but its value is known only by those who have used it. I consider it better than a roller for crushing lumps, and smoothing and leveling the surface. E. C. GILLETT.

FRUIT PRODUCTS OF VENEZUELA.

Perhaps such of your readers as have a taste for horticulture, may be interested to hear of the fruit products of a region much nearer in miles and money to New York, than is California, and not much more distant in time, by the slow, but excellent steamers sailing every 10 days. The valley of Caracas has a climate of perpetual May—mean annual temperature 71 degrees, usual range in the cooler months, 55 to 75 degrees; in the warmer, 60 to 80 degrees; lowest record, 48 degrees; highest, 85 degrees.

Of the fruits produced here, and abundant in the market and on the hotel table during our six weeks' stay in January and February, the chief are these: Chirimoya, oval-shaped, average diameter about 4x5 inches; skin like a green cucumber, filled with white, soft pulp, in which are imbedded a number of black seeds, as large as a kidney bean; sweet, with a delicious, aromatic, pineapple flavor. Riñon is much like chirimoya, but smaller and having a rather more delicate flavor. Sour Sop grows to dimensions of 6x10 inches, tart, excellent for stewing. Lachosa looks, cut or uncut, like a large muskmelon, except that the very thin skin (rather than rind) is smooth, and the spicy, edible seeds are about the size of grains of wheat. Pulp sweet without mushiness, and buttery, rather than watery. Mango is like a plum of orange size and color, large stone, sweet, juicy, a slight, not unpleasant, suggestion of turpentine in the flavor. Nispero is like a Japan persimmon, except its rusty coat; flavor and flesh between that and a Sheldon pear. Alligator pear, orange, lime, sweet lemon.

All the foregoing, grow on trees, some of the trees very large, and get little or no cultivation. Bananas of finest quality grow almost wild, and the excellent pineapples are indigenous in Venezuela, as is also, I think, the Parchita, which is, Humboldt says, at its best here. The homegrown apples, quinces, peaches, nectarines, plums, watermelons and muskmelons in the market, are mostly of poor quality because utterly neglected. I think that there is not one grafted or budded tree in the country. In this equatorial region, Nature is so prodigal of spontaneous production that man grudges even a little labor to assist.

Vines of the finest European grapes produce three crops a year, but they must be trimmed, and that is too much trouble. I do not hear that they are attacked by fungus or insects. Wild strawberries are in market, a different species from ours, about the size of our wild ones, but less acid. The breadfruit trees that I have noticed, have no fruit on them at present. I am told that the fruit is little used here, and I see none in the market. Some of the fruits ripen continuously in this valley through the year; others, not now ripening here, are brought from a different altitude, where a higher or lower temperature hastens or retards. There is a great change in a short distance; for example, La Guayra, six miles from here, 23 by the winding railroad, has an annual mean temperature of 84 degrees, 13 degrees higher than Caracas. It is 3,000 feet lower.

But some of the fruits of the region are not in season so as to be found in this market now. Prickly pear we have had at table, but I get the names pomerosa, icaco, perra, memon, mamae, tamarind, as fruits now ripening, which I have not seen.

But this does not tell the whole story of the fruit capabilities of the elevated part of the equatorial belt of South America. Bates, in his great work, The

Naturalist on the River Amazons, enumerates 12 fruits found wild in the forest in one locality on the upper Amazon, and says that there are "a great number of others." He says, "I was quite surprised at the variety of wild kinds, and the delicious flavor of some of them; being the peculiar productions of this highly favored and little known interior country." Bates concludes his book with his estimate of this region, in these words: "I hold to the opinion that it is under the equator alone that the perfect race of the future will attain to complete fruition of man's beautiful heritage, the earth." A. J. COE.

Caracas, Venezuela.

AN APPLE ORCHARD EXPERIENCE.

In the summer of 1886, I bought one dozen apple trees of a tree agent. These trees were heeled in in the fall according to his directions, and planted in the spring with all possible care. Half of them never started to grow, and the rest feebly struggled on till, at the end of two years, not one of them was left. I paid $5 for those trees.

In the spring of 1888, I sent to a nurseryman in New York State for six dozen apple trees. The trees cost $5, and the freight on them, the box and the trees weighing 160 pounds, was 94 cents. So the six dozen trees cost me not more than $6. The trees had been on the road and at the station nine days before I got them. They were planted May 3 and 4. The varieties were mostly of my own selection. Every one of these trees grew. In a year or two, one of them blew down from the effects of the borer, and I have since lost two more, I think, from the same cause. The rest of the trees are looking very fine, and have begun to bear some.

On May 4, 1891, I planted another shipment of trees from the same firm, with equally good results. I paid a little more for these trees; they cost about $1.25 per dozen. Not being able to get, in the East, some of the hardy and newer varieties more especially adapted to Wisconsin, I have since bought my trees of a Wisconsin firm, with good satisfaction.

My last purchase was planted on April 18, 1894. From the effects of the drought the following autumn, I lost three or four of these trees out of the 33 planted. These trees cost me, express charges included, $1.52 a dozen. Were I to order my apple trees through a tree agent, they would cost me fully twice what they do now, and I would not expect to get as vigorous and thrifty trees.

Another thing about the management of my orchard gives me excellent satisfaction. It is the planting of the trees in rows, and not in squares. The rows are a little more than 2½ rods apart, and the trees one rod apart in the row. This affords an easy opportunity of working the ground with a team, and of driving with a wagon in the orchard. With the close planting in squares so common, the working of the orchard is soon abandoned on account of its crowded condition. A sod is allowed to form, and remains as long as the trees live. So well am I pleased with thus planting in rows, that I would not change it for any other system or reason of which I know at present.

I have had to protect the stems of my apple trees with lath on account of rabbits. This is a sure and safe way; sure for the rabbits, and safe for the trees. I have often read that we should not put tar paper around the trunks of apple trees, but I have never seen any reason given. I had always thought that it was the tar of the paper that might injure the tree. But at a farmers' institute last winter, I succeeded in obtaining what I think is the true reason. The black color of the paper absorbs the rays of the sun. Insert a thermometer between the paper and tree on the south side, and then similarly on the north side, and note the difference in temperature. It is this excessive difference in temperature existing when the sun shines, that is injurious to the tree.

Wisconsin. LEWIS OSTENSON.

MILK, CREAM, BUTTER! WHICH?

A MASSACHUSETTS MAN SAYS MILK!

A recently received problem runs like this: Sell 1,000 gallons of milk at your door, at market rates. Cream 1,000 gallons (Cooley or separator) and sell as cream to the factory. Make 1,000 gallons into butter and give us the result. The answer follows, and may bring out more information. The 1,000 gallons of milk problem, resolves itself thus as viewed from my standpoint: 1,000 gallons at my door are worth $120 to-day; 1,000 gallons sold to creamery or butter factory, $115 to $123; 1,000 gallons made into butter, $112 to $118. The reasons why milk selling is most profitable here are that milk sold at the door costs less in the first place. Why? Cotton seed, bran, cabbage, anything will answer to feed. Holstein or other big milk breeds may be used, as quantity is first, and quality second, because milk peddlers are not particular, and quantity is what brings the cash.

As to creaming: Spaces count here, so we feed richer, costlier feed stuffs, to perhaps, Jersey or Guernsey cows. In this case, we feed more costly, perhaps, than in the first instance; but here we use cotton seed. I do not wish to be too severe, yet I must say that carelessness is at a premium, and careless men exist. Where we find barnyard fowls roosting on empty milk vessels, and ice-cold water to wash them in, then we must conclude that cheaper products are the results following cheap, careless handling of the dairy product. While, in the first instance, we get $120, we get in this case, at most, $123, which has cost, at least, with as little as possible of care in handling, several dollars more than in the first case.

As to the buttermaking by a private dairy: We have a name to establish or to maintain, and a fancy trade to supply if we are to get $118. We must be, first of all, neat, methodical, with the best of feed stuffs, for we must have rich milk—quality, not quantity, first. There is more expense for feed, utensils, such as churn, molds, workers, etc. There must be a regular market day, rain or shine. So while the different methods vary so little in cash received,

A CALF BIT. FIG. 86.

the cost is immensely greater as we progress towards the more complete article, butter, which will fill the bill and the pocket with dollars eventually. Therefore, we are to conclude that the farmer who sells his milk at his door, is doing best with milk at three cents, cream at 39 cents, and butter at 25 cents, if the only consideration is his dairy interest.

Perhaps another factor in the problem might be considered, however, and that is that a good run of customers for a private dairy, will always buy more or less eggs, potatoes, fruits, nuts and a thousand and one other things at a good retail price from the butter man. This advantage ought to be considered of value on any farm. But do not forget that it takes time, which is money, to go to market, and that expense must be met. Five cents a pound on butter would require a good-sized dairy, if it is to pay living wages to the average farmer, to market his own products of the dairy alone. Q.

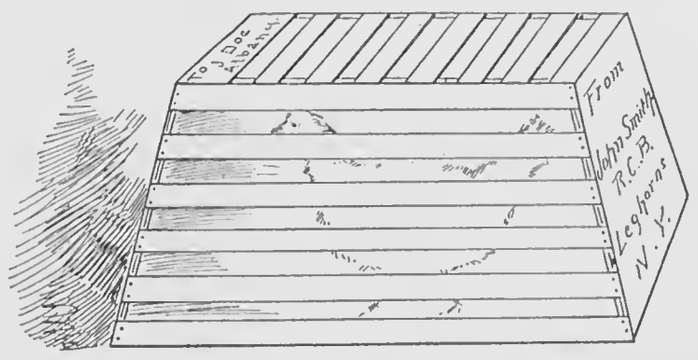
Hampshire County, Mass.

WHAT THEY SAY?

A CALF BIT.—Drill ⅛-inch holes at the marked places, Fig. 86, in a piece of one-fourth-inch gas pipe about four inches long. Make eyes in each end of a piece of one-fourth-inch iron, into which put rings. Put this on a common head halter, and put on the sucking cow the same as a bridle; she can't suck, as the air comes in at the ends and through the holes. Watch and see whether she drinks, as it will bother her a little at first. I have known them to be kept on six months without being taken off. J. A. M. G.

St. Marlin, O.

SHIPPING POULTRY FOR BREEDING.—It was a great piece of injustice in the rules of the transportation companies, which compelled the breeder of fine poultry to pay double the rates charged for the transportation of most other merchandise. That we are at last relieved of this burden, is the subject of great rejoic-



COOP FOR SHIPPING POULTRY. FIG. 87.

ing among those who are most interested, the buyer and the seller of good poultry. The claim made by the companies that the reason for the double rate was that the coops used for shipping poultry were so light and insecure that they were often troublesome, was reasoning from the effect back to the cause. The coops were made as light as possible to make the cost of transportation less.

The present demands of the companies are so reasonable, that poultrymen will gladly conform to them, making their coops strong, and even heavy, where it is necessary, in order to avail themselves of the single rate. The express companies require that the box or crate be strong and well built, and that the slats be so near together that a bird cannot slip out between them. These boxes may be lined with cloth or paper, at the option of the sender, but they must have slats on the outside.

A neat box for two or three small fowls, or one large one, may be made as shown at Fig. 87. Secure half-inch planed boards—I use old packing boxes. If the boards are narrow, fasten two or more together with cleats, making the side pieces from 12 to 15 inches wide, and from 20 inches to two feet high. The bottom board should be of three-quarter-inch stuff, as wide as the side pieces, and long enough to accommodate the fowls—one of two feet is large enough for a pair of Leghorns. Bevel the ends of the bottom board a little, and nail the side pieces secure to it. Lay the box on its side, and nail a slat to each side, at the top, drawing in the side boards so that the top shall shall be, at least, two inches narrower than the bottom. Turn it over, and fasten a similar piece to the other side. Cut two pieces of clean sacking or muslin a little larger than the crate, fold in the edges, and cover the sides of the crate, fastening with large carpet tacks. Draw the cloth tight, so that it will be smooth. Nail a slat at the bottom, not only at the ends, but along the bottom board, and put a slat at intervals of about 2½ inches along the sides. The slats across the top should be near enough together so that a fowl cannot get its head through, as crates and boxes are likely to be piled indiscriminately, and if a head were raised in idle curiosity just as a box was being placed on the crate, it would surely be bad for the head.

When fowls are to be sent long distances, food in a cloth bag, and a drinking cup which can be readily adjusted, should be provided, with a card asking employees to attend to the needs of the travelers.

S. A. LITTLE.

A DIFFERENCE IN COWS.—At the Minnesota Experiment Station, a careful record is kept of just what the cows are doing. All are fed as much as they will eat clean each day, and each is charged with the cost of all feed. Each milking is weighed, and a sample of it is tested by the Babcock test. The following is a sample week's work by a few of the cows:

Name.	Breeding.	Pounds of butter.	Cost per lb of butter.
Ida	Grade Short-horn	6.19	.087
Fairy	Grade Short-horn	7.43	.073
Topsy	Grade Holstein	13.79	.057
Houston	Cross-bred Guernsey-Jersey	8.03	.033
Fortune	Jersey	12.409	.037

From the above, it will be readily seen that the cow which gives the greatest yield of butter, is not necessarily the most profitable cow. J. M. DREW.

RAW POTATOES FOR FEED.—I have but a small piece of land, and make a specialty of raising potatoes. I have fed the unsalable ones for several years, to a cow giving milk, and also fattened for market dry cows and young cattle. My experience has been that my one cow has given as much milk of good quality when fed one-half bushel of potatoes per day, as when fed liberally on ground feed (oats and corn). I do not make butter, so cannot give any experience on that point. I have, at different times, made my old cows and young cattle as fat and as salable on no other feed than raw potatoes and hay as they were when given ground grain. At one time, our butcher said that the old cow was too fat for his use. I am now feeding my cow potatoes, and she fills my 14-quart pail with good milk twice a day, so I shall continue to feed them. W. W. P.

Wolcott, N. Y.

A CRIMSON CLOVER CRANK.—I sowed my whole corn field, at the last cultivation, with Crimson clover and some turnip seed, and you ought to see the clover! I have a good stand at this writing; it is worth at least $50 to the field, and, besides, it saved my corn crop, which gave a large yield. Had I not sowed the clover, the white grubs would have destroyed the corn; but they liked the clover better, and worked at that and left the corn for me to gather. So your advice gave me a big stand of clover, and a large crop of corn, enough to pay for THE R. N.-Y. during my lifetime and that of my successor. G. C.

Monroe County, Pa.

CROSBY AND ELBERTA PEACHES.—For years, we have read of the Crosby peach as frostproof, hardy, and just the peach that was wanted if one wished to be successful in growing peaches. I have tried both the Crosby and Elberta, and am greatly disappointed with the Crosby. With me, it is not hardy. The lower branches have a tendency to die, and the past winter has killed the branches badly, while the Elbertas are all right. I certainly, with my experience, would not wish to set any more Crosbys, but would recommend the Elberta in the highest terms for a hardy peach in the North. BENJAMIN M. SMITH.

Massachusetts.

A CHAMPION FOR KEIFFER PEAR.—I was glad to see in THE R. N.-Y. of February 29, your very graceful, if somewhat tardy, apology to Mr. Keiffer Pear Ensilage. And if you had been as wise as your better half, and not tried to eat them offhand green, perhaps you would have made a full apology. A Keiffer is very poor eating green; they should be kept until they are fully ripe—ripe enough to rub the skin off with the finger. Don't be afraid they will rot at the core like the Le Conte and many others. I will tell

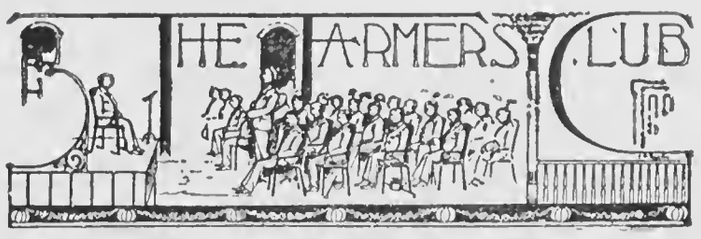
you how you came to get those you speak of. Last fall, as we were delivering them at the station, we had to pass Mr. Packard's house, and we got to talking of the slaps THE R. N.-Y. made at Keiffer, I told Mr. Packard that I would give him a basket if he would send them to THE R. N.-Y.

The block from which those pears came was set in 1888; 400 trees set 16 feet apart, 378 living in 1895, from which we sold last year, at our station, over 2,000 baskets of fruit, guaranteed to measure 2¼ inches in diameter. We also evaporated 300 to 400 baskets that were a little under size. We have three other blocks, some older, some younger. The ground we selected is sandy. No use to set them on land having any tendency to clay, or even heavy loam. Our oldest trees were budded on the French quince or hedge stock, our latest setting on Le Conte stock. Budded on Le Conte stock, they are worth double in quality, looks, size, etc. W. F. M. K.

Dover, Del.

SEX IN BREEDING.—Some excellent points are brought out by F. W. in Sex in Animal Breeding From experience and observation, I agree with him, to a certain extent, that the offspring will be that of the weakest parent. I also think that the Creator planned all things, and if either of the sexes become too plentiful for a time, that sex will gradually slacken, and the other will become replenished. I do not advocate the close confinement of breeding stock, either the male or female. Our experience with hogs is that whenever the boar is kept in close quarters, the sows will not have very many pigs; they are also very small and weakly. We always find it best to let the hogs have plenty of exercise, especially through the winter, if we expect large and healthy litters of pigs. Never slight the males in any kind of stock; the male is half, and a great deal the larger half. Care for the male well, and have him in a good, strong, healthy condition when the mating season comes. The feeding of hogs, especially through the pregnant season, has much to do with the offspring. M. S. T.

Mingo, O.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

"Black Teeth" in Pigs Again.

F. S. E., Farmer, N. Y.—From remarks in regard to black teeth in pigs (made on page 196), I infer that we do not think alike, as I have been educated to believe that pigs would not thrive well if they had black teeth. May I ask whether that is only a whim?

The presence or absence of black teeth has nothing to do with the health or thrift of the pig. Like "wolf teeth" in horses, they are harmless. The popular idea that the black teeth are injurious to the animal, is, as you say, "only a whim," a relic of superstition and quackery.

Injury to a Boar.

E. R. M., Bridgeville, Del.—My Cheshire boar was injured so that his testicles have dropped down so that it appears that he has but one. Their former location is covered with scabs similar to warts. He is as good for service as ever, but this scabby formation is slowly growing. Is it injurious, and can it be removed safely?

I would not advise you to try to treat this case yourself. If treatment ever seem desirable, employ a veterinary surgeon to operate on the animal. It is quite probable that the injury will not unfit him for service, in which case, treatment will be unnecessary.

Colt With Swelled Leg.

G. H. R., Reed City, Mich.—I have a colt three years old in May, that was injured on his right hind leg a year ago. The leg is swelled just above the fetlock. A surgeon gave me something to blister it, that made it worse. Then he wanted to fire it, and I afterwards applied liniment, but could not get rid of the swelling. Can it be cured?

Try painting daily with the compound tincture of iodine, until the skin is well blistered. Then apply, once or twice a week, for several weeks. If this fail, and a marked enlargement still remain, firing will, probably, have to be resorted to, if it is especially desirable to remove the blemish. Be sure to employ only a regular veterinary surgeon to do the firing.

It May Be Glanders.

H. C., Dover, Del.—My mule has a thick, yellow discharge from the left nostril, which is very offensive. He is in good health, seemingly, eats well, and his eyes are bright. About one year ago, he got cast in the stall, and bruised his head badly, but all sores have healed up with the exception of the under jaw which seems healthy, but refuses to heal owing to his chafing it while eating. What will cure the discharge? Is it contagious?

The discharge may be due either to glanders or to ulceration or disease of the bone; possibly a diseased tooth. It is not contagious unless it prove to be glanders. Owing to this possibility, I would advise you to have the mule examined at once by a competent veterinarian, and if the animal be found to be glandered, it should be condemned and killed.

Ringworm in Calves.

F. H. L., Middletown, N. Y.—I have nine calves nearly a year old, that I am raising. I have been feeding them about one bushel of cut potatoes a day, and about one pint of grain each, sometimes oats, sometimes hominy meal, and sometimes rye, corn and cob ground together, and all the hay they can eat. They are growing nicely, but a few of them have a breaking out about the head; the hair comes off, and a scaly substance comes, especially around the eyes. I rub them with veterinary vaseline, and they will be smooth next day, but will come scaly again.

The trouble appears to be due to a parasitic skin disease called ringworm. Paint twice a week with the compound tincture of iodine, being sure to cover the diseased patches and to saturate the hair for, at least, one-half inch around the margins. Be careful not to allow the tincture to run into the eyes.

"Worm" in a Cow's Tail.

F. L., Worcester County, Mass.—Ten days ago, I noticed that one of my cows was shrinking in milk and flesh, though, to all appearances, she was as healthy as any of the others. Two days ago, I noticed blood on the tail, and discovered about six inches from the end, a hole a quarter of an inch in diameter. There was a slight swelling which, by pressure, discharged considerable blood and matter, while on pressing the swelling downward, I noticed a very small worm wriggle out of the hole and drop on the floor. The cow is now doing well. I have never seen or heard of cattle having trouble like this, though my man says that he has seen several similar cases in Poland. I have seen two cats have trouble like this. With one, the swelling began at the end of the tail, would discharge and heal up, and in a few days, break out an inch further up. This continued till it traveled the length of the tail, and had reached the body, when we put the cat out of further misery. The other cat was affected the same way, but after several applications of carbolic acid, was cured. What is the trouble? Does it pass from one cow to another, and what is the remedy? May it not be a trouble of the bone, the worm being present more by accident than connection with the sore?

The swelling and subsequent suppuration was, probably, due to a bruise or other injury. The filament you mistook for a worm, I am of the opinion, was only a slough of the tendinous tissue of the tail, caused by the suppuration. With a sharp knife, make a free opening into the cavity, and wash out daily with a two per cent solution of carbolic acid. It is not contagious.

Soft Shelled Eggs; Lame Hens.

M. B. S., Centerville, N. Y.—I have 50 hens, and feed bran and middlings, four quarts in a mash in the morning and four quarts of buckwheat at noon, a few boiled potatoes almost every day, two kinds of oyster shells, and ashes. They have water all the time, but the shells are very thin, and some have no shell at all. They get broken by the hens stepping on them. The same hens are also affected by losing the use of their legs, or have weak backs. They do not seem to be able to walk, but move along on their wings. The strangest part of it is that I placed these affected hens in the cow barn where it is open and cold, with what they can pick to eat, and three out of four recover immediately. The fourth dies, or after about a week, recovers.

ANS.—The cause of the thin shells is that the hens are overfat, due to being fed three times a day, mostly on grain. It is a *sure* indication of hens being overfed when the shells of eggs are thin, or when the hens lay double-yolked eggs or eggs with soft shells. The lameness is due to injury of the spine by the heavy, fat males. Separate the males from the hens, and reduce the food to one meal a day, to be composed of one pound of lean meat for 20 hens (nothing else), for two weeks. P. H JACOBS.

Ringing Hogs; Pasturing With Cattle.

J. C. E., La Crosse, Wis.—What is the best way to prevent hogs running in pasture, from destroying the grass by rooting? Is there anything better than the old way of wire rings in their snouts? Is this an effectual preventive? Is it advisable to pasture hogs and cattle together?

ANS.—I find it much more difficult to prevent hogs rooting when they have the run of the permanent pasture, than when pastured on clover fields. The permanent sod is much more likely to be infested with worms and insects. Rooting may, in a measure, be prevented by proper feeding, supplying the animal with all the needs of the system. I often give fall pigs the run of the clover sod, during the winter, that is to be plowed the next spring. By feeding bran and middlings as a part ration, and keeping a supply of hard-wood ashes and salt constantly before them, they do but very little rooting. But I am satisfied that, if they had only corn for feed and no salt and ashes, they would root almost incessantly when the ground was soft enough.

I never ring spring pigs that go to market in October, November or December. This year, pigs that were farrowed the last week in May and the first week in June, went to market the last week in December; they were never ringed, were never taken off the clover field, and persons passing over the field expressed surprise at the small amount of rooting done. They had a small feed of bran and middlings each day, and an abundant supply of salt and ashes, along with a full corn ration. But my fall pigs are now (February), running over the Blue grass sod, and I have found it necessary to ring them. When land is well drained, naturally or artificially, they will not root as much as they will in wet, spouty land. I find the wire ring very effectual in preventing rooting; it should be properly set, not quite in the center of the cartilage of the nose or too much to one side, neither should it be set too deep. Never use a ring that joints in the nose, and if possible, use a ring made in such a way that the joint will not turn into the nose. A hog will not thrive with a sore nose. I use a ring in which, when closed, one end of the wire stands at right angles to the ring, extending out about one-sixteenth of an inch; this prevents the joint from turning into the nose.

With farmers that follow mixed stock growing, it is the usual custom to pasture hogs and cattle together. If the water supply be limited, it should be so arranged that the hogs cannot spoil it for the cattle. If very abundant, no care need be taken in this direction. This, and the soiling of the grass by the hogs running through it after leaving their wallows, can be the only objections to the plan, and the latter is a minor affair if the pasture be as abundant as it should be. JOHN M. JAMISON.

The Robinson Plum.

E. W. P., Rockford, Mich.—Will you describe the Robinson plum—color, quality, productiveness and habit of trees? I can't find it in my catalogues?

ANS.—Albertson & Hobbs, Bridgeport, Ind., introduced it some 10 years ago. It is of medium size, red blotched, and said to be of good quality. The tree is an early and an abundant bearer.

Dwarf Apples and Barren Cherry Tree.

A. B. C., Toms River, N. J.—1. What is your opinion of dwarf apple trees? Would you advise planting them between standard apple trees? If so, what varieties would you recommend for this part of New Jersey? 2. I have a strong, healthy cherry tree (Belle Magnifique) that blossoms profusely every spring, but has no fruit. What would you advise doing with it? It is five years old.

ANS.—1. If the orchard is to be cultivated, the dwarfs would, of course, interfere. We see no other objection, as apples on Paradise stocks may be planted as close as six feet apart. They bear very early, often the third year. Red Astrachan, Porter, Alexander, Baldwin, Wagener and Northern Spy would be our choice. 2. Our impression is that this variety is not an early bearer. If the land is rich, root pruning may hasten bearing.

Working Plums on Apricots.

O. E. S., Lincoln, N. Y.—I have 40 thrifty, three-year-old Royal apricot trees, and I don't think that they are hardy enough for us. Will plums grow all right if grafted on them? Or, would you try the apricots longer?

ANS.—Yes, plums may be worked on apricot, peach or almond stocks. The apricot, however, is not a satisfactory stock upon which to bud or graft plums. It is certain that, if our friend graft plums on his apricots, the latter will not be made hardier thereby.

Some of the Newer Grapes.

E. T., Boston, Mass.—Some reference has been made in THE R. N.-Y. to an early-ripening grape, a comparatively new one, which I cannot find. Will you refer to it again? Can it be the Alice? It is certainly newer than the Green Mountain. It would be a great convenience if THE R. N.-Y. would print a list, which could be cut out, of the earliest and best vegetables for a private family. One is confused in looking through the catalogues. Nott's Excelsior pea is doing finely for me in the foot hills of the White Mountains.

ANS.—The Alice is a new red grape that we have had for years on trial. It was introduced last year. This is excellent in quality, thick-skinned and a long keeper, but it must not be classed among early grapes. Nectar is comparatively new and quite early, of good quality, black in color and medium in the size of both berry and bunch. Diamond (white), is earlier than Concord, showy, hardy and desirable. Early Ohio is one of the earliest black grapes, but of inferior quality. Colerain (white), is an early grape much like Concord in quality. Geneva (white), is a new, early grape ripening after Green Mountain—berries large, pure and of good quality. We are trying nearly all the vegetable novelties from year to year, and have been so doing for 20 years, and in our reports, as well as under Catalogue Reviews, we endeavor to call attention to the best.

"Holland" Cabbage and its Culture.

C. H. O., Lancaster, O.—A nice, solid cabbage is sold in our market. The grocers call it "Holland" cabbage. I think that it comes from Long Island, or at least, from New York. What is the name? Will it grow in this latitude? It is the most solid cabbage that I ever saw, and at this date, our cabbage is all gone.

ANS.—The most of the foreign cabbage sold here, or, at least, the most of the very hard-headed kinds, come from Denmark, and are called Danish cabbage. Early in the year, these were quoted here at prices double those of our domestic cabbage. The heads are very hard. As to the quality, opinions differ. We have eaten some of it that was very good, while some was tough and leathery. The largest importers of it here, tell us that the climate is the main factor in its solid growth, though we suspect that thorough culture has something to do with it. We have grown some of our best American varieties on good soil with

thorough culture, that were nearly as hard. The importers tell us that the seed of these cabbages, if grown here, would not produce heads to equal the imported ones. If any of our readers can tell us more about these cabbages, we shall be glad to hear from them.

"The Kinney Pump"; How to Use It.

F. H. P., Melrose, Mass.—1. Where can I buy a Kinney pump like that described in THE R. N.-Y. of June 8, 1895? 2. I am told that the fertilizing liquid must enter the pump at quite an angle, for if it enter at right angles, it will not work. The picture shows the latter construction. Which way is right?

ANS.—1. The Kinney pump is sold by Robert L. Merwin & Co., 88 Wall Street, New York. 2. The angle at which the fertilizing liquid enters, should make no difference with the working of the pump. The liquid is forcibly drawn into the chamber of the pump by suction, and there it is mixed with and carried along by the jet of water from the faucet, that is projected through the chamber. Where there is a water pressure of 25 pounds or more, there should be no trouble about the working of the pump, if a piece of ¾-inch discharge hose without a nozzle is attached to it. L. F. KINNEY.

"Barrels" for Potatoes and Apples.

Several Subscribers.—What is the proper size of potato and apple barrels for the New York market? There seem to be two sizes. What is the standard?

ANS.—Those holding plump 11 pecks. Many yet use what are known in the trade as pony barrels, and lose more in price than they gain in other ways. A barrel of potatoes should weigh not less than 165 to 168 pounds. In bulk, 180 pounds are required for a barrel. The use of the small barrels should be discontinued.

Trouble with Grass Seeding.

A. G., Tompkinsville, Pa.—I have a piece of land that was liberally manured with stable manure, then planted to corn, then to potatoes, and then sowed to oats and seeded with eight quarts of Timothy and four of clover seed per acre with a good dressing of commercial fertilizer. After harvesting the oats, we had a severe drought and the grass died. The next spring, I sowed to buckwheat, using fertilizer, and seeding as before. No clover or Timothy seed came up. Last spring, I sowed again with oats, sowed clover and Timothy seed, also used fertilizer; I get good crops of grain, but no good results as to seeding. What is the best thing I can do to get our land seeded without regard to a crop this year? Will it be a good plan to sow buckwheat and plow the crop under, and then sow Crimson clover and plow that under another year; or is there a better way? Our land is hardpan with a soil about 20 inches deep.

ANS.—It is not an easy task to advise A. G. after his trials and mishaps, except to try again. A dry season frequently causes young grass to fail after growing well early in the season, whether sown with oats or any other crop. In sowing grass seed with oats, it is well to sow it after harrowing in the oats, and follow with a plank drag. This will cover the grass seed lightly, and cause it to germinate better than if simply sown upon the surface. Buckwheat is not a desirable crop with which to start young grass; it shades too much, but plowing it down and sowing Crimson clover, not too late in the season, should prove a success. H. M. E.

Fertilizers and Green Crops for Corn.

G. W. S., Allen's Falls, N. Y.—I have a piece of land part of which is quite light sand, and part quite good soil, on which I wish to raise as much corn as possible without sacrificing profit. I would also like to do it without stable manure, as the field is three-fourths of a mile from the barn. Can I keep the land up by using 300 pounds of good commercial fertilizer per acre, and plowing under one green crop for every two crops of corn? Or would it be necessary to plow under a crop for every crop of corn? I sowed 1¼ acre of Crimson clover last year, but only a little of it grew on account of drought.

ANS.—The corn will do well with one green crop for two of the grain, provided you use enough fertilizer. If the Crimson clover does not do well, you can sow rye. This will give you humus or organic matter, and while not, of course, equal to the clover, it will do fairly well with the fertilizer.

Dissolved Rock and Muriate of Potash.

W. B. E., Reynale's Basin, N. Y.—I wish to use dissolved South Carolina rock and muriate of potash on potatoes this spring? Would it be best to broadcast the mixture early in the spring, or sow in the bottom of the furrows just before planting? The question is as to whether the potatoes will derive any benefit from the use of this mixture if not applied in time to dissolve. Will this mixture injure grain if drilled in with it?

ANS.—We would as soon use the whole of this mixture broadcasted and harrowed in before the potatoes are planted. Another good way is to make the furrows, plant the potatoes, and lightly cover them with earth. Then broadcast the fertilizer in a wide streak within and along the top of the furrow, and fill in by running the cultivator through the rows. We doubt whether this mixture will run freely through the drill unless plaster, cotton-seed meal or bone be used with it as a dryer.

Three "Mixed" Potatoes.

L. T. S., Plain Dealing, La.—I send three potatoes, all Polaris. You will see that one is pink, one with some pink on it, and one white, so you see that they are crossed. Triumph and Early Rose have been planted near these for one year, Early Rose two years. How do potatoes mix not grown from seed?

ANS.—The three potatoes received show a slight difference in color. It has been contended for many years past, periodically, that potatoes can mix or cross in the hill by contact or contiguity. Now we beg to repeat what we have said many times previously, that this is an impossibility. It it just as impossible as that wheat should turn to chess, or that fruit of any kind should be essentially modified by the stock upon which it is grafted. That varieties of potatoes should "sport," as we call it, does not give the slightest evidence, as we view it, that they cross by contiguity. It is merely an evidence of the cropping out of blood previously impotent. Inter-crossing has been going on between potatoes for years and years, and so-called "sports" are naturally becoming more and more frequent. But the crossing is all done through the blossom.

Spent Hops As Manure.

O. L. H., Springfield, Mass.—What is the value of refuse hops from breweries, for manure, if they can be had free for drawing away? I have to cart them two miles. Would they be valuable in summer time to spread fresh on land to be harrowed in?

ANS.—Generally speaking, these hops contain somewhat more fertility than average stable manure, though the nitrogen in them is not so available. They would be excellent to compost with manure or muck, or to use as a mulch around fruits. We would rather use them for these purposes, or to broadcast on grass or grain, than to plow them in while fresh.

Starting Seed Potatoes in the Light.

J. E. M., Hartford, Conn.—What do you think of exposing seed potatoes to the air and light for a while, to make the sprouts stockier, hardier, greener and more persistent, especially those planted late? Farmers, ordinarily, cannot have cold storage so long as would be desirable. I believe that the practice of fine cutting of the tubers, and the loss of sprouts, conduce to loss of stamina in the plant, making it more vulnerable to the attacks of insects and diseases.

ANS.—For many years, we have exposed to warmth and sunlight, our choicest tubers, for from one month to six weeks according to whether the kinds are early or late. We would not, however, so expose any tubers that had already sprouted—only sound tubers. There is a marked difference in different varieties as to sprouting. In some, only the seed end eyes will grow; in others, all of the eyes will grow when placed in the sunlight and warmth. In large quantities, we do not believe that it would pay to treat seed tubers in this way—so many of the sprouts would be rubbed off by handling.

Cabbage and Cauliflower Heading.

R. J. C., East Groveland, N. Y.—Which way of sowing the seed of cabbage and cauliflower will produce the most good, sound heads—sowing with a hand drill, two to four seeds in a hill and, later, thinning to one good plant, or sowing in beds or boxes and transplanting? Does transplanting aid in making better, surer heads? I raise vegetables for my own family use only.

ANS.—It has been pretty thoroughly proved that cabbages, especially the late drumhead varieties, are likely to head better if the seed be sown where the plant is to remain, conditions of soil, fertility and culture being equal. The usual practice is to plant six or eight seeds in a hill, and gradually thin out to the strongest plant; but since the advent of the cabbage worm, and hosts of recent insect enemies, the trouble of caring for so many scattered plants has proved too great, and the seed bed is, therefore, resorted to. It may be considered that plants of the cabbage tribe are not benefited by transplanting, in itself; but as they are little affected by it when done under favorable conditions, the use of a seed bed is generally to be recommended on account of greater ease and economy in growing plants. W. VAN FLEET.

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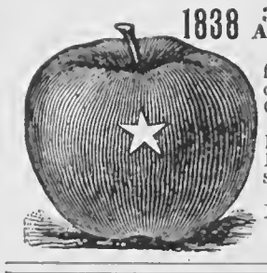

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PARRYS' POMONA NURSERIES, PARRY, NEW JERSEY.

BIG BARGAINS THAT'S WHAT YOU GET FROM ROGERS, DANSVILLE, NEW YORK,

the man who has the FRESH-DUG TREES. Rogers' Bargain Counter is a cure for hard times. You will be interested in the new additions. Here are some of them:

PLUMS.—Willard, 3 to 4 feet, per 100, $10; Satsuma, 3 to 4 ft., $7; Yellow Japan, 4 to 5 ft., $10.

HARRIS' HARDY APRICOTS.—Light, one year; eight for $1; 25 for $2.50.

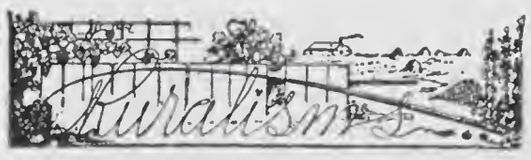
EARLY RICHMOND CHERRIES.—5 to 6 feet, heavy, 100 $10; 4 to 6 feet, medium, $8; second size, $7. Bargains, $4 to $6.

WINDSOR CHERRIES.—Heavy, 6 to 7 feet, $12 per 100. *Special prices* on other Cherries.

Small-size June Buds, Crosby and Mountain Rose, $2.25 per 100.

KEIFFER AND BARTLETT PEARS.—6 to 7 feet, $13 per 100.

These low prices hold good only while stock lasts. Write to-day and mention what you want. You can't afford to miss our Fresh-Dug Trees. ISAAC C. ROGERS (ROGERS NURSERIES), DANSVILLE, N. Y.



In The R. N.-Y. of March 21, page 211, appeared our report of the North Star potato received from A. E. Manum, Bristol, Vt.—"a solid, good-looking potato and, no doubt, worthy of trial. Yield at the rate of 444 bushels to the acre." Mr. Manum now finds that there is another variety called North Star, so that he has changed the name to Enormous. Mr. Manum raised last season, on one measured acre, 604 bushels.....

Those who care to try the so-called Kaffir corn (it ought to be Kaffir sorghum) should know that its first leaves are so much narrower than those of corn (maize) that one would readily mistake it for Red-top or Orchard grass. Besides, it is slower to germinate than Indian corn, so that, unless the field is moderately free of weeds, the rows of Kaffir corn cannot be distinguished from the weeds. It is well, therefore, to sow the seeds quite close together in the drill, so that the rows may be easily seen, and hoe out the superfluous plants afterwards. From our experience, we would say that Kaffir corn cannot be made a profitable crop without the use of the hoe. That is, it cannot profitably be raised with machinery and horse-power only. There is no doubt that Kaffir corn will stand more drought than Indian corn. And when you have said this, we believe you have said about all that may fairly be said in its favor.....

Many years ago, the editor of The R. N.-Y. tested very carefully the relative vigor and productiveness of weevil-eaten seed peas and sound seed peas. The result was that *all* weevil-eaten peas gave less vigorous vines and fewer fruits, while most of the more seriously injured seed, either failed to germinate or produced feeble vines that did not even blossom. This conclusion was not, at the time, accepted by seedsmen, many of whom scouted the idea. "We have been selling weevil-eaten peas through all these years without a complaint as to their excellence." So good an authority as Prof. C. V. Riley said in print that there was nothing in it. Well, the general estimate of the value of weevil-eaten peas, has changed decidedly. We doubt whether The R. N.-Y. ever rendered the public a more sterling service. Do not sow or plant weevil-eaten peas, friends. If you receive them from your seedsman, return them; or if you doubt our estimate of their value, select a dozen or so and plant them beside a dozen or so of sound peas. The injury which a weevil does depends, first, upon just how much the insect injures the germ (embryo) and, next, upon just how much of the food of the embryo is injured, that is, the seed leaves or cotyledons which nourish the embryo until it can send out roots for itself.....

We would advise our friends not to plant single-eye potato seeds. This has been advocated by several potato specialists as more economical than larger seed pieces. Potato growing, in a purely experimental way, has been one of our specialties for many (20) years, and if we have learned anything from our work,

(*Continued on next page.*)

Cheap Excursions to the West and Northwest.

On April 21 and May 5, 1896, the North-Western Line (Chicago & North-Western R'y) will sell Home Seekers' excursion tickets at very low rates to a large number of points in Northern Wisconsin, Michigan, Northwestern Iowa, Western Minnesota, Nebraska, North Dakota and South Dakota, including the famous Black Hills district. For full information apply to ticketagents of connecting lines or address H. A. Gross, G. E. P. A., 423 Broadway, New York.—*Adv.*

Take

The best when you buy your Spring Medicine, and that is Hood's Sarsaparilla. It overcomes that tired feeling, makes steady nerves.

Hood's Sarsaparilla

Is the One True Blood Purifier. $1; six for $5.

Hood's Pills are the only pills to take with Hood's Sarsaparilla.

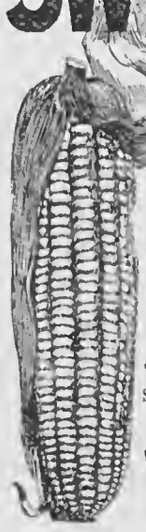
When good, live seed is sown, the planter's battle is half won. The seeds for wide-awake farmers and gardeners are

GREGORY'S HOME GROWN SEEDS.

Their vitality is assured. Everything that pays they grow. Get Gregory's Seed Catalogue for 1896 (mailed free) and you'll have a book worth reading. Filled with hard facts for planters.

J. J. H. GREGORY & SON, Marblehead, Mass.

SWEET CORN



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Choicest Seed ever offered, at a price for table use as green corn or for fodder.

Per bushel.....$1.60
Two bushels for 3.00
Six bushels for..... 8.00

SAMPLE FOR 2-CENT POSTAGE.

Sample, with our 116-page complete catalogue, 6 cents postage.

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New Catalogue of

GARDEN SEEDS

Now Ready. Send for it.

37 East 19th Street, New York.

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READ THIS OFFER!—We will send you, postpaid, 12 pkts. of the best tested garden seeds, all different varieties, for a 2 c money order. Satisfaction guaranteed. Don't wait. Order to-day. Hillside Seed Farm, Dalton, N. Y.

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ONE HILL

Our **"GOLD COIN" PROLIFIC is the Greatest Sweet Potato** on earth. **No one can offer it this year but ourselves.** It's a fortune to any one. **PAYS 20** times its cost in **increased yield** and **cheapness of production.** Quality the very best. Leading horticulturists say nothing equals it. Every farmer and gardener should grow it. No vines to bother. It's marvelous. Nothing before ever equaled it. Order immediately before stock is exhausted. We offer $100 for the largest yields. Our book, "40 years experience in growing Sweet Potatoes," Free. Price prepaid 1 lb. $1.00; 2 lbs. $1.50; 3 lbs. $2.00; 50 plants $1.00; 100, $1.50; 500, $5.00; 1000, $9.00. Send club orders.
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VINELESS OR BUNCH SWEET POTATOES, Genuine. White and Yellow; tuber and plants Address with stamp to *original* introducer and grower. G. Camerer, Box 72, No. Madison, Ind.

SEED SWEET POTATOES.

Kiln-dried—Yellow and Red Nansemond or Jersey Red Bermuda. For prices address
JOHN GRIFFITH, Cobden, Ill.

Closing-Out Sale

of choice, large-size SEED POTATOES, grown especially for seed, from treated stock. Barrel lots or three and four bushels: Carman No. 1, 50c.; Burpee's Extra Early, American Wonder, 35c.; Monroe County Prize, Troy Seedling, Seedling Peachblow, Rural Blush, R. N.-Y. No. 2, and Irish Daisy, 25c. per bushel "Improved American" Oats, three bushels, $1.25. Red Glaze Flint Corn, 75c. Early Mammoth Sugar Corn $1.25 per bushel. Circular free. Cash with order by registered letter, New York draft or Post-Office money order on Caledonia, N. Y.
D. C. McPHERSON CO., Garbutt, Monroe Co., N.Y

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3,000,000 Small
100,000 **FRUIT** Plants Trees

ALL FIRST-CLASS STOCK

OUR SPRING CATALOGUE MAILED FREE

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TWO NEW STRAWBERRIES THAT COME TO STAY.
Millions of Plants! Sixty Other Varieties!!
Donald's, Elmira and Palmetto Asparagus, Japan Plums, Apple and Peach Trees by the car load, from natural seed. A postal with your name will bring our 20-page Catalogue, if sent now to
Tenn. Peach Seed. **HARRISON'S, Berlin, Md.**

BERLIN

CARMAN No. 1, $2 per Barrel.

Carman No. 3, $4 per barrel. Great Divide and Maggie Murphy, $2 per barrel. Freeman, World's Fair, Irish Daisy, Early Puritan and Vaughan, $1.50 per barrel. 100-Day Bristol Corn, $1 per bushel. Barrels and bags free.
MONROE SEED CO., Rochester, N. Y.
References.—Bank of Monroe, Rochester, N. Y.; Fourth National Bank, New York City.

HAVE YOU ORDERED YOUR **Seed Potatoes** YET? If not, send for my special April Price List. It's a knockdown argument. If you see it you will buy. A car-load of A No. 1 R. N.-Y. No. 2's at eating prices. Anything you want in the potato line. Try me. J. M. FLUKE, Nankin, O.

SIR WILLIAM You can get choice Seed Stock of this grand main-crop potato direct from its introducer. Write for his April prices.
BURR'S No. 1 A new and very promising early potato. For special introductory price and illustrated booklet that tells all about them, and Sir William, address
R. D. BURR, Gloversville, N. Y.

CARMAN No. 1.

I paid Thorburn $26 per barrel; have never been sorry for they are grand in quality and production. I have a few barrels for sale at $2.50 f. o. b.
C. A. SWEET, East Aurora, N. Y.

SEED POTATOES 500 bushels Carman No. 1, Thorburn Early and Beauty of Hebron. Send for prices. Address
STEPHEN HOYT'S SONS, New Canaan, Conn.

POTATOES Empire State Express (earliest of all), sample 6c., with Carman No. 1, 10c. Four quarts of most *new kinds* for 25c. Thirty newest varieties. Wholesale price list *free*.
GEO. A. BONNELL, Waterloo, N. Y.

Potatoes—We have 75 bbls. of R. N.-Y. No. 2 and Maggie Murphy that have been bred for two things, QUALITY and QUANTITY. They are BOTH THERE. Smooth, vigorous; no sprouts. Price low; quality high. Mr. Collingwood has seen our seed, and knows us. **$1.75** per barrel. Money back if you want it. Order to-day.
E. MANCHESTER & SONS, West Winsted, Conn.

$1 a barrel for Orphans, Dutton and White Seedlings. Am. Wonders and Maggie Murphys. Selected stock, 12 barrels, $10.
ED. S. HILL, Peruville, Tompkins, Co., N. Y.

SEED POTATOES You can buy them way down cheap. 16 varieties, warranted true to name. $1 and upwards per barrel. List free.
GEO. H. COLVIN, Crest Farm, Dalton, Pa.

SEED 400 bbl. orders wanted. $1.50 bbl., for our high-grade potatoes, Pride of Seneca Rose, ped. stock. We are the introducers. 120 bus. from 1. Best qual., ea. and med. See Feb. 29. R. H. Brown & Co., Miller Corners, N. Y.

Reduced Prices! Carman No. 1, $1.50 per barrel; No. 3, $4.50; Sir William, $1.25; R. N.-Y. No. 2, 75c. Choice stock. Money order office, Waukesha.
FRASER BROS., Vernon, Waukesha Co., Wis.

Carman Potatoes No. 1 per lb., 25 cents; per peck, 60 cents; per bushel, $4. No. 3 per pound, 30 cents; per barrel, $4.
A. C. WOODRUFF, South Haven, Mich.

Potatoes—Rural New-Yorker No. 2, per barrel, $1; pure.
J. BUTLER, Everittstown, N. J

Perfect Seed Potatoes—Carman No. 1, R. N.-Y. No 2, etc. Write for prices. G. A. PARCELL, Wilawana, Pa.

Moneymaker 150 bbls. Carman, Sir William and 40 other choice varieties.
E. S. WISEMAN, Big Rapids, Mich.

Seed Potatoes—Carman No. 1, R. N.-Y. No. 2, Owen Seedling, etc., AT LOW PRICES. L. W. McELWAIN, Wilawana, Pa.

COW PEAS—$1 per bushel; f. o. b.; bags free. References, the Commercial Agencies
SMITH, WALKER & CO., Aylett, Va.

30,000 SNYDER and KITTATINNY Blackberry Plants, $5 per M. None better.
EAST VIEW FARM, Homewood, Pa

WORLD'S FAIR DIPLOMA

on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 50c.; bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed limited. Our **Early Siberian Oats** are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address
HOWARD LOUCKS SEED CO., Chittenango, N. Y.

BRANDYWINE,

Marshall and Rio Strawberry,

and a choice selection of Raspberry Plants. Carman Nos. 1 and 3 seed potatoes. Descriptive price list free. Address
EDWARD. T. INGRAM,
WEST CHESTER, PA.

B BUTLER'S BERRIES B

are true to name, fresh dug, reasonable in price, and Standard varieties. *No Circus Poster*, but honest descriptive list free. All fruits.
G. S. BUTLER, Box B, Cromwell, Conn

STRAWBERRY PLANTS. Send for price list. WILCOX BROS., Roscoe, Ill.

Plants Golden Mayberry, Strawberry, Raspberry, large stock; Asparagus Roots; Sweet Potato, Celery, Cabbage, Tomato, Egg and Pepper Plants. Lincoln and other Plum Trees at greatly reduced rates. Price list for the asking. I. & J. LEONARD, Iona, N. J.

Strong, Vigorous Berry Plants

are grown on my soil. ALL KINDS. BEST VARIETIES. Strawberries, Raspberries, Blackberries. Currants. SEED POTATOES. Send for Catalogue.
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Is the Money-Maker. Early as Palmer; large as Gregg. More productive than either. Send for Price-list of small Fruit Plants to
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FAY'S CURRANT LARGE STOCK. EXTRA STRONG.
Two years old, 20 bushes for $1, or $4 per 100.
One year old, 25 bushes for $1, or $3 per 100.
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Peach, Pear and Plum

Trees of the best quality at the lowest prices ever offered. Send your list for prices and be convinced We mean to sell. Our stock is genuine. None better
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CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

CRIMSON CLOVER Thomas McElroy, European Seed Commission Merchant, Mercantile Exchange Building, Harrison St., N. Y. Continues the largest importer of fine grade Crimson Clover in the U. S. Prices to dealers only.

FOR SALE Peas for improving the land, and furnishing plant-food for future crops. The vines and roots add nitrogen and vegetable matter to the soil. The peas make fine food for growing animals, for eggs and for milk. I have the following varieties: Wonderful, Clay, Whippoorwill and Black. 2nd crop Early Rose Potato seed; price, $2.50 per bbl.
ORRIS A. BROWNE, Cape Charles, Va.

CORN—VIRGINIA ENSILAGE makes larger growth and more fodder than any other sort. Climatic change makes Southern corn especially valuable for fodder and ensilage purposes in the North and West. Write for price and circular giving full information.
T. W. WOOD & SONS, Richmond, Va.

Improved Yellow Flint Corn

Received the award at the World's Columbian Exposition. Has been under improvement for 30 years with a view of getting small cobs, large kernels, good length of ears, and strong, vigorous growth. Won't it pay to improve the corn this year, and let the potatoes have a rest? Per bushel, $1. New bags, 20 cents.
T. H. KING, Trumansburg, N. Y.

Maule's Extra Early Huron Dent Corn

Best Dent Corn grown for Eastern and Middle States. Planted June 1, ripened every ear and yielded 94 bushels shelled corn per acre for three acres. This corn was not in "corn land" and had no hand work or extra care. Price, $1.25 per bushel; 10-bushel lots, $1 per bushel.

Day's Leafless Field Beans

Best field Bean grown for yield and quality. Price, $1 per peck; $3 per bushel.

Ridge's Queen Potatoes

No potato grown that is the equal of Ridge's Queen for yield and quality combined. See Mr. E. S. Carman's trial. Price, $1.50 per bushel; $3 per barrel.
"RIDGE FARM," Aldenville, Pa.
W. C. Norton, Agent.

RURALISMS—Continued.

it has been that single-eye seed do not pay at all. Two-eye pieces from large tubers with lots of flesh, are the smallest we care to use. It is well known—it has been proved time and again—that whole potatoes give the largest yields. It has also been shown that whole potatoes for seed, if the tubers have many eyes, yield a maximum of small tubers. This, however, may be remedied by planting further apart. Now that seed potatoes were never lower in price, we may well be liberal in the size of the seed used. With our present assumed knowledge, were we growing potatoes for the largest possible yield, at the least expense, we would use medium-sized tubers *cut in half lengthwise* so that each half would have just a half of the seed-end as well as the stem-end eyes...

PARAGON NOT A DWARF.—On page 216, we alluded to the Paragon chestnut as a dwarf. Thus we judged because of the early bearing of our own trees and their slow growth. H. M. Engle & Son, the introducers of the Paragon, have this to say:

Of all the varieties of chestnuts that we have grown thus far, the Paragon is the strongest. That some trees grow dwarfish, may be accounted for by their being grafted on weak stocks with a tendency to overbear; but we find such to be the case with any variety of fruit. Grafted on Paragon seedlings, we would expect few weak trees.

DR. T. H. HOSKINS, who must now be ranked among the first pomologists of America, has been a good friend and a regular contributor to THE RURAL NEW-YORKER ever since the paper was changed in name from Moore's R. N.-Y. to THE R. N.-Y., some 20 years ago, by its present senior editor. Dr. Hoskins, ever prompted by a keen conscience and an absolute disregard of the criticisms he might provoke from interested parties, has never failed to praise heartily and condemn severely, the merits or demerits of new fruits, after he has discovered them from his own trials upon his farm near Newport, Vt. It is exceedingly gratifying to receive from such men recognition as to THE R. N.-Y.'s endeavors to guide its readers in their selections of novelties such as the following which closed his little article last week on "Gooseberries and Currants in Vermont":

I have planted only the Fay currant, and the Red Jacket gooseberry, since THE R. N.-Y. called attention to their merits. And, by the way, THE R. N.-Y. has, in the past 30 years, put a good deal of money in my way by its recommendations of valuable novelties; I would not hesitate, at any time, to make large orders, solely on its recommendation. I may add that it saved me something in warning me as to the Japanese Wineberry.

When a man gets to be nearly 60 years old, he may, perhaps, be pardoned if such kindly recognitions are accepted as some evidence that the good work he has earnestly *tried* to do, is not wholly without appreciation.....

IT is the story told by several of the leading catalogues, that Siebert's Early Lima is the best bean ever offered, all things considered.....

PROBABLY the Gault blackcap is the most prolific of the "perpetual" bearers. The berries are said to be fine in quality, and to continue to bear on the young wood until frost. Our own specimens made little growth last year, because of the anthracnose.....

PROF. BAILEY, of Cornell, regards Red June as the best early Japan plum he has seen. It ripens in Ithaca about August 1. Luther Burbank says that it is a splendid market plum. President Berckmans says that there will be a big demand for Red June. It is very much better than the Willard.....

WE received a plant of the Otahcite orange last Christmas. It bore about eight oranges, two of them seemingly ripe as judged by the color. Those two oranges are still on the little bush without decay or blemish.....

THE new pea, Juno, is praised in all the catalogues because of its excellent quality. The vines grow about two feet high.....

MR. J. J. H. GREGORY is disappointed in the new Imperial tomato, in that it is not so early as claimed. In other ways, he is pleased with it.....

WE have had the comparatively new elematis, C. paniculata, for four years. It is hardy at the Rural Grounds, and so thrifty a grower that it easily covers an arbor 7x6 feet, every season. Its little white flowers are not conspicuous as individuals, but there are so many of them that, during its period of blooming, the vines are more a mass of white than of green.....

WE cannot help doubting that the Bismarck, or any other apple, will bear on two-year-old grafts unless the variety be worked on Paradise or some other equally dwarfing stock.....

A Contest Confined to the Farmer's Family.

$25 in gold given to the member of the Farmer's Family who writes on one of our cards this sentence the greatest number of times: "*Osborne Implements succeed where others fail.*" Two of these cards will be mailed you upon receipt of one two-cent stamp. They are about the size of the ordinary postal card. To be written on one side only, no cross writing, no blots. All contestants must be persons whose home is on a farm. We shall make a first and second prize, namely, $15 to the person writing the sentence the greatest number of times, and $10 to the person writing said sentence the second greatest number of times. Where two cards are alike the one received first, will take the preference. Get your cards at once. Contest closes 6 P. M. May 11, 1896. When you write for your cards, address D. M. Osborne & Co., Room 127, Auburn, N. Y., Manufacturers of Farm Implements.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

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Columbias in quality and construction are in a class by themselves. **$100 to all alike**

The Columbia Catalogue, handsomest art work of the year, is free from the Columbia agent, or is mailed for two 2-cent stamps.

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Columbia Branch Houses and Agencies are almost everywhere.

Stop that Caterpillar

crawling up your tree, with "DENDROLENE." If there is more than one caterpillar or any kind of creeping thing running up and down your trees,

Stop them all with Dendrolene.

It is the latest and best form of tree protector known. It will always keep sticky and effective, and cannot harm the trees. Book about it free.

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"LET WELL-ENOUGH ALONE" is a safe maxim to follow in painting—as in everything else. Pure White Lead and Pure Linseed Oil are and always have been the best and standard paint. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands).

For colors tint White Lead with the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. They are the best and most permanent.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
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BUY "DIRECT FROM FACTORY," THE BEST

MIXED PAINTS

AT WHOLESALE PRICES and SAVE Dealer's Profits.—Delivered FREE,

FROM THE OLDEST MIXED PAINT HOUSE IN AMERICA,

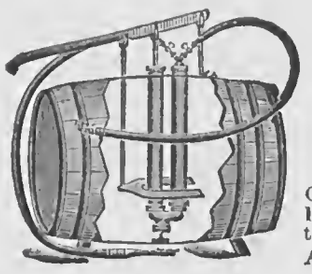
Manufacturers of **INGERSOLL LIQUID PAINTS,** proved by 54 years use to be the most durable and color-lasting, and the only Paint "Officially Endorsed" by Grange and Farmers Alliance.

Our Book **Every Man His Own Painter,** is full of Information about Mixed Paints, White Lead, etc.; Exposes frauds, tells what Paint **TO USE,** and what **NOT TO USE** for all purposes. Directions for House, Barn and Roof Painting, quantity required, Harmonious colors, etc. Valuable facts for Paint Users.

We can Save you Money.—You may as well use the **BEST PAINT,** when it **COSTS LESS** than common paints at Retail. Write for **Wholesale Discount Prices Beautiful Sample Color Cards** and **Our Book,** mailed **free.** BIG CASH SAVING WILL SURPRISE YOU.

O. W. INGERSOLL, Prop., No. 246 Plymouth Street, BROOKLYN, N. Y.

SPRAY PUMP "EMPIRE KING." The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.



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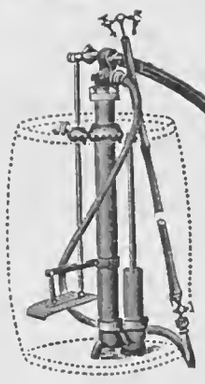
Latest improved, **all-brass** pumps—**warranted** for **three years.** Over **75,000 in use.** Endorsed by leading Entomologists. Your **money back** if pump doesn't give **absolute satisfaction. Prices** to fit the times. Illustrated Catalogue, Spray Calendar, and Treatise on Spraying—all mailed **free.** **Agents wanted.** P. C. LEWIS MANUFACTURING CO., Box 95, Catskill, N. Y.

SPRAYING Will Produce **PERFECT FRUIT** We tell you all about spraying and care of fruit in our 32-pg. illustrated book—free. Our Pumps and Nozzles win highest honors in every test. **The Deming Co. Salem O.** W. Agts., Henion & Hubbell, Chicago

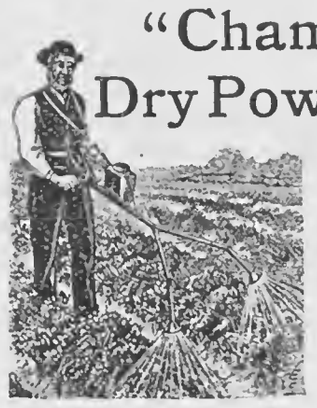


NEARLY 100 **"ECLIPSE"** *SPRAY PUMPS* Sold in Niagara Co., N. Y., last season. Other makes thrown aside. Beats all, don't it? Good reason for it, though.

SEND FOR CATALOGUE.
MORRILL & MORLEY, Benton Harbor, Mich.

I SELL THE **ECLIPSE SPRAY PUMP** Because it is the *BEST. Try* it and *you* will agree with *me.* Send for catalogue. WALTER F. TABER Lakeview Fruit Farm, Poughkeepsie, N. Y.

Leggett's "Champion" Dry Powder Gun



will dust two rows of potato plants with Paris-green as fast as a man can walk, and do it well, covering the plants with a fine dust evenly distributed.

Write for prices and catalogue.

Ask for Leggett & Bro.'s Paris-green—it is the best.
LEGGETT & BRO., 301 Pearl St., New York
WM. T. LEGGETT, Pittsburgh, Pa.
Wholesale agent for Pittsburgh and vicinity.

SAVE YOUR FRUITS from the Pests **BY BUYING A DOUGLAS SPRAYER.** Only $9 complete, except barrel. Especially adapted for spraying Paris Green or London Purple. Throws a constant stream. **THE BEST PAY THE BEST** Our book on SPRAYERS will give you valuable information; it is FREE; ask for it.
W. & B. DOUGLAS, MIDDLETOWN, CT.
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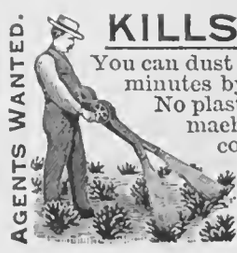
SPRAY PUMPS. EXPANSIVE BUCKETS. | DOUBLE ACTING. | THOUSANDS IN USE. Largest Pump and Hay Tool Works in the U. S. **CATALOGUE FREE.** Write for Particulars, Prices, etc. F. E. MYERS & BRO. Ashland, O. Ask your dealer for Myers' Pumps.

Electric Insect Exterminator.

Death on Potato Bugs and all Insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.
CHAS. H. CHILDS & CO., Utica, N. Y.

AGENTS WANTED.



KILLS ALL BUGS You can dust one acre of potatoes in 40 minutes by doing two rows at once. No plaster or water used. With this machine you can dust tobacco, cotton, fruit trees, currant bushes, etc. BOOK FREE. Write to
HOTCHKISS BROS., Wallingford, - Conn.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, APRIL 18, 1896.

As usual, we receive many questions about the wisdom of sowing Crimson clover in spring. Let us begin early to say that, THE R. N.-Y. *does not advise the sowing of Crimson clover in spring.* The chances are against it when spring-sown. Its great value is as a catch crop, sown in the late summer, to hold the ground during fall and winter for spring use.

⊙

THAT'S a good point that O. W. Mapes makes, on page 282, about the people who are willing to pay big prices for eggs, expecting a supply the year 'round. What would the villagers think of a milkman who stopped his daily rounds in winter because it was so much trouble to milk cows and deliver milk in cold weather? One of the most important points in securing and retaining a first-class trade, is to be able to furnish a regular and constant supply.

⊙

THE Indiana Farmer supports an idea of THE R. N.-Y.'s by suggesting a new calling for some enterprising young man in a fruit-growing neighborhood. This calling is that of sprayor. There are plenty of men who realize the importance of spraying trees, but who do not care to do it themselves. Let some enterprising man provide himself with a good spraying outfit, and go about among his neighbors as he would if he owned a thrashing machine, spraying trees, potatoes, or any other crops that need it. There is an opening for some one right in this line.

⊙

MANY poultry keepers who depend upon hens to hatch the needed chicks, are often sorely troubled by biddy's disinclination to sit in time to hatch them sufficiently early to secure the needed pullets for fall layers. This is more especially the case when Leghorn blood has been introduced into the flock. Some poultry keepers claim that they can make any hen broody by making her fat. This is the tendency, but the question is as to how far it is desirable to carry this practice. After all, isn't the incubator that sits just when you wish to set it, makes no fuss, eats nothing when not at work, and behaves itself generally if you treat it right, the most desirable?

⊙

SOME of the New York City produce dealers are worrying over the effect that the Raines Law will have on their business. One of its provisions prohibits free lunches which many saloons formerly provided for their patrons. Certain articles like corned beef, pigs' feet, bologna sausage, poor cheese, etc., were much in demand for this purpose. Of these articles sold for this purpose, many were of the poorest quality. Of course, this demand is cut off. But one argument for this law was that it would tend to decrease the sale of liquor. This being the case, some of the money formerly spent for liquor will probably be spent for food, and it is safe to assume that it will be spent for food of better quality than that dealt out at the free-lunch counter. The cracker manufacturers also have a grievance. They formerly sold large quantities of "extra salted" crackers for free lunch. These with the poor-quality, highly-seasoned free lunch, were a prolific source of thirst which it was to the profit of the saloon keeper to stimulate that he might quench it. The crowd of hangers-on who have subsisted largely at the free-lunch counter, must eat somewhere, and the demand for provisions is not likely to be decreased on the whole, but, on the contrary, if sales of liquor be decreased, will ultimately be increased.

THAT Massachusetts man, page 271, sees more profit in producing milk to sell, than in making butter, partly, at least, because he can use a cheaper, poorer quality of feed, and peddlers are not particular about the quality of the milk. This is too true with many peddlers, and it is where the disgraceful part of the whole business comes in. Consumers who pay a good price for milk, have a right to expect and demand a good article. THE R. N.-Y. has described dairies in which it was necessary to introduce a goodly amount of Jersey or Guernsey blood to insure milk rich enough to satisfy the patrons. This is right. Quality should be the watchword, even though quantity must be sacrificed. But this need not be necessary. Both may be secured in the same dairy. It costs something, though, in blood, feed and care. But it pays!

⊙

A FRIEND living in Victoria, B. C., sends us the following note:

> What do you think of eggs at five cents a dozen? A hen must get down to very fine business principles to make money on eggs at five cents a dozen. One man says, "Any hen with any principle in her at all would refuse to deposit eggs at such a figure." Who's right?

We think that eggs at five cents a dozen give about the cheapest animal food we have heard of yet. As to the business side of it, we want to know what those eggs cost before we accuse the hen of not knowing her business. A business hen will do the best she knows to cut the cost of her eggs under the selling price. She *will* get down to "very fine business principles" if you will let her. Even with eggs at five cents a dozen, she may be able to pay more for your grain than the speculators will allow.

⊙

"MY wife never eats any eggs but yours," said a city man to one who furnishes him fresh-laid eggs regularly. "When she can't get anything but store eggs, she goes without." And there are thousands more just such people. They want fresh, clean eggs, choice butter, nice, ripe fruits, crisp vegetables, plump poultry, and dozens of other products of the farm. They want them in prime condition, and they are willing to pay good prices for them. Failing this, they go without. In some lines of produce, prices are low and there is a cry of overproduction. It isn't overproduction; it's underconsumption. People will use more of the farm products when they can get them in better condition. Then transportation rates are too high. This adds too much to the final cost. We need cheaper, better and more rapid transportation and distribution of food products, and as producers and consumers form the larger part of our people, why shouldn't we have these?

⊙

BY dividing the aggregate wages paid in all manufacturing and mechanical industries in the country in 1890, by the total number of employees, you have $445 as the average amount paid to each worker. Divide the gross product of the manufactured articles by the number of workmen, and you have $2,204. Thus it may be said that the average worker earned $445, and turned out finished products that brought $2,204. Did the remaining $1,759 go to the employer? No, for it includes the cost of materials, waste, interest and half a dozen other items. Figured as carefully as possible, the $2,204 were divided about as follows: $445 to labor, $1,113 for materials, and $646 for salaries, interest, profits, etc. A hired man might do all the work in a potato field, and draw $25 for his work, while the potatoes sold for $100. It would not do to say that the farmer receives three times as much as the laborer, because the farmer must pay all expenses and assume all risk, so that, one year with another, he may have a smaller cash balance than has the hired man. These figures are for manufactured products. If we were to figure out similar items for farmers and farm produce, we would find that the farmer has a much smaller share of the proceeds of his labor.

⊙

SOME scientific expert has been figuring on smoke. He claims that in the smoke that yearly escapes from the chimneys of the New England factories, there is as much nitrogen as would be returned to the earth in the manure from 1,000,000 cows, well-fed for a year! We don't purpose to dispute the statement, for the chances are that it is true. That nitrogen should be saved. Who is to save it—factoryman or farmer? The factoryman may save it by washing it out of the smoke as it leaves the chimney. In that case, it will be sold back to the farmer at 16 cents a pound. The farmer may catch part of it by sowing clover or peas, and using them as fodder or fertilizer. Prof. Roberts found that a well-fed cow weighing 1,132 pounds produced, in one day, nitrogen in her manure worth four cents, or $14.60 per year. He also found that a pile of cow manure left in a loose pile, lost 41 per cent of its nitrogen by leaching. Now 1,132 pounds of good clover hay will furnish $3.98 worth of nitrogen, or to put it in another way, when we grow two tons of clover hay to the acre, we obtain in hay stubble and roots, nitrogen worth $21.08 as compared with prices paid for other fertilizers. One million extra acres of clover in New England would save a good share of the nitrogen lost in that smoke, make food for half a million more cows, and make the factories work harder to consume more coal.

⊙

THE Breeder's Gazette recently printed a note about some horses in a Michigan town, that had been poisoned by eating hay cut in an orchard that had been sprayed with Paris-green. This is the first case of which we have heard, where such hay has killed animals. If such hay is really dangerous for feeding, farmers ought to know it, and take steps to prevent its use. Investigation shows that the report has no more foundation beyond the fact that four horses died. They were killed, presumably, by something contained in the hay, which came from a sprayed orchard. The weak points in the logic that takes the poison from the sprayer to the horse's stomach, are the facts that eight horses fed on hay from the same orchard, are fat and hearty, and that other horses that died with much the same symptoms, were fed on hay that never came near a spray pump. It is just as fair to conclude that the poison got into the hay in the barn, as it is often carelessly kept there. THE R. N.-Y. desires better proof than this that there is danger in orchard spraying when done with a fair amount of care, especially when hundreds of cases are on record where such hay has been safely fed.

⊙

BREVITIES.

THE RURAL'S fad this week is "ad,"
This makes the poet sigh;
His thoughts may bloom, yet he's no room
In which to versify.
Now here's a slice of our advice—
Read every "ad," my friend!
Our verses nice will keep on ice,
But "ads" are bound to end!

MISS MANAGEMENT should not marry Mr. Slack.

"KILLING TIME"—the worst murder you can undertake.

THE happy hen is the profitable hen! Keep 'em happy!

IT is said that there is a growing fancy for pacing horses.

YES, there are men who might be taking lessons of a hen.

DON'T give the dog all the pure air—give the hog some of it.

HAVE you a good, big wood pile for the summer campaign?

IRRIGATE and thus facilitate the independent state for which you wait.

THERE is very little green in Miss April's eye thus far—north of New York.

DON'T try to "paddle your own canoe" till you have stopped up the leaks in it.

IF a bad beginning makes a good ending, this spring ought to be a brilliant success.

Is the bee such a busy creature, after all, when you count in his six months of loafing?

LEAN meat! The "spring poor" cow that is so weak that she must lean against the fence.

KEEP peace in the family by putting a plentiful supply of early peas into a good piece of land.

WEEDS are the lazy man's "catch crop." They catch him by smothering out the useful plants.

A MASSACHUSETTS man (page 271) gives an opinion as to the profits in selling milk, cream or butter. Do you agree with him?

WE have seen hams from "razor back" Southern hogs on sale by New York commission men, that bring 18 cents a pound—in these gold-standard days.

WE learn through the London Garden, that Newtown Pippin apples brought in the open market, during the last week in March, as high as $17 per barrel.

A POLAND-CHINA hog weighing 1,500 pounds, is being exhibited through the West. There is more profit to the farmer in trying to grow 1,500 pounds of pork on 20 feet than on four.

AN English agricultural paper advises a rat-ridden farmer to secure a pair of owls, and train them to nest and breed in his barn! Owls eat more rat-flesh than cats—it says.

THE Ohio Experiment Station will attempt to renovate old clover meadows by working the bare spots with a spike or disc harrow, and then sowing Crimson and Red clover seed mixed.

THE latest scheme suggested for Maryland and Delaware strawberry growers, is to sow cow peas between the rows of plants after picking, give light cultivation, and thus grow manure and mulch in one crop.

ON April 4, we pulled plants of Crimson clover with roots over five inches long. Our patch, sowed after early potatoes, has survived the winter well. We shall now see how much growth it will make during April.

A CONNECTICUT dairyman says that his cows got into the orchard and gorged themselves on apples. Usually, that means trouble, but he fed a good ration of grain containing a large proportion of cotton-seed meal, and had no ill effects.

THIS mixture is used at the Rhode Island Experiment Station as a fertilizer for an acre of potatoes: 65 pounds of nitrate of soda, 498 pounds of tankage, 367 pounds of dissolved rock, 78 pounds of fine ground bone, and 196 pounds of muriate of potash.

THE Ohio Experiment Station has been testing linseed oil meal as a fertilizer, and reports favorably concerning it. A mixture of 750 pounds oil meal, 230 pounds dissolved rock, and 180 pounds muriate of potash, has given good results with wheat and potatoes. We prefer cotton-seed meal for this purpose. It contains more fertility, ton for ton, and is drier, thus making a more perfect mixture.

ANOTHER skillfully written advertisement for the Holstein cattle, is going the rounds of the agricultural press. This time, it is an article describing the breeding of a dairy herd in California, in which Holstein blood proved superior to that of several other breeds. No one can object to the article as written—we have no doubt that it is a truthful record of facts—but copies were evidently sent to all the papers, and now it is being printed all over the country, word for word, in a dozen different papers.

⊙

REPORTS come to us that the contracts for the seeds for Uncle Sam's seed shop, have been let to an old-established seed firm. The contract is for 10,125,000 packets of vegetable seeds delivered at the Department at Washington, ready for mailing. The price is approximately seven-tenths of a cent per packet. Is there likely to be much that is rare and valuable at such a price? The seeds must stand a germinative test, and will, possibly, therefore, be better than some of the miserable stuff sent out heretofore. Contracts have also been made with another seed firm for 1,000,000 packets of flower seeds at a cost of one-half cent per packet. If these figures cover cost, there must be considerable profit in the seed business at the usual figures. But what a farce the whole thing is when the original intent of the law is taken into account!

⊙

IN 1890, 12,856,875 catalogues of nursery firms were fired off at the American public. The nurserymen paid $512,054.61 for newspaper advertising, $394,163.76 for postage, $785,387.91 for freight, and $442,994.67 for express. At that time, there were 4,510 nurseries in the country, occupying 172,806 acres of land, valued at $41,978,835.80. On 95,012 acres, there were growing 3,386,855,778 plants and trees, of which 518,016,612 were fruit trees, and 685,603,396 were grape vines and small fruits. Since then the business has increased still further, and now takes rank in importance and wealth with some departments of grain growing and stock raising, especially when we add the business done by florists. In 1890, the florists sent out 21,055,694 catalogues, and sold $12,036,477.76 worth of plants and $14,175,328.01 worth of cut flowers.

A CORRESPONDENT wishes a book that will give him all needed information about celery growing. There is no such book. The book or paper that will give all needed information on any subject, has never been published. Many people make this mistake of thinking that they can learn all about a subject from a book. They can get great help, and learn the experience of many others; but this experience must be mixed with a goodly portion of personal experience to be profitable. Certain local conditions of soil, atmosphere, weather, etc., require special operations, and these must be learned from experience. The most successful man is he who gains from books and papers and from intercourse with others, all possible knowledge, passes it through the filter of personal experience, and crystallizes the results by practical application. Learn all possible by reading, but don't expect thus to learn it all.

⊙

HAVE low prices for dairy products come to stay? asks the Elgin Dairy Report. It says that, during the past four or five years, meat and grain-raising farmers have been compelled to sell their products at lower prices, while a dairy farmer who made a good product, had been able to secure fair returns. But with butter in February at 18 cents, a price much lower than it has ever before sold for at that time, and less than one-half what it has often been worth at that time of year, the question is as to whether this state of affairs is only temporary, caused by the oversupply, or permanent. The Report believes that this condition has come to stay, and will extend until it includes every agricultural product, and that the only hope for the farmer, whatever he produce, is in economy of production. The dairyman must keep cows that produce not less than 6,000 to 8,000 pounds of milk per year, must feed and care for them so as to produce each pound of milk as cheaply as possible, and the factoryman must practice such economy in working the product that the toll shall be as light as possible. Another and, perhaps, the most important point, is to make the product of the very best grade, thus insuring the highest prices. We would also add to this the fact that hired farm labor is too high in proportion to the price of farm products, and must either be reduced or else dispensed with to a greater or less extent, by one means or another.

BUSINESS BITS.

THE patrons of J. C. Vaughan's seed house of Chicago, may desire to know that Mr. Vaughan has a complete branch store at 26 Barclay Street, New York City.

A BRAND new thing in eveners is offered by Ross Brothers, Worcester, Mass. It looks like an excellent arrangement. Ask them about it. First order secures an agency.

THE paper used on a wall has much to do with the appearance and cheerfulness of the room. It should harmonize, also, with the furniture. Local stores seldom keep a good variety of latest patterns. Chas. M. N. Killen, 1,237 Filbert Street, Philadelphia, Pa., will send samples of paper, and guide to papering, free.

LETTERS from farmers who are using Ingersoll's ready-mixed paints, indicate that farm buildings and farm machinery are receiving more attention from the paint brush than formerly. We don't know of any better investment for the money required. O. W. Ingersoll, 246 Plymouth Street, Brooklyn, N. Y., sends the paint ready mixed, direct, freight paid, to consumers.

WE have had many inquiries, recently, about gas engines for small power on the farm. The Carter Gas Engine Co., Box 26, Sterling, Ill., makes an engine that is well adapted for this use. The same house also makes a traction gas engine. The gas engine has the advantage of starting up almost instantly, and of stopping quite as promptly. This saves time and fuel, and is sure to make the gas engine a popular power on the farm. The above firm will be glad to send descriptive circulars.

WHEN all the conditions are just right, the windmill gives the readiest and cheapest power to be had on the farm, and it may be made to answer a number of requirements. The Halladay windmill has stood the test for years, and we believe that the manufacturers of it would not recommend its use unless they were satisfied that, in the particular case, it would give desirable service. Of course, it is necessary for them to know all the conditions before they can give intelligent advice. The U. S. Wind Engine and Pump Co., 113 Water Street, Batavia, Ill., is the maker, and the catalogue contains descriptions of kindred implements.

THE Syracuse grape hoe seems to be an implement that fills a long-felt want for fruit growers, especially grape growers. It is difficult, if not impossible, to stir the soil close to the vine when the foliage is at full growth, with a plow, or even hand tools; but this the grape hoe accomplishes very satisfactorily. As the stirring of the soil is a preventive of mildew, the value of this implement will be apparent. It is worked with one horse, and the disc and wheel are so controlled by handles that the hoe may be worked under the wire, and up close to berry bushes with the greatest facility, turning the soil to or from the bushes, as desired. For fuller description and illustration, address the Syracuse Chilled Plow Co., Syracuse, N. Y.

STOCKBRIDGE

SPECIAL
COMPLETE

MANURES

FOR DIFFERENT CROPS, ARE MADE

DOUBLE STRENGTH.

IN MANY OF THESE WELL-KNOWN FERTILIZERS, THE

POTASH HAS BEEN INCREASED

FOR 1896, IN ONE CASE OVER 40 PER CENT., BUT NO ADVANCE HAS BEEN MADE IN THE PRICE.

SEE LOCAL AGENTS, OR ADDRESS

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston; 27 Beaver St, New York

Corn

is a vigorous feeder and responds well to liberal fertilization. On corn lands the yield increases and the soil improves if properly treated with fertilizers containing not under **7% actual**

Potash.

A trial of this plan costs but little and is sure to lead to profitable culture.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

Genuine Peruvian Lobos Guano.

In original packages as imported. No manipulation. Limited stock. To-day's price, $37 per ton, cash, f. o. b. Camden or Philadelphia.

TAYLOR BROS., Market and Front Streets, CAMDEN, N. J.

PROSPEROUS FARMERS

USE LAKE ERIE FISH GUANO AND OTHER **FERTILIZERS**

MANUFACTURED BY
THE JARECKI CHEMICAL CO.,
SANDUSKY. OHIO.

CANADA UNLEACHED HARDWOOD **ASHES.**

For prices address THOS. POTTS, Brantford, Ont.

IN THE START Energy in germination means much to the tender plant. It may lack vitality which cannot be supplied by the worn out soil. Here is where the application of a **GOOD FERTILIZER** comes in to aid it. Ours will not only start it but keep it growing up to the point of profitable production. Write for circulars, prices, &c. **CLEVELAND DRYER CO., Cleveland, O.**

Peruvian Guano,

Containing 10 per cent of Ammonia at greatly reduced prices.

Also, Six Per Cent **Peruvian Guano.**

Fine Ground Dried Fish.

Prices on Application **BAUGH & SONS COMPANY,** 412 Exchange Place, Baltimore, Md.

DARLING'S Fertilizer represents the highest nutritive value. Practical experiments prove it to be the most economical in use and productive in results. Analysis shows it to contain for a basis

HIGH GRADE PURE FINE BONE

combined with the most efficacious properties. An infallible life renewer for dead ground. Made for all kinds of crops. Sold by all agricultural and seed stores in the Middle States and New England. Send for 1896 Catalogue.

L. B. DARLING FERTILIZER CO.,
PAWTUCKET, R. I.

FERTILIZERS

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

APRIL ON THE FARM.

I am glad that in the country
  My early days were passed;
For in our lives, the common things
  Are the ones that really last.
Nature tells the truest stories,
  With a quiet, winning charm,
And here I found life's treasures
  Along with April on the farm.

We speak of Nature's common things;
  Yes, common in a sense;
Yet, they in lavish richness,
  Give the fullest recompense.
Other life is artificial,
  Giving faulty light and shade;
But there's nothing like the beauty
God in Nature's realm has made!

When on the farm in April,
  Strolling out among the trees,
You'll find the simple gospel
  Preached by flowers, birds and bees;
E'en the buds and tiny grasses,
  Springing up along the way,
Tell each returning April
  Of the Resurrection day!

Oh, April days! Oh, April skies!
  I never can forget
My early boyhood's love for them
  That lingers with me yet.
In dreams I live the life again,
  With all its magic charm.
Sometimes I think that heaven's
  Just like April on the farm!

E. W. DUTCHER.

MISS PROCTOR, daughter of the astronomer, is the first woman lecturer on astronomy. She has met with success in New York, and will give a series of lectures in London during the year. In order to make the study of astronomy popular, she avoids technicalities, and treats her subject in a simple style. She has several lectures prepared especially for children.

*

MANY a time a meringue is a failure, and the cook does not know just why. In another column, is an explanation which we commend to unsuccessful cooks. After reading this, it is easy to understand why the whites of eggs may be beaten stiffer when a fork is used than when one uses the egg beater. We used to think that this idea was a mere whim of old-fashioned persons who preferred an aching shoulder rather than use a patented help in the kitchen.

NOTES FROM A WOMAN'S GARDEN.

TO FIGHT OR NOT TO FIGHT.

THIS is the question that now greatly agitates the woman with a garden. "'Taint no kind of use," says old Levi, "ter fight them ere boys, though they be dum pesky critters, an' enough ter try the patience of old Job himself; but yer don't want ter be in hot water the hull 'durin' time. There was old man Vose; he fit boys off an' on fer mor'n 60 year, an' it didn't do one mite of good; seemed ter put the very Old Harry inter the boys, an' they about harried the life outer the old man, though he did live ter be 90 odd year; but he fit ter about his last breath."

Our garden, unfortunately, forms a sort of connecting link, a short cut, between two side streets, and there are many who scale fences even when protected (?) with barbed wire, and cross thereby. When they keep outside the apple trees that are close to the dividing line between our land and that of the next owner's, we do not mind very much; but when they leave this now well-beaten path, and begin to stroll "permiscious-like," through our cherished garden, then we do get, as old Levi tersely remarks, "jest hoppin' mad." What can we do? If we go out to reproach, or remonstrate most dignifiedly with the trespassers, they run, or if they keep their ground, they greet us with what is known in this region, as "sassin'." A very unpleasant kind of language it is, to be sure.

One year, when a strawberry bed was made too near the apple trees for any small boy passing by to refrain from visiting it, we had to stay out in the garden all day, to get any strawberries at all. We "spelled" each other, and the garden was not left unguarded from early in the morning, until after dark at night. We took easy chairs, work and books under a shady tree, and made a regular business of this watching; we took turns in eating our meals, and now and then a meal was served under the tree. If the fruit were stolen carefully, we could bear it better; but the favorite way seems to be, to gather it in large branches of green and ripe fruit mixed, also to trample down fruit and vines in the most ruthless manner.

Very early one morning, I observed a man, not a boy, calmly standing in the strawberry bed, which that year was not so far from the house as the apple trees, and we thought safe. I wonder at his audacity, even now, eating the strawberries which I had carefully saved for breakfast. I had often wondered why the fruit never looked so thick in the morning (it was before the boys acted so bad) as it did the night before; here was a mystery solved. I did not go forward and accost this trespasser, for very shame's sake, I felt so ashamed for him. Very evidently he had quite forgotten how often we had sent fruit to the invalids in his family; I suppose that he was "hankering" after fresh fruit, too, even with strawberries "three boxes for a quarter" all over the village.

Some of our boy friends (?) are ingenious. There was a robin's nest that we visited daily; several times we had sent the boys away from it. The boys are usually rather afraid to stay long, after we tell them to go; we are four. On looking into the nest one morning as usual, what was our horror and dismay, to find all the pretty eggs gone, and, crowning insult to the birds and to us, four tiny green apples in their place! Our discovery was greeted with derisive shouts of laughter from a safe distance.

We do not like to fight, and it is not pleasant to be called names; so we have to submit, more or less, to depredations. We say nothing to people who come, even without leave, to pick up fruit under the trees; but we draw the line at forbearance when they shake the trees and steal all the fruit.

Two friends living a little further out of the village, have like experiences. They, too, have been warned not to get the ill-will of the boys, so every winter they submit with outer calmness, to having their fence rails taken for bonfires on the river, etc. But when the neighbors did not keep their fences in repair (my friends mended theirs every spring), they, too, rebelled. Having all kinds and conditions of cows wandering in their fields, was really too much for these exceptionally amiable people to stand, especially when these cows reached over and into the flower garden, and ate many valuable plants.

"You must 'pound' those cows," said an adviser. So the little women proceeded to "pound" one of the straying cows (in a little yard), but when the owner came for it at night, they let it go; perhaps their courage weakened, or, perhaps, the law would not let them hold the cow; I do not know. "We shall go to Lawyer S about this business," said they. "Do," said the man urbanely, "that is jest what I advise ye ter do, but p'r'aps Squire R would do better fer ye," and he went off grinning and triumphant. Later, however, means were employed so that he had to keep his cow in its place.

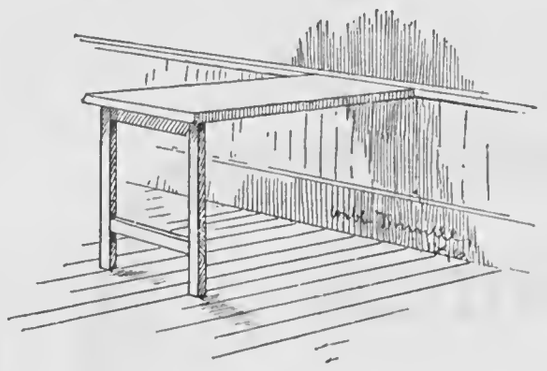
One neighbor took a mild revenge by calling to a young man crossing the field to call on these ladies, "Hi, there! young man, don't ye know that no foot but the foot of the Waxon's cow is allowed ter step on that ere field?"

We have found that appealing to the village constable has had some effect, also appealing to the boys' parents, and sometimes to the boys themselves. But with every season, the old question comes up, "To fight or not to fight," and as usual, I suppose, some compromise will have to be effected. We shall have to shut our eyes to what we do not wish to see, so long as we cannot change it, and to learn that "what can't be cured, must be endured." But it does not seem just right to us, that "Young America" should be quite so rampant, or, as old Levi says, "So all-fired rambunctious."

ELIZABETH ROBINSON.

A FOLDING KITCHEN TABLE.

ONE frequently feels the need of extra table room in a kitchen, but does not wish to fill the room with additional furniture. Fig. 88 shows how to have an extra kitchen table when needed, and to have its room when the table is not needed. A table top of the required size is hinged to the wall, so that it can be folded up against the wall and fastened when not in use. Light legs are hinged to the outer end of the top, to drop into place when the table is in use, and to fall



A FOLDING KITCHEN TABLE. FIG. 88.

down flat against the under side of the top when the latter is folded up against the wall. The making of this device calls for but little work, while its convenience is great.

W. D.

SPRING MILLINERY.

SPRING hats show more variety in color than ever before. Green is shown in several shades, and promises to be the favorite, although there are many to choose from, blue, brown, purple, various shades of orange, etc. Some of the hats are in solid colors, others combine straws of different colors, and some of the fancy straws are beautifully colored in the shaded or "shot" effects that have been so popular in silks.

Most of the straws are in open, lace-like braids. Horse-hair braids are used, making very light-weight hats having good wearing qualities. Plain chip is almost entirely superseded by the fancy straws. Shapes vary so much that every woman may suit her own face. The fancy straws are sold by the yard from five cents up, according to quality and coloring. The combination of colors so much in favor, will enable the home milliner to bring last year's hat up to date by introducing a colored straw into its construction. Many have the brim of one color and the crown of another, or a combination of two colors. There are also crowns of silk and velvet, usually in Tam o'Shanter style.

With so much color in the framework of the hat, one would, perhaps, prefer rather quiet trimming. But Dame Fashion is still more lavish with color in trimmings. Velvet, tulle, chiffon, ribbon and flowers, we may choose from, and some of the milliners have been too bewildered to make a choice, and have taken all and literally heaped the trimmings on the frail straw structures. The effect is not pleasing, and later in the season we shall have moderation in the shop displays, for the eyes soon tire of too much color. The practical woman will consider all of this and more. She will be guided, not commanded, by Fashion's mandates.

Dresden ribbons are still in favor. They vary, yet the general effect is the same, many colors mixed and blended. During the winter, the ribbon was almost covered with blotches and blots of color. For spring, the ground color is again visible, and the contrasting colors are shown as in the original Dresdens, in indistinct representations of flowers.

A pretty combination of flowers noted on one hat, consisted of lilies of the valley with violets nestling around them.

GAITHER HOWE.

A HOMEMADE RUG.

I AM the proud possessor of an eminently satisfactory rug made from the much-flouted, though useful, carpet-rag. It carries weight with its argument, as it tips the beam at something near 20 pounds. It finds great favor with both John and the children, as it is so thick that it does not "kick up" readily. It is woven in two breadths of the heavy-weight rug weaving. The warp is put in, two threads together, the rags beaten up to cover the warp so that it bears but slight resemblance to rag carpeting. Its dimensions are generous, being about 10 feet long, by six feet wide. The cost of weaving, warp, etc., was $2.50. As far as possible, coloring was avoided, in order that the colors might be more lasting. The light blue is blue-and-white shirting; dark blue, blue calico dresses; eight shades of brown, old calico dresses and woolen shirts. The red is old red flannel; two shades of pink, more calico dresses; the black, worn cashmere, etc. I believe that Mr. Howells speaks of a room furnished with an archipelago of rugs. Surely the one in the center of my room is a very large island, at least. Its chief merits are the added warmth to a cold, farmhouse floor, and the fact that it throws, as it were, a mantle of charity over the shortcomings of a carpet much the worse for wear.

SWEET FERN.

TO MAKE A MERINGUE.

SOME one asks in the American Kitchen Magazine, "Why does the sugar separate from the egg and form

mothers!

Your clear skin? Mother's. Your voice? Mother's. Your slight figure? Mother's. Inherited weak lungs? Then protect yourself. Live out doors; get the fresh air; and keep well nourished.

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of Cod-liver Oil, with Hypophosphites, is the best known preventive to serious lung trouble. It supplies just the kind of needed fat; prevents useless waste of tissue; makes rich blood; and fortifies the body against attack. You should take it at once if you feel weak, have no appetite, or are losing flesh.

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drops of syrup in a meringue?" Mrs. Lincoln explains it: It is probably owing to some excess of moisture which dissolves the sugar and forms a syrup. This moisture may be occasioned by not beating the water all out of the egg, as would be the case if the egg were not beaten long enough to be dry as well as stiff. Or the syrup may be caused by the steam from the warm pudding or pie coming up into the meringue, and melting some of the sugar. To make a meringue, beat the whites in a broad bowl or a shallow plate with a wire spoon or a fork, and with a long over-and-over stroke, bringing the egg up into the air as much as possible. When thick and foamy, not dry, add the sugar gradually, one tablespoonful to each egg. A little salt, perhaps half a saltspoonful to each egg, will help to make them light. After the sugar is beaten in, continue the beating until it is quite stiff and has no moisture. Beat the flavoring in slowly. The pie or pudding should be slightly cooled before adding the meringue. A sure way is to butter slightly an earthen plate the size of the pudding, pile the meringue on the plate, and put it in the oven, on the bottom first, so it will cook from underneath and rise before it browns. Then slip it off on to the pudding.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6702. Ladies' Blouse.

Dark blue satcen makes this comfortable blouse, the deep sailor collar and round cuffs being of white pique trimmed with bands of embroidered insertion. Three pearl buttons are sewed on the box plait in front, which may be used in closing or for decoration only,

6702—LADIES' BLOUSE

the closing being under the plait. The lower edge is finished by a hem through which elastic is run to draw the fullness into position in blouse style. Full bishop sleeves are gathered top and bottom, straight, round cuffs finishing the wrists. Pattern No. 6702 is cut in sizes for a 32, 34, 36, 38, 40 and 42-inch bust measure.

ODDS AND ENDS.

THE PLEASURE OF FLOWERS.—Among my pleasantest Christmas remembrances, was a certain bill sent from the far West with the injunction that it should be spent for roses when the weather was suitable for setting them. How much pleasure this has given me, as well as the hyacinth bulb received at the same time which I am watching every day with eager hopes! The thought of the beautiful blossoms that will greet me, and of the kind heart that prompted the kind deed, has been like a ray of sunshine through the gray winter days, brightening the cloudy skies. What good times there will be studying the catalogues, knowing that this year the most beautiful varieties can really be my own!

For my part, I prefer to have my roses while I can enjoy them, and not wait until I'm "dead and gone." Recently, on the casket of one who dearly loved roses, lay a spray such as she had never seen when alive, which could have given her the most exquisite joy, but 'twas "too late." If you love your friends and wish to show it, do not wait to "plant sweet flowers on their graves," but mark the holidays or birthdays *now* with the loving thought. MOLLIE WIGGINS.

A NEW BLACKBOARD.—Much has been said of late about the blackboard and the slate as inconvenient and unsanitary. A novelty is described in the New York Ledger. This is made on the following principle: A sheet of ground glass, of suitable size, is set into a very firm, thin frame. This frame is hinged so as to swing into another frame attached to the wall. This stationary portion is fitted with a backboard, covered with black canton flannel, velveteen or serge, velveteen giving the best effect. When the swinging glass is pushed firmly into the frame, it presses on the velveteen backing. The ground surface is, of course, outside. This makes a blackboard that may be used either for crayons or lead pencil, as the case may be. There is also a white back which may be used. This forms an admirable surface for colored crayons. If it be necessary to copy or practice in geometrical designs or flowers, sheets of paper containing them are placed between the backing and the glass, the outlines showing through perfectly. This board has many advantages, and will probably be adopted in many of the schools and academies.

WOMEN AND COLLEGES.—Nearly all the schools north of the Ohio River and west of the Alleghany Mountains are coëducational. To Colby University, Waterville, Me., belongs the honor of first opening its doors to women. Different opinions are held as to the practicability of separate colleges for women in the future, after the doors of all schools are thrown open to them, as seems quite likely to be the case, says Mary C. Stetson in the Ladies' Home Companion. My own thought is that there will always be a demand for young ladies' preparatory schools and colleges; but that many, regardless of sex, will be glad to avail themselves of the advantages of a great university like Chicago. The University of Chicago has been characterized as "the only university in the history of the world that included in its very conception the equal educational rights and privileges of women." The field for women at Chicago is continually widening. There are now eight women on the general faculty and 286 women students. We certainly can see great progress when we consider this university, so vast in conception that it could hardly have been ventured upon earlier than the present decade. The number of women engaged in collegiate work in all schools is about 37,000.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

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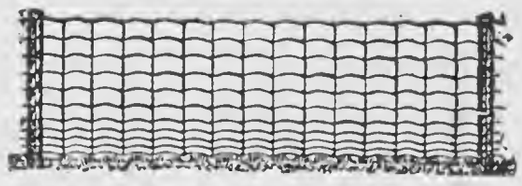

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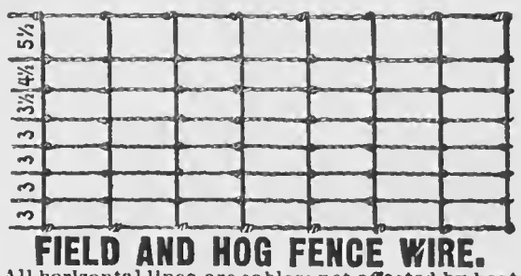

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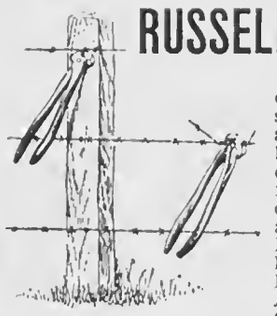

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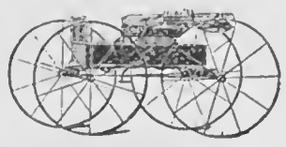
THE RURAL NEW-YORKER, NEW YORK.

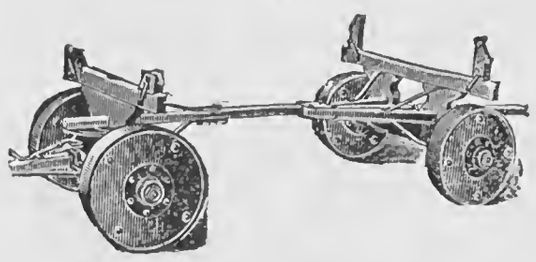
$ $ $ $ $ $ $ $ $ $

We assume that you know by this time, that we are going to give eight valuable premiums May 1 to the eight agents who send the largest eight clubs from February 10 to that date. The first is a $400 Emerson piano; second, $120 Estey organ; third, $100 Wilcox & White organ. Thus late in the contest,



you may not wish to start in for any of these. All right! Let others have them! You could yet win one if you started out determined to get one, as the recent bad weather has kept the work back.

But what we wish now is to call your attention to the buggy, Handy wagon,



Superior land roller, Breed's weeder and Sherwood harness. We give small illustrations of the buggy, roller and wagon. The prices are respectively $60, $56 and $30. Some one will be surprised when we tell him that he has won one of these premiums for a club of about 10 or 12 names. Just think of it, a $60 buggy

going for a club of, say, 12 yearly subscriptions, and your commission off this besides. And a steel land roller (no better made) going for a smaller club yet. If the present clubs are not increased, the $30 Handy wagon will go for a club of less than 10 names; and the weeder and harness for smaller clubs yet. This tells the whole story. Now do you wish one of these premiums, or don't you?

CROP AND MARKET NOTES.

Dressed veals are much lower.

Florida strawberries are plentiful.

Choice turkeys are in good demand.

Asparagus is in quite liberal supply.

Arbor Day in New York State is May 8.

New carrots are plentiful, and sell well.

Game of all kinds is dull, and prices low.

Sweet potatoes are dull and prices weak.

Dry beans are very dull and slow of sale.

Prices of surplus milk average considerably lower.

And now California is experimenting in tobacco growing.

Wheat is picking up, and some now predict dollar wheat.

Dried fruits are extremely dull, and prices low, especially for apples.

Beeswax is in light supply and held at 30 to 31 cents per pound for pure.

Arrivals of spinach and kale by the Old Dominion steamers, are very large.

And now the brewers deny that they intend to boycott New York State hops.

The hop growers of Washington have been shipping their product to Australia.

Arrivals of new cabbage are increasing, mostly from Florida, some from Charleston.

Squashes and turnips are in limited supply, and meet a ready sale at good prices.

The average price of eggs in the New York market for March, was about 11½ cents.

Small lots of new maple sugar have arrived, and sold for about 10 cents per pound for strictly pure.

There is a prospect that several more sugar-beet factories will soon be established in California.

Greening apples are very scarce, and choice ones would sell for high prices if they were on the market.

Some farmers are reported to be burning potatoes for fuel instead of coal. Rather soggy fuel, we would say.

The California lemon crop is reported to promise larger than ever before if no unforeseen disaster overtake it.

Last year's cotton crop was but little more than two-thirds as large as that of the preceding year, but is said to have brought the growers more money.

A few spring ducks have arrived from Long Island, and sold for about 30 to 35 cents per pound. These prices will decline as the shipments increase.

With the near approach of warm weather, pork begins to drag. This is a cold-weather article of diet, and little is handled during the summer months.

Live poultry is well cleaned up, and prices are good for all excepting geese, which are dull and lower. Chickens are selling for about the same as fowls.

In spite of the tremendous quantity and low price of old potatoes, new ones are selling at pretty good prices. Not very large quantities of these are sold, however.

Spring lambs are in large supply, and it takes extra good ones to bring outside quotations. Much caution should be used in shipping these as the weather grows warmer.

A New York trade paper figures out that, in 1895, 53,264,475 pounds of oleomargarine were consumed in the United States. We wonder how much of this stuff was sold and eaten under its true name!

A substitute filled cheese bill has been reported to Congress by the Ways and Means Committee, and is now under discussion. There was a minority report of the Committee which opposed the bill as reported.

The State of Washington, it is said, will not produce one-half of the usual hop crop this year. The crop has not been profitable for several years, and many of the largest yards will be plowed up. The farmers will try flax instead, as they believe that the climate and soil are peculiarly adapted for its culture.

The United States Consul at Havana makes a report which shows that the exports of sugar from several of the leading provinces to Spain amounted to only three per cent, the rest coming to this country. The receipts in this country this year are only about one-sixth as large as they were at the same time last year. Our own sugar makers are likely to have less competition from that quarter so long as the present war continues.

The Ohio State Board of Agriculture has just issued its first crop report for this year. It shows that the growing wheat crop in that State is in a bad condition. The report is based on township reports, and the summary of the wheat item is

(*Continued on next page.*)

Miscellaneous Advertising.

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The skeleton in many a household is the peculiar weakness of the wife and mother, or of the wife who ought to be a mother and is not. Happiness is destroyed by the presence of the secret sickness that may lurk like a grinning death among the most luxurious homes. The most terrible thing about this condition of affairs is that it is entirely needless. There is no reason in the world why every woman in the world should not be strong and healthful and capable of fulfilling her whole duty as a wife and mother. Many women go on month after month, and year after year, becoming weaker and weaker, because of a very natural hesitancy they feel in consulting a physician. They know that if they go to a doctor for treatment, the first thing he will insist on will be "examination" and "local treatment." This must of course be distasteful to every modest woman. They are generally as unnecessary as they are abhorrent. Dr. Pierce's Favorite Prescription cures positively, perfectly, permanently, all varieties of "female weakness" and disease. It is designed to do this one thing, and it does it. It is the only medicine now before the public for woman's peculiar ailments, adapted to her delicate organization by a regularly graduated physician—an experienced and skilled specialist in these maladies. It cannot do harm in any condition of the system. Its sales exceed the combined sales of all other medicines for women.

Every woman will be healthier and happier for following the friendly, practical counsel contained in Dr. Pierce's great universal doctor book: "The People's Common Sense Medical Adviser." It is the most comprehensive medical work in one volume in the English language. It contains 1008 pages, fully illustrated. 680,000 copies have been sold at $1.50 each bound in cloth. The profits are now used in printing half-a-million *free* copies bound in strong manilla paper covers. To get one you have only to send 21 one-cent stamps (to pay cost of mailing *only*), to World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y. Send promptly before all are given away if in want of one. They are going off rapidly.

Class in History—

Stand Up!

QUESTION—Who invented the first successful Reaper?

ANSWER—Cyrus Hall McCormick, in the year 1831.

Q.—Who builds the best grain and grass-cutting machinery at the present time?

A.—The McCormick Harvesting Machine Co.

Q.—Were their machines operated in the World's Fair field tests?

A.—They were.

Q.—Were the machines of their competitors so operated?

A.—They were not.

Q.—Why?

A.—Because they were afraid of the McCormick.

Q.—What proportion of the world's annual supply of harvesting machines is made by McCormick?

A.—About one-third.

Q.—Why did the farmers of the world buy 60,000 McCormick Mowers in 1895?

A.—Because the McCormick No. 4 Steel Mower is the best grass cutter ever built—that's why.

The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower, and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the

McCormick Harvesting Machine Co., Chicago.

Agents Everywhere.

THE FARQUHAR

PATENT VARIABLE FRICTION FEED.

Medal and Highest Award at the World's Columbian Exposition.

SAW MILL & ENGINE

BEST SET WORKS IN THE WORLD. Warranted the best made. Shingle Mills, Machinery, and Standard Agricultural Implements of Best Quality at lowest prices. Illustrated Catalogue.

FARQUHAR SEPARATOR
LARGEST CAPACITY.
Most economical, lightest draught, wastes no grain. Cleans ready for market. Send for catalogues.
A. B. FARQUHAR CO., Ltd., York, Pa.

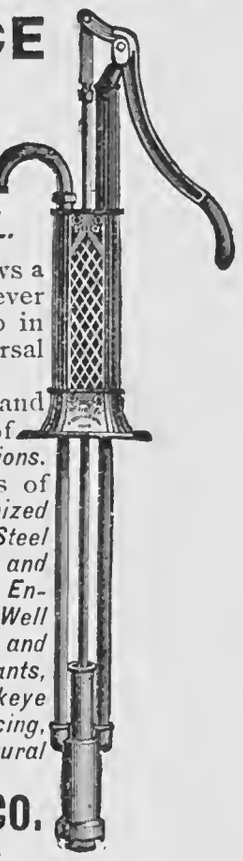
DO YOU SAW WOOD

DON'T follow the old Backaching and Backbreaking Methods of your ancestors, but use modern "up-to-date" machines. Use Smalley "Battle Creek" Wood Saws and do DOUBLE THE WORK WITH HALF THE HELP. Our "Electric" Circular Saw Machine is positively the best general purpose Farm Saw Ever Made, perfect as a pole saw and unequaled as a Cord Wood Machine. Smalley and Battle Creek hand or Self-feed Drag Saws are unequaled for both quality and quantity of work. Smalley Cutters for Ensilage and Dry Fodder Cutting—Feed Mills, Corn Shellers, Root Cutters—Sweep and Tread Horse Powers.

Price Lists and Latest Silo Book *Free* to any address.

SMALLEY MFG. CO., Manitowoc, Wis.

THE GENUINE
BUCKEYE FORCE PUMP.



HAS NO EQUAL.

Works easy and throws a constant stream. Never freezes. Over 300,000 in use and giving universal satisfaction.

Send for circulars and prices, giving depth of well. *Beware of Imitations.*

Also Manufacturers of the **IMPERIAL** *Galvanized Steel Wind Mills and Steel Derricks, Iron Turbine and Columbia Steel Wind Engines, Power Mills, Well Drilling Machines, Tank and Spray Pumps, Hydrants, Street Washers, Buckeye Lawn Mowers, Iron Fencing, Fire Escapes & Architectural Iron Work of all kinds.*

MAST, FOOS & CO.
SPRINGFIELD, O.

1854-Established 42 Years-1896
HALLADAY GEARED WIND MILLS

still maintain their position as the first in the procession. Most powerful, most durable, most efficient. Every mill guaranteed to be

THE BEST MADE.

U. S. Solid Wheel Mills, Gem Steel Wind Mills. Also I. X. L. Feed Cutters, Iron Feed Grinders, Hand and Power Corn Shellers, Wood Saws, Tank Heaters, Pumps of all kinds and Haying Tools. The Leading Water Supply House of the World.

Send For Catalogue.

U. S. Wind Engine & Pump Co.
113 Water St., Batavia, Ill.

ECONOMY IN POWER

Combined with the highest degree of utility is to be found in our tread powers. Adapted to the use of horse, ox, bull or even the cow. Perfectly safe with our new speed regulator, no danger from fire; man and beast can work in-doors—not dependent upon good weather.

1 Horse POWER.
2 Horse POWER.
3 Horse POWER.
4 Horse POWER.

These powers are mounted and unmounted. They

WILL PERFORM ANY SERVICE

required by a power from the running of a cream separator or churn to a threshing machine. Safe, durable, efficient. Write for catalogue—FREE.

St. Albans Foundry Co., St. Albans, Vt.

THE KIND YOU WANT

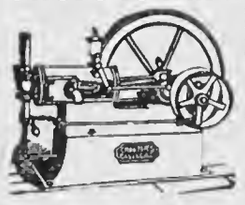
There are no better

Drilling Machines

than ours For gas, oil and water Go down from 10 to 2500 feet sizes. Send for catalogue and prices of machines, tools, supplies, etc. Free.

Star Drilling Machine Co. Akron, O.

There is hardly a Use of Power



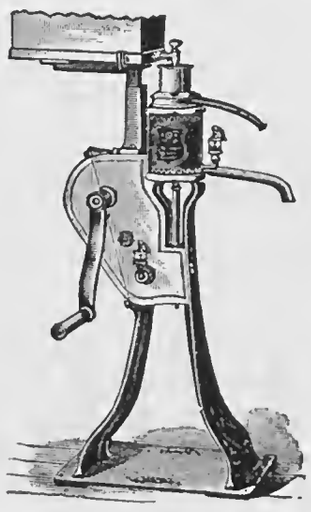
in Factory, Mill, Store, Office, Elevator, Creamery or Shop, or on the Farm, the

'CHARTER'

is not now filling. It is also running Boats, Well Drills, Pumps, Dynamos, Thrashing Machines, Etc. Of course it also uses Gasoline.

Charter Gas Engine Co., Box 26, Sterling, Ill.

The Improved United States Separator



EXCELS ALL.

The usual outcome where the U. S. is in competition.

After a trial of three other machines, I purchased the IMPROVED UNITED STATES SEPARATOR, preferring it for ease of cleaning, setting up, and thorough drainage.

April 4, 1896. M. P. MAXWELL, Yorklyn, Del.

THE IMPROVED UNITED STATES SEPARATOR STANDS ON ITS OWN BOTTOM.

We want agents in every town and county where we have none.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

CROP AND MARKET NOTES.

(CONTINUED.)

that the condition is 57 per cent of a full average. Last year, on the first of this month, the condition of wheat was 51 per cent. Rye, barley and clover are also reported badly winterkilled. The fruit prospect is 34 per cent.

The official statistics of the exports of butter from Denmark in 1895, show that the total amount sent to foreign markets was 129,690,000 pounds, almost exactly the quantity recorded in 1894. It appears, however, that the imports reached only 33,660,000 pounds, against 41,400,000 pounds in 1894. It is estimated, therefore, that there was an increase of about 8,000,000 pounds in the home production last year. The total exports to Great Britain are given as 126,500,000 pounds, of which more than 110,000,000 pounds was the product of Danish farms, the rest having come from other countries bordering on the Baltic.

The Indiana Bureau of Statistics has been collecting information about the winter wheat crop. Reports have been received from 593 townships, representing every county but one in the State, and the result is a decided falling off both in acreage and condition, as compared with last year. The general average for the State is 90.4, and the condition is 74.7. The principal cause given for the falling off in the condition of the crop, is that in many places the drought last fall retarded the growth of the young plant, and caused it to enter the winter in bad shape, and deteriorated with the alternate freezing and thawing. March weather was very injurious to Indiana wheat where it was not protected by snow.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 27½@1 30
Medium, 1895, choice	1 17½@1 20
Pea, 1895, choice	1 12½@1 15
Medium or pea, common to good	90@1 10
White Kidney, 1895, choice	1 25@1 30
Red Kidney, 1895, choice	1 02½@1 05
Red Kidney, common to good	80@ 95
Black Turtle soup, 1895	1 30@1 35
Yellow Eye 1895, choice	1 20@1 25
Lima, Cal., 1895 (60 lbs)	1 80@1 85
Pea, foreign, 1894	90@1 00
Medium, foreign, 1894	80@ 90
Green peas, bbl., per bushel	80@ —
Bags, per busbel	75@77½
Scotch, bags	77½@ —

BUTTER—NEW.

Creamery, Western, extras	18 @—
Western, firsts	16 @17
Western, seconds	14 @15
Western, thirds	12 @13
State dairy, half-firkin tubs, fancy	17 @—
Firsts	15 @16
Seconds	13 @14
Welsh tubs, fancy	16 @16½
Welsh tubs, firsts	15 @—
Welsh tubs, seconds	13 @14
Tubs, thirds	11 @12
Western imitation creamery, firsts	14 @15
Seconds	11 @12
Western dairy, firsts	12 @13
Seconds	11 @—
Thirds	9½@10
Factory, fancy	— @—
Factory, firsts	11 @12
Factory, seconds	10½@—
Factory, thirds	9 @10

OLD BUTTER.

Creamery, State, fall make	11 @13
Western, summer make	11 @13
State dairies, firkins and tubs, finest	14 @—
Firsts	12 @13
Seconds	10½@11
Tubs or firkins, thirds	9 @10
Western factory	8 @10

CHEESE—NEW.

Full cream, large, fall made, col'd fancy	10 @10¼
Large, fall made, white, fancy	10 @10¼
Late made, choice	9½@ 9¾
Late made, good to prime	8½@ 9
Late made, common to fair	7 @ 8¼
Summer made, choice	7¾@ 8
Summer made common to prime	6 @ 7½
Small, white, fancy, fall made	10½@10¾
Small, colored, fancy, fall made	10½@10¾
Small, late made, good to choice	9½@10¼
Small, late made, common to fair	7½@ 9
Small, summer made, prime to choice	8 @ 8½
Small, summer made, common to fair	6 @ 7
Light skims, choice	6½@ 7
Part skims, common to prime	3 @ 5½
Full skims	2 @ 2½
Pennsylvania skims	1 @ 1½

EGGS.

New-laid, fancy (nearby)	13½@ 14
Pennsylvania & Md., country marks	13 @ 13½
Western, fresh collections, fancy	12¼@ 12½
Southern, fresh collections, choice	12 @ 12¼
Common to good	11½@ 11¾
Duck, Md., per doz	23 @ —
Western, per doz	20 @ 21
Southern, per doz	20 @ —
Goose, per doz	35 @ 40

FRUITS—GREEN

Apples, extra, fancy, per bbl	4 50@6 00
Baldwin, per bbl	3 00@3 75
Greening, per bbl	3 25@4 50
Ben Davis, per bbl	3 50@4 00
Russet, Roxbury, per bbl	2 50@3 25
Russet, Golden, per bbl	2 25@2 75
Grapes, State, Catawba, per 5-lb basket	6@ 15
Catawba, per case	1 25@2 25
Strawberries, Fla., extra, fancy, per quart	25@ 35
Poor to good, per quart	15@ 20

HONEY.

State, white clover, comb, fancy, per lb	— @—
Fair, per lb	— @—
Buckwheat, comb, per lb	8 @ 9
Extracted, per lb	4 @ 4½
California, comb, fair to prime, per lb	12 @14
Extracted, per lb	5 @ 6
Southern, in bulk, per gallon	45 @55

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

HAY AND STRAW.

Hay, No. 1 Timothy	95@1 00
No. 2	85@ 90
No. 3	70@ 80
Clover, mixed	80@ 90
Clover	65@ 75
Salt	45@ 50
Straw, long rye	80@1 00
Short rye	50@ 65
Oat	50@ 60
Wheat	40@ 45

POTATOES.

Bermuda, new, per bbl	6 50@7 50
Second crop, per bbl	5 00@7 00
Florida, prime, per bbl	5 00@7 00
Seconds, per bbl	3 00@4 00
Havana, per bbl	—@ —
Houlton Rose, per d. b. bbl	1 00@1 50
Maine Rose, per d. h. bbl	1 00@1 50
State Rose, per d. b. bbl	1 00@ —
Maine Hebron, per sack	75@1 00
Long Island, in bulk, per bbl	50@ 75
State Rose and Hebron, per 180 lbs	75@ 90
Burbank, etc., per 180 lbs	50@ 75
Jersey, in bulk, per 180 bbl	50@ 75
State and Jersey, per sack	60@ 70
Common, per sack	25@ 50
Sweets, Vineland, fancy, per bbl	3 50@5 00
South Jersey, per double-head bbl	2 75@3 00
South Jersey, clotb top, per barrel	2 75@3 25
Jersey common, per barrel	1 50@2 50

DRY-PACKED POULTRY.

Turkeys, average best, young hens	14 @ —
Average mixed hens and toms	12½@ 13½
Young toms, average run	12 @ 13
Old toms	11 @ 12
Capons, Phila., large, per lb	20 @ —
Medium sizes, per lb	17 @ 19
Small and slips, per lb	13 @ 16
Western, large, per lb	16 @ 18
Western, small and slips, per lb	12 @ 14
Chickens, Phila., broilers, under 3 lbs	30 @ 35
Phila., broilers, 3-4 lbs., per lb	25 @ 30
Phila., broilers, 4-5 lbs., per lb	18 @ 23
L. I., broilers, scalded, per lb	26 @ 28
Phila., yearlings, choice, per lb	15 @ 17
Phila., fair to good, per lb	12 @ 14
Western, average best, dry-picked	10 @ —
Western, average, iced, per lb	10 @ —
Western, fair to good, per lb	8 @ 9½
Western stags	7 @ 7½
Fowls, Western, choice, dry-p'k'd, per lb	10 @ —
Western, iced, choice	10 @ —
Western, fair to good	9 @ 9½
Old cocks, per lb	6½@ 7
Ducks, choice, per lb	16 @ 17
Fair to good, per lb	12 @ 15
Geese, Western, good to prime	8 @ 10
Western, poor to fair	6 @ 7
Squabs, tame, white, per doz	2 50 @2 75
Mixed lots, per doz	2 25 @ —
Dark and poor, per doz	1 75 @2 00

FROZEN.

Turkeys, mixed, hens and toms, No. 1	15 @ 15½
Young toms, No. 1	14½@ 15
Old toms	12 @ 12½
No. 2	9 @ 11
Chickens, soft meated, No 1	11 @ —
Average, No. 1	9 @ 10
Fowls, No. 1	10 @ —
Fowls and chickens, No. 2	7 @ 8
Old cocks	6 @ 6½
Ducks, No. 1	15 @ 17
Geese, No. 1	9 @ 11

POULTRY—LIVE.

Fowls, local, per lb	10½@ —
Western, per lb	10½@ —
Southwestern, per lb	10 @ 10½
Southern, per lb	10 @ —
Chickens, local, per lb	10 @ 10½
Western, per lb	10 @ 10½
Southern, per lb	10 @ —
Roosters, old, per lb	6 @ 6½
Turkeys, mixed, per lb	11 @ 12
Ducks, local, per pair	70 @ 90
Western, per pair	60 @ 80
Southern, per pair	60 @ 65
Geese, local, per pair	1 00 @1 25
Western, per pair	87 @1 12
Southern, per pair	75 @ —
Pigeons, per pair	30 @ 40

VEGETABLES.

Asparagus, Char., colossal, per doz bunches	5 00@6 00
Charleston, prime, per doz bunch	2 00@4 00
Charleston, shorts, per doz bunches	2 00@3 00
Charleston, culls, per doz bunches	1 50@1 75
N. C., prime, per doz bunches	1 50@3 50
Beets, New Orleans, per 100 bunches	3 00@5 00
Florida, per crate	1 00@1 25
Florida, per 100 bunches	5 00@6 00
Brussels sprouts, per quart	5@ 15
Cabbage, Florida, per barrel-crate	2 25@2 50
Carrots, washed, per bbl	1 25@1 50
Unwashed, per bbl	1 00@1 25
Cauliflower, Fla., per half bbl	3 00@4 00
California, per case	2 00@3 50
Celery, fancy, large, per doz	75@ —
Average, prime, per doz	40@ 65
Small, per doz	15@ 30
Cucumbers, bothouse, per doz	50@1 25
Egg plant, Florida, per box	1 50@3 50
Green peas, Fla., per crate	1 00@3 50
Horseradish, per lb	3@ 5
Kale, per bbl	1 25@1 50
Lettuce, Florida, per half-bbl basket	1 00@3 00
New Orleans, per bbl	2 00@5 00
Charleston, per busbel basket	50@1 00
Norfolk, per basket	50@1 00
Bermuda, per crate	—@ —
Onions, Eastern, white, per bbl	1 00@2 00
Eastern, red, per bbl	1 00@1 25
Eastern, yellow, per bbl	1 00@1 50
Bermuda, per crate	1 50@ —
Peppers, green, Fla., per crate	—@ —
Radishes, Norfolk, per 100 bunches	75@1 25
Spinach, per bbl	75@1 50
Squash, Marrow, per bbl	1 00@1 50
Hubbard, per bbl	75@1 00
Florida, per crate	2 00@2 50
String beans, Florida, per crate	1 00@3 00
Tomatoes, Fla., per carrier	2 00@4 00
Per crate	1 00@3 00
Key West, per carrier	1 00@3 00
Key West, per peck box	25@ 40
Turnips, Jersey, Russia, per bbl	1 00@1 25
Canada Russia, per bbl	1 25@ —

MILK AND CREAM.

The total daily supply has been 20,678 cans of milk, 191 cans of condensed milk and 430 cans of cream. The average price paid for the surplus on the platforms has been $1.20 a can of 40 quarts.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

IF YOU NEED

Machine Oil, Harness Oil, Cylinder Oil, Axle Grease, Gasoline for Stoves or Gas Machines,

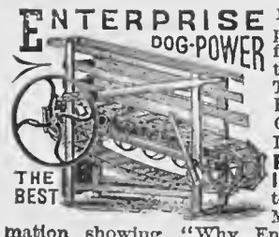
or anything in the line of oils or greases, write us for prices. DERRICK OIL COMPANY, Titusville, Pa.

POTATOES—Rural New-Yorker No. 2, Seed Potatoes, 75 cents per bbl., f. o. b. MERRITT M. CLARK, Bedford, N. Y.

To Gentlemen owning large tracts of land, Park Commissioners or Directors of Public Works.—Advertiser, having terminated his engagement with H. McK. Twombley, of Madison, N. J., would be pleased to treat with any of the above with a view of personally superintending and taking charge of any large improvements, or would contract for any kind of work G. COOKE, Madison, N. J.

FOR COUGHS, ASTHMA AND THROAT DISORDERS, use "*Brown's Bronchial Troches.*" Sold only in boxes. Avoid imitations.—*Adv.*

ENTERPRISE DOG-POWER



For the best Dog or Sheep power, for churning, and for full information about the best Horse-powers Threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular saw Machines and Land-rollers, send for **Fearless Catalogue.** For Fodder cutters, Carriers and Drag saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.**

Address, MINARD HARDER, Cobleskill, N. Y.

CORN Mammoth Yellow Flint

WORLD'S RECORD BREAKER.

243 Bushels from One Peck of Seed!

Is beyond a shadow of doubt the purest, handsomest, heaviest yielding flint variety we have in this broad country of ours. It grows to good height. Each stalk bears from two to four ears under good cultivation.

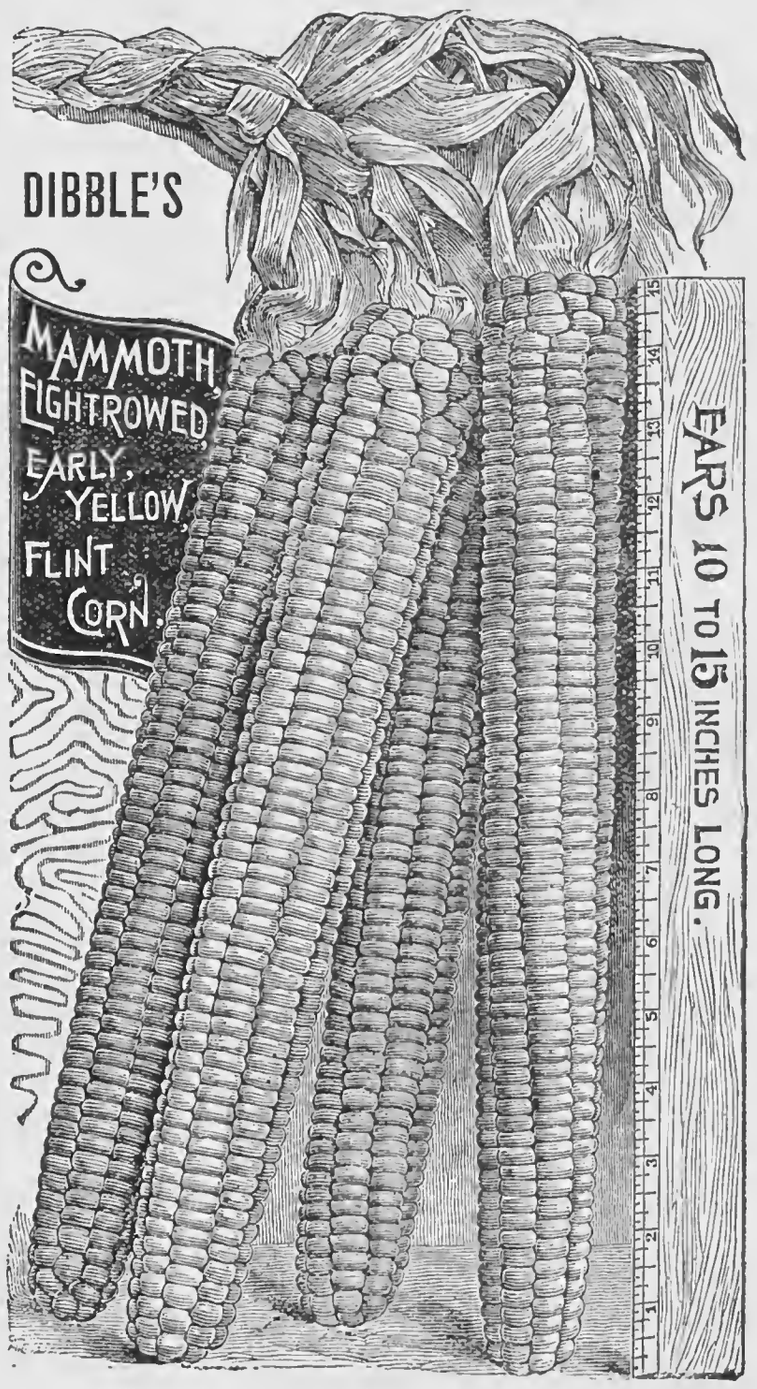
Among the very desirable qualities of this wonderful Corn can be mentioned its enormous size; the ears being the longest of any variety of corn that is grown, either Flint or Dent. Our stock of seed is from ears that are 10 inches and upwards in length Our growers select our seed ears at the time of harvesting, and they are given the most careful attention from that time until we pack them in bags ready for shipment.

This year our crop gives us an average yield of from 140 to 180 bushels of ears per acre, shelling out from 60 to 90 bushels of first-class A No. 1 shelled corn per acre. The great desideratum in a corn for Northern Farmers is that it should ripen early. The Mammoth Flint which we offer becomes fully matured within 100 days from date of planting in any latitude.

It is the **best flint corn ever offered for field culture, and wherever tried for ensilage,** it has proved a **bonanza.**

One peck, 15 lbs., enough to plant one acre, 50 cents; one bushel, $1.50; 10 bushels, $12.50, bags free.

O. D. Blanchard, of New Hampshire, grew 243 bushels of this corn from one peck last year. You can do as well. Try it.



CATALOGUE FREE.

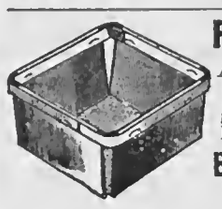
EDWARD F. DIBBLE SEED CO., Honeoye Falls, N. Y.

$1.50 a bbl. **$5.00** for four bbls.

RURAL NEW-YORKER No. 2, DUTTON'S SEEDLING, or EARLY NORTHER SEED POTATOES.

All warranted true to name, and grown on our rugged slate land in Sullivan County, where the best quality of potatoes in the world are grown. Kept in ground pits all winter, they are in best possible vigor for seed. Orders may be sent to THE RURAL NEW-YORKER or to GROTTO FARM, Mongaup Valley, Sullivan County, N. Y.

LONG This Patent saves its cost every day in building or repairing wire fence. Pulls staples, spaces, stretches and cuts wire. One man can do more than two with any other tool. If no agent in town, send to H. M. CHIPMAN, Manuf'r, Waterbury, Conn. **FELT WANT HERE**



FRUIT PACKAGES of all kinds

Also Beekeepers' Supplies.

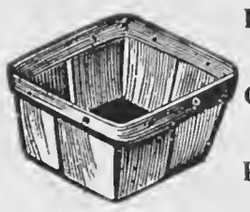
Now is the time to order and get the DISCOUNTS. Catalogue and price list free. Address

BERLIN FRUIT BOX CO.,

Berlin Heights, Erie Co., Ohio.

Berry Baskets.

Quarts, Shorts, Pints, Thirds, &c.



Peach Baskets.

Sizes, 2, 4, 6, 8, 10, 12, 14 and 16 quarts.

Grape Baskets.

Sizes, 3½, 5, 8, 10 and 15 pounds.

Peach Covers.

Wood, burlap and cotton.

BERRY, PEACH AND GRAPE CRATES.

Crate stock and box shooks in all sizes, direct from the manufacturers. Special prices to dealers and carload buyers. Write for catalogue.

A. H. MONTAGUE & SON,
Manufacturers and Agents,
120 Warren St., New York City.

Small Fruit Plants AND **Seed Potatoes.** A FEW THOUSAND more Raspberry Plants, standard varieties, extra quality, at $5 per 1,000. Blackberry Plants at $7 per 1,000. Seed Potatoes at reduced prices. Send to-day for price-list. R. N. ROBINSON, Sidney, Ohio.

Potatoes—Change your Seed. I offer 100 barrels "Beauty of Hebron," the finest in quality and a very heavy yielder, at $1.50 per single barrel, in 10-barrel lots, $1.25. S. C. PULLMAN, Chester, N. J.

Berkshire Swine.

Two extra-fine sows, two years old, registered. Also, yearling sows. Now booking orders on Spring litters. S. C. PULLMAN, Chester, N. J.

GARNER & CO.,
Produce Commission Merchants,
32 LITTLE 12th ST., NEW YORK.

Can get you highest market prices for fine goods. CHOICE CREAMERY BUTTER, FANCY LEGHORN EGGS, DRESSED POULTRY AND CALVES a specialty. Shipping cards and stencils on application. Reference: Gansevoort Bank.

E. H. PECK (Snecessor) M. N. Edwards & Co. (Est. 1861)
General Commission Merchant,
CALVES POULTRY, LAMBS, Etc.
No. 193 DUANE STREET, NEW YORK.

Liberal advances by arrangement. Sales and checks mailed daily.
References: Irving Nat'l Bank and THE R. N.-Y.

SOMERS, BROTHER & CO.
PITTSBURGH, PA.
Fruits and Produce

Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.

Send for our little book, "Suggestions to Shippers," Market Reports, Special References, Stencils, etc., all free.
Inquiries and Correspondence Invited.

Eight Years Cured:
W. L. WEDGER,
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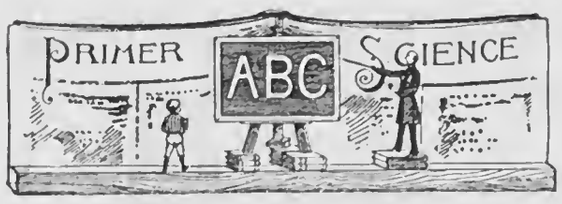

FEEDING A HEN.

PART XIV.

The first thing we have to consider this week, is the following note from Mr. J. H. Seely, the poultryman at Gov. Morton's great farm. Mr. Seely made up various rations for White Plymouth Rock laying hens, and finally settled upon the following:

Bran, 200 pounds; gluten feed, 200; corn meal, 100; oat meal or ground oats, 200; cotton-seed meal, 25; linseed meal, 25; middlings, 50; Preston's animal meal, 100, making 900 pounds. This is for a morning mash mixed with milk or hot water. The rest of the day, we feed wheat. The whole ration has a ratio of about one to five. In trying experiments with oil meal, we found that the yolk of the egg became separated, about two-thirds clear oil, the rest hardened like a stone, and soon decomposed, killing quite a number. Cotton-seed meal seemed to affect the heart; they would drop over, and I could find nothing wrong with them inside. The hens fed on the narrow ration, are much more lively, not so fat and lazy, heads look bright, are not so much affected by diseased liver, and, in fact, appear stronger in every respect.

Mr. Seely says that he is much pleased with the experiment thus far. His former ration was much wider. You will notice that he feeds but little corn meal, and no whole corn at all. The mash contains eight different ingredients. This is in line with what Mr. Cottrell told us on page 228, about feeding the Guernsey cows. Animals like a variety of food, and it is a good plan, if you are going into "mush making" at all, to give them what they like.

Another important point in Mr. Seely's note is the result of feeding the oil meal in large quantities. When he started in to "balance" the ration by increasing the proportion of muscle-makers, he first tried to use the oil meal almost entirely. As you know, both oil meal and cotton-seed meal contain large amounts of muscle-makers, and could be used with dry stalks or ensilage to balance a ration for cattle. The oil meal, being laxative, would answer with the stalks, and as the cotton-seed meal is constipating, it is best used with the ensilage. With poultry, however, these rules will not exactly follow. As we have seen, the digestive organs of the hen differ considerably from those of the cow, and as the egg is made up with its fat yolk inside its muscle-maker "white"—the whole thing being put together with marvelous rapidity—we cannot safely feed such a large proportion of pure fat as we would to a cow or hog.

The result of feeding so much oil meal in order to obtain muscle-makers, was that an excess of oil or fat was given, and this affected the yolk of the egg as described by Mr. Seely. The hen kept on laying, you see, because the ration was balanced, and she was not likely to become fat and quit laying as she would have done if the ration had been wider. This is an interesting and useful fact, and well illustrates one great difference between the science of feeding for eggs or for milk. *Do not make up a poultry ration that contains an excess of oil or pure fat.* The trouble with cut bone and most of the meat meals, is that they contain too much pure fat or grease.

Somewhat in this line, is the following valuable letter from one of the largest duck raisers in America, which will give us all something to think about:

"My Hen is a Duck."

"I have been very much interested in the articles on feeding a hen, but they do not altogether apply to me, as my hen is a duck. I am now feeding a ration to the breeders in which the nutritive ratio is 1 to 3.56, and to the ducklings in which the nutritive ratio is 1 to 3.24. What do you think of it? The natural feed of the duck is largely fish; and the Long Island breeders feed a good deal of this and get a larger duck, and earlier eggs than we can here inland. I imagine that they feed a very much narrower ration. I am sure that they get the results, but I do not like the effect on the bowels, and it is very loosening. When I go around my yards and see the droppings standing in little piles, with a white nightcap on each, I think that the bowels are then in an ideal condition. Please take up this question of droppings, and throw some light on it; I know how important it is in feeding cattle, and why not in poultry? I am now feeding cotton-seed meal in small quantities instead of linseed, as I find it not so loosening, and I also feed a little charcoal which, I think, has a good effect on the droppings. Can you give us a list of feeds that are divided into the constipating and loosening?

"I was very much surprised on getting the analysis of green bone, to find how much fat it contained, and on figuring it out, to see that I had been feeding it at a loss for so many years. At the price at which I can buy scrap and dry blood, they are much the cheaper. The German standard ratio for fattening cattle is 2.50 muscle-makers, 15.0 fat-formers, .50 pure fat per 1,000 pounds. Can't you give us some similar standard for poultry, per 1,000 pounds? Is not a nutritive ratio a little misleading? Can't we make a ration that contains too large an amount of fat, even though the ratio is all right? Is there any known rule as to how the fats should compare with the fat-formers, or are they mostly convertible, as 2½ is to 1?"

WM. H. TRUSLOW.

There are too many good questions in this letter to be answered in one article, and we shall try to take them up as we go along. This "Feeding a Hen" has proved so interesting and popular, that we have decided to keep at it for awhile longer.

Our opinion is that, generally speaking, ducks require a narrower ration than hens, and we think that Mr. Truslow is on the right track in feeding the growing ducklings a larger proportion of muscle-makers than he does to the layers. We are not able to suggest any exact ratio to be used. Our belief is that when hens are well housed and cared for, a proportion of one part muscle-makers to four parts fat-formers, is about right, and from that point of view, Mr. Truslow's feeding is correct, so far as proportions go. Of course, the true test of feeding is the *result.*

It is reasonable to suppose that the Long Island duck breeders, who feed large quantities of fish, do give a narrower ration. In most fish, as fed on the Island, the proportion of muscle-makers exceeds that of the pure fat, and the grain fed with it would, apparently, not bring the ratio above 1 to 3. The theory, therefore, would favor a narrower ration even than Mr. Truslow's for large and quickly maturing ducks. We hope to obtain more light on this interesting problem, as well as on other points raised in this letter.

And now let us throw in a few grains of fat-formers in the shape of a short note about our old friend, J. A. W.:

I am very much pleased at the way J. A. W. comes back at his critics. Pleased, not because I agree with him, but because I like to see a man defend his opinions with vigor, which he certainly does. While the mush-makers are taking lessons, it might be well for J. A. W. to read the Business Hen, and learn how one of them cleared over $1,000 a year from 600 hens, after paying liberally for the labor of making mush, etc. ($30 per month). When the smoke has cleared away, some one may have life enough remaining to figure out how much it would cost to house 200 hens, if a new building had to be provided 27 x 45 feet with a barn cellar or scratching shed 30 x 100 feet, in connection with a fence inclosing a five-acre field. It might be well, also, to figure out how much is saved by feeding wheat at 80 cents per bushel, simply because it is ready mixed; when middlings can be bought at 85 cents per 100 pounds.

J. A. W. must have missed page 41 of THE R. N.-Y. It would make him sick to read how many eggs Mr. Brewster's hens (mush-maker) lay in cold weather, and then look in his own egg basket. The class of people who are willing to pay big prices for eggs, expect a supply the year 'round, and J. A. W. will be surprised to see how quickly they will discard him as soon as they find a man like Mr. Brewster. They will not stop to inquire how much trouble it is to mix mush.

O. W. MAPES.

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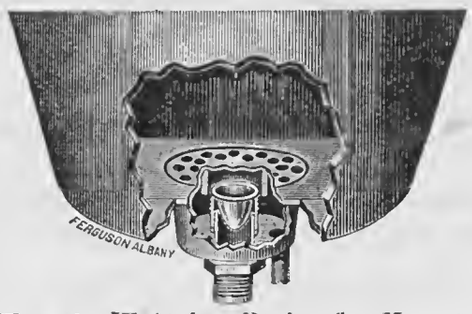

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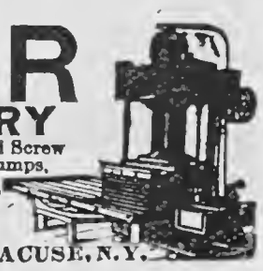

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Live Stock Matters

FORKFULS OF FACTS.

COW CONDIMENT.—A writer in the Iowa Homestead gives the following conversation with a friend who has been quite successful with cows:

It was a profitable thing for a farmer with one or two cows to save the turnip, mangel and beet tops, put them in tight boxes or barrels, salting them, and weighting them down with stones on the cover. He said it was surprising how much feed a common-sized barrel would hold, and cows delighted to eat it. It formed a relish or condiment, creating an appetite for their daily feed. In these days of depression, it would be well for farmers to cherish their cows and study their likes and dislikes, not only in the way of feed, but in everything else. A lot of cows shipped to our town from Nebraska were auctioned off recently, and brought an average of $33. Many were thin in flesh, and those giving milk were nearly dry. A few of the good ones brought as high as $46 each.

That might work in some of the smaller dairies where not enough cows are kept to make a silo profitable.

RAW POTATOES AND BUTTER. — One peck of cut ruta-bagas was fed per cow, mixed with a little salt and the usual allowance of mill feed, immediately after milking every evening, to high-grade Jersey cows. The color of the butter was good (no artificial color used), flavor excellent. Wishing to get rid of small potatoes, I discontinued the ruta-bagas, and substituted the same amount of small potatoes, the rest of the feed being the same as before. The color of the butter after this change, in place of being yellow, was of a grayish-white with a horribly villainous flavor. The potatoes were stopped, and ruta-bagas fed again, resulting in yellow, well-flavored butter again. J. B.

Vienna, Ohio.

THE WHITE LEGHORN HEN.—The White Leghorn has many good qualities as an egg producer, and compares well with two or three other varieties in our poultry house. She is a "business hen," and begins her life work early in life, keeping up her good qualities for several years.

At one time, I procured seven dozen eggs from Mr. Wyckoff, and the result was a new experience to me—pullets hatched May 10 began to lay November 17, and continued very steadily through the winter. Their large combs were a curiosity, and their quick movements savored of gracefulness. We found, too, that we could house more Leghorns in one compartment than of larger fowls, and when killed, the fine, white feathers brought two cents a pound more than the darker feathers of our common fowls. Eggs in winter in Montreal, average 35 to 40 cents per dozen, and the Wyckoff pullets nobly did their duty as winter layers.

If farmers' daughters who are short of pocket money, would invest in a few choice eggs, and notice the results, it would be a surprise to them. THE R. N.-Y. gives practical experience and directions as to care of poultry, and it is a business that attracts one who enters heartily into the spirit of it. Hens soon learn the difference in the people who attend them; our flock will scatter noisily from one end of the building to another when certain members of the family approach, and never stop their scratching and eating when others go near. The sound of the key in the door while all is silent in the morning, causes a stir and brings them down from the perch quickly, and I often wonder at their instinct and intelligence.

Cats have been our greatest enemies; last spring, a neighbor's cat got into the brooder and ate 15 little chickens. Every dead bird, young or old, should be put under ground to keep the dogs and cats from eating it, for if they once get the taste, the shotgun is the only cure.

Women on isolated farms will find increased pleasure and profit in a few thoroughbred chickens. Since a severe illness several years ago, I have interested myself in this branch of farming and am certain that I owe to it my partially recovered strength. For a sense of duty is strong in most people, and it was a necessity to go out and look after my pets. If they had not been there, I would not have ventured out of doors, and so have missed the air and sunshine. It filled my mind with thoughts for best methods, and there was always an interest in the egg basket. So from practical experience, I can safely recommend it to others.

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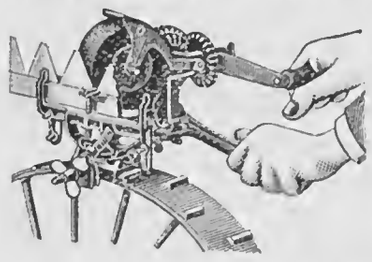

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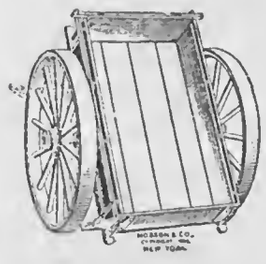

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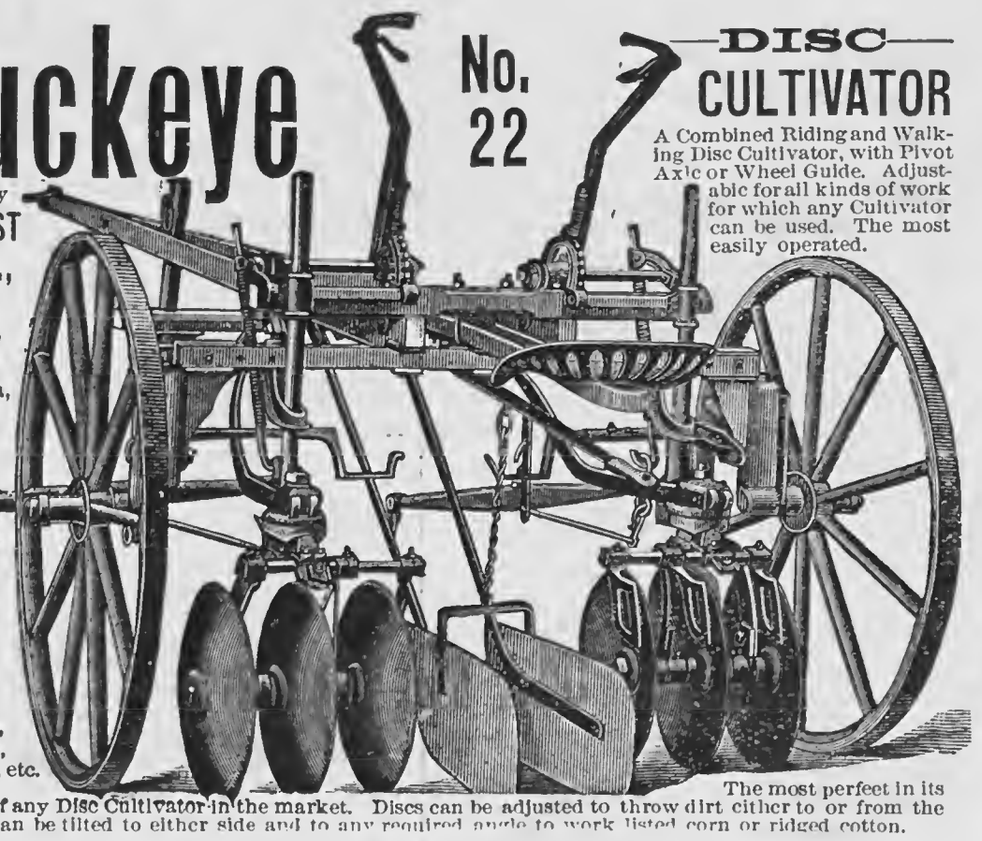

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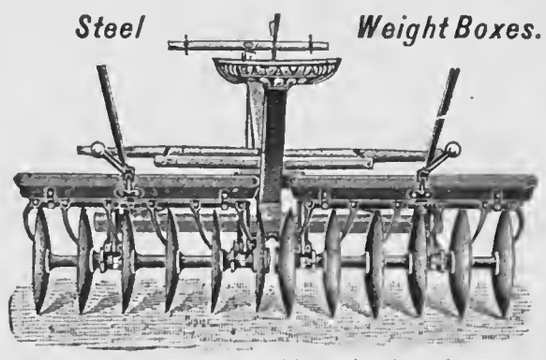

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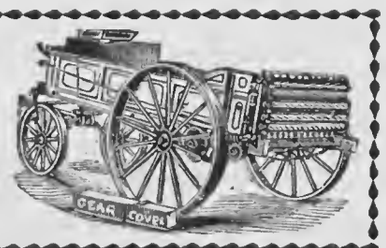

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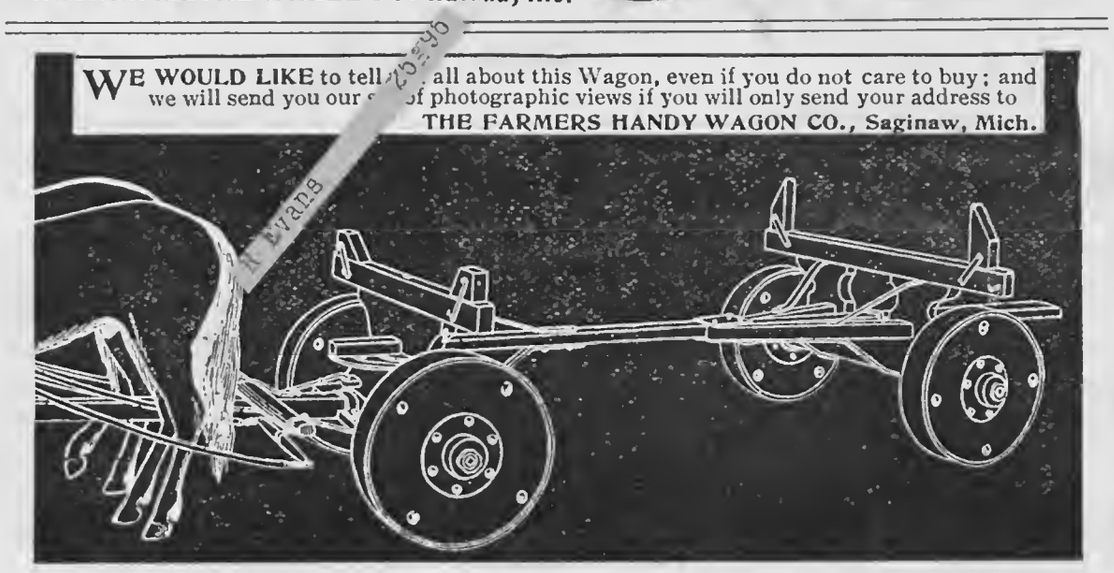
Our handy wagons are **GUARANTEED to carry 2 tons.** We tell more about them in our **FREE** catalogue. Write us and get one.
HAVANA METAL WHEEL CO. Havana, Ills.

WE WOULD LIKE to tell you all about this Wagon, even if you do not care to buy; and we will send you our set of photographic views if you will only send your address to
THE FARMERS HANDY WAGON CO., Saginaw, Mich.



You Must

"Make hay while the Sun shines" and frequently the weather is so "showery" that you will need the best possible haying machinery for saving the crop promptly.
Here's a combination of world beaters
OSBORNE MOWERS
OSBORNE TEDDERS
OSBORNE RAKES
The **Mowers** are one and two horse. They cut from 3½ to 6 feet in width. They have the **Famous Osborne Knife.** The gear is simple, powerful, positive. Best forged steel pitman—works in a straight line. The Cutter Bar is drawn, not pushed. They are the best that skill and long experience can produce.
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D. M. OSBORNE & CO.,
AUBURN, N. Y.

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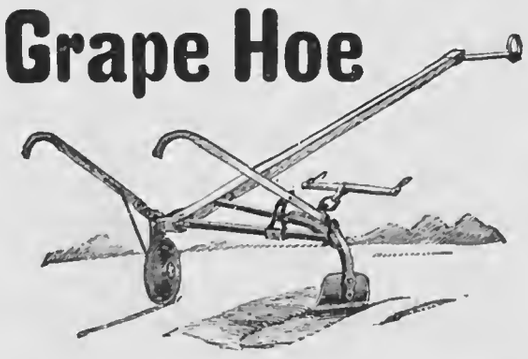

Made formerly by D. S. Morgan & Co., Brockport, N. Y. and recently purchased by us, is one of the greatest labor-saving tools ever invented for use in culture of grapes and berries, and especially adapted for vineyard work. After cultivating between the rows, the grape hoe will take out all grass and weeds that remain under the wires and around vines and posts, and will thoroughly stir the soil close to the vines. The Hoe is guided in and out around post and vine by the Disc Castor Wheel, to which the handle is attached. The horse is hitched to one side of the pole, with plenty of room for hoe to work under the vines or bushes, and without injury to them from horse or whiffletree. The saving in time and labor will soon pay the cost of this tool. We can refer to some of the most successful grape and berry growers in the country.
Write for further information, and Catalogue R, of all our implements.
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THE BEST, CHEAPEST AND MOST DURABLE.
We also manufacture Grain Threshers and Separators, Sweep Powers, 1, 2 & 3-horse Tread Powers, Hand and Power Corn Shellers, Chilled Plows, Hand and Power Feed Cutters, Grinding Mills,

Price and Catalogue free.
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S. S. MESSINGER & SON, Tatamy, Pa.

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG CO. N.Y.

VOL. LV. No. 2413. NEW YORK, APRIL 25, 1896. $1.00 PER YEAR.

BY THEIR SPROUTS YE KNOW THEM!

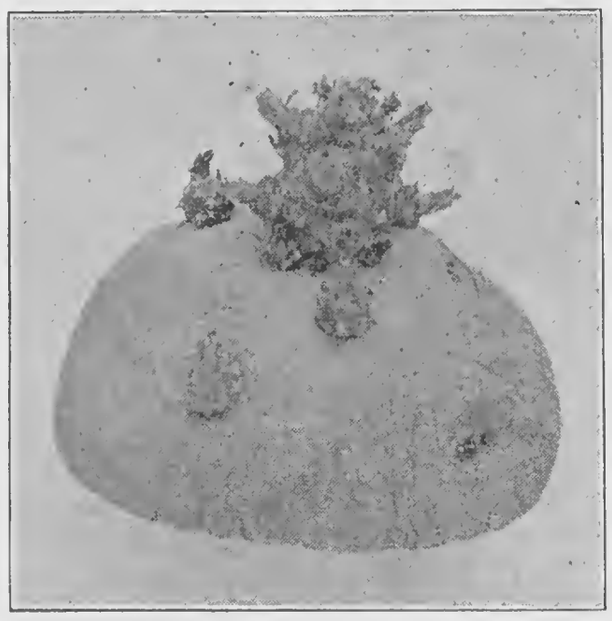
AN EASY TEST OF VARIETIES.

Sprouting Habits of Different Varieties.

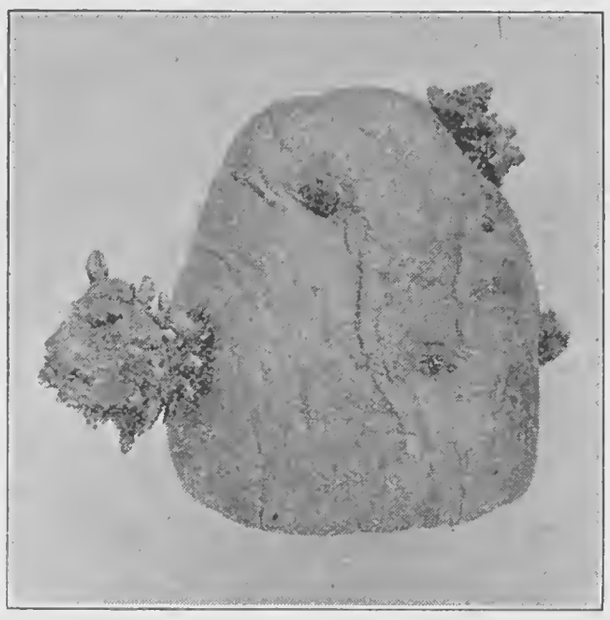
To distinguish varieties of potatoes. within certain limits, we know of no better way than placing the sound tubers in a warm, sunny room, where they are to remain for from one to three months. Of course, early, intermediate, and late kinds differ as to the time required. Generally, the earliest kinds will be the first to sprout, the intermediate next, and the late last. But this is not a rule without many exceptions. Sometimes the intermediate and late will sprout before the early. It may be said, however, as a general proposition, that the first to sprout will prove the shortest keepers. The warty, stocky growths of the eyes which grow under the conditions of warmth and sunlight, vary indefinitely, in color, in stockiness, in the number of little shoots which issue from the first growth, and in the color of those shoots. Thus it may be judged, in a measure, whether the vines of a given variety in the field will grow to be tall, dwarf, upright or spreading; whether the leaves will be light or dark green; whether the stems will be green or purplish.

Nearly three months ago, we placed in a warm, well-lighted room, several sound tubers of each of the following kinds: Lady Finger, Rural Blush, Carman No. 1, Carman No. 3 and Rural New-Yorker. Our illustrations from photographs will show the differences as to form better than we can describe them. Only the seed-end eyes of the Carman No. 1 sprouted; the others remained nearly as dormant as if in cold storage. The sprouts were light green, showing many sub-branches indicating that the habit of the plant in the field will be branching and spreading. They also indicate that it would not be economy to throw away the seed-end in cutting the seed potatoes.

CARMAN No. 1. FIG. 89.



CARMAN No. 3. FIG. 90.

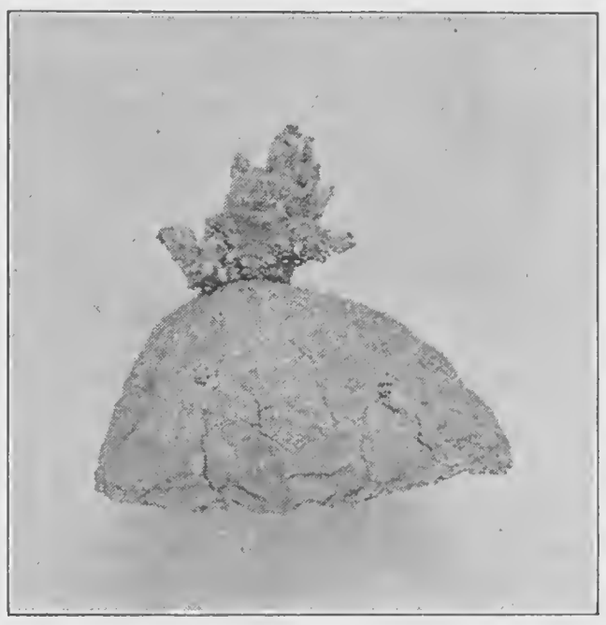


LADY FINGER POTATO. FIG. 91.

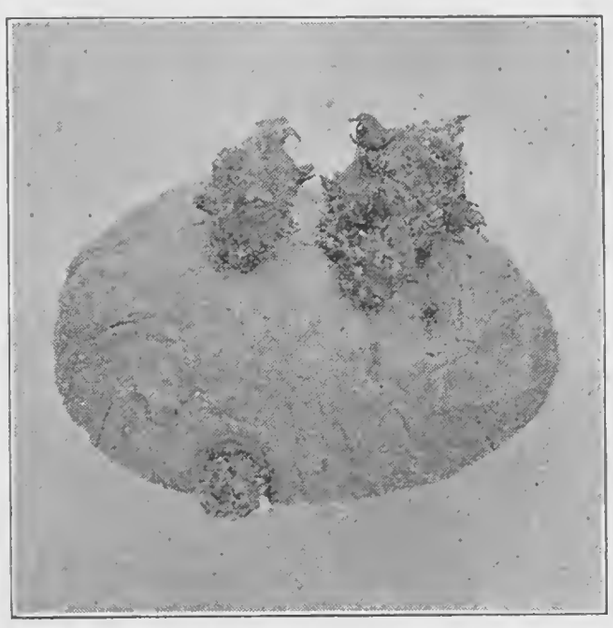
The sprouts of the R. N.-Y. No. 2, as will be seen, are very different. They indicate that the vines will be comparatively few and upright. Again, instead of a cluster of branching buds, we have but two or three, and these are of a dark, purple color, almost black. As in the case of the No. 1, only the seed-end eyes have grown.

Now we have the Carman No. 3, which shows the stubbiest growth of the three. Fewer of the eyes have grown, and none of the other eyes has sprouted. The thick sprout indicates a vigorous but not spreading habit of the vines, as they may grow under outdoor culture. The color is dark purple, almost black, as with the R. N.-Y. No. 2.

The Rural Blush sprouts indicate only ordinary vigor and size of vines. Only the seed-end has grown. The color is a dark green of the secondary sprouts, and a pinkish purple of the body of the sprouts.



RURAL BLUSH POTATO. FIG. 92.



RURAL NEW-YORKER No. 2. FIG. 93.

DIFFERENT VARIETIES OF POTATOES AND THEIR METHODS OF SPROUTING.

In so far as we are aware, THE R. N.-Y. was the first to call attention to the practical advantages of sprouting potatoes in this way. It is clearly possible to determine whether certain varieties, claimed to be different, are distinct.

A "STARTER" FOR SEED POTATOES.

HOW THE PLANTS ARE PUSHED ALONG.

One of The R. N.-Y.'s Suggestions Modified.

The Rhode Island Experiment Station (Kingston, R. I.), gives, in Bulletin 36, some interesting facts about potato culture. Though too late for many of our readers to practice this season, we give a synopsis of two methods that have been practiced with much success.

One method is called "sprouting." An ordinary cold frame is used—about 12 sash (3 x 6) being needed for the seed to plant an acre. The soil is plowed or dug over the fall previous, and about a month before the seed is needed, it is again spaded up and well fertilized. Seed potatoes from the North, are cut as for regular planting, and placed, cut side down, on the earth of the cold frame as close together as they will lie. Each sash will cover three pecks of seed. They are then covered with about four inches of fine earth, and left to grow—the sash being raised or lowered as required to give proper air and warmth. The sets are ready for planting when they begin to break through the soil.

In planting, the field is well prepared, and wide, deep furrows or drills made with a plow. Fertilizer is used in the drill. The plants are taken carefully from the bed—beginning at one end and lifting them out into a flat box. They are taken to the field and carefully placed by hand in the furrows—with the earth drawn around them. In case of frost, the earth can be filled in over them. The furrows or drills are 30 to 32 inches apart, and the sets are placed 12 inches apart in the drill. It requires eight men one day to set the sprouted seed on an acre. Of course this method is adapted only to garden culture in cold climates where cheap labor is to be obtained. It is said to pay well in the gardens near the large cities in New England, as the yield is largely increased and several weeks are gained in earliness.

Another method is called budding, and is a modification of the methods employed on the island of Jersey where early potatoes for the London market are grown. THE R. N.-Y. has long advocated this plan of exposing the seed on the floor of a warm, well-lighted room, and in this way securing strong, thick sprouts. One objection made by farmers has been that they did not have the necessary floor space to do this properly. This objection is overcome by the use of the rack shown at Fig. 94, page 286. The uprights are six feet long, of 2¾ x 1½-inch lumber. Room is made for nine trays—one standing on the floor and the others sliding on the cleats and braces shown in the picture. The trays are 1½ foot wide, and three feet nine inches long, but could be made of any size. The picture shows how they are made.

Seed potatoes about the size of a hen's egg are used. They are placed in the trays, stem ends down, and as closely together as possible—only one layer deep. Then the trays are put into the rack, and the whole thing is left in a warm, light place in a temperature of about 60 degrees. It is necessary that the light should reach all parts of the rack. The trays are examined regularly to see whether the buds are developing uniformly. After six weeks or more of this treatment, the potatoes will appear as at Fig. 95, page 287.

In planting, the trays are put on a wheelbarrow which is pushed along between two rows which are planted at one journey. When a tuber has two good sprouts, it is cut into two pieces, but generally whole tubers are used.

It is easy for a potato grower to see the advantages of such a method. One can make sure that every piece will produce a strong plant. These thick, heavy sprouts are sure to grow steadily, and develop rapidly and, with early varieties, at least two weeks in growth can be gained. The rack will save space and enable the farmer to sprout the seed for acres without having it in the way.

NOTES ON HORTICULTURAL NOVELTIES.

No. III.

The Strawberry-Raspberry?—Under this very taking title, is offered this season, for the first time, a truly remarkable raspberry, belonging, probably, to the species Rubus sorbifolius. While a few dealers attempt to palm it off as a real hybrid between the strawberry and raspberry, most of them truthfully say that it is a peculiar new raspberry, which, in fact, is about all that is known about it. It is of Oriental origin and is of a herbaceous character, as the canes die off to the ground line in the fall and start out vigorously the next spring. The plant forms a handsome, bushy tuft two feet or more in height, with very attractive, finely-cut foliage, which has been compared to that of the rose, but which looks much more like that of the double white-flowered Rubus, occasionally seen in old conservatories. The flowers and fruit are borne at the tips of the branches, the former being conspicuously large and white, and the latter of the shape and size of a very moderate strawberry, but of a bright carmine-red color. The berries are firm and lasting, and certainly very pretty. I have tasted only a few ripened under glass, and could detect nothing characteristic beyond a somewhat sprightly acid; but berries grown outside may, possibly, develop a distinct flavor. The whole plant, foliage, flower and fruit, is ornamental and worthy of being grown in gardens and dooryards, whether the berries prove commercially valuable or not. Of its hardiness in this part of New Jersey (Monmouth County), there can be no doubt, as a number of young plants left out in a rather bleak place without the slightest protection, have endured the past severe winter unharmed, and are now (April 7), breaking through with great vigor. Salmonberries and Childs's Golden Mayberries planted near are badly frozen; but the Logan-berries and Japanese Wineberries are also unharmed, but are not yet showing growth.

I have not yet heard of any genuine hybrids between the strawberry and raspberry, except those described by Mr. Burbank in his Novelty Catalogue for 1893. He says that they have all proved sterile, not one of nearly 800 plants producing a berry, though all bloom with great profusion. Of course, it is entirely possible that fruitful hybrids between these two familiar berries may be produced, but there is no record of success in this line yet. Meanwhile it is unfortunate that this distinct and handsome fruit should be hampered with an inappropriate popular name on account of a superficial resemblance to the strawberry, to which it is not allied. The strawberry-raspberry should be cultivated on its own merits, even though its berries are never seen in the markets. Nothing seems to be known of its productiveness under our climatic conditions, but the coming season will throw some light on this matter.

Mina Sanguinea.—Although introduced several years ago, this very meritorious flowering climber has not become well known. A great attempt was made to boom a companion species, Mina lobata, by the sensational catalogues of a few years ago, and much seed was sold; but it did not prove a success in our northern climate, as it was too late and shy a bloomer to be grown as an annual. The Minas belong to the great family of Convolvulaceæ, together with the morning glories, "moonflowers" and garden Ipomeas. Mina sanguinea is hardy enough to be sown in the open ground in May, and will begin to bloom in a very few weeks after germination. The seed is hard, and should be soaked overnight in warm water before sowing. The vine is slender, but rapid growing, reaching a length of 15 to 25 feet, and throws out a great number of branches, clothed with bright green, divided foliage, resembling miniature oak leaves. The flowers are constantly produced in the greatest profusion, in large clusters. They are not large—about an inch across—but the color, which is a deep blood-red with a yellowish throat, and the fact that they remain fully expanded until past noon, even on the brightest summer days, render it one of the most useful and pleasing annual climbers ever brought forward. The seeds may, of course, be started very early in the house, and the vines reach a greater development before fall; but the young plants are likely to be checked unless the transplanting be done at a favorable time. It makes an excellent companion to the beautiful and favorite cypress vine, but, on the whole, is much superior to that familiar plant, as it is more hardy and robust, and the enduring nature of the bloom, lasting hours after those of the cypress vine have closed, renders it a brilliant object during the greater part of the day, while the foliage is almost equally beautiful, though of a different character. Like all members of the family, the Minas need good, rich soil and a sunny place, for their perfect development.

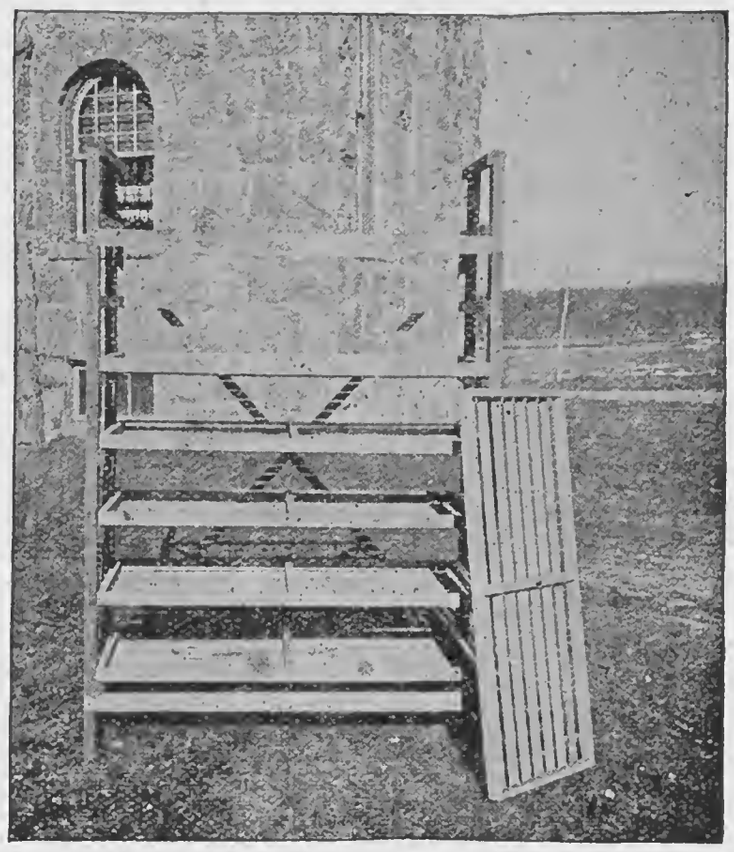
FAIRFAX.

GROWING PEAS ON A LARGE SCALE.

In growing peas on a large scale for market, do the gardeners near you use brush or wires to support the vines? Do they use commercial fertilizers, and are they considered as good as stable manure? What is considered a good crop? What varieties are best? What amount of seed is used per acre?

No Brush Used; Fertilizers, Varieties, Etc.

The gardeners hereabouts do not use brush or wires to support pea vines, but plant the bush varieties that need no holding up. They spread manure broadcast,



RACK FOR BUDDING SEED POTATOES. Fig. 94.

and use fertilizers in the row that have a large per cent of potash. Two hundred bushels per acre are a good crop. Two bushels of seed per acre are used. For early, Clipper, Maud S., Wonder, Nott's Excelsior; for late, McLean's Advancer and Stratagem, are the leading varieties.

W. W. RAWSON.

Massachusetts.

There would not be brush enough in all Brushville to brush all the peas planted in this vicinity; five to eight or ten acres each are sometimes grown by the farmers here. No brush or wires are used. The growers use commercial fertilizers almost exclusively. Peas are sown for early on the very light and thin soil to get as quick a crop as possible, as the first market is generally the best. No particular brand of fertilizer is used, each using that which the most eloquent agent can persuade him to purchase. All dealers have brands labeled bean, pea, cabbage, potato, etc., whether they analyze differently or not. The yield is extremely variable; some farmers tell me that 50 bags are a fair yield, from that to 75 a large yield. A bag is supposed to contain two bushels, but when they pay 40 cents a bag for picking, and get 50 to 60 cents in the market, there will be a great shortage from that measure. For varieties, O'Rourke, Alaska, First of All, etc., are sown for early. Each seedsman puts his name to a variety, so that there are many names for a few varieties. For late, Pride of the Market, Champion, McLean's Advancer and Yorkshire Hero. Yield is the first question, quality only secondary, though quality is being more considered, particularly as to late varieties. The quantity of seed is varied with the kind; the early, round sorts requiring 1 to 1½ bushel per acre, about 1½ being the average; the larger, 1½ to 2 bushels to the acre.

Since railroads have brought the distant fields from the South into competition with us Long Islanders, the profits on peas are very indefinite and uncertain. Occasionally, a gardener will receive $100 for his load and is happy; often the same week he will return and have to borrow money to pay the pickers. The peas are picked by men, women and children, and it is no uncommon sight to see 20 to 25 pickers in a field with 10 or 12 baby carriages standing in the shade of some tree, and the tots who are too small to pick, caring for the smaller ones. When a shower comes, there is a scattering. Good pickers can make from $2 to $3.50 per day, on an average, $2.75; so during the picking season, all turn out as it is the most profitable work to be had. Even the house help will desert, and one is left to do her own housework.

N. HALLOCK.

Long Island.

How It Is Done in South Jersey.

Peas are grown in this vicinity very largely for the Philadelphia and New York markets. No brush or wires or anything else is used to hold the vines up. They grow up, fall over, and grow up again, and by entwining with each other, they support each other enough to keep the pods from the ground. The truckers here grow from five to twenty acres apiece each season, and it would be impossible to put in or take out the brush, as the peas are grown either between other crops, or to precede late cabbage, tomatoes, corn, or other late stuff.

Formerly, stable manure was used exclusively. Fertilizers have been gradually replacing stable manure until, at present, very little manure is used for this crop. There are several reasons for this change. The fertilizer costs less than the manure. The labor of applying it is much less. The time consumed in getting in the crop is much less, while the yield from fertilizer is nearly as good as from manure. The early peas are put in the moment the ground thaws in February or March, and by using a Darnell marker, opening two furrows at a time, and a drill that sows both fertilizer and peas at one operation, a large field can be put in in a day; while if a cart had to be used to put manure in each row, but little headway could be made. The favorite plan at present is to use a planter. This machine opens the furrows, sows the fertilizer, mixes it with the soil, sows the peas, covers them, smooths the row, and marks out for the next row, all at one operation. A great variety of fertilizers is used for this crop, and a great many use them with but little judgment. Progressive truckers use a brand low in nitrogen and high in phosphoric acid and potash. The following mixture has given good satisfaction: 20 pounds of nitrate of soda, 20 of dried blood, 100 of ground bone, 160 of South Carolina acid phosphate, 100 of muriate of potash. This analyzes about 2¼ per cent of nitrogen, 11½ phosphoric acid, and 12½ potash. Where the peas are planted five feet apart, about 400 pounds per acre of this fertilizer are used, and where they are planted solid, about 600 pounds.

A large area of peas here is planted to protect other crops. Wherever early tomatoes, citron or egg plants are grown, early peas are first sown five or six feet apart, and these crops planted between them. The peas serve to attract the cutworms, also to protect the young tomato and other plants from the high wind and driving sand. They are picked early in June, the vines plowed under, and the whole ground is then occupied by the later crop. For a late crop, the rows are made 3½ and 4 feet apart, and after picking, the vines are plowed under, and a late crop of tomatoes, cabbage or sweet corn follows. A plan is now coming into practice of following peas with Crimson clover; as the peas are marketed in July, this gives a chance of sowing the clover at a time that will insure a crop.

The varieties used here are Cleveland's First and Best, or some other of the small, early varieties for the first crop, and for growing between other crops. For medium, Blue Imperial was formerly used, but this is now being superseded by Long Island Mammoth for solid planting, and by Pride of the Market, a variety with shorter vines, to plant between field corn. These three are wrinkled varieties, and of very fine quality. But by far the largest portion of the late crop consists of White and Black-eyed Marrowfats. These are varieties of great vigor and hardiness, and heavy yielders, and bring nearly as much in market as the finer wrinkled varieties. Another advantage is that the seed costs but $1.50 per bushel, while the wrinkled kinds cost from $4 to $5. The amount of seed used is about one pint to 120 feet of row for the early varieties. When these are planted five feet apart, this requires 1⅛ bushel per acre; if planted six feet apart, one bushel, four quarts per acre. The wrinkled varieties are sown at the rate of one pint to 100 feet of row, requiring 1.7 bushel at four feet apart. Marrowfats are sowed at the rate of one

pint to 90 feet of row, requiring nearly two bushels per acre at four feet apart.

An average yield is from 75 to 100 baskets (⅝-bushel) of the early varieties, to each bushel planted, and from 50 to 150 baskets to the bushel of the wrinkled kinds and Marrowfats. This difference in yield is mainly according to the time of planting. The custom is to plant a succession of crops; as soon as one planting is up, another is planted. The first planting always yields the best. The late plantings, owing to mildew and drought, sometimes yield poorly. The cost of picking is 15 cents per basket for the small-podded, early peas, 10 cents for Marrowfats, and from 8 to 10, according to the crop, for the large-podded, wrinkled peas. The picking is nearly all done by tramps and Italians, large gangs coming from Philadelphia at the proper time for this purpose. The profits of the crop depend entirely on the market prices, which are variable. When early peas bring 50 cents per basket, and Marrowfats 40, there is a fair profit in the crop. During 1895, however, thousands and thousands of baskets were sold for 10 cents, for which 15 cents had been paid for the picking, causing a very heavy loss to the growers. CHARLES PARRY.

New Jersey.

"THE STOVE SHARK" APPEARS.

In various parts of Vermont and northern New York, a squad of agents have been at work the past year, selling kitchen ranges for a Western stove company. Reports that have come to my ears of the peculiar methods employed by these agents, in foisting their wares upon the farmers wherever they have operated, lead me to speak a word of caution to the readers of THE R. N.-Y. to give them a wide berth. Their plan is to drive up to a farmer's door and, in many cases without asking permission, commence unloading a range. Unless told positively and firmly that no stove is desired under any conditions, they will try to get the range into the kitchen, set up ready for business, just to show its merits, promising to take it away if not wanted after a short trial. If they succeed in getting the range into a kitchen, nine times out of ten, they make a sale, either for cash or a note. The simple fact that a large number of purchasers have set the ranges out of doors, or sold them to junk dealers within a few weeks after purchasing, is presumptive evidence that the supposed value was not received. I recently met the general agent or foreman of the gang, and in conversation he told me very frankly that they were "not doing business for their health, but were after blood." I asked him if he did not have trouble in collecting his notes and he replied, "Yes, we do have some little trouble, but when a man gives us his note, he might just as well make up his mind to pay it first as last, as we have a million of money to back us, and lawyers hired by the year to fight these cases in the Supreme Court if necessary, and that nearly always brings them to time." I concede to these men the legal right to sell their goods to whom they will, but reserve the right to suggest to those wanting stoves or ranges, to buy them of responsible, local dealers who are sure to treat their regular customers with fairness and satisfaction. C. W. SCARFF.

Vermont.

A DOZEN GOOD COMMON SHRUBS.

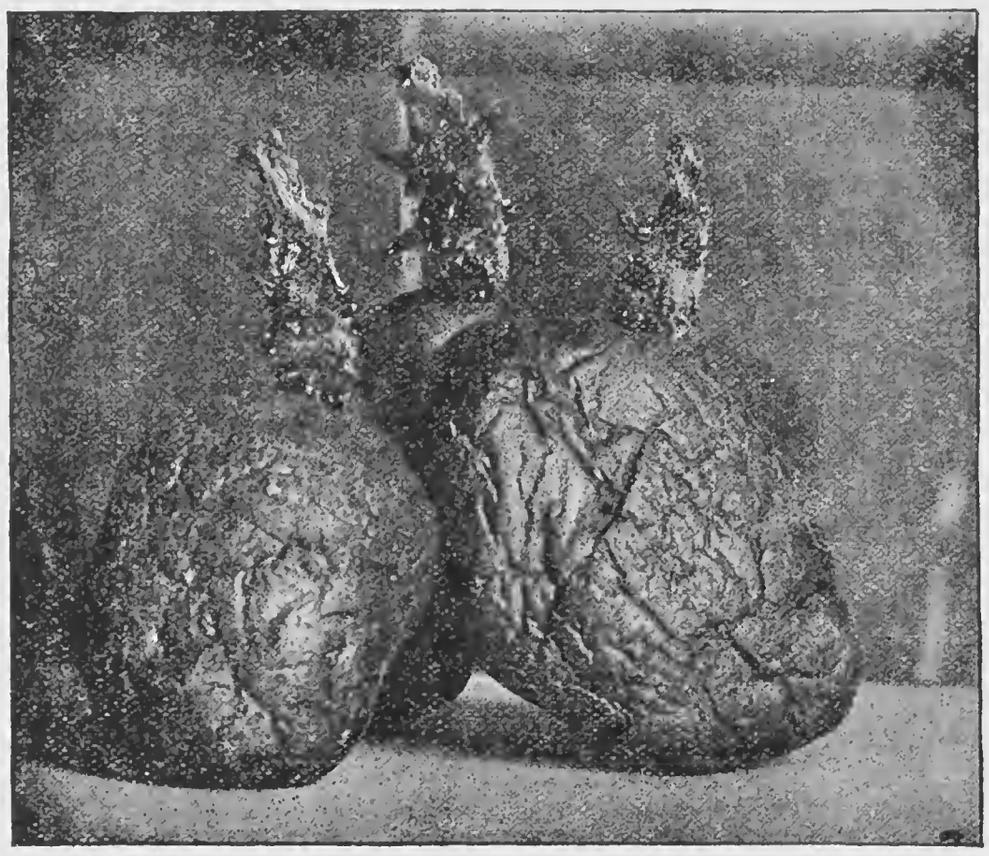
I think it probable that, in no other country, is such use made of shrubs as here. Not only are the best of our native ones culled from their wild retreats, but the flora of other countries has been searched for treasures, so that there are few sorts that will live out in our climate that we do not possess. In England, little effort is made to procure flowering shrubs. Far greater efforts are made to secure new evergreens, and, in consequence, this class of shrubs largely predominates. But few of the lovely blooming ones which we so much esteem, are in general cultivation. It is pleasing to notice that many farmers are making their homes more attractive than they have been, by inclosing a portion of the grounds about them, and ornamenting it by planting flowering shrubs, trees and attractive plants.

I recommend the following dozen, none of them expensive, and all of them bearing pretty flowers. I name them in the order of their blooming, as nearly as possible, with the explanation that two or three kinds flower at about the same time, towards the close of May in this State. The name, botanical or English, under which they are best known, is used: Golden Bell, yellow; Magnolia Soulangeana, pinkish white; Japanese Judas, rosy pink; Exoehorda grandiflora, white; Pyrus arbutifolia, white; Weigela rosea, rose; Japanese Snowball, white; Deutzia erenata, double pink; Spiræa Bumalda, pink; Hydrangea panieulata grandiflora, white, and Clethra alnifolia, white. From the time of the opening of the Golden Bell until the last of the Hydrangea and Clethra flowers are over, some four or five months will have passed away. In the meantime, what a deal of pleasure will have been derived from the watching of the development of the different kinds, one after the other. All of those mentioned, save the clethra and hydrangea, flower from shoots made the previous season. Therefore, when pruning, these shoots must not be cut away, or there will be no flowers. The two mentioned as exeeptions, may be cut in quite closely if desired, as they flower on strong shoots of the same season's formation. JOSEPH MEEHAN.

Pennsylvania.

DISKING CORN GROUND.

The 100th meridian has been set as the western boundary of the region where rainfall is sufficient to grow the ordinary farm crops. Perhaps this limit is as good as any arbitrary line, but during the season of 1894, it swung away east, and well into Iowa. Here, in central Iowa, that season and the early part of 1895 were, as regards rainfall, very similar to those usually prevailing 500 miles further west. On account of the absence of heavy rains, the ground by that time was very mellow, and it occurred to some farmers to disk their corn ground instead of plowing it. The idea spread, and considerable corn ground was prepared that way. On account of the very general failure of grass and clover seeding the previous year, an extra amount was to be put into corn, and any device that would lessen the work and shorten the time, was hailed with delight. I took pains to look up the outcome, and have selected the following case as typical:



BUDDED POTATOES, EXPOSED TO LIGHT. FIG. 95.

Mr. McElroy is one of our best farmers, and a careful, observing man, making his testimony especially valuable. "I hear that you planted some corn on disked ground. Will you tell me about it?"

"I planted 29 acres that way. The ground was clean; it had grown corn the year before, and the corn had been cut and taken off. The year before that, it grew oats, and when it was plowed for the corn, it was broken about eight inches deep. Last spring, I had so much corn to put in, and so much plowing to do, that I was practically forced into it. It was disked twice, diagonally each time; but the second working was at right angles to the first. The disk went in up nearly to the axle, as the ground was so mellow, so that it was pulverized deeper than many people plow. I disked 20 acres a day, and as it was followed by the planter without harrowing, that is fitting 10 acres a day for planting. To have plowed and harrowed it, my man could not have done over three acres a day; besides, the disk left it in better shape than a plow would, as it tore those corn roots or stumps to pieces more than any plow. The corn yielded between 65 and 70 bushels per acre; that was, probably, more than it would have done had it been plowed."

"Would it be advisable to disk ground, as a rule?"

"No, only under certain conditions, and one of them is that the ground must be perfectly clean."

Corn demands a deep, mellow seed bed, and where it can be secured by disking, there is a great saving of time. E. B. WATSON.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

What Ails the Newtown Pippin Apples?

C. L. W., Crozet, Va.—What is the matter with my Albemarle Pippin apple trees? They are from six to nine years old, and I have about 800 planted. Every year I lose some. They seem to be affected at the roots. Where the roots join the body of the tree, they appear to rot. They are planted in new land, a rich, black loam with a gray subsoil. They are cultivated every year, but not fertilized with anything. I think the land rich enough. I have two neighbors who complain in the same way. The trees were grafted on piece roots. We think that the aphis is, probably, the cause. If so, can you name a remedy? I am sure that they are not affected by borers, as these are kept out by close watching.

ANS.—Without specimens, it is impossible to tell what ails C. L. W.'s trees. If it is the "Wooly Aphis," also called "Apple-tree Root Louse" that is destroying them, he might easily find the knotty, warted roots and with the aid of a glass, the lice on them. The ground about the roots usually has a moldy appearance. They cause a part of the roots to die and decay, while the tree is yet living, and if very numerous, death is the result. They are pale yellow, and are found under flaky coverings in the crevices of the diseased roots. Sometimes in summer the mature lice crawl up the bodies and branches of the trees, and form in colonies with a sort of cottony or wooly covering of a bluish-white color. They prefer a cool climate. This pest has several natural enemies, such as the "lady birds" and lace-winged fly, which keep it in check; but often artificial means are necessary to destroy it, and this is not always an easy task, because of the difficulty of getting at it in the ground. If the roots be partly laid bare, and boiling water poured on, it will kill the lice without injuring the roots. This would be a very difficult thing for C. L. W. to do, as his trees are large. Nursery trees may be dipped in hot water, but the temperature should not be above 150 degrees Fahr. A spray of kerosene emulsion will destroy the insect when above ground. If root lice be not the cause of the trouble, it would be well to have the matter carefully studied in the orchard, by the officials of the State Experiment Station. In any case, it would be wise to consult them. Newtown is the correct name of the apple which C. L. W. calls "Albemarle Pippin." This synonym has been given because the variety flourishes exceedingly in Albemarle County, Va., and other regions along the foothills of the Appalachian Range from Virginia to North Carolina.

H. E. VAN DEMAN.

Clover and Trees on Clay Soil.

E. W. J., Pearline, Mich.—I have about six acres of Medium clover which is not doing very well; it did not grow as large as in other years, because of insufficient rains. The subsoil is clay or hardpan, and below this is blue clay—how deep I do not know exactly, but when we dug a well, we bored 30 feet and did not go through all of it. The water came from a streak of sand which we bored through, of about an inch. The soil is clay loam, not very heavy, about eight or ten inches deep. It appears to be sour, as tested according to the litmus paper test, so it needs lime. Would it benefit the soil, or rather, the clover, to put lime on broadcast this spring early? If so, how much ought to be put on per acre? I intend to underdrain it as soon as I can. It is plowed in lands, and the dead furrows run most of the water off into an open ditch in the middle of the farm. What mixture of clovers, or grasses and clovers, would be best to sow? How much per acre on this kind of soil (which is inclined to be wet), for the purpose, first, of building up the fertility, second, to obtain a good yield of forage? Would Alsike and Medium clover do well together, or is there something better? What book is better than Waring's on draining? If I set plum and pear trees next fall, would the trees hurt if they were put in before I underdrain the land? Would it be better to wait two years, and then plant after it is underdrained?

ANSWERED BY PROF. I. P. ROBERTS.

Lime should improve this land in many ways. Purchase stone lime, place in heaps of five to ten bushels, slake immediately by pouring on enough water to cause it to break down into a fine, dry powder, and broadcast by means of a sled or stoneboat and shovel. It is probable that the clover has become so weakened by last year's adverse conditions, that it will not give a good yield the present season.

Alsike clover does much better on wettish land than Medium, and although it is not so good, on account of its root habit, for building up the fertility and opening the subsoil by means of roots, yet it

would be well to mix about three parts of Alsike to one of Red clover in future seedings. Four quarts of Alsike and two of Red would suffice. The seeds of the former are much smaller than those of the latter, and this amount would be equal to, at least, seven quarts of Red clover seed, so far as the number of seeds is concerned. If any Timothy be sown, it should be done simply for the purpose of helping the clover to stand up. It might be well to mix with the six quarts of clover seed, one quart of Timothy.

Waring on Drainage is a most excellent book, though some farmers like French quite as well. The lands are entirely too narrow. In order to relieve clay soil of surface water, it should be plowed in wide lands, from 20 to 30 paces, and these lands should be kept permanent, for a time, at least, in order that enough fall between the ridge and the furrow may be secured to carry off the water quickly to the open furrows, where, by the greater concentration of water at one point, it will be pushed along in the furrow and off of the field. A good plan would be to throw two of these lands together this fall, and re-plow in the spring, keeping the ridges and furrows in the same place, or, perhaps, two plowings could be done in the fall. If so, it would be advisable. This would make the ridges high and dry enough to plant with trees. Keep the rows wide apart one way and trees rather close in the rows, and take pains to keep the land sharply up in the middle and deep in the furrows.

As soon as possible, put underdrains in the bottom of the open furrows, and partially fill them up, preserving, so far as possible, the general contour of the lands. The draining will relieve the subsoil of stagnant water, and as soon as this is done, the roots of the trees will penetrate deeply into the soil. Do not seed the orchard, but keep it in constant culture. The intervals between the rows of trees during the first two years, may be used for raising any crop desired except grass, if a space of not less than six feet on each side of the rows of trees is kept clear of all kinds of plants by frequent surface culture up to about the middle of July. These unoccupied strips may then be sown to Crimson clover, the ground to be re-plowed shallow in the spring, and surface cultured as before.

Should the trees give any indications that they are receiving too much nitrogen by virtue of the clover, then sow rye instead of clover, and plow it under in the spring, and treat in the same manner as before. As soon as the trees get in bearing, do not attempt to raise any kind of crop in the orchard, except fruit and "cultivators."

How to Fight the Canker Worm.

E. H. G., Phelps, N. Y.—What is the most successful method of destroying the Army worms in an apple orchard?

ANSWERED BY M. V. SLINGERLAND.

E. H. G.'s "Army worms" are, doubtless, the caterpillars which are more commonly known as Canker worms. The true Army worm is the caterpillar of a very different insect; it is one of the cutworms, and rarely ravages trees, but works mostly in grain and grass fields. Canker worms are the caterpillars of certain small, delicately-built moths, the females of which are curious, degraded forms, having no wings, so that they can only crawl, not fly, from one place to another. There are two distinct kinds of Canker worms, which are commonly designated as the Spring Canker worm and the Fall Canker worm. Both kinds are what are popularly called "measuring worms," from their peculiar looping gait when they walk.

The worms of both kinds hatch about the same time in the spring, and feed upon the foliage during the same period of about a month in early summer. Sometimes both kinds work together on the same tree, but usually either the Spring or Fall form predominates in a locality. In western New York, most of the damage is being done by the Spring Canker worm. When the worms get full grown, they leave the trees, and, dropping to the ground by their silken threads, go into the ground a short distance, and there, in a slight cocoon, enter the pupa state. In the case of the Fall species, the moths emerge late in the fall, and the wingless females crawl up the tree, and lay their eggs in large clusters on the bark. The insect then winters in the egg. In the case of the Spring Canker worm, however, the pupa does not give out its moth until the next spring; the moths appear very early in the spring, some having appeared in Niagara County, this season, as early as March 27. The wingless females at once proceed to crawl up the trees and lay their eggs in small clusters in the crevices of the bark. This is, in brief, the life-story of Canker worms. If they are allowed to multiply in an orchard, they will soon become a very formidable foe. In fact, they are one of the worst pests of the orchardist, but are not usually numerous over large areas at a time.

Two methods are now employed in fighting these insects. Either may prove successful when thoroughly, faithfully and honestly done. When the worms are very numerous, I would advise a combination of the two methods. Before the advent of spraying, the method most often relied upon to check them, was the banding or trap system. This consists in painting a strip, several inches wide, of tar, printer's ink, or other sticky substance around the trunk of the tree, either on the bark or on a band of paper tied around the tree. This band prevents the ascent of the wingless female moths to lay their eggs: if the eggs are laid below the band, then the ascent of the young caterpillars is stopped. Of course, the secret of success with this method is in getting the band on at the right time, and in keeping it sticky. The time to apply it will depend upon which kind of Canker worm you have to fight. If the Fall species, the trees must be banded in the autumn, but in western New York, as it is the Spring form that is doing the damage, the bands need not be applied until about March 15, and should be kept on and fresh for at least a month or six weeks. There would be little use to apply the bands after April 20 in western New York. Last year, the worms were at work early in May. [Why not use dendrolene for this purpose?—EDS.]

After May 1, the trees should be examined every day, and as soon as the newly-hatched worms are seen, preparations for thorough and frequent applications of Paris-green (1 pound to 200 gallons of water) should be made. As some had expressed doubts about the success of arsenical sprayings against the worms, Prof. Bailey last year demonstrated, in a western New York orchard, that "The Canker worm can be killed by honest spraying with Paris-green." Details of this interesting and instructive experiment may be obtained in Bulletin 101 of the Cornell Experiment Station. Had the trees been thoroughly treated with the sticky bands in March and April, I believe that the same results could have been accomplished with much less spraying.

If there be reason to expect an onslaught of Canker worms in an orchard, I believe that the most successful method of fighting them will be to get in one blow with the sticky bands (the new insecticide, caterpillar lime, may answer the purpose very well) in March and April, and then be ready to give the newly-hatched worms a menu of Paris-green for their first meal; and have every subsequent course consist largely of the same food until the foe is conquered. It will require prompt and thorough work, and must be begun early, the earlier the better, as it takes much less Paris-green to kill a young worm than one half or two-thirds grown. I believe that a good preventive against the attacks of these pests is thorough cultivation; one rarely, if ever, hears of a well-tilled orchard suffering from them.

The Use of Bordeaux Mixture; Sulphate of Copper.

M. G., Niskayuna, N. Y.—In the spring of 1894, I used the Bordeaux Mixture with Paris-green on some apple trees. I made the mixture and used it according to the directions given by the Cornell Experiment Station, and when the apples matured, they were covered with brown rust where the mixture had been on them. The variety affected most was Gravenstein. What was the cause? I intend to use the Bordeaux Mixture again this season. For what price can sulphate of copper be bought in 25-pound lots?

ANS.—Many who sprayed in 1894 with the Bordeaux Mixture, either with or without the Paris-green added, complained that it "rusted" their apples and pears. Several theories have been advanced to explain the "rusting." Careless and unskillful preparation and application of the Bordeaux Mixture, the addition of too much, or of an impure, Paris-green, the use of the yellow prussiate of potash test in making the Bordeaux, whereby not enough lime was put in, and certain undefinable climatic conditions were among the causes assigned to account for the rusty appearance of the skin of the sprayed fruit. These supposed causes have been gradually sifted out, until now it seems to be the opinion of those who have studied the matter closely, that certain climatic conditions peculiar to the spring of 1894, were the principal causes.

Mr. Lodeman, a recognized authority on spraying matters, tried in every way possible to rust fruit in the spring of 1895, but without success, although the same mixtures that rusted the fruit in 1894 were used. In his volume on "The Spraying of Plants," which has recently appeared, Mr. Lodeman says: "When dew or rainwater gathers upon a leaf, the liquid always contains a certain amount of carbonic acid gas in solution, obtaining it both from the air, and from the leaf itself. If the foliage has been sprayed with Bordeaux Mixture, the carbonic acid comes in contact with the copper sediment, and a certain amount of the copper is dissolved. This much has been proved. That the dissolved copper may be in the form of sulphate, is, also, very probable, since it is well known that a solution of copper sulphate is injurious to foliage, and well-prepared Bordeaux Mixture has, also, caused a similar injury. * * Thus, if the weather is of such a nature that the foliage is constantly wet by light showers, not enough rain falling to wash off the leaves, but only to wet them, and if this were continued for some time, much injury might be expected to result from the use of even such a safe preparation as the Bordeaux Mixture. During the early part of the year 1894, such conditions did exist. * * That season showed that the preparation is not a very safe one to use except in dry seasons, or in regions where the rainfall or dew is but slight. In the presence of much water, the Bordeaux Mixture will injure both foliage and fruit. In some seasons, it may be used with impunity, while in others it may cause a loss which will more than overbalance any advantage derived. * * It is probable that much of the injury in 1894 was caused by an insufficient amount of lime having been used, this being due to the fact that the potassium test did not show plainly the true condition of the preparation." He then emphasizes the necessity of putting in quite a little more lime after the test is apparently satisfied.

Owing to the increased and growing demand for copper sulphate, its price has been raised this year. It now costs five or six cents per pound in 600-pound lots. It may now be bought of most druggists in localities where much spraying is done. Last year, druggists sold it at six cents in any quantity desired. It will, probably, retail for from 7 to 10 cents per pound this season. W. S. Powell, Baltimore, Md., and E. R. Taylor, Cleveland, O., are reliable wholesale dealers. M. V. S.

Value of the Pissardi Plum.

A. D. F., Warren Co., Ia.—Is the Pissardi plum of any use beyond being an ornamental tree? Does it ever bear fruit?

ANS.—No, its foliage is its one merit. The purple color is retained from the time it appears until killed by frost. Yes, it bears small, purple plums of inferior quality.

To Propagate Red Raspberries.

J. L. W., Windsor, Mass.—How shall I propagate my red raspberries?

ANS.—Let them alone in good soil, and they will propagate themselves. Simply keep down the weeds. As soon as the ground becomes filled with roots, suckers will spring up around them thick enough to rejoice the heart of any propagator. Some increase them by root cuttings; simply cut the roots into two or three-inch pieces, and plant them two or three inches deep in fertile, mellow soil.

Early Vermont and Melrose Sweet Corns.

H. F. C., Hingham, Mass.—I see that THE R. N.-Y. recommends the Extra Early Vermont sweet corn as first in a succession. Do you think that it is as early as the Cory, or earlier? At what time does the Melrose mature in comparison with the Cory?

ANS.—From our *own* trials, we have, as yet, nothing to say as to the Vermont corn. Others who should know, claim that it is earlier than Cory, bears larger ears, is of better quality, and has a white cob. The tornado destroyed our plot last summer. We shall try it again this season. Melrose is said to be as early as Cory, with much larger ears.

Peaches on a Hill; Japan Plums.

J. H., Kent, O.—1. How shall I prepare a steep hillside for a peach orchard? 2. Are the Japanese plums hardier than peaches?

ANS.—1. Our plan on a very steep, gravelly hillside, was to plow all one way with a sidehill plow, not too close to the lower side of the row. Scatter a little grass seed, either Red-top or Orchard grass, on the small terrace between the trees, and by the time they begin to bear, the open spaces between the rows will be nearly level, and the terraces steep but well held up by the grass roots and weeds, which are cut twice each summer. 2. We can tell with more certainty about the plums, a little later in the spring, but my opinion is that they will stand more cold than the peach. The peaches are all dead with us, but a few of the Japanese plums have pulled through so far.

Orange County, N. Y. E. W. BARNES.

What About the Bismarck Apple?

L. M. D., Troy, N. Y.—It is stated that the Bismarck apple tree is dwarf, and will bear in two years. Is this statement true?

ANS.—We are not aware that it has fruited in this country. We fancy that the Bismarck is grafted upon some dwarfing stock—like the Paradise—which induces early fruiting. We would, at present, advise only a trial of this variety.

A Compost for Raspberries.

J. T. T., Oneida, N. Y.—I have 200 loads of muck just drawn from the swamp, that I intend to mix with an equal amount of stable manure during the summer, as a dressing for my raspberry plants next fall. What other materials would be best to make this compost the most valuable for this purpose? Would it be well to mix unleached ashes, and if so, how many to a ton of the compost? Would you advise using bone or lime in any way, and if so, in what proportion? My soil is a sandy loam, with clay subsoil two to four feet from the surface.

ANS.—The thing to bear in mind when preparing plant food for fruits, is that the potash is the most necessary element to give an abundant crop of good color and quality. Muck contains little or no potash. In raw muck, the nitrogen is inert—that is, locked up in such forms that it is not readily available as plant food. By piling the muck with manure so that it will heat and ferment, the muck is fined and broken up so that the nitrogen is made more available. We might

compare this composting of muck with the effect of cooking in making indigestible foods fit for the table. Manure contains more of nitrogen than of either potash or phosphoric acid, so that, when the two are mixed, the mixture is still a poor one for fruit. Unleached wood ashes and fine bone will help the mixture greatly. For every ton of the compost, use 100 pounds of wood ashes and 30 pounds of bone. Put a load of muck and manure together in a flat pile, and scatter the ashes and bone over it, then another load, and so on as you build it up. Twice during the season, fork the piles over, beginning at one end and throwing the compost back so that an entirely new pile will be made. You will not need lime, as the ashes contain enough of that substanee.

Rape and Crimson Clover with Oats.

C. M., Chalfont, Pa.—Is Dwarf Essex rape a good plant for green manuring, and will it grow when sown with oats? Will it survive our winters? Will Crimson clover, when sown with oats, grow to a sufficient size to plow under in the fall for green manure, so as to pay for the inconvenience in drying the oats, and will it be a financial success? I have four acres of Crimson clover sown in the corn field. Last fall, a prettier covering could be seen on no field for miles around. This spring it looks very brown and dead. Are the winters here too severe for it? Is spring or fall the proper time to sow it, so as to reap any benefit from it for green manuring?

ANS.—We do not believe that it will pay to sow rape with the oats, neither do we advise the sowing of Crimson clover. If you are after a crop of grain, the Crimson clover will not amount to anything. We would prefer to use Red clover with the oats, though much depends on the crop that will follow in the fall. The chances are that your Crimson clover will revive with warm weather, and grow so fast that it will astonish you. In any event, the fall and winter growth more than paid for seed and labor. Late July or early August is the best time to sow Crimson clover. If it can have water enough, it will be reasonably sure to make growth enough to carry it through the winter.

Miss Red Clover and Tim Timothy.

F. E. D., Delhi, N. Y.—I have 25 acres of red slate soil, which I wish to seed this spring, for a permanent meadow. What kinds of grasses should I sow? Would it be advisable to sow peas with the oats? The field has had a light coat of rich stable manure this winter.

ANS.—For such land, there is no better grass than Timothy. Sow not less than six quarts per acre, and one quart of Alsike clover seed. While this variety of clover does not benefit the land so much as Red clover, yet it cures light colored, does not ripen so quickly, and buyers do not object to a small amount of it in hay. If the hay be fed on the farm, the clover will improve the quality of it. As much Timothy can be secured with clover as without it. In a few years, the meadow will lack nitrogen, and the clover, as it dies out, will furnish it. Permanent meadows are usually neglected, and as grasses require an abundance of nitrogen, and can secure none of it directly or indirectly from the atmosphere, pains should be taken to supply it. When the clover dies, it leaves the ground permeated with openings which admit the air into the soil and assist in forming a reservoir for the storage of water. While bringing to the surface additional stores of nitrogen, clover also brings from the subsoil mineral matter and digests or prepares it for the more exacting grasses; therefore, it is well to keep a little clover constantly growing in association with the grasses, even though a little seed has to be sown every other year and harrowed in early in the spring. Peas should not be sown with the oats, as they will shade the ground too much, and the oats should not be sown as thickly as usual. Give the grass a little chance for moisture and sunlight.

Room on the Roost; Cutting Fodder.

W. J., Fredon, N. J.—1. What amount of roosting space—in length—does an ordinary sized chicken require, and what distance apart should roosts be? I am building a poultry house, and wish to allow room enough. 2. In THE R. N.-Y. some time ago, it was remarked that corn fodder would not make sore mouths in stock, if cut a few inches long. What length was mentioned, and has it been tested often?

ANS.—1. It depends upon the "ordinary size" of the chicken. For the smaller breeds, one foot in length of roost for each, is plenty; larger breeds require more. The same with the distance between the roosts; 1½ foot is about right, or, possibly, a little more for the larger breeds. They should not be so close as to be crowded uncomfortably. In some houses, pegs are placed in the roosts at proper distances apart, so that the hens will not crowd, as they are forced to roost between the pegs. 2. We know of a case where stalks were cut into four-inch lengths, and were then well eaten. The cow was able to work a piece of this size in her mouth without chewing on the sharp edges.

Is Salt a Fertilizer?

J. W. H., Conyngham, Pa.—Many farmers recommend salt for oats, potatoes, cabbage and corn, using about one-quarter salt and three-quarters good fertilizer. Which would be the best way to apply, if used at all—broadcast before planting, or drill with planter?

ANS.—Our plan would always be to broadcast the salt and harrow it in. We do not consider it of much value as a direct fertilizer, but, like lime, often useful for its chemical effects on the soil.

Bone, Potash, and Coal Ashes.

G. E. L. (No address.)—Would you recommend ground bone and muriate of potash as a good combination for a general fertilizer on a market garden? In what proportion and amount per acre shall I use them to obtain the best results? Can I use the above as a top-dressing in spring on strawberries and asparagus safely, and are three parts bone and one potash about right for these crops? I can get coal ashes for the hauling. To what shall I apply them to get satisfaction and value?

ANS.—The bone does not give nitrogen in as soluble a form as is needed for quick-growing vegetables. For strawberries, the mixture given will answer, but for vegetables we would add to each 100 pounds of bone and potash, 10 pounds nitrate of soda. We would also like to add 15 pounds of acid phosphate or dissolved bone black. There is but little actual fertility in coal ashes. They will help the mechanical texture of open soils, and are useful around currants or on other fruits where a mulch is needed.

Quality and Quantity of Milk.

W. T. D., Devizes, Ontario, Can.—1. What is the highest per cent of fat found in milk as taken from the cow? 2. What per cent of fat should be found in the milk of a good dairy cow? 3. What breed of cattle gives the greatest quantity of milk? Do the Holsteins give a greater quantity than the Ayrshires?

ANS.—1. The highest of which we have heard, is about eight per cent. 2. A good dairy cow should give from four to five per cent of fat in her milk. 3. Probably as a breed, the Holsteins will give more milk, though there is a great difference in families or strains of all breeds. Some families of Ayrshires, for example, have been so carefully bred and selected for milk production, that they may excel Holsteins that have not been so carefully bred. While cattle are divided into breeds according to general appearance and characteristics, it must always be remembered that individuals of the same breed may differ widely.

To Cleanse Maple Syrup.

C. G., East Springfield, Pa.—How can I cleanse maple syrup of that fine dirt which the strainer will not take out?

ANS.—The sediment referred to is maleate of lime, commonly called sugar sand, which is always found more or less in maple sap after boiling. To remove it, the hot syrup should be strained through a closely woven flannel cloth into a settling can or tank, and drawn off, after standing 24 hours, by means of a faucet a little above the bottom of the can. If it is desirable to can the syrup while hot—and some of our best sugar-makers prefer this method—then the syrup should be again filtered through a felt strainer, which takes out practically all the sediment. Funnel-shaped felt strainers may be bought of any dealer in maple-sugar-makers' supplies. Great care should be taken to change the strainers frequently, and wash them thoroughly.

C. W. SCARFF.

Color of Egg Shell and Flavor of Egg.

H. T. J., Bradford, Vt.—Are the contents of the dark brown eggs very much richer than those of the white eggs of the Leghorns? Are not the white eggs quoted in the New York markets as high as, or higher than the browns? If so, why?

ANS.—There is little or no chemical difference between dark and white eggs. Some breeders would like to have us believe that there is a characteristic difference in the contents of Brahma and Leghorn eggs—just as there is in the butter from Jerseys and Holsteins. They have not been able to prove it, however. The fat globules in Jersey milk are considerably larger than those in Holstein milk. They rise quicker, and are naturally of a darker color. Differences in color or flavor of the contents of eggs seem to be due more to season and feed than to breed. The New York market demands a pure white shell, and the Boston market demands dark brown shells, so that no real argument can be based on the color.

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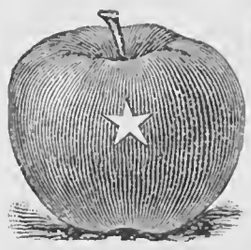

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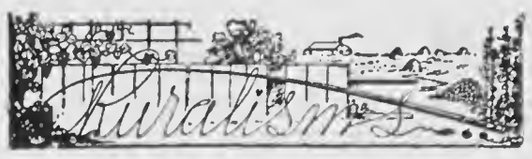

NEW CANNAS TRIED LAST SEASON.—It would seem that the cannas and sweet peas are just now the most popular of summer bedding plants, and it would further seem that this popularity is not likely to grow less for some years. There is little doubt that both classes will be still further improved. It would be hard to improve the foliage of the best cannas of to-day, but there is room for improvement in the size of the flowers, and in the durability. We now hear of a new strain, not yet offered in this country, that bears flowers much larger than the largest of the best kinds known to us. The new dwarf pea, Cupid, is certainly an acquisition, and it need not be doubted that we shall soon have dwarfs of as many different colors as are borne by the tall kinds which need support.

The new kinds of cannas tried the past season at the Rural Grounds were Queen Charlotte, Rose Unique, Millet Fils, Tregae Marie (?), Comte de Bouchard, Madam Molin, Madame Montefiore, Admiral Avellan, Ami Pichon, and J. Farquhar.

Queen Charlotte (plants from H. A. Dreer, Philadelphia, and Storrs & Harrison, Painesville, O.) was the first (June 24) to bloom. The plant was then 18 inches high and blooming constantly. On July 10, the flower heads average two feet above the soil; August 9, the plants were three feet high. We have never seen a variety that gives so continuous a bloom, or one that gives so many flowers to the panicle. The freshly-opened flower is bright yellow with a broad tongue of scarlet. The flowers fade, the yellow to a creamy white, and the scarlet to a crimson. The heads of flowers are elevated to just the right height above the foliage, and the foliage is perfection itself. September 2, the average height of Queen Charlotte was four feet. It gave us more flowers than any other in the collection. The flower heads were borne a foot above the foliage—the petals are fairly divided between yellow and scarlet. We know of no other variety that has such broad leaves. It is a grand canna.

Rose Unique bloomed July 10, when two feet high, the flowers elevated a little above the bluish-green leaves. The panicle is not compact; the petals are long and somewhat narrow. The one distinct characteristic of this variety is the color of the flowers, which evidently suggested the name, since the shade does approach the pink of roses.

Millet Fils grew only to the height of three feet, six inches. The flowers are crimson, borne in medium-sized clusters. Its dwarf habit is the most to be said in its favor.

Tregae Marie (our notes do not tell us whence it came) bloomed July 10, the plants two feet high, the panicles raised several inches above the leaves. The petals are narrow and in color nearly that of Rose Unique. September 2, the plants were five feet in height.

Comte de Bouchard. On July 10, the plants were two feet high, the flowers borne a foot higher. This seems to us the finest canna of its color we have ever raised. The petals are broad, the flowers well held together, of a golden yellow, spotted over the entire surface with a bright crimson, making a sharp contrast. The leaves are light green. On September 2, the plant was about the same height as Admiral Avellan—nearly six feet.

Madam Molin. On July 10, the plants were but one foot high, and the flower heads only a little above the leaves. The color is close to that of Ehemanni, a brilliant crimson. August 9, the tallest flower stem was three feet. The clusters of flowers are large, the petals of

(*Continued on next page.*)

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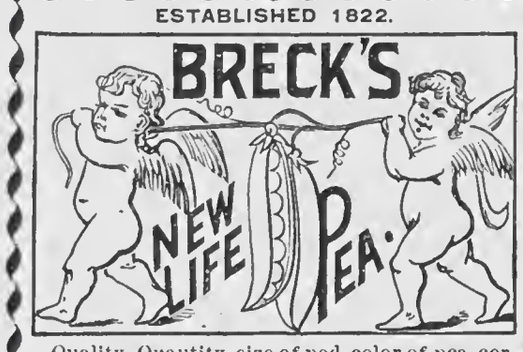

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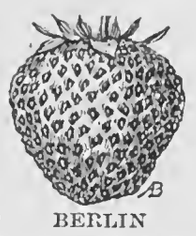

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POTATOES **Carman No. 3. Carman No. 1.**

Moneymaker. Early Sunrise.

Four best. Grown on natural potato land and sprayed. Cheap to close out.

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Did it ever occur to you that there is but little profit and no pleasure in growing small berries? If you need any Strawberry Plants send for my Illustrated Catalogue, full of valuable information, before ordering elsewhere. Also Novelties in Small Fruits, Asparagus, etc., etc.

C. S. PRATT, Reading, Mass.

B BUTLER'S BERRIES B

are true to name, fresh dug, reasonable in price, and Standard varieties. *No Circus Poster*, but honest descriptive list free. All fruits.

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Strong, Vigorous Berry Plants

are grown on my soil. ALL KINDS. BEST VARIETIES. Strawberries, Raspberries, Blackberries, Currants. SEED POTATOES. Send for Catalogue.

WALTER F. TABER,
Lakeview Fruit Farm, Poughkeepsie, N. Y.

Plants Golden Mayberry, Strawberry, Raspberry, large stock; Asparagus Roots; Sweet Potato, Celery, Cabbage, Tomato, Egg and Pepper Plants. Lincoln and other Plum Trees at greatly reduced rates. Price list for the asking. I. & J. LEONARD, Iona, N. J.

PLANTS 200 Choice Assorted Strawberry Plants, postpaid, for $1.

WM. PERRY, Cool Spring, Del.

FARMERS We have a few bushels of the Improved White French Artichoke for sale at a low figure. We are having grand success with them in Michigan. Every farmer ought to raise them. For particulars write at once.

VAN NESS BROS., Fremont, Mich.

SEED POTATOES

To close out surplus, I offer fine Seed as follows, until sold:

	Per Bbl.		Per Bbl.
Carman No. 1	$2.00	Early Pride	$2.00
Carman No. 3	3.00	Freeman	1.50
Early Harvest	2.00	Maggie Murphy	2.00

Order at once. Can ship immediately.

FRED. E. YOUNG, Nurseryman, Rochester, N. Y

CARMAN No. 1.

I paid Thorburn $26 per barrel; have never been sorry for they are grand in quality and production. I have a few barrels for sale at $2.50 f. o. b.

C. A. SWEET, East Aurora, N. Y.

POTATOES Empire State Express (earliest of all), sample 6c., with Carman No. 1, 10c. Four quarts of most *new kinds* for 25c. Thirty newest varieties. Wholesale price list *free.*

GEO. A. BONNELL, Waterloo, N. Y.

$1 a barrel for Orphans, Dutton and White Seedlings. Am. Wonders and Maggie Murphys. Selected stock, 12 barrels, $10.

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SEED POTATOES You can buy them way down cheap. 16 varieties, warranted true to name. $1 and upwards per barrel. List free.

GEO. H. COLVIN, Crest Farm, Dalton, Pa.

RURALISMS—Continued.

medium breadth, and enduring. The largest leaves are 17x7 inches, of a dark-green color edged with purple. September 2. Height, four feet.

Madame Montefiore (Dreer) bloomed July 1, the plants two feet tall. July 10, the plants were 3½ feet high, the flower panicle elevated 18 inches above the green leaves. August 9 the flower panicles were six feet high and 30 inches above the leaves on strong, perfectly straight stems. This variety is not a great bloomer. Many of the leaves are 20 inches long and 9 inches wide. The flowers are of a brilliant yellow with spots of feeble crimson. September 2, this variety was the tallest in the collection, being six feet, four inches to the top of the flower stem. It bears its torch-like head of flowers far above the foliage supported by an arm at least two feet in height above the foliage.

Admiral Avellan (Dreer). There is no better variety among the dark colored foliage class. Some of the leaves (August 1) are two feet long, of a rich shade of dark purplish green with veins of darker purple. There are not many flowers in the cluster. The petals are broad and of a reddish orange color. The flower stems, August 1, were three feet in height, the flowers raised a foot above the leaves and borne in rather small, slender clusters. The chief value of this variety rests in its grand foliage. The largest leaves are 22 inches long and 7½ inches broad. September 2, the height of the plant was five feet, six inches.

Ami Pichon (Dreer) was late to bloom. August 9, the flower stalks were four feet in height bearing fine heads of flowers which are of a rich scarlet with lines of crimson. The leaves (medium green) are 22 inches long and 10 inches wide. The foliage is splendid. September 2, the plants were five feet high. The petals are very broad.

J. Farquhar—our notes are deficient—September 2, was nearly six feet high. The petals are narrow—a broad crimson tongue on a yellow ground.

It will be seen that, as in previous years, we have given the lengths of the plants—foliage and flowering stems. It is important if we would have a well-balanced, symmetrical bed, that the tallest plants should be placed in the middle. It is important, too, that the color of the leaves be given. These in cannas vary from a pea-green to a deep maroon or purple. In massing, one wants all the colors evenly distributed. The culture of cannas is of the simplest. The plants are not the favorite food of insects. They will thrive during the severest droughts. They need a deep, rich, mellow soil, to be sure, if we would have them do their best.

TRY the President Wilder and White Imperial currants.....

MANIFESTLY there are Crimson Ramblers and Crimson Ramblers; but the cause of the difference is not so manifest as the fact. Mr. H. N. Smith of South Sudbury, Mass., has this to say:

I noticed a recent communication in THE R. N.-Y. in regard to the Crimson Rambler rose, which was very similar to my own experience with it last season. My plant which was obtained from a most reliable florist, made a feeble growth and mildewed badly in spite of good treatment and the use of sulphur, all through the season, which was rather wet, but other roses near by did well.

Cheap Excursions to the West and Northwest.

On April 21 and May 5, 1896, the North-Western Line (Chicago & North-Western R'y) will sell Home Seekers' excursion tickets at very low rates to a large number of points in Northern Wisconsin, Michigan, Northwestern Iowa, Western Minnesota, Nebraska, North Dakota and South Dakota, including the famous Black Hills district. For full information apply to ticketagents of connecting lines or address H. A. Gross, G. E. P. A., 423 Broadway, New York.—*Adv.*

WE would like our friends and the experiment stations to try the dry Bordeaux Mixture as a preventive of the flea beetle upon potatoes. We are not prepared to say positively that it will keep them from the vines, but that the vines upon which we used it constantly last year were not harmed by the beetle....

MR. CARSON, of the Kew Gardens, England, has recently experimented as to the best method of preserving oranges. He buried them under three to four inches of dry soil, and after over six months, found them quite sound.....

Sorghum as Fodder.

A. H. G., LAWRENCE, KAN.—The question of cheap and nutritious feed for stock, is one of large importance. Some time ago, eastern correspondents considered sweet-corn fodder, with the conclusion that it was not a safe, reliable keeping fodder for winter use. I have used sorghum for 25 years in Kansas, as a feed for horses and cows, with most satisfactory results. It is remarkable as a food for young stock, as colts and calves; they will leave any other for sorghum, and they make the largest growth on such fodder. It is easy to grow, cure and keep; if sown broadcast, it needs care to cure well before stacking. It keeps stacked well; no water will penetrate it or while shocked in the field, but my way mostly, is to plant it with a corn planter, set the slides to drop only half the bulk as for corn, and put the drills close, cultivate as for corn, and shock it the same. It thus yields more feed than anything else. In feeding to grown stock, feed it only nights, and corn fodder mornings.

Miscellaneous Advertising.

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A canker worm is a dangerous foe to a tree if he succeeds in getting up among the branches.

Stop him with "DENDROLENE," the new insecticide from the New Jersey Experiment Station. "It stops them all." It is harmless, clean to handle, and easy to apply. Book about it free.

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CONSIDER THE COST. Suppose the building is 60x25x20. It will require to paint it, 14 gals. ready-mixed paint at $1.25 per gal.—$17.50; or, four 25-lb. kegs of white lead, $6.00; five gals. pure linseed oil, $2.50; four cans tinting colors, 80 cts.; ½ pt. Japan dryer, 15 cts.; ½ pt. turpentine, 5 cts. Total, $9.50—**a saving of $8.00 in favor of**

Pure White Lead

without considering its greater durability. Examine the brand (see list). For colors use the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. No trouble to make or match a shade.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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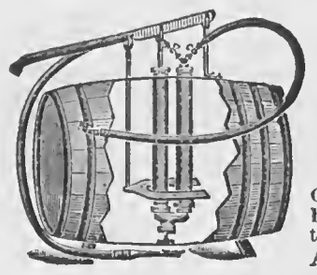

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Agents wanted. P. C. LEWIS MANUFACTURING CO., Box 95, Catskill, N. Y.

SPRAY PUMP "EMPIRE KING." The only Pump with a **Perfect Agitator** a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free. Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

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Are you troubled with Celery Blight? If you are you ought to know about FUNGIRENE, which effectually checks and prevents it. Write for pamphlet.

J. H. TIBBITS, Manufacturing Chemist. 213 Temple Street, ASTORIA, Long Island, N. Y

LEGGETT'S CHAMPION DRY POWDER GUN.

For Orchard, Vineyard or Field. A Dry Sprayer. No Bother with Water or Plaster. Time and Money Saved. Thousands in Use.

A Fruit Grower writes: 'Can treat 100 large plum and apple trees per day. Used your Fungirold on potatoes and fruit trees with good results."

Treats two rows of potatoes as fast as a man walks. Ask for Leggett & Bro.'s pure Paris-green; it is the best.

TWENTY FOUR-PAGE CATALOGUE FREE.

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ONCE USED, ALWAYS USED.

Bigelow's Liquid Paris-Green and London Purple. Mingles freely when put in water. Never settles. Nothing to clog the sprayer. Guaranteed not to burn the foliage. Sure death to all insects that feed on vegetation

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BIGELOW & CO., 679 Larrabee St., Chicago, Ill

SAVE THE POTATOES From the bugs with one of my PARIS GREEN SPRINKLERS. (GRAY'S PATENT.) If tried once will never be without it. Can sprinkle more than one acre in an hour with it. It saves half of the Paris Green against any other method. Price $3.50 Write for circulars to E. Goettsche, Mfr., 1049 Milwaukee Ave. Chicago, Ill. MENTION THIS PAPER.

AGENTS WANTED. KILLS ALL BUGS You can dust one acre of potatoes in 40 minutes by doing two rows at once. No plaster or water used. With this machine you can dust tobacco, cotton, fruit trees, currant bushes, etc. BOOK FREE. Write to HOTCHKISS BROS., Wallingford, - Conn.

THE PEPPLER SIX-ROW SPRAYER

For Trees, Potatoes and Vineyards.

HAS THE LARGEST SALE OF ANY HORSE-POWER SPRAYER IN THE WORLD.

POSITIVELY WARRANTED THE BEST ON EARTH.

Catalogue free. Address THOMAS PEPPLER, P. O. Box 35. Hightstown, N. J.

SPRAY PUMPS Being specialists in the manufacture of spray pumps, we produce a superior article. Our Barrel and Bucket Pumps are unsurpassed. No Codlin Moth, Bugs, Curculio, etc., escape where our pumps are used. Write for circulars. Big money for agents. We pay the freight. ASHLAND MFG. CO. Box "B," Ashland, O.

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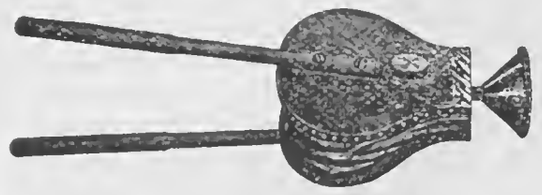

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CHAS. H. CHILDS & CO., Utica, N. Y.

THE

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, APRIL 25, 1896.

AGAIN we say that this is the year for buying seed potatoes. The chances are ten to one against another such crop as we had in 1895. Stand by the potato as stiff as the starch that comes out of it. Now is the time to buy the newer varieties at less than cost.

⊙

NEIGHBOR JONES left his plow in the furrow, and his mowing machine in the fence corner, last fall. The consequence is that he has two tools this spring bearing a crust of rust. Neighbor Jones has another tool—his mind. If that has passed the winter in the fence corner of some old notion or prejudice, it also has a coat of rust on it. Rust on the visible tools is bad enough, but mental rust is worse yet. How about the rust on *your* mind?

⊙

ALL through the South, as we have often said, you will find corn fields with rows of cow peas growing between the rows of corn. The pea vines do not interfere with the corn, and when plowed under after making their growth, furnish fertility for the next corn crop. Some of our northern gardeners make use of this principle in a still more practical way. They plant early peas in wide rows and, at the proper time, plant sweet corn between the rows of peas. Then, when the peas are picked, the vines may be plowed under to fertilize the corn. Of course, the small-vined varieties of peas are best for this purpose, and the pickers are obliged to use care in avoiding the corn.

⊙

MR. A. I. ROOT makes the following statement regarding his experience with Crimson clover:

Crimson clover will stand the average winter of northern Ohio when the seed is sown in July or early in August. When our patch gets to its best we purpose to plow it under so as to get a place for potatoes. With the present high price of hay, it seems almost wicked to plow under such a crop of green food. Of course, the great point is that you have a heavy stand of clover on your ground in nine or ten months after the seed was put in.

We have never believed that it will pay the average farmer to try to cut Crimson clover for hay. It does not ripen in good hay weather. We would use it for pasture, soiling or ensilage, or plow it under for green manuring.

⊙

GOVERNOR COFFIN, of Connecticut, in his message to the legislature for 1895, suggested that the State appropriate money for the special purpose of studying the nutritive values of various human foods. He says that more than half the incomes of those who work in town and city, is spent for food. If these workmen can be taught to select their food with reference to its nutritive value, it is evident that quite a saving can be made. The legislature appropriated $1,800 for this work, and elaborate experiments are now being made at the Storrs Experiment Station, which will surely add much to our knowledge of human food values. To aid in this work, a large apparatus has been prepared into which a man or animal may be placed for hours or days, so that the food, drink and air given him, as well as all excreta, can be measured and analyzed. The potential energy of the materials taken into the body and given off from it, the heat radiated from it, and the muscular work done, can all be measured. The results will be interesting and, certainly, ought to lay the foundation for valuable conclusions. We doubt the possibility of making out any satisfactory general "balanced ration" for human beings, yet there is no doubt that a study of the nutritive values of food in connection with the laws of diet and digestion, would be of great advantage to all who must count the cost of living.

MR. SCARFF, on page 287, sounds a note of warning regarding the "stove shark." We have been watching this game for some time. A number of our readers and friends have either bought the stoves or have been induced to do so. In almost every case that has come under our observation, there has been trouble about the settlement of notes, and we conclude that the "stove shark" is a worthy follower of the famous "creamery shark" which THE R. N.-Y. chased into bankruptcy last year. We expect to open on the "stove shark" in the same way. In the meantime, our advice to all farmers is to let wandering salesmen alone. Never sign a note for a stranger, but patronize some reliable house when you need a stove.

⊙

A NUMBER of our new readers continue to ask about the plan of soaking seed potatoes in a solution of corrosive sublimate to prevent scab. Briefly stated, here is the story: Dissolve two ounces of corrosive sublimate in a wooden bucket, using two gallons of water. Add this liquid to 14 gallons of water, and stir it well. Wash the potatoes, put them in a sack or fine wire basket, and lower them into the liquid. Let them soak 90 minutes, lift out, drain dry, and cut for seed. Seed that is very scabby, may be soaked two hours. Potatoes soaked in this way and planted on clean ground, are reasonably sure to be free from scab. If planted on ground used last year for potatoes that were affected by the scab, this treatment would not be so effective.

⊙

IT was reported, some weeks ago, that the bill to regulate the sale and manufacture of "filled" cheese, was in danger, and that Congress might substitute a measure not at all satisfactory. When that was known, telegrams and letters began to pour in from all over the country. They came from farmers, cheese-makers and dealers, exporters and others, who know how damaging this filled cheese business is. Chairman Grosvenor of the House Committee on Agriculture, complains that he received a telegram on the subject every 15 minutes, and was frequently disturbed at night by them. That's right. The farmers are learning how to make their wants known. If they would disturb the sleep of a few more Congressmen at the proper time, they would breed fewer nightmares over the home mortgage.

THOMAS DORLON CARMAN, father of Elbert S. Carman and Adaline M. Snedeker, died at his residence in Brooklyn, N. Y., on Thursday, April 16. Mr. Carman was born in 1809, and enjoyed vigorous health up to within three days of his death. Many of our older readers will remember Mr. Carman's connection with THE R. N.-Y. 20 years ago, as well as the extended sketch of his life—written by his son some years since.

MR. MAPES comes pretty close to the point when he says, on page 298, that no one seems to know just what to suggest as an ideal balanced ration for a hen. Before starting to prepare these notes on "Feeding a Hen," we read any number of articles on poultry feeding, and concluded that all we could safely do would be to suggest and urge poultry keepers to experiment and observe. It has taken years and years to work out the facts that form the basis for our cattle feeding, and even now it must be admitted that the science is but in its infancy. What we need in this country, is a careful and conscientious experiment with feeding poultry. It should run through several years, and give us data to settle some of the pointed questions that have been brought out under "Primer Science." We will guarantee that the experiment station that takes up this matter in a business-like way, can make itself the most popular institution of the sort in this country.

⊙

A STUDY of our Crimson clover patch shows some interesting things. The soil is heavy and strong. The seed was sown early in August after a crop of early potatoes grown under a mulch. The stand was best on a portion that was rolled after seeding. The season was very dry, and the plants made but a feeble growth during the fall. They appeared to stand the cold winter, but in March, when the ground began to crack and "heave," many of the plants were killed. We find them now dead and loose in the ground, so that the whole large root may be easily pulled out. Apparently, when the ground split and cracked, the whole plant was lifted up, and its rootlets were broken off so that, when the soil settled back, the plant did not go with it. There are still living plants enough left to make a fair stand, and they are now growing well. The stand appears to be best where straw or manure was left as a partial mulch. It seems fair to conclude that Crimson clover is better suited to lighter than to heavier soils. Early seeding is necessary, and rolling or packing after seeding is advisable. We conclude that it is a good plan, if possible, to put Crimson clover on land where manure can be used to advantage, and to haul the manure out while the frost is in the ground, and spread it over the clover. In this way, you will get your manure out at a good time, and also help the clover. Our opinion is that Crimson clover is better suited to vegetable or fruit culture than to general farming.

⊙

IN the report of the Governor of Arizona, we find an account of the trial of four Indians who were sent to jail for stealing some ponies which they traded for food. One of them made this little speech:

For hundreds of years, my people have lived on the banks of the Gila River. We have always been honest and peaceful, and have supported ourselves and never asked for any help from the Great Father at Washington. We have raised our own wheat and corn, and ground it in our own metates. Until the past few years, we have always had plenty of water to irrigate our farms, and never knew what want was. We always had grain stored up for a full year's supply. We were happy and contented. Since the white men came and built the big canals and acequias, we have no water for our crops. The Government refuses to give us food, and we do not ask for it; we only ask for water, for we prefer to earn our own living if we can. I am no thief, and I will not beg, but my wife and children were hungry, and I must either steal or they must starve. So I took the horses and traded them for grain, and the hunger of my family was satisfied. You can do with me what you will. I have spoken.

It appears that these Indians are willing and anxious to secure lands and work them, if they can obtain water for irrigation. When an Indian really wants water, it seems to us like a very singular proceeding to deprive him of it. Instead of turning these desert lands and the water right over to speculators and corporations to sell at a great profit, it would be better for the Government first to make sure that the Indians are supplied. It is a step backward in civilization, to permit white men to grab water rights away from Indians, and thus drive them into crime.

⊙

BREVITIES.

A maiden lady owned a piece of ground,
And morn and eve in summer she was found
Within her garden. But her neighbor kept
A flock of hens, and while she worked or slept,
With busy feet they dug her finest seed.
In vain she chased them at her utmost speed,
And "shooed" and stoned them—quite undignified,
The while her neighbor laughed until he cried.
But women who can foil the wiles of men,
Will not be daunted by a Leghorn hen.
The hand that rocks the cradle, still can block
Man's ridicule, and give his nerves a shock.
Our lady cried a bit—as was her right—
Then took some cards and on each one did write
"*Please keep your hens at home!*"—a seed of corn
She strung to each—with early break of dawn—
Back came the hens; they gobbled grain and string—
Then back for home they started on the wing.
From every mouth there dragged the lady's card.
"*Please keep*"; he scratched his head—his heart was hard,
But shame cut through it like a knife, and hence
His hens no more flew o'er the lady's fence.

A GOLDEN mean—the miser.

IRRIGATION for the lawn dry.

No animal so dainty as the sheep.

BETTER a bathroom than a parlor!

THE ill-bread cook is seldom kneady enough.

LIFE insurance is all right—so is wife insurance.

IT will pay you to plant an improved chestnut tree.

IT will soon pay to begin to salt down some of the fresh eggs.

THE Crimson clover and winter oats reports are coming in. Where is yours?

SOME men are like seeds. They must be put in hot water before they will sprout.

Now let us hear how some of that shredded fodder from the corn husker came through the winter.

LOTS of poultry flocks need grit. It should be fed in large chunks to the man who rules the roost.

S. H. DERBY of Delaware estimates the cost of spraying an apple tree five times as 10 cents for material and labor.

THE latest advice to amateurs is to soak a corn cob overnight and put it at the bottom of a big hole when transplanting tomato plants!

THE craze just now is for red apples. Don't think that a red skin will always sell a poor taste. It is possible to overdo this red craze.

A TROTTER'S son with Hackney blood, that picks its feet up as it should, and has some pride in head and tail, will never fail of ready sale.

IN 1890, there were, in this country, 12,690,152 families. What do you think of the scheme of improving your own family before you begin on the other 12,690,151?

IF one purpose to plant new varieties of potatoes, the method of sprouting described on the first page will enable him to determine much about their size and manner of growth.

THE earth mulch is a good frost protector. Many a crop of early potatoes and tomatoes has been saved by throwing a light covering of earth over them when frost threatened.

OUR legislatures have ground out so many laws that a complete report of American cases would cover 5,000,000 pages. By reading 50 pages a day, a man might cover it all in 230 years! All these billions of words written to explain the Ten Commandments!

WE have examined a sample of 30 tons of ensilage made in Virginia from frosted corn. It is sour and almost charred—unfit for stock food, and useful only as manure. From the appearance of the sample, we suspect that the silo is not tight, and that no water was used on the stalks as they were put in.

MANY breeders of purebred live stock complain that some would-be buyers think that they should be able to secure first-class animals of the breed desired, perfect in every point, at about the price of ordinary stock. This is unreasonable. Such stock is worth much more; first, because it has cost much more to produce it, and second and chiefly, because the years of intelligent breeding and care that it represents, have fitted it to reproduce, in a great degree, those qualities which render the breed a desirable and valuable one. It costs much more to produce choice purebred stock than scrub animals. There is always present a tendency toward degeneration, and the breeder must be always on the alert, selecting the best and mating them intelligently, to maintain the standard of the breed. Many inferior specimens must be sacrificed at far less than the cost of production. Probably never before could good breeding stock be purchased so cheaply; yet extreme low prices from unknown breeders must always cast suspicion upon the quality of the stock. Poor stock is dear at any price—for breeding purposes. Don't expect to get something for nothing. Don't expect to buy a sitting of eggs that will hatch prize-winning, purebred fowls, for the same price that you would pay for a dozen at the corner grocery. Don't expect choice stock for scrub prices—unless you are a scrub man.

⊙

THE Filled Cheese bill as reported to the House of Representatives, by the Ways and Means Committee, passed that body by a good majority at the closing session last week. The bill was not all that was desired by the advocates of the bills first introduced, one of the best of which was the Wilber bill, which was outlined in THE R. N.-Y. of March 14; but it is fairly satisfactory to the dairy interests, and it is hoped that it will pass the Senate and become a law without delay. If it do, it will put filled cheese in the same category as oleomargarine and other abominable frauds. The bill, as passed, makes the fee for the retailer's license only nominal; but this, of itself, is of small moment. The greatest point is to enforce the stamping of the cheese with its true name, and to force the selling of it for what it is. Formerly, large quantities of this cheese have been made for exporters, sent from the factory without being branded, and branded by the exporters according to the orders received. This abominable practice has nearly ruined our export trade in cheese. Some mendacious newspapers have striven to make capital for themselves by claiming that this act was oppressive of the poor man by cutting off his supply of a cheap and wholesome article of food. Nothing is farther from the truth. Filled cheese is not wholesome and nutritious, and is not cheap when its nutriment is compared with the nutriment contained in full-cream cheese. Furthermore, this act does not prevent its sale, but enforces its sale under its true name, so that the poor man, or any other man, if he wish filled cheese, may get it as such, and not buy it under a full-cream name, at full-cream prices, and then learn that he has nothing but an abominable fraud on his hands. One of the largest butter and cheese dealers in this city well said, "There should be a law to prevent the adulteration of all food products, as the first principle of adulteration is the desire to cheat." Let the good time come. No one who is honest will object to it.

WHAT THEY SAY.

SILO FOR EIGHT COWS.—E. W. V. asks about a silo for eight cows. It will not pay to build one for that number. I would suggest to cut the corn at the same stage as for ensilage, let it dry, house it properly, cut it as needed, scald with hot water, and let it lie in a tight chest 12 hours. The product comes near being ensilage, if not better, and, I think, is cheaper. I cut a field of grass last season for hay, and then planted it to corn the last day of June. In that severe drought, it made a fair crop, only it came a little later than I like it. After feeding all we could up to November 20, we hauled the rest—10 four-horse loads—to the barn. As it was not dry, I shocked over part of the hay, and wherever I could find room. We usually cut equal parts of this and the husked fodder, to last for a week. I shall do the same again this season. S. C. H.

A HANDY HAND SEPARATOR.—Some time ago, one of THE R. N.-Y. subscribers advised its readers not to buy a hand separator, as it would not pay. This advice delayed my buying a separator for a year, consequently I lost money by it, as we made five pounds of butter more in a week from three cows by using a hand separator. Of course, when hot weather comes, and the rest of the cows come in, we shall save a good deal more proportionately. The calves we are raising are doing a good deal better on the skim-milk containing some animal heat, than on that warmed on the stove. Besides all that, it takes some work from the house, and is a good deal less trouble to wash than a lot of pans. A man can turn the crank of one of those separators a good deal easier and with considerable less wear and tear on the nerves than a woman can skim the milk and pick out the flies, little specks and mothmillers. G. K.

Georgetown, Conn.

R. N.-Y.—One man advised against the separator, but at least half a dozen said: "Get it"!

BUSINESS BITS.

IN their artichoke advertisement last week, we gave the address of Van Ness Bros., as Tremont, Mich. It should be Fremont, Mich. If inquiry letters are returned from Tremont, the cause is thus explained.

SOME people have hard work to believe that any spraying machine made can be used to cover 30 acres of potatoes in one day. It is a fact, however, that such machines are made. Thomas Peppler, of Hightstown, N. J., makes one, and will tell you all about it.

ONE thing about a galvanized steel tank—there is no trouble about hoops coming off, simply because there are no hoops. The sun will not cause such a tank to shrink or to leak. The Kelly Foundry and Machine Co., 27 Purl Street, Goshen, Ind., makes an excellent line of these tanks, and will send catalogue if you are interested.

IF you have sidehills to plow, and want to save hard work for yourself and team, you will have a sidehill plow. The "Yankee" swivel plow is made especially for this kind of work, and it has every improvement to make the work easy for both man and team. The Beleher & Taylor Agricultural Tool Co., Box 75, Chicopee Falls, Mass., will send fuller description on application.

A VERY handsome and elaborate illustrated catalogue of buggies, surries, phaetons, farm wagons, road carts, harness, saddles, and horse goods, showing a great variety of styles and shapes has just been issued for 1896 by the Alliance Carriage Co., Cincinnati, O. Prices are printed in plain figures in their catalogue, and goods are sent anywhere subject to examination. If you own a horse, and say so, you can get one of their catalogues free.

MILK bottles usually have a metal cover that fastens down over the mouth of the bottle by means of a clasp or wire spring. Unless much care be used in cleaning these, they become sour, and taint the milk. They are pretty sure to become rusty, anyway. The Thatcher Mfg. Co., Potsdam, N. Y., have done away with this cover entirely, by making a groove in the neck of the bottle, into which a round piece of cardboard is pressed, thus sealing the bottle both air and milk-tight. The manufacturers will send illustrated descriptions on application.

THE Dutton mower-knife grinder is, we think, one of the necessities in hay or harvest time. You pull the machine knives out of the guards, fasten the grinder to the wheel of the machine, and while the team is resting a bit, you have the knives sharp and ready to go on again. You save going to the barn to grind, and you need no one to turn the stone. You can do it all yourself. But the great gain comes from the fact that you will sharpen the knives if you have the grinder in the field with you, while you are tempted to go on with the dull knives, without it; such, at least is our own experience.

WITHIN recent years there has been much improvement in all classes of agricultural implements and appliances, the primary object of which has been to do away, to a great extent, with hand labor. In no particular, has there been more improvement than in the construction of the low-down, broad-tired, steel farm trucks. The Havana Metal Wheel Co., Havana, Ill., makes an excellent truck in this line. It is constructed entirely of steel except the tongue, and combines lightness and strength. Being low, it is easily loaded; having the wide-faced tire, it travels over the fields without cutting or rutting, hence is of easy draft. This firm also manufactures steel truck wheels of any size and any width of tire to fit the ordinary farm wagon. Thus a farmer, by the simple purchase of a set of these steel wheels, may have a wagon adapted either to the road or farm. These wagons are great labor-savers for man and team, and the cost is comparatively low. The above firm will send catalogue giving fuller description.

Why results from Stockbridge seem surprising.

In writing to us, some farmers have expressed surprise that a bag of Stockbridge tried in the field alongside of a bag of some other fertilizer should produce uniformly such superior returns. It is really not so surprising when one considers that the bag of Stockbridge almost invariably is sure to contain *twice as much plant food* as competing brands that are sold at nearly the same price per bag; even though the "bulk" or size of the bag is the same. The Stockbridge Manures are made "double strength" and contain on the average twice as much plant food as ordinary fertilizers; so that one ton of Stockbridge will go further and *cost less* than two tons of other kinds. Therefore, shrewd farmers buy the Stockbridge for economy's sake if for no other reason. In one of the Stockbridge Manures an increase of 40% in the potash has been made this year.

There are other reasons, too, why farmers succeed with the Stockbridge. Some of them are shown in our annual catalogue, which we send free to any address. If you are a customer you know many of these reasons. If not, a knowledge of them can do you no harm.

BOWKER FERTILIZER COMPANY, 27 Beaver St, New York 43 Chatham St., Boston

Peruvian Guano,
Containing 10 per cent of Ammonia at greatly reduced prices.

Also, Six Per Cent **Peruvian Guano.**
Fine Ground Dried Fish.

Prices on Application BAUGH & SONS COMPANY, 412 Exchange Place, Baltimore, Md.

Successful

growers of **fruits, berries,** and all kinds of **vegetables,** know that the largest yields and best quality are produced by the liberal use of fertilizers containing at least **10% of**

Actual Potash.

Without the liberal use of Potash on sandy soils, it is impossible to grow fruits, berries and vegetables of a quality that will command the best prices.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St, New York.

AND OTHER **FERTILIZERS**
MANUFACTURED BY
THE JARECKI CHEMICAL CO.,
SANDUSKY, OHIO.

ENERGY FORCE POWER — You can gain all these prime essentials in the production of every variety of crop by using the carefully compounded fertilizers of THE CLEVELAND DRYER CO., 130 Smith St., CLEVELAND, O. — IN IN IN — A good start is more than half the battle in the life of a plant. These fertilizers start it and keep it going to the point of profitable production. — GERMINATION GROWING PRODUCTION

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

MRS. LINCOLN'S talks in the American Kitchen Magazine, are the best thing we have seen in the line of simplifying the science of the home. Primer science is needed everywhere, and as soon as teachers are ready to adapt their methods to every-day workers, they will find an unlimited audience waiting for their words.

*

Is there a good microscope in your family? There should be, for we are half-blind to Nature's wonders without this aid. The use of a good microscope will give pleasure and profit to the farmer's family. The study of insect life is almost a necessity to the practical farmer, and a knowledge of plant-growth and botany is also in line with his profession. If you would be contented with your occupation, learn all that concerns it, for the knowledge will put you in sympathy with your work, and employ the mind while the hands are busy.

*

THE Working Girls' Aid Society has recently held a series of meetings to discuss questions relating to the labor problem. Discussing "the unemployed," Prof. Wyckoff, of Princeton College, said: "The country has plenty of work for the unemployed. The cities are congested by them. A perfect means of transportation is going to solve the problem to a large extent. And the trolley — objectionable as it is — will enable farmers to accumulate in centers and go daily out to till the land." This theory seems to point toward coöperation. When shall we be ready to adopt it?

*

A WRITER in one of the fashion papers pleads for full-length mirrors in the home, as being a great aid to graceful manners and carriage. She disclaims the assertion that they develop vanity, and advocates a mirror for the baby who must amuse itself, and also for the older child who is without a playmate. There are often times when a mirror could do one a favor by acquainting him with facts so obvious to others. The unconscious offender would rather be told by the frank face of the mirror, that her hat is awry, or that there is a smudge on her face, than to try to guess it from faces that look too pleasant to offer criticism. Yes, we could, undoubtedly, make use of more mirrors. But it will be some time before we have full-length mirrors in every room. However, let us do this much: Banish the defective mirrors which distort the face unpleasantly.

THE HIRED MAN IN THE HOME.

THE PRACTICAL SIDE OF IT.

AFTER reading "The Hired Man in the Home," in THE R. N.-Y. of March 21, I thought, "That is theory; I would like to know the views of the prospective Mrs. Eliot after five years of practice—or even one." For about eight years, I boarded in families (four different ones) where hired men were boarded, and in every family, neither employer nor employee was pleased, although, apparently, each did as well by the other as he should. For eight years, I have been in my own home on a farm, and have had different experiences during that time, with from one to three, and occasionally more, hired men at a time, boarded in the home, and I am decidedly in favor of *not* boarding the man, both for comfort and economy. For some time past, we have not boarded any help, and find that we are much better suited. When we boarded the men, the work was very much harder, even with the help of a girl, than it has since been without one. I frequently had very severe attacks of nervous headache, which my physician told me were the result of overwork, and that he could only relieve; the only cure would be less work. I have not had them since the hurry and worry of so large a family ceased.

The last year we boarded any help, we boarded only one man, and I was surprised to find how greatly the work and the amount of food used were reduced with his departure. The difference in wages paid to them, I am quite sure, would not more than pay for the food they eat. Some say that we can use the produce of the farm which would otherwise be wasted; but I think that a small consideration compared with the extra length of the grocer's and butcher's bills. Without the men, we can sell far more of meat, lard, butter, eggs, etc., which is also a consideration. I have used 50 pounds of flour and five pounds of butter a week, a peck of potatoes a day, besides other vegetables in abundance, and dessert invariably for dinner and supper. Oh! the baking and cooking, and dishwashing and sweeping and scrubbing it compels one to do! It makes me tired now, just to think of it.

In regard to economy, in boarding the men, there is to be considered the extra fire and lights, the wear on carpets, beds, bedding, towels, tablecloths, etc. In regard to eating with the hired man, I think that it is like putting one decayed peach among several good ones. The good do not purify the bad, but the bad corrupt the good; although I have seen hired men whose table etiquette was superior to that of their employers, it is the exception, not the rule.

We have never employed foreigners, but have had the best class of farm laborers to be had. They have always been respectful, cleanly and obliging and they value us as their friends. But the days for them to learn to sit gracefully, speak grammatically and eat correctly, passed with their childhood. They have neither the ability nor the desire to change their ways. If our children sit with them, they imitate them for two reasons; first, because it seems so much easier to imitate the wrong than the right, and second, because we are so busy pouring coffee and attending to the wants of the men, that we cannot give our children the attention they need.

Another objection to having the men at the table with the family, is that, in general, it is where the family meet and talk unreservedly about matters of no interest to any but themselves, and the men's presence is an intrusion. I have known some men who were angry because they were not invited to sit at the table when there was company present; they claimed that they were "just as good as the company." One man (not in my home), thought himself so badly used because he was not invited to drink tea with a party of afternoon visitors, that he afterwards ate breakfast and supper at home, and carried his dinner. Why should he, in his working clothes, wish to join visitors in visiting dress and unacquainted with him? Truly it was lamentable ignorance, yet he had had the advantage of eating (in general) with some of the best families in the neighborhood for many years.

As to the hired man himself, I think that he generally prefers to board in his own home. He has more money, spends more time with his family, has the privilege of asking for his favorite dishes, and feels the same freedom at his table which his employer enjoys at his. If he is unmarried, the married man frequently is glad to board him, and he finds it more congenial than boarding in the farmer's family, where his company is considered an intrusion in the sitting-room, even though he is one of the family in the diningroom. VIOLA.

THE COLLEGE TEA.

COLLEGE teas may be classed as two, in kind — the individual and the collective. The former is of weekly, or stated occurrence, on a day, and on an hour, when the student is free from lectures, and is altogether informal. Her fellow students drop in, in cap and gown, sip at a tiny cup of the amber beverage—always amber, when rightly brewed—and nibble at a cracker or cooky. Quickly, the room fills, and a dozen girls sit, or stand, while incessant chatter prevails. Now and then one declines tea, on the score of already having drunk a half dozen cups in the afternoon. The hostess has a new print on the wall—a photograph after Raphael, or of her "dearest friend," or a cherub's head, home mounted on a strip of cardboard covered with green crêpe paper, or a vase of flowers—some new thing—for her guests to "oh!" and "ah!" and "perfectly lovely!" over. While it lasts, the pretty little interior is all life, wit, a little delicious college slang. Maybe a guitar is caught up and thrummed a bit—professors are criticised, and anathemas heaped high on what is hated, hair blond and brown has been tumbled and blown into charming disorder, and all is a sway and swish of talk, laughter, rustle of gowns; then by twos and threes, they drop out, and the "tea" is over.

The collective tea is much larger, less informal, because of the presence of laity, for not only have college, but non-college friends been invited. A half dozen juniors or seniors, as the case may be, engage a parlor of their hall of residence, or a lecture room, which they decorate with their combined possessions of rugs, cushions, draperies, tea tables, chairs, etc., and if the day be fine, there is sure to be a crush, only standing room, much beautiful dress, and maybe a dozen or so of women who were graduated in the early days of Vassar, Wellesley, Cornell, Bryn Mawr or elsewhere. These veterans of bygone classic days, look about and wonder if ever their chums did so clatter, for every tea table is its own focus of talk. When they were in college, teas had not yet come in, and they sat down on the floor in some appointed room when a box of goodies had arrived from home, and munched and told stories, after the lights had been put out, and they were supposed to be in bed and asleep. Here, choice cakes and confections that have been sent from home, are served with many a racy comment, and there are coffee, cocoa, and possibly, bouillon, in honor of the occasion. The talk is more general, but it never approaches conversation, the lingual hubbub being a composite of bits and scraps, laughter, explanations, greetings, presentations, and then the leave-takings: "Such a sweet time!" "So nice of you to remember us." "Quite a shame that gentlemen can't come to your teas." "Nothing quite like your college gatherings, so sparkling, etc., etc., goodbye."

MARY WAGER-FISHER.

SCOLDING THE CHILDREN.

I DO not believe that scolding ever accomplished any good, especially with children; it only hardens and spoils their tempers. Children need only to be trained in the way one wishes them to go; and if the mother will only begin soon enough, she will have no trouble in their training; but she must begin in the cradle. The training must begin as soon as the child begins its journey in this life! It must be started on the right road, as it is not hard to keep a child in the right track once it is started there. It will not require any scolding to keep it in the right paths with its mother's watchful care. But the mother must watch herself as well as her babe, for it is watching her; even the muscles of her face it soon learns to read, and a smile or a frown often tells the babe all it needs to know. There is where the mother's influence and her controling power first begin! Where will it end, and how?

A scolding mother never yet made a bright, sweet-mannered boy. When I see a courteous, gentle-mannered boy, I say that that boy's mother is a lady whose ways are gentle, soft, loving and kind, and in her quiet, gentle manner, will reprove him when he requires it by, "My son," and not in that loud, boisterous manner, scolding and calling him names such as "You little scamp," "You torment of my life," "I'll whip the life out of you some of these times."

MRS. A. H. WING.

fail

Stand close to a high fence and try to leap over. You fail. Walk back a few steps, get a good start. The fence is easily cleared. Neglect your cough, never mind your loss in weight, and when consumption faces you, your strength may not be sufficient to carry you over the danger-line. If you could only go back a few weeks and make a good start, you might win.

Scott's Emulsion of Cod-liver Oil, with Hypophosphites, is for you *even if you are only a little thin.*

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (*Ask your doctor.*) This is because it is always *palatable*—always *uniform*—always *contains the purest Norwegian Cod-liver Oil and Hypophosphites.*

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

10 CENTS A YEAR!

Evenings at Home.

A Clean, Bright, Valuable, Family Paper. Everything to Elevate. Nothing to Degrade.
Published Every Two Weeks.
Send five 2-cent stamps to
Evenings at Home, 157 Main St, Burlington, Vt.

PRINTING. We make a specialty of printing for farmers, fruit growers and stock raisers. Letter-heads, Envelopes, Cards, Tags, Circulars, etc. New type, good work, reasonable prices.
POULTRY MONTHLY, Albany, N. Y.

WANTED to engage a working practical Celery Grower to take full charge of crop; labor assistance provided. House for married man. Address A. E. CARSWELL, Montague N. J.

FOR SALE.—First-class farm, about 200 acres, within 3 miles of Poughkeepsie, cheap or on easy terms, or will trade for New York City property. Full information, John Dunphy, 29 Ferry St., New York. or Wilkinson & Cossum, Attorneys, Poughkeepsie, N. Y.

For Sale.—Two Peach Farms.

One with 150 acres; good buildings. 3,000 peach trees in bearing, with fine prospect of good crop this year. Good truck land. Plenty of grass on the farm. A great bargain. Good Apple Orchard.

No. 2 has 125 acres, with good, large, roomy house and good outbuildings. About 1,000 peach trees; 500 in bearing. This is a No. 1 Truck and Fruit Farm Good Apple Orchard in bearing. Running water on both farms; good for stock raising. These farms will pay any one who can look after them. Address
FARMER, P. O. Box 391, Dover, Kent Co., Del.

The Complexion of your Walls

may be changed—made beautiful at small cost.

NEW WALL PAPERS

—all grades—50% less than common prices. Samples and guide to papering, FREE. Describe rooms and state price you want to pay. Paper hanger's outfit complete, $1.

CHAS. M. N. KILLEN, 1233 Filbert St., Phila., Pa.

A BATCH OF DON'TS.

DON'T look for slights.

Don't speak when angry.

Don't neglect the finger nails, or make excuses.

Don't forget to respect the rights of children, and don't kiss anybody if you use tobacco.

Don't neglect the sick in your neighborhood.

Don't sit down in the afternoon with soiled dress or disorderly hair.

Don't use your apron to wipe your nose, take pies from the oven, or dust the furniture.

Don't make disagreeable noises such as clearing the throat, drumming with hands or feet, smacking, grating the teeth, belching wind, or humming.

Don't continually nod the head or say, "uh huh," every 10 seconds when people are talking to you.

Don't neglect to lay by something for a rainy day. Your neighbors will not love you better for having to support you in the county house by and by.

Don't overload the stomach. It will make you stupid, sallow and cross.

Don't neglect home duties for fancied duties abroad.

Don't grumble; no one enjoys hearing you.

Don't exaggerate, and don't rehearse family failings to a neighbor.

Don't repeat anything bad about anybody, no matter how true it is.

MRS. I. M. G.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6687. Ladies Louis XV. Jacket Basque

Black velvet, creamy satin, jet embroidery and ostrich-feather ruching,

6687—LADIES' LOUIS XV. JACKET

entered into the composition of this stylish coat basque, a jabot of rich lace being arranged to fall softly in front. The jacket fronts extend considerably below the waist line. The revers are graduated at the waist line, widening to the lower edge of the jacket fronts, the notched collar meeting in a seam at the back. Pattern No. 6687 is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

VALUE OF EDUCATION.—Some people take it for granted that, because a woman learns something outside of the kitchen and nursery, she is unfitted for the duties, privileges and pleasures of domestic life, says the New York Ledger. It seems never to have dawned on these one-sided and strabismic intellects, that the more intelligent a woman is, the better she is educated and the more comprehensive her mind, the better qualified she is for all of the possibilities of her future. Has she dabbled in medical science, she will be the better able to carry her babies safely through that trying period known as the second summer. She will know what to do for them in emergencies, and may save life that would be jeopardized by bad management before the doctor could get there. Has she taken a course in chemistry, she will know that certain substances are wholesome, and will be less likely to make the mistake of combining dangerous articles to set before her household. She will know what ingredients to put together to produce a given result, and will be able to manage the health and sanitation of her dwelling so as to avoid illness, and decrease the dangers of contagious diseases or epidemics.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PRINTED PATCHWORK.

If life were only what a man
  Thinks daily of—his little care;
His petty ill; his trivial plan;
  His sordid scheme to horde and spare;
His meagre ministry; his small
  Unequal strength to breast the stream;
His large regret—repentance small;
  His poor, unrealized dream—
'Twere scarcely worth a passing nod;
  Meet it should end where it began.
But 'tis not so. Life is what God
  Is daily thinking of for man.

—*Julie M. Lippman in Harper's.*

....ALAN DALE: "Art has more sins to answer for than villainy or vice."

....PHILLIPS BROOKS: "Make your most simple act complete; do your most common daily duty from its divinest motive, and what a change will come!

....PROF. FRANK PARSONS IN THE ARENA: "It should always be an object of solicitude with the statesman to add to the advantages of country life, so as to counteract, as far as possible, the tendency to overcrowd the cities."

....HARYOT HOLT CAHOON: "We are rapidly swinging into a cycle in which things are esteemed for their utility, and not for ornament, when the active woman seeking to be of use in the world, is esteemed for her usefulness; when individuality takes higher rank than social position, when nobility of purpose supersedes nobility of birth."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Sarsaparilla Sense.

Any sarsaparilla is sarsaparilla. True. So any tea is tea. So any flour is flour. But grades differ. *You want the best.* It's so with sarsaparilla. There are grades. You want the best. If you understood sarsaparilla as well as you do tea and flour it would be easy to determine. But you don't. How should you? When you are going to buy a commodity whose value you don't know, you pick out an old established house to trade with, and trust their experience and reputation. Do so when buying sarsaparilla.

Ayer's Sarsaparilla has been on the market 50 years. Your grandfather used Ayer's. It is a reputable medicine. ***There are many Sarsaparillas—but only one Ayer's.*** It cures.

Good merchants find out that it pays to sell Macbeth lamp-chimneys because they make friends.

But look out for the one that is made for your lamp. Let us send you the Index.

Geo A Macbeth Co

Pittsburgh Pa

ASK YOUR DEALER FOR

W. L. DOUGLAS $3. SHOE BEST IN THE WORLD.

If you pay $4 to $6 for shoes, examine the W. L. Douglas Shoe, and see what a good shoe you can buy for **$3.**

OVER 100 STYLES AND WIDTHS,

CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

TO THE TRADE.

WHAT ARE YOU LOOKING FOR?

A FIRST-CLASS

Buggy, Carriage Phaeton or Trap

at a reasonable low price. OH, IS THAT ALL, then write to

AMBROSE & HARRIS CARRIAGE CO.,

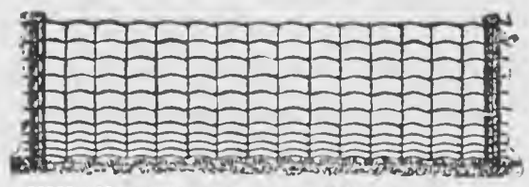
Perin Building, Cincinnati, Ohio.

Don't Buy until you get their catalogue and prices.

Buy Direct

from maker, and save intermediate profits and have the maker's guarantee—a difference of 40 per cent. in your favor. Freight paid both ways if not as represented. **Carriages, Buggies and Spring Wagons.** Our 1896 Bicycles are marvels of beauty. You pay for the wheel and not for a fancy name. Send for Catalogue, free.

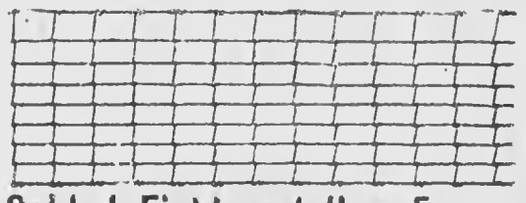
Binghamton Carriage and Cycle Co.
Binghamton, N. Y.



WHEN THE SPRING-TIME COMES.

Behold the springless wire fence; how spring! Alas! for the hopes of the unhappy owner, what a **Fall.** Now let the **Winter** of his discontent be made glorious **Summer** through the continuous **Spring** of our famous coil. Ponder these seasonable hints.

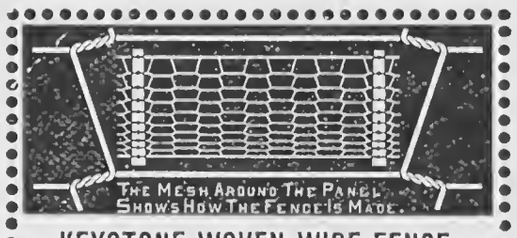
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



Cabled Field and Hog Fence,

24 to 68 inches high, Steel Web Picket Lawn Fence; Poultry Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards, Steel Wire Fence Board etc. Catalogue free

DeKALB FENCE CO., 17 High St., DeKalb, Ill.



KEYSTONE WOVEN WIRE FENCE

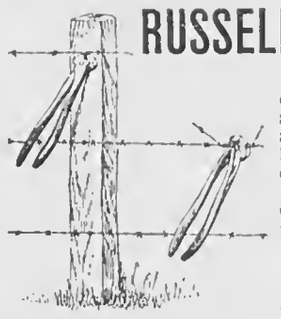
Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.

WRITE FOR CATALOGUE.

KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.

ADAM'S

WOVEN WIRE FENCING CAN NOT SAG.
Send for catalogue of all kinds of Farm, Lawn and Cemetery Fencing, Steel Posts, Gates, etc. Ask your dealer for it. W. J. Adam, Joliet, Ill.



RUSSELL'S *Staple Puller and Wire Splicer.*

Drives and pulls staples, cuts and splices wire. Its special use is in building and repairing wire fences, but may be used for many different purposes about a farm. Saves its cost in one day's work. You can't afford to be without it. Price, $1.25. Ask your hardware merchant for it. RUSSELL HARDWARE AND IMPLEMENT MFG. CO., Kansas City, Mo.

LONG WANT This Patent saves its cost every day in building or repairing wire fence. Pulls staples, spaces, stretches and cuts wire. One man can do more than two with any other tool. If no agent in town, send to H. M. CHIPMAN, Manuf'r, Waterbury, Conn. **FELT HERE**

FENCE MACHINES STRETCHERS, RATCHETS, ETC. FREE CATALOGUE SUPERIOR MFG. CO. MARTINSVILLE, O.

Why Pay Retail Price

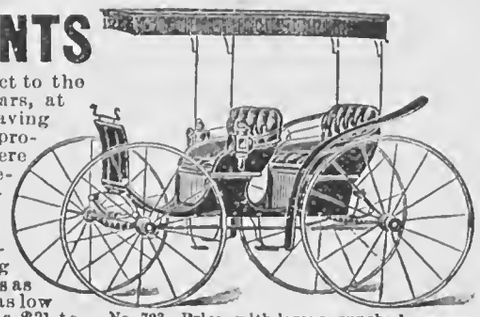
When you can buy a custom handmade oak leather **Harness** direct from the mfrs. at wholesale price. Send 2c. stamp for Illustrated Catalogue, giving full description.

KING HARNESS CO., Mfrs.,
10 Church Street, Owego, N. Y.

WE HAVE NO AGENTS

No. 16¼—Surrey Harness, Price $14.50. As good as sells for $20.

but have sold direct to the consumer for 23 years, at wholesale prices, saving them the dealers' profits. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 90 styles of Harness, 41 styles Riding Saddles. Top Buggies as low as $35. Phaetons as low as $55. Spring Wagons $31 to $50. Send for large Catalogue.



No. 723—Price, with lamps, sunshade, apron and fenders, $60.00. As good as sells for $90.

ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.

"A" Grade, $44. Style, Finish.

At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $60. Durability.

PIANOS! ORGANS! FREE!

TEST TRIAL FOR 30 DAYS IN YOUR OWN HOME. NO MONEY REQUIRED

PIANOS-ORGANS FROM $25.00 UP

Including a Complete Musical Outfit. CASH or EASY PAYMENTS.

NEW SOUVENIR CATALOGUE

A work of art illustrated in 10 colors. Worth its Weight in Gold. We pay charges on it and send it FREE, all you have to do is to ask for it to-day please. Remember this is the old established house of CORNISH & CO., the only firm in the world selling exclusively from Factory to Family direct. A single instrument at wholesale price. We save you from $25.00 to $250.00. Write at once to

Mention Paper. CORNISH & CO., Estab. 30 years, Washington, N. J.

As We Go To Press

Those insurgents in Cuba have just sent us a "warm wave" as an expression of their thanks for Uncle Sam's recent "resolution" in their favor. March gave us an awful dance, and April was little better to begin with, but this warm spell has made us forget all the past bad weather. The roads have dried out, and the trees are beginning to take leave of their long, lazy spell. We are all glad to see spring again.

Probably the happiest people in America just now, are a half dozen of THE R. N.-Y. agents who are after those premiums. For the past few weeks, they have chafed at home—unable to get about over the bad roads. Now that April, in one of her kinder moods, has dried the badness out of some of the highways, these men have taken a fresh start. There are but a few days left before May 1, and we all know how the first warm days do set hope and good nature to sprouting in a man's heart. These men are going right out to gather in the sprouts while they are fresh. We have a good deal to say about potato sprouts in this issue. You will notice that the surest sprouts are those which have stood in the light for some time, and have grown steadily along. Some of these men who have been thinking for a long time about taking THE R. N.-Y., are now likely to have sprouts on their minds. This warm, pleasant weather will start them up. Go at them now while they are feeling glad, and before the sunshine gets to be such an old story. Last chance for the piano and organ. *Forward, march!*

We have been a little crowded of late, and have not had quite so much room in which to "go to press" as we would like. We have not been idle, however. You don't feed an asparagus plant, you know, while it is sprouting—but long before, while it is storing up food in its roots. That's what we are doing, and you may expect us to bloom out this summer at a great rate. Of course you understand that we are after trade, and we assume that you are after the same thing—so that we may safely travel the same road.

Now we ought to say one thing about THE R. N.-Y. Let this man in New York State say it for us:

"I received fully one dollar's worth of information from the sample copy you sent me a few days ago, and have come to the conclusion that it is a good paper to have around the farm and office."

And in order that there may be no favoritism, let this New York State woman also talk:

"Inclosed you will find some questions. THE R. N.-Y. has more wheat and less chaff than any other paper I see." M. Y. T.

We can stand lots of wheat in the form of new subscriptions.

CROP AND MARKET NOTES.

Maple sugar is dull at eight cents per pound for pure.

Most old vegetables are extremely dull and are being rapidly crowded to the wall.

The extreme hot weather has hurt the apple market. Demand has decreased, and prices have gone much lower under pressure to sell.

Hot weather, heavy receipts, and a limited demand have nearly wrecked the butter market. At this writing, the best creamery is selling at 16 cents.

A grain and trade congress is to be held in Charleston, S. C., April 29. This is emphatically a Southern movement, and its object is the discussion of means to increase export and import trade, manufactures, the consumption and distribution of agricultural products and manufactured goods, etc.

Florida strawberries are running poor, and supplies from Charleston are increasing. Liberal supplies are expected from the latter place, and later from North Carolina. The crop of the latter State is reported to be large. The refrigerator berries are the only ones that arrive in good order this weather.

This has been a tough week on the markets for dressed meats and poultry. The dressed calf trade has been completely demoralized. Arrivals were large, and a large part were spoiled and sour, and those that were not could not be kept for any length of time. The supply of live calves was also large, and the price was low. Spring lambs shared in the general wreck, and sold for what they would bring.

The first weekly telegraphic crop report of the season was issued on Tuesday. Winter wheat is reported as in excellent condition in Nebraska and Eastern Kansas and is much improved and looking well in Iowa, Missouri, Arkansas, Tennessee and northern Illinois. Less favorable reports are received from Wisconsin, Michigan, Ohio, Virginia, Maryland, Pennsylvania and portions of New York, in some of which States it has been badly winterkilled and is generally in poor to fair condition. No corn has yet been planted north of the Ohio River. In the Southern States, corn planting is practically completed. Cotton planting is now quite general in the northern portion of the cotton belt, is well advanced in the southern portion and the early planted is coming up; in Florida, planting is nearly finished.

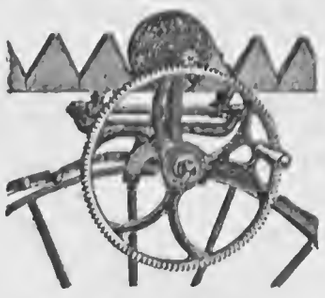
Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

The Indian medicine man cures by charms and incantations. He frightens away the "evil spirit" who causes the sickness. He does all sorts of things that civilized people would call idiotic and barbaric, but the civilized folks are not so very much ahead after all. They do just as foolish things as does the medicine man. They go along carelessly, and allow the little sickness to grow into the big sickness. They allow constipation to grow into indigestion, heartburn, dizziness, headache, insomnia, and a hundred other distressing conditions. They do this frequently because they do not know the cause of their trouble. It is a pretty safe rule to look for the source of 9-10ths of human sickness in this one simple and appallingly prevalent trouble. Another foolish thing that smart people do is to take some alleged remedy for constipation and keep on taking it, day after day, month after month and year after year. Perhaps it is better to take the medicine than not to take it at all, but of course if they stop taking it, their trouble will come back. This last statement is true of every other medicine prepared for this purpose except Dr. Pierce's Pleasant Pellets. One "Pellet" is a gentle laxative, and two a mild cathartic. They are gentle and efficient in their action, *permanent* in their results. You don't become a slave to their use, as with other pills.

The People's Common Sense Medical Adviser, in plain English, or Medicine Simplified by R.V. Pierce, M. D., Chief Consulting Physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., 1008 pages, Illustrated. 680,000 copies sold at $1.50. Now sent, paper-bound, ABSOLUTELY FREE on receipt of 21 one-cent stamps to pay for mailing *only*. Address the Author, as above.

The Perfection Mower Knife Grinder.



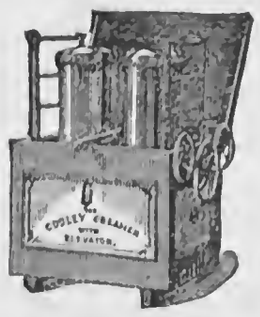
PATENTED AUGUST 21, 1894.

THE EASIEST, SIMPLEST, and most practical method ever invented for dressing and grinding Mowing Machine, Harvester and Sickle Knives.

First order from any town secures a Grinder at Agents' prices & the agency.

ROSS BROS., Worcester, Mass

A SUGGESTION



You want the only milk setting apparatus on the market that gets all the cream. We furnish it, viz., the world-renowned

COOLEY CREAMER.

The efficient apparatus of the famous Maine test, where the skimmed milk of 240 dairies was tested by the Experiment Station, and **20 per cent.** of the number contained

Less than 0.1 of 1 per cent. of fat.

A RECORD NEVER EQUALED.

Know the quality of your milk, the thoroughness of separation, and the results of every step, by using

THE V. F. M. BABCOCK TESTER

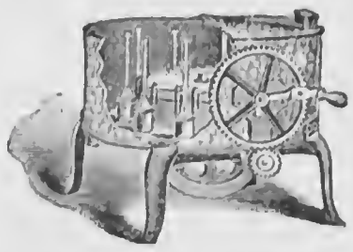
Combining accuracy, simplicity and efficiency.
Send for our special book on "Babcocking."

U. S. Separators, Babcock Testers, Vats, Etc., Etc.
Everything for the Creamery and Dairy.

Agents Wanted in Every Town and County where we have None.

SEND FOR OUR CATALOGUES.

VERMONT FARM MACHINE CO., - - Bellows Falls, Vermont.



"Bradley Quality"

MEANS

Best Materials,
Most Thorough Manufacture,
Perfect Mechanical Condition,
and Highest Agricultural Value,

all resulting from thirty-five years' practical experience. To insure all these requisite elements, buy ***Bradley Brands for all crops.***

If you want cheaper fertilizers, or any special per cent. of potash, phosphoric acid, or ammonia, we will furnish any quality desired at ***lowest*** prices obtainable anywhere.

Competitors offer all sorts of inducements to sell their goods, but their new formulas and radical changes in old ones only serve to emphasize their inability to cope with the ***"Bradley Quality."***

Bradley's Fertilizers, being correctly compounded upon the teachings of experience, give universal satisfaction, and therefore require no radical changes in their composition.

There is no need of wasting money in experiments; thousands of others have done this for you, and have demonstrated the ***absolute superiority*** of Bradley's Fertilizers.

Buy only ***Bradley Brands*** and you will secure ***"Bradley Quality,"*** and consequently the largest returns for the money you invest.

For full information, address

BRADLEY FERTILIZER CO., Boston,

Or apply to our Local Agents everywhere.

KEMP'S MANURE SPREADER

15 Years on the Market. Improved for 1896.

SPREADS any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. **Largest and oldest manufacturers of manure spreaders in the world.**

KEMP & BURPEE MANUFACTURING CO., Box 38, Syracuse, N. Y.

STEEL HANDY WAGONS.

The labor savers of the age. Only 28 and 31 inches high. You save the lift, that saves your back. **Wheels have 4-inch tire.**

JUST THE THING for hauling over the farm. Is the **BEST** for Logs, Fodder, Wood, Manure, etc. **We Make Metal WHEELS FOR WAGONS AND TRUCKS.** All Sizes—fit any skein....

Our handy wagons are **GUARANTEED** to carry 2 tons. We tell more about them in our **FREE** catalogue. Write us and get one.

HAVANA METAL WHEEL CO. Havana, Ills.

HEADQUARTERS FOR DUMPING

Horse Carts

Wide and narrow tires. Steel axles. Low rates of freight from our works, Tatamy, Pa., to all points

HOBSON & CO.,
No. 4 Stone St., New York.

Metal Wagon Wheels.

Made to fit any standard size skein or axle. Every farmer should have a set of low wheels with wide tires. They save *labor, time* and *money*; also help to solve the "Good Roads" problem. They are *Strong, Cheap* and *Durable*. Send to the ARNOLD METAL WHEEL CO., Box 30, New London, O., for circular and price, also for the wheels.

DO YOU HAUL

Hay, Grain, Wood, Stumps, Stones, Apples from the orchard, Silage corn from the field—Oh! anything?

Then you need a **"HANDY" FARM TRUCK**

Ours is constructed **Entirely of Steel.** That makes it cheap, **Light and STRONG.** Isn't that what you have been wanting for years? When you buy a "HANDY" you ALWAYS have a wagon—It will last a life time.

GUARANTEED TO CARRY 2 TONS.

Sold by all reputable Jobbers and Implement dealers. Write for circulars, **FREE.**

Bettendorf Axle Co., Davenport, Ia.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	16	@	—
Western, firsts	14	@	15
Western, seconds	12½	@	13
Western, thirds	11½	@	12
State, fancy	15½	@	16
Common to prime	11	@	15
State dairy, half-firkin tubs, fancy	15	@	—
Firsts	13	@	14
Seconds	11½	@	12
Welsh tubs, fancy	14½	@	15
Welsh tubs, firsts	12½	@	14
Welsh tubs, seconds	11½	@	12½
Tubs, thirds	10½	@	11
Western imitation creamery, firsts	12½	@	13
Seconds	10½	@	11
Western dairy, firsts	11	@	12
Seconds	10	@	10½
Thirds	9	@	9½
Factory, fancy	—	@	—
Factory, firsts	11	@	—
Factory, seconds	9½	@	10
Factory, thirds	8½	@	9

EGGS.

New-laid, fancy (nearby)	12	@	—
Pennsylvania & Md., country marks	11½	@	12
Western, fresh collections, fancy	11½	@	11½
Southern, fresh collections, choice	10½	@	—
Common to good	10	@	10¼
Duck, Md., per doz	23	@	—
Western, per doz	20	@	—
Southern, per doz	18	@	20
Goose, per doz	30	@	—

FRUITS—GREEN

Apples, extra, fancy, per bbl	4 00	@	4 50
Baldwin, per bbl	2 50	@	3 25
Greening, per bbl	3 25	@	4 50
Ben Davis, per bbl	2 75	@	3 50
Russet, Roxbury, per bbl	2 50	@	3 00
Russet, Golden, per bbl	2 00	@	2 75
Strawberries, Fla., extra, fancy, per quart	30	@	35
Poor to good, per quart	15	@	20
Charleston, good to choice, per quart	25	@	40

MEATS—DRESSED.

Veals, country dressed, prime, per lb	5	@	—
Fair to good, per lb	3½	@	4½
Com. to med., per lb	1	@	3
Small, per lb	1	@	2
Spring lambs, country dressed, each	1 00	@	5 00
Pork, country dressed, light, per lb	5	@	—
Medium, per lb	5	@	5½
Rough, per lb	—	@	—

POTATOES.

Bermuda, new, per bbl	5 00	@	7 50
Second crop, per bbl	5 00	@	7 00
Florida, prime, per bbl	5 00	@	6 50
Seconds, per bbl	3 00	@	4 00
Maine Rose, per d. h. bbl	1 00	@	1 50
State Rose, per d. h. bbl	1 00	@	—
Maine Hebron, per sack	75	@	90
Long Island, in bulk, per bbl	50	@	75
State Rose and Hebron, per 180 lbs	70	@	85
Burbank, etc., per 180 lbs	50	@	75
Jersey, in bulk, per 180 bbl	50	@	75
State and Jersey, per sack	50	@	70
Common, per sack	25	@	50
Sweets, Vineland, fancy, per bbl	3 50	@	5 00
South Jersey, per double-head bbl	2 75	@	3 00
South Jersey, cloth top, per barrel	2 75	@	3 25
Jersey common, per barrel	1 50	@	2 50

POULTRY—LIVE.

Spring chickens, per pair	60	@	90
Fowls, local, per lb	9½	@	10
Western, per lb	9½	@	10
Southwestern, per lb	9½	@	—
Southern, per lb	9	@	9½
Chickens, yearlings, per lb	9	@	10
Roosters, old, per lb	6	@	—
Turkeys, mixed, per lb	10	@	11
Ducks, local, per pair	75	@	1 00
Western, per pair	70	@	85
Southern, per pair	30	@	65
Geese, local, per pair	1 00	@	1 25
Western, per pair	75	@	1 00
Southern, per pair	75	@	—
Pigeons, per pair	30	@	40

VEGETABLES.

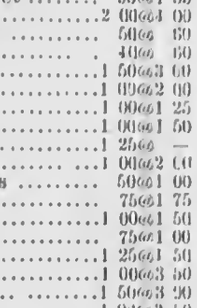
Asparagus, Char., colossal, per doz bunches	5 00	@	7 00
Charleston, prime, per doz bunch	3 50	@	5 00
Charleston, shorts, per doz bunches	2 00	@	3 00
Charleston, culls, per doz bunches	2 50	@	—
N. C., prime, per doz bunches	2 00	@	4 50
Beets, New Orleans, per 100 bunches	3 00	@	4 00
Florida, per crate	75	@	1 25
Florida, per 100 bunches	1 00	@	6 00
Brussels sprouts, per quart	5	@	15
Cabbage, Florida, per barrel-crate	1 75	@	2 25
Charleston, per bbl-crate	2 00	@	2 25
Carrots, washed, per bbl	1 25	@	1 50
Unwashed, per bbl	1 00	@	1 25
Cauliflower, Fla., per half bbl	3 00	@	4 00
California, per case	2 00	@	3 50
Celery, fancy, large, per doz	75	@	1 00
Average, prime, per doz	40	@	65
Small, per doz	15	@	30
Cucumbers, hothouse, per doz	50	@	1 25
Egg plant, Florida, per box	3	@	5 00
Green peas, Fla., per basket	1 00	@	2 25
Savannah, per crate	3 00	@	—
Horseradish, per lb	3	@	5
Kale, per bbl	75	@	1 50
Lettuce, Florida, per half-bbl basket	50	@	1 50
New Orleans, per bbl	2 00	@	4 00
Charleston, per bushel basket	50	@	60
Norfolk, per basket	40	@	50
North Carolina, per bbl	1 50	@	3 00
Onions, Eastern, white, per bbl	1 00	@	2 00
Eastern, red, per bbl	1 00	@	1 25
Eastern, yellow, per bbl	1 00	@	1 50
Bermuda, per crate	1 25	@	—
Peppers, green, Fla., per crate	1 00	@	2 00
Radishes, Norfolk, per 100 bunches	50	@	1 00
Spinach, per bbl	75	@	1 75
Squash, Marrow, per bbl	1 00	@	1 50
Hubbard, per bbl	75	@	1 00
Florida, per crate	1 25	@	1 50
String beans, Florida, per crate	1 00	@	3 50
Tomatoes, Fla., per carrier	1 50	@	3 00
Per crate	1 00	@	2 00
Key West, per carrier	1 00	@	2 50
Key West, per peck box	25	@	40
Turnips, Jersey, Russia, per bbl	1 00	@	—
Canada Russia, per bbl	1 00	@	1 12

MILK AND CREAM.

The total daily supply has been 21,457 cans of milk, 187 cans of condensed milk and 428 cans of cream. The average price paid for the surplus on the platforms has been $1.20 a can of 40 quarts.

No Safer or more Efficacious Remedy can be had for Coughs, or any trouble of the throat than "*Brown's Bronchial Troches.*"—*Adv.*

FOR SALE Seven Registered Jersey Cows; two Heifers, served; seven Calves and three Bulls, from eight months to one year. Four Grade Jersey Cows; four Heifers, served; one Calf. All choice stock. The service bulls are prize animals. Low prices for quality. Come and examine.
J. A. Cunningham, Wattaquttoc Farm, Bolton, Mass.



CIDER MACHINERY
Hydraulic, Knuckle Joint and Screw Presses, Graters, Elevators, Pumps, etc. Send for Catalogue.
BOOMER & BOSCHERT PRESS CO.,
118 W. Water St., SYRACUSE, N. Y.

What is the reasonable treatment of

Rose Colds, Hay Fever

and similar diseases? To dose the stomach with nauseous drugs to cure the respiratory organs? You may *palliate* the pain this way, with preparations of opium, or temporarily stimulate yourself with *tonics*; but for a permanent cure, *try nature's way.*

Booth's "Hyomei,"

the Australian "Dry Air" treatment of Asthma, Hay Fever, Catarrh, Bronchitis, etc.,

"CURES BY INHALATION."

Hyomei is a purely vegetable antiseptic, and destroys the germs which cause disease in the respiratory organs. The air, charged with **Hyomei**, is inhaled at the mouth, and, after permeating the minutest air-cells, is exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, to any part of the United States; consisting of pocket inhaler, made of deodorized hard rubber (beautifully polished), a bottle of **Hyomei**, a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** cures. Are you open to conviction?

R. T. BOOTH,
23 East 20th St., New York.

VINELESS OR BUNCH SWEET POTATOES. White and Yellow; genuine stock. Plants by the million, at 50c. per 100. Address with stamp for particulars G. CAMERER, Box 72, No. Madison, Ind.

Stowell's Evergreen Sweet Corn

Very fine. For table or ensilage. A limited quantity at 90 cents per bushel, f. o. b. Bags, 15 cents. Send money with order.
WM. NEWTON, Henrietta, N. Y.

SIR WILLIAM POTATOES. 200 barrels choice selected stock left. Price, $1.50 per barrel of 165 pounds net, f. o. b. cars here. Remember, that the stock offered is pure and true to name, was grown by its originator especially for seed, from selected stock, and that you can't duplicate the quality. A rare chance to secure headquarters' stock of this grand potato.
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400 one-barrel orders wanted. $1.25 per barrel, f. o. b. (cut from $1.20 per barrel) for our strictly pure, high-grade Seed potato, PRIDE OF SENECA ROSE. A pedigree Early Rose Seedling; fine, hardy, vigorous, heavy yielder; *very best quality*; light pink to a *rich* golden color; any ordinary soil; cut to one eye—120 bushels from one bushel. May be planted for either early or medium. We are the introducers and growers. We guarantee satisfaction. We are recommended by Bank of Victor; Victor (N. Y.) Herald; F. G. Snook, Agent L. V. R. R., Victor, N. Y.; T. J. Mead, Agent N. Y. C. R. R., Victor, N. Y. Order at once. List free. We ship from Victor, low freight.
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With Typhoid Fever since Feb. 11,

and business has been neglected. Have cut prices in consequence. Stock is well reduced, and offers will be good for only a short time. Any of the following varieties for $1 per barrel, or send by express to Freeville, N. Y., your sacks and get 180 pounds for 80 cents

Am still too sick to bother with business.

So send P. O. money order to my address, Perryville, N. Y., for as many dollars (8$) as you want barrels of any of the following varieties: Orphan, Dutton, Rural No. 2, Am. Wonder, Wilson's First Choice, Freeman, Irish Daisy—(Carman No. 1 at $1.50, a few).
Early Huron Dent Corn, 90 days, for silo; Lincoln Oats. Thirty Clusbirns, for April.
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Drilling Machines
than ours. For gas, oil and water. Go down from 10 to 2500 feet; sizes. Send for catalogue and prices of machines, tools, supplies, etc. Free.
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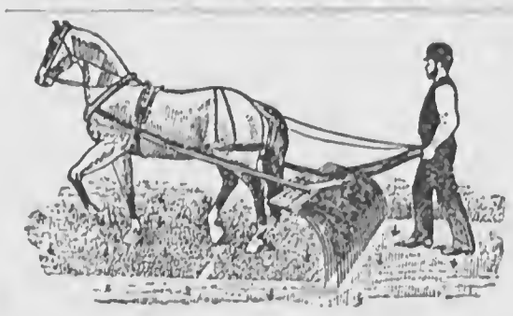

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Slug Shot Kills Currant Worms and Insects that prey on Vegetation. Used for 16 Years with Safety, and is Cheap.

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B. HAMMOND
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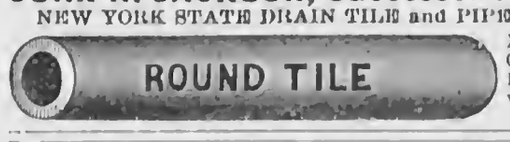

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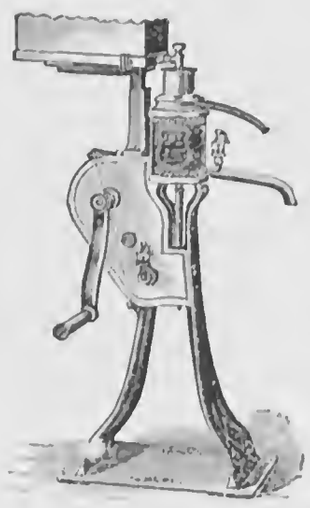

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The Improved U. S. Separator Stands on its Own Bottom. Made in three dairy sizes, and also for factory use.

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DAY'S IMPROVED LEAFLESS MEDIUM

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One peck, - -	$1.00
One-half bushel, -	1 75
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Five-bu. lots, per bu.,	2 50

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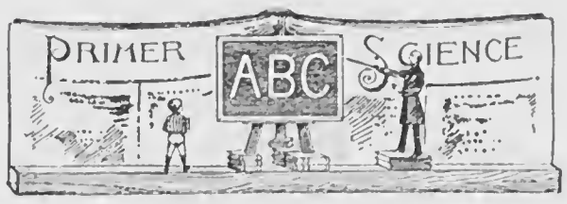

FEEDING A HEN.

PART XV.

While we are trying to collect some reliable information in reply to those questions asked by Mr. Truslow last week, let us take up a new idea. Here is a set of questions we have recently sent to some of our expert poultrymen. A part of the replies follow:

Does the feeding of different grains to poultry, have any effect on the size of the eggs? In other words, does the feeding of any particular grain make the eggs larger or smaller? Does the difference in size of eggs make any difference in the number a hen will lay? For example, if a hen lay abnormally large eggs, is she likely to lay as many as though the eggs were of average or small size?

Mr. James Rankin's Conclusions.

I do not think that the size of the egg makes any difference in the number. I think that a hen which lays a large egg, would naturally consume food in proportion. I think that the size and fertility of the egg are influenced more by the quantity and quality of animal food fed, than by any variety of grain.

J. RANKIN.

"Judgment in Feeding."

Where fowls are liberally fed, the eggs are larger, and especially when wheat or corn is the prineipal food. It is well known that, when a hen lays abnormally large eggs, it is due to a somewhat fat eondition, and she will cease laying altogether if high feeding be continued. As a hen can only perform a certain amount of work in egg production, in weight of eggs, she will, as a rule, produce more eggs of small size than of larger, a fact whieh has been demonstrated, though it must be admitted that, with judicious feeding, and the ration well balanced, she can be induced to lay large numbers of large eggs, but not when the food is too fat-forming. It is a matter of judgment in feeding.

P. H. JACOBS.

It is Largely the Food.

I certainly think that the science of feeding has much to do with size and number of eggs laid. It is the scientific combination of all grains that makes the difference. Corn increases fat, and reduees the size of the eggs. Wheat, barley and oats will give larger eggs and more of them. The combination of 30 pounds of corn, 15 pounds of oats, 10 pounds of wheat, 10 pounds of barley and 15 pounds of wheat bran, all thoroughly mixed, gives the largest number of eggs possible. This is used as the morning soft food, with 25 per cent of meat food, the afternoon feed being mixed grains. I look upon abnormally large eggs as the result of generous feeding. The hen that lays the largest number, always eats the most; that what we give them, influences the egg product, is backed by this. My brother has a hen which, in the midst of her clutch, will—by having a dose of sulphur, lay two eggs the next day. We have two hens that lay eggs weighing 37 ounces to the dozen. We have 11 pullets that were hatched from these eggs; while they themselves laid good sized eggs instead of abnormal sizes, they are the most prolific flock we have. While I have no actual experiment to report, I am fully convinced that a hen generously cared for, will lay both larger and more eggs. The last eggs of a clutch are always smallest; the system gets exhausted. Grain or food—which builds up this drain, must also affect the weight and production of the eggs. I. K. FELCH.

Doesn't Believe It Is Feed.

No, I do not think that the kind of grain makes any difference in the size of the eggs; some hens always lay small eggs, while others always lay large ones. My experience has been that, if a hen be not fed properly, she will not lay as many eggs, but the size will be the same; for instance, the Minorcas lay very large eggs and if not eared for properly, will lay far less than if well cared for. But I do not think that the size will be affected, but it may be slightly, but I think only slightly, if at all. D. A. MOUNT.

Several Points Considered.

I would say, decidedly, from my experience and observation, that the size of eggs is influenced by feed to a considerable extent. Just what kind of feed produces the largest or smallest eggs, I am not yet prepared to say. I believe, however, that eggs of maximum size are secured from hens that are full fed on a properly balanced ration. I believe that there has been a good deal of bosh written about the danger of overfeeding a hen, and getting her too fat to lay. It has been my experienee that poor hens do not lay. The condition of overfatness and unproductiveness, is more likely caused by too little food of a muscle-making character. Not enough muscle-makers are fed to enable her to lay, so she stores up all the fat she ean against a possible time of need. If more nitrogen were fed, she eould lay, and the extra fat would go into the egg basket instead of upon her body. What is considered a result of overfeeding, is really the result of underfeeding. This may sound revolutionary, but my hens bear me out in the statement. While this is so, it is very easy to go to the other extreme, and feed too little fat-forming feed, and either extreme reduces the size of eggs as well as the number.

An abnormally large egg is likely to eontain two yolks. In gathering many thousands of eggs a month, we frequently find such eggs, and I notice that they usually are found in eertain pens, leading me to suppose that they are laid by the same hens, and are due to the individuality of certain hens rather than to the feed. The trait is, probably, hereditary, and a good sign of a prolific hen. We have been feeding several pens of Minorcas this winter, and while it is certain that, as pullets, they lay larger eggs than the Leghorns, it is equally certain that they eonsume more food in order to make an equal number of eggs. The difference in their capacity for food is very notieeable. I judge that a hen that is fed to produce large eggs, will also produce the greatest number.

THE R. N.-Y. articles on "Feeding a Hen," have made it very plain that the amount of scientific knowledge on the subject is still very limited. The man who knows what a balanced ration for a hen is, has not yet appeared on the surface. Here is an exeellent chanee for some earefully conducted experiments, such as our experiment stations should be prepared to conduct. The hen will respond readily to the man who knows how to ask her questions. O. W. MAPES.

Live Stock Matters

FORKFULS OF FACTS.

ROOTS FOR HOGS.—In reply to E. J. S., Hanover, Wis., page 235, as a matter of experiment, I have wintered two two-year-old sows entirely on large red mangels, fed raw. They have gained in flesh, and wintered as well as others fed on wheat middlings, bran and beets. The two were fed all the mangels they would eat, whieh was about one bushel per day. They had a warm place to sleep, and an open shed in whieh to exercise. One of the sows farrowed 10 pigs, March 24; the pigs were strong, and have grown finely. I consider mangels the eheapest hog feed on earth. I ean raise about four bushels of mangels to one of earrots.

Tompkins Co., N.Y. W. E. MANDEVILLE.

SEX IN BREEDING.—In regard to sex in animals, if heifers are desired, let the cows be mated as soon as found in heat. One man near here had a yearling Jersey bull which did not run with the cows. His pasture was handy, and when he noticed a cow in heat, he left his work and had her served. He had only nine cows, and they had nine heifer ealves. One of his neighbors also had nine eows, which were served by the same bull after milking time, and he had nine bull calves. L. M.

Windham, N. Y.

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No Leakage about.....
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No Hoops to come off...
You will be Pleased with **This One**

A Tank that Holds Water and always ready for it.

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Such ills as **SORENESS, STIFFNESS,** and the like,

ST. JACOBS OIL WIPES OUT Promptly and Effectually.

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It churns Easier, Quicker, Closer, and is more Convenient than any other. Every user's word for it. Send for circular and introductory price, if we have no agent in your locality, to
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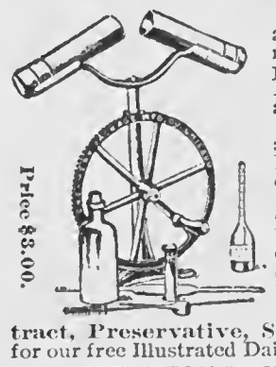
Ideal Babcock Milk Tester



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NEW MAMMOTH POULTRY GUIDE showing colored plate of chickens in natural colors. Finest book ever published. Almost 100 pages. Tells all about Poultry for Profit or Pleasure. Price only 15c.
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DEALINGS IN THOROUGHBRED STOCK

That the buying and selling of purebred domestic animals, is of recent origin, to the general farmer and stock raiser, is shown by the crude methods used to convey preferences to each other. It is best first to mention the purchaser, who sends letters of inquiry to a number of breeders, for the purpose of buying a male to grade up his flocks or herds. Having decided on the merits of a certain breed, the latter will say, "Please send lowest prices of your stock with descriptions." This necessitates the breeder asking what is required, sex, age, quality. Few consider the task to give descriptions of a large number of animals. How much simpler to say: "Send description of a —— months old male for grading up my stock. Give price, weight, style, pedigree, or the nearest you have to recommend." If the breeder has a catalogue, it should be sent, also a close description of the animal, not overdrawn, but honest. Let me here say that few breeders give accurate particulars. They should state fully the markings, style, principal points of superiority, also pedigree, and above all, be correct in age, and not say that they are selling a first-prize winner for a "scrub" price.

If the purchaser require a fancy styled and pedigreed animal, give particulars of such, but the seller should not try to impress the idea that he is getting one worth $100 for $10, or he will shatter the would-be buyers' wishes to improve stock. When the "runt" or "pedigree scrub" is received, he will immediately say that grades are good enough for him, and a convert to good stock is killed in infancy by the description of the seller. When the first purchase is made, the buyer believes that all thoroughbreds are alike, and as a rule, buys of the cheapest breeder from whom he receives letters; for such breeders generally use more persuasion than reputable ones who have the improvement of stock at heart.

Another fallacy is that, in visiting a fair, he is shown the production of years of study on exhibition, and of course, is pleased, wishes to raise the same, and is disappointed if his purchase do not equal them. It is strange, but the more untrustworthy the breeder or shipper, the better terms will he give as regards the payment, trusting that the purchaser will fear being considered "mean" by his neighbors, and as a rule, fraud is thought honest until found out.

Buying stock is, as a rule, a matter of honor, because the purchaser seldom sees the animal. Many will be angry when told that remittances should be made with order previous to shipping: "Guess I am good for that pig," or "Will pay if received in good order;" all such expressions are used. Recently I heard of one who said that he belonged to no stock organization or ring. Of course it is "buying a pig in a poke," but a reputable breeder is generally known by the newspaper editors. The breeder could not ascertain, unless at much expense, whether his customer is honest or not, and many breeders have been tricked by the purchaser saying that the animal arrived in poor condition, and he will only pay so much; so, rather than go to the expense of return charges, he sells at a loss. This has been done. Deal with an honest breeder; tell him just what you wish, and, as a rule, 99 times in 100, you will receive the full value of your money. Do not expect "pedigree" to live without the best of care and feed, for whether grade or purebred, animals cannot thrive on "wind pudding" with "cold blasts" for sauce. Do not believe that my theory is that all breeders are "angels," for such is not the case. Yet, as a rule, the real breeder who is in the business for all time, has his reputation closely at stake, and therefore, is generally honest. The dishonest ones are those who advertise to have every breed of cattle, swine and sheep; they are usually only speculators, and, of course, fill orders without regard to the future, as they do business only for a boom in some breed.

Breeders should practice describing animals, and also know just what they have; not simply write that they have a "jim dandy" or "crackerjack" correctly marked, just as good as any on earth, and a bargain for so much. They should imagine the buyer to be over a high board fence, and call over the description of the animal. Use private tags to designate the individuals, not like a person who, when asked how he marked his litters of pigs, replied, "Oh, I just paint their backs!" This was absurd.

When order and remittance are received, acknowledge the same, give date of shipment, and, if possible, the time of arrival at destination. If a special time be set, ascertain from the express agent when to ship so that they will arrive on time. Make light, strong, attractive crates, not long, but good width and self-feed, which is best for a journey of over one day. Get the lowest express rates by the quickest route.

When the purchase arrives, use care in feeding for a few days, and allow rest; should the style or any points be unsatisfactory, advise the seller in a quiet, manly way of the trouble, and if a reputable breeder, he will make all satisfactory. In ordering for future shipment, always make a deposit, for breeders often lose sales by the purchaser not taking an animal bought for this style of delivery. Should a change of animal be required to fill one previously described, do not say "fraud," because often an animal may get "off feed" and so run down in flesh as to cause unfitness for breeding purposes. The best breeders never sell "runts," but the cheap, irresponsible one sells all.

C. K.

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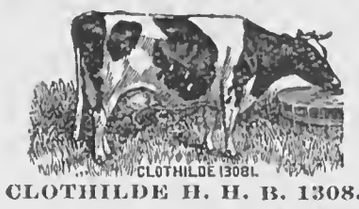

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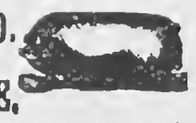

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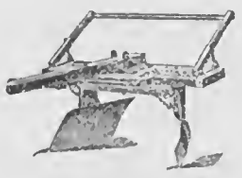

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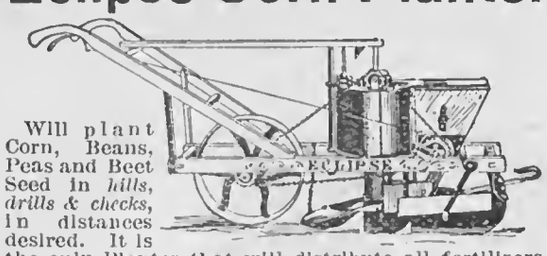

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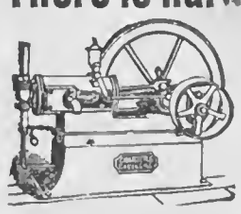

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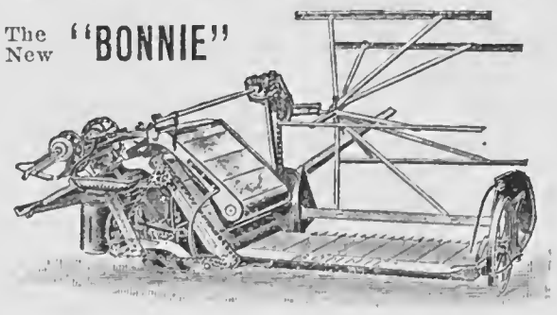

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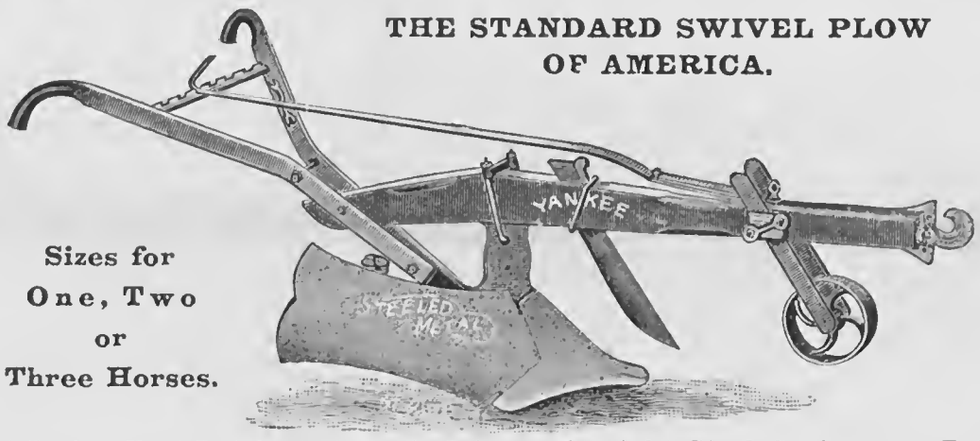

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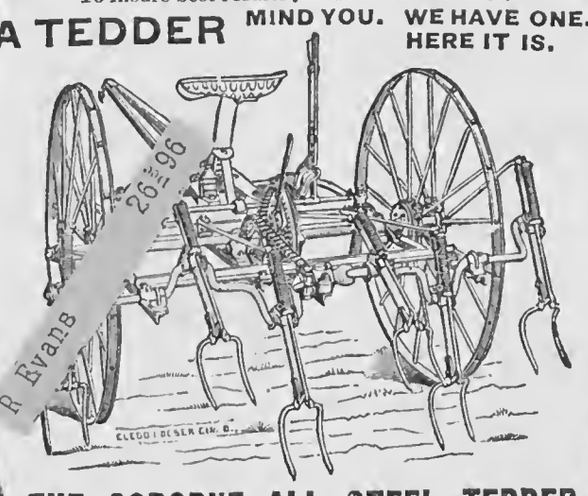

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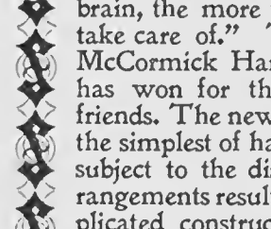

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2414. NEW YORK, MAY 2, 1896. $1.00 PER YEAR.

A MODERN YANKEE FARM.

MAKING THE MOST OF A HARD SOIL.

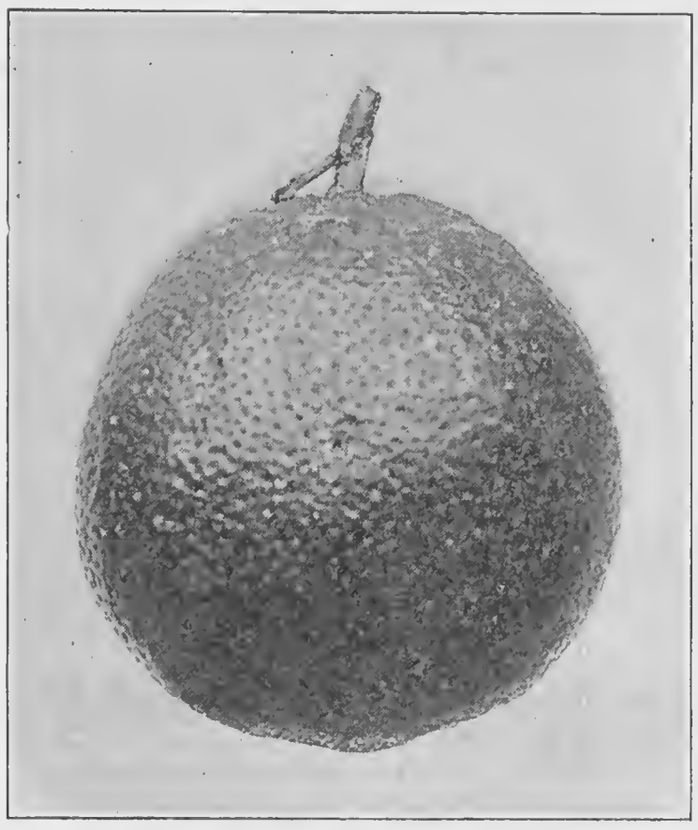
Fertilizer, Milk, Butter and Ice Cream.

If you wish to examine the best and most truly prosperous farming in this country, you do not, neeessarily, have to go to the richest land, the sunniest elimate, or the largest barrel of money. Leave these behind after you have looked them over, and buy a tieket for the land where men are found who make the most of natural disadvantages, and by sheer pluck and thoughtful planning, cut off the "dis" and then proeeed to fatten up the remaining "advantage." You will find many such examples of good farming among the hills of New England. Tucked away in the little valley through whieh the river foams and sparkles, you will find a little manufacturing town, and on the steep and rocky hills that surround it, you will find farm homes where live, to-day, worthy deseendants of the strong, God-fearing men and women who made New England the brains of America.

Winsted, Conn., is just sueh a place as we hinted at, and the farm of Geo. E. Manehester & Sons is a typieal example of what Yankee thrift and enterprise ean manufaeture out of a springy hillside. Mr. Manchester's family have lived on this farm for more than 100 years. He left a business in town, and eame back to the old plaee rather than see it go into the hands of strangers. These New Englanders love their homes, for they are rooted to them through half a dozen generations. They read, sometimes, of Western farmers who stand ready to sell out and "move on" when any stranger offers them $50 more than they think that the old farm is worth as a money produeer! Such business seems to them almost like saerilege, for the true New England home is a sacred thing. One man in New England pointed out a field on whieh he had spent $250 an aere simply to pull out the stones. Don't worry about the future of New England farming while men will do that!

Mr. Manehester has four sons, and two of them have an interest in the farm. One of them was graduated at the Conneeticut Agrieultural College. One of the other brothers had a college training that was to fit him for the law. Here is an interesting comparison. How does a eourse at an agricultural college eompare in fitting a man to make a suceessful farmer, with the eourse at a literary college in fitting a man to practiee law sueessfully? Young Mr. Manehester believes that the agricultural college course will eompare favorably, in this respeet, with any other speeial training. A boy leaves the agrieultural college with many ideas and theories which are seientifically eorrect, but which need to be remodeled and adapted to home eonditions. One ean readily see how foundation ideas regarding the use of fertilizers and feeding stoek have been studied and made over to suit the Manehester farm. It is an exeellent illustration of the value of true scientifie prineiples in laying the foundation of successful farming.

It is our intention to speak of methods rather than of profits in this artiele, though a fair measure of the latter is reasonably sure to follow the former. The farm of about 300 aeres is "on edge," as they say, being a colleetion of steep hillsides more or less stony. The ehief power that runs the farm is located



WHOLE FRUIT. FIG. 96.

in the barn where a herd of 60 dairy animals (of all ages) eonsume the fodder whieh the farm produees, with large quantities of purchased grain. A large silo is filled every year, and there is an abundanee of hay and other fodder. About the only grain raised on the farm is sweet eorn, which is sold green, with the stalks eut up for feeding. Of late years, good-sized erops of potatoes have been grown with eonsiderable fruit. Apple trees are being set out quite extensively, as these strong, roeky hillsides produce fruit of remarkably fine eolor and flavor. From the dairy are sold milk, butter, pot-cheese and ice eream. The manufacture of the latter product is, perhaps, the most interesting thing on the farm, and we hope to give our readers some new ideas about it.

The most seasonable thing just now is the fertilizer problem, and we will first try to see how the Manehesters have solved it. The stable manure is used ehiefly on eorn and grass, and it is put on with a liberal hand. Seienee, as tested by experienee, shows the Manehesters that a good fertilizer is better for potatoes and for fruit. There are also grass lands at the tops of high hills, where the haul is too long and steep to make manuring profitable. So it was necessary to figure out three different eombinations of ehemicals. At the Conneetieut Agricultural College, eertain principles eonneeted with the use of fertilizers are taught:

1. Home mixing pays when a man is eareful and willing to fix up so as to do a thorough job.

2. It is a desirable thing to use two forms of nitrogen, one a mineral and the other in an organie form. Two forms of phosphorie aeid—one soluble and the other organic—are also advisable, and for best quality in potatoes, a proportion of sulphate of potash should be used.

Just now the eheapest organic nitrogen is bought in cotton-seed meal, and on the Manchester farm, this substanee is largely used for feeding both eows and erops. After considerable experimenting and figuring, the following mixtures have been decided on:

POTATOES.—Nitrate of soda, 100 pounds; muriate of potash, 100; sulphate of potash, 200; dissolved boneblack, 800; eotton-seed meal, 800—total, 2,000 pounds.

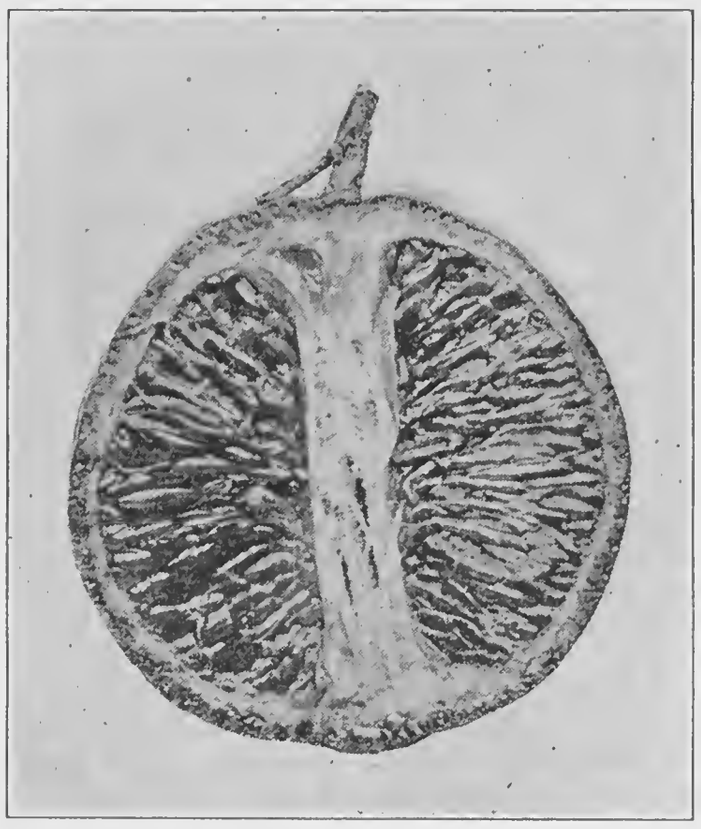
FRUIT.—Nitrate of soda, 50 pounds; muriate of potash, 200; sulphate of potash, 200; dissolved boneblack, 800; eotton-seed meal, 750—total, 2,000 pounds.

GRASS.—Nitrate of soda, 200 pounds; muriate of potash, 200; dissolved boneblaek, 800; eotton-seed meal, 800—total, 2,000 pounds.

These mixtures have given exeellent satisfaction, and the materials eost, on an average, $6 or $7 less per ton than the standard mixed goods. As the Manchesters use 10 or 12 tons each year, this represents quite a saving. The materials are sampled and analyzed before mixing—in fact, the dealer sells them subjeet to analysis.

The fertilizer is mixed on a tight basement floor. First, 800 pounds of eotton-seed meal are evenly spread, and on top of it, is spread the dissolved boneblack. The other ingredients are placed in little piles over it, and then the whole thing is shoveled into a pile, raked down, shoveled again and so on until thoroughly mixed. These materials may not be the best for all seetions, as it is possible that blood, tankage or ground fish may be so eheap in some loeal markets that they will furnish organie nitrogen for less money. That is the great advantage of knowing what you need, and then buying by analysis.

There are, usually, about 40 eows in milk. They are mostly large Jersey grades, with a sprinkling of Holstein, Ayrshire and Short-horn blood. The bull at the head of the herd is an excellent Jersey, and a



A HALF SECTION. FIG. 97.

SKIN TURNED DOWN. FIG. 98.

THE LITTLE OTAHEITE ORANGE, NATURAL SIZE. SEE PAGE 307.

number of heifer calves from the best cows are being raised. In the past, most of the cows have been bought from farmers farther back among the hills. Mr. Manchester says that farmers on the hill farms might make a good profit in raising heifers and young cows to supply the milkmen nearer town. By keeping a first-class bull, and giving the young stock good care, they could establish a reputation for good stock, and farmers would come to them whenever new cows were needed. There is no doubt about the fact that, as towns grow and land increases in value, suburban dairymen are breeding fewer and fewer of their own cows, and many of them would give up this part of their business entirely if they were sure of obtaining just the animals they needed at fair prices. The man on the back country farm can make himself almost as useful to the town dairyman as is the Western grain raiser, for the man who produces the milk must look to some one else to provide the cow and the food.

(To be continued.)

MORE ABOUT THOSE EGG QUESTIONS.

DOES FOOD INFLUENCE THE SIZE AND NUMBER?

Does the feeding of different grains to poultry, have any effect on the size of the eggs? In other words, does the feeding of any particular grain make the eggs larger or smaller? Does the difference in the size of the eggs make any difference in the number a hen will lay? For example, if a hen lay abnormally large eggs, is she as likely to lay as many as though the eggs were of average or small size?

How Hens Vary as Layers.

In regard to the number and size of eggs, I remember two pullets that laid much larger eggs than others of the same age and breeding, and more than the average number. One of the pullets was somewhat undersized. There were also two other pullets laying very small eggs, and much more than the average in number, blank days occurring at long intervals. These observations extended only during the few months of hatching, not for the entire season. So far as breeds go, it has been my experience to get the fewest eggs from hens laying large ones. From Houdans, laying very large eggs, very satisfactory numbers were obtained. Leghorns gave more of considerably smaller size, and Hamburgs produced a much greater number of very small eggs. The Houdans, however, were confined much of the time, the Leghorns some of the time, while the Hamburgs had almost unlimited run most of the year. This was 15 or 20 years ago, and I cannot now give more specific records, for I did not then appreciate the importance of collecting them. Later experience with Minorcas, which laid very large eggs, was to the effect that they were less prolific than the Leghorns.

Eggs from nine Leghorn hens, laying, on the average for the year, 143 eggs, averaged 1.90 ounce each, while eggs from nine other hens fed the same, and whose average egg production was a fraction over 93 eggs, averaged 1.91 ounce each. Two hens averaging 114 eggs each during their second year, produced eggs that averaged 1.98 ounce in weight, and two other similar hens, whose egg production was 72 eggs each, laid eggs averaging exactly the same in weight. A Cochin hen whose eggs averaged 2.22 ounces in weight, laid 122 during the year, and another hen whose eggs averaged 1.96 ounce, laid 89 during the year. Another (same breed and food) laid 138 eggs, averaging 1.90 ounce. Of two Leghorns whose eggs averaged the same in weight, viz., 2.01 ounces, one laid 132 eggs, and the other 62 eggs during the year. Individual instances show such variations as to indicate no general relation between number and size of eggs, and enough data are not available to justify conclusions from the averages. I have always thought, however, that the hen laying very large eggs, as a rule, laid fewer than the average. WM. P. WHEELER.

Large Eggs Indicate Good Condition.

A hen will lay the largest egg and the most in number, when she is in perfect health and not over-fat. There is no one grain that we can feed to hens with which we can force them without getting them too fat; that is my only reason for giving more than one kind of grain. I wish more muscle-makers and less fat. The size of the eggs will make no difference in the number laid; in fact, from my experience, it is the reverse. A hen that lays large eggs shows that she is in better condition, but it is more likely to cause diseased oviduct than smaller eggs.

JAMES H. SEELY.

How Different Grains Affect Layers.

Yes, undoubtedly, feeding different grains to fowls will affect the size of the eggs, and the number they will lay. Corn, and corn meal, for example, will increase the size of the eggs, but, fed to excess, will decrease the number and make the fowls abnormally fat; so will cotton seed and other super-fattening foods. Wheat and barley are, probably, the two best grains to feed fowls, to induce egg production continuously; but wheat and barley fed exclusively, will cause smaller eggs, of paler color (both of shell and yolk), hence *some* corn or corn meal, or buckwheat and oats, should be added to the ration to supply the needed fat-formers to induce the best all-around results. In other words, a "balanced ration" should be fed. A difference in the size of the eggs will cause a difference in the number. If a hen lays abnormally large eggs, she will lay fewer than if she is laying average-sized ones. As to small-sized eggs, that, I think, is due more to the habit of the individual bird, than to the food. Some fowls lay larger eggs than others, and if we breed from large-egg or small-egg layers, we increase or decrease the average size of the eggs our fowls produce. A. F. HUNTER.

HORSE SHOE FARM NOTES.

HOW A SICK MAN SORTS POTATOES.

My men were sorting potatoes, and, as I am still confined to the house from the effects of the fever, I could not see how they managed; but on counting from my window the barrels packed for the day, I concluded that something would have to be changed, as the potatoes would hardly pay their wages and the cost of the barrels. Inquiry revealed the fact that they were sorting by hand, picking up the large ones and leaving the small ones on the floor. Every time a man got a crateful, he had to get up and carry it back, stop and take the soreness out of his knees, rub his back to drive away the chills, and slap his numb fingers. The crates came out slowly, and as the men had to use a lantern, the stock all had to be looked over again as it was poured into the barrels. A little calculation gave me these figures: They had picked up 60 bushels, and left five bushels on the floor; or in other words, they had picked two tons or over to get out 300 pounds. I concluded that I was "hitched to the wrong end of the cart," and at last decided that the solution was to pick up the 300 pounds only. This study kept me awake about half the night.

In the morning I had them nail together a box without ends, and with a slat bottom, the cracks about 1¼-inch wide and 1¼-inch slats. It was about five feet long. To this we nailed four legs, and braced them well. The front ones should be just long enough to raise the end of the box above a potato crate, and the back ones just long enough to raise the end so high that a potato will just roll slowly down. I had them set the box outside the cellar door, in the sun, put a crate under the front end and another just back of it, and asked the nimblest-fingered fellow in the crowd to sit on the second crate. I picked out the strongest, laziest fellow, told him to take a shovel and crate into the bin, shovel up a crateful and pour it on to the upper end of my sorter. Furthermore, he was cautioned that his job depended on his keeping that upper end full of potatoes all the time. A third man was told to keep an empty crate set against the end of the crate that was being filled on the right side of it, and also to pull out the filled to the left and empty it into the barrels. As he pulled it out the sorter pulled the empty one into its place.

Soon the fun began. The man at the sorter called for more potatoes, and the shoveler put in his best licks to keep the sorter full, but could but just do it. The man who pulled away, was obliged to hasten his steps to keep up. Instead of a cold, shivering, discouraged lot of men, struck with "cellar fever," which causes a great pain in the knees, I had an eager lot, every one trying to beat the other fellow. A crate set to the right received what small and rejected ones there were. The results were that I saved one man's labor, for he was now barreling potatoes instead of cording up in the cellar, as they did when they were sorting by hand. The two men sorted that day 150 bushels as against 60 bushels the day before, and quite in time to help head the 50 barrels, a gain of 90 bushels sorted and 150 barreled to the credit of the sick man's one-half night of thinking. The sorter had handled only 1,800 pounds, while, by the old method, he would have handled 4½ tons.

At supper, the men were quite pleased when I commended them highly, but on the morrow, a "change of heart" seemed to have taken place. Toward noon, going to the window, I saw but a few barrels rolled out, and I called my regular man and inquired what the matter was. He replied that the day men would not use the sorter because they had to work, and the job would not last. I was angry at their assurance, and pleased with their high compliment of the machine. It's almost needless to add that they used the sorter the rest of the day.

For the past few years, our seeding has failed to catch well. There is but little clover in the country, and many thousands of dollars have been thrown away on the ground. Last fall, I concluded to try a new venture, and sowed six quarts of Timothy and four quarts of clover, with the wheat drill when I sowed the wheat. There is a tradition here that clover sowed in the fall, will not winter. A neighbor who investigated my field for me, said that it is all there, and a good seeding now. I shall try it again. C. E. CHAPMAN.

THE NEW VINELESS STRAWBERRY.

At Fig. 99, is shown a half-section of a dormant, one-year-old plant or stool of my Vineless strawberry. The half-section of plant photographed was taken from one of three plants sent me by Mr. M. Crawford, of Ohio, for the purpose of replenishing my stock of this variety, which I accidentally lost two years ago. I have no reason to believe that they were selected with any view to sending me extraordinary plants. The three plants were divided into 25 separate plants, all of which are growing, showing that the variety can be propagated with considerable rapidity. The tapeline shows that the picture is about one-fourth life-size, and those roots are, evidently, made for pumping water from some distance below the surface, if need be.

The following from Mr. Crawford's July report for 1895, which he pronounces the most unfavorable year for strawberries in his experience of over 40 years, shows what this variety is capable of doing under unfavorable conditions, at least. There can be no plants of this variety for sale for several years, as the stock in existence does not exceed 100 plants, two of which Mr. Crawford, with my consent, placed in care of the Rural Experiment Grounds, where they will be likely to come into competition with the best the country produces. JAMES NIMON.

MR. CRAWFORD'S REPORT:

The first ripe berries were picked from the Parker Earle Jr., a variety received from the originator, James Nimon, of Texas. It is a seedling of the Parker Earle, and is an enormous bearer. A few potted plants set out last August, and well cared for, developed a large number of crowns, and produced an astonishing quantity of most beautiful berries, of fair size, rather long-necked, very bright glossy red, and of good quality.

Mr. Nimon also sent me another seedling of the Parker Earle that is extraordinary. He calls it Vineless, as it rarely produces any runners. I received a single plant in the spring of 1894, and made six of it by dividing it. These did not send out a single runner last year, although in a rich soil! This spring I took up three and divided them. They had roots 17 inches long, and the crown of one was eight inches in circumference. It is very late in blooming, and was scarcely hurt by the frost. No other variety here produced half so many berries to the plant. They are large, rather long, of good color and quality. No variety has better foliage. Every leaf produced last year was green and spotless when winter came. I think these two varieties are likely to be valuable.

SOMETHING ABOUT DANISH CABBAGE.

The Danish Ball-Head cabbage has not, I think, received the attention it deserves. It is mentioned as follows in Burpee's How to Grow Cabbages and Cauliflowers: "While in Denmark, in the summer of 1886, we discovered a variety of cabbage called, from the shape of the heads, Ball-Head, which the Danes prize so highly that they grow it almost exclusively for winter cabbage, and annually export large quantities. * * It has been selected and perfected for more than 50 years by the Danish gardeners. We have grown the Danish Ball-Head in our trial grounds the past season (1887), and find it a reliable heading variety, with hard, round heads, which, however, were, with us, smaller in size than the American standard for late cabbages."

It was dropped from their catalogue from 1893 to 1896. In 1886, James Vick's Sons began importing the seed to supply a demand for an extra-hard cabbage for market gardeners. There have been some attempts to grow the seed of the Danish Ball-Head in this country. The resulting stock, though a valuable cabbage, loses much of its distinctive character. This is the more to be regretted, as the Messrs. Vick report the Danish seed crop a failure this season. Possibly, by rigid selection, an American strain better adapted to our climate may ultimately be developed.

Two or three years ago, the attention of local shippers and farmers who grow cabbage for the shipping trade, was called to this cabbage, and it is now a standard crop in this county, buyers paying, at present, $6 per ton more than for other kinds. It is, undoubtedly, the hardest cabbage grown; and, what is more to the point, the heads are all hard, even when not more than half grown. It is a prime favorite with our retailers, because, no matter how slow sales may be, they never lose any Danish cabbage by withering. Its extraordinary hardness makes it a grand variety for moist, mucky soils, where other sorts make a soft, spongy growth. As it comes from a cool, moist country, it does not take kindly to our hot, droughty midsummer. On upland, it requires rich soil and careful conservation of moisture; for if the growth be allowed to be checked by drought in late summer, the crop is likely to be lost by blight. It is so valuable where successfully grown, that it is certainly worthy of trial where not already introduced.

I have been growing the Danish cabbage four seasons, one or two acres each year, and so far, with the slight exception of an occasional sport in color, the plants have come absolutely true. No doubt the long time this variety has been grown, has served to fix the type better than could be the case with newer sorts. The plant is a deep, purplish-green, the purple sometimes showing plainly after a hard freeze. The sporting referred to consists of, perhaps, two or three

plants of red cabbage, and a few that are only half-and-half each season.

Although barely medium in size, the solidity of the heads makes them average well in weight, and the fact that every head is hard, makes the total weight per acre, from a well-grown crop, surprisingly large. Three typical heads, just selected, give the following measurements:

Weight, pounds.....	4	5	8
Diameter, inches.....	6¾	7½	9
Depth, inches.....	5¾	6	7½

The Danish cabbage has a large core, but is otherwise fine grained and of extra quality. It is a late cabbage and, being hard before maturity, is often harvested when immature. Such cabbage, as well as that from stunted plants, is usually pointed at the base, the depth equaling the diameter, and has prominent ribs, which with the large stump, give it a coarse appearance. It is a remarkably good keeper, in the field, in the cellar, or buried. Instead of bursting in the field, the outer leaves crack away from the stem—the lesser of two evils. By selecting heads not overripe, they may be kept until very late in the spring, when they usually bring good prices. The outer leaves are rather large, few in number, and very narrow at the base. These peculiar, dark green leaves, with the ball-shaped head in the center, and all set on a very long stalk, give the Danish Ball-Head a distinctive appearance that, once seen, will never be mistaken. GEO. ARNOLD, JR.

Monroe County, N. Y.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

THE WORK OF THE OX GADFLY.

How Does It Get from Throat to Back?

Prof. C. O. Flagg, Rhode Island Experiment Station.—I find on page 229 of THE R. N.-Y. an article on Grubs in a Cow's Back, which is quite different from what I had supposed the true life history of the warble-fly to be. Dr. Kilborne gives the name as Hypoderma lineata. In what he quotes from Dr. Curtice, the fly is called a botfly, and he used the term botfly and gadfly as synonymous. Is this true, or are they flies of different species? The Century dictionary gives the name of warble-fly as Hypoderma bovis. In the life history by Dr. Curtice as given, the article says, "During the early part of winter, the grubs may be found in the walls of the gullet or esophagus. Later, about Christmas time, the grubs first appear under the skin of the back or loins, when the warbles are formed." The question is, if this is the same species, how does it get from the gullet of the animal to its position under the skin on the back? In the life history given, have not the botfly and gadfly, two species, become mixed up?

C. H. B., South Hingham, Mass.—Referring to grubs in a cow's back, I would like to ask how it is possible for the larvæ to get from the esophagus, stomach, or intestines to the back. From boyhood, I have had the impression that the grubs in cows' backs came from eggs deposited in holes sawed there by the gadfly, a black fly about the size of the bumblebee. The botfly looks like a drone honey bee, color and all, except in having a long trunk from which the eggs are glued on to the hairs of the horse, mostly on the long hairs of the legs. The horse licks off the eggs, which pass to the stomach, hatch, and the larvæ attach themselves by two hooks or claws to the lining of the stomach, which they proceed to devour, and continue to do so until grown. Then they pass with the excrement, and soon crawl from the manure pile, with wings, ready to do it all over again.

ANSWERED BY F. L. KILBORNE, B. V. S.

In replying to the letter of Director Flagg, I will say, that I ought, perhaps, to have stated in my answer on page 229, that the life history of the ox botfly, as quoted from Dr. Curtice, was a recent discovery; and that the version as given by our older American writers, was an error, at least so far as concerns the common species found in the United States. The popular names of botfly and gadfly, applied to the Oestridæ infesting the horse, cattle and sheep, are used synonymously by American writers. Packard, Guide to the Study of Insects, speaks of them as botflies or breezeflies. Law, Farmer's Veterinary Adviser, uses only the term gadfly. The name warble-fly, which is rarely used, applies only to the Oestridæ which produce warbles, as in the ox, deer, rabbit, etc. Prior to 1891, all writings on the ox warble, spoke of the adult fly as Hypoderma bovis, De Geer. During the years 1888–91, Dr. Cooper Curtice, who was then with the Bureau of Animal Industry, United States Department of Agriculture, discovered that the common warblefly of this country was not the Hypoderma bovis, De Geer, but the Hypoderma lineata, Villers. By a careful comparison of the descriptions of H. bovis and H. lineata with the 500 specimens of mature larvæ in the Bureau collection from the northeastern United States, and also of the specimens in the collection of the United States National Museum and Entomological Division of the Department of Agriculture, Dr. Curtice found that all closely agreed with the description of H. lineata, and none with H. bovis. From these, and other facts in his possession, and as the result of his observations and researches, Dr. Curtice indicates the following facts (The Journal of Comparative Medical and Veterinary Archives, Vol. XII., No. 6, 1891):

"1. No adults of Hypoderma bovis have ever been recorded or captured in this country, all have been H. lineata.

"2. No original figures of H. bovis drawn in this country have yet appeared.

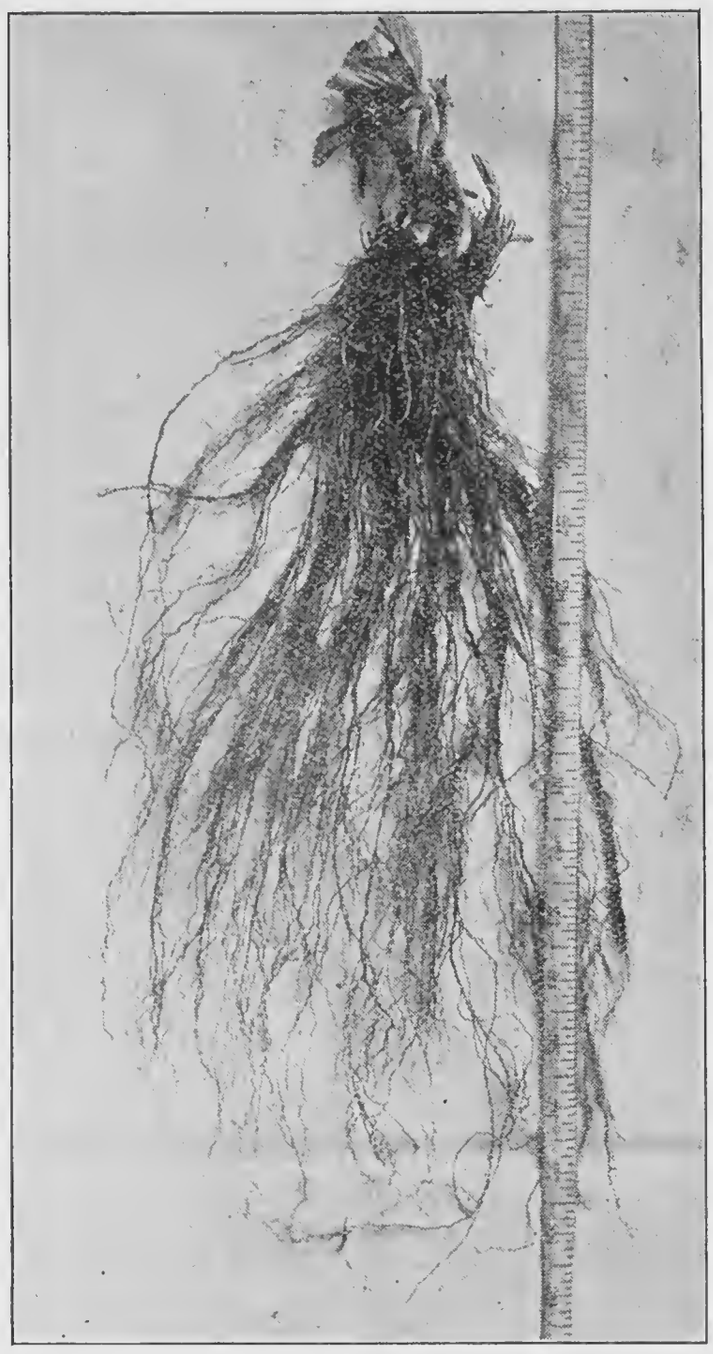
"3. All American writings concerning the cattle grub have, evidently, been drawn from European sources, together with figures; and few actual observations of biology or of detailed anatomy of adult or larvæ have been made."

Whether the old, generally-accepted life history of the Hypoderma bovis, that the eggs are deposited on the backs of cattle, where they hatch and the young larvæ bore through the skin, is true of the European species, I cannot say. It is evidently not true of our common American warble-fly or H. lineata.

While in charge of the Veterinary Experiment Station at the United States Bureau of Animal Industry, 1885-'94, I was able to observe and confirm many of the facts noted by Dr. Curtice. Most important among them are the following:

1. During the esophagal stage, from autumn until late in December, the larvæ are found only in the esophagus (rarely in other tissues) and none under the skin.

2. That "about Christmas time," the larvæ begin to disappear from the esophagus and first appear under



HALF OF A "VINELESS" STRAWBERRY PLANT. FIG. 99.

the skin; and that by the last of January or first of February, all have disappeared from the esophagus.

3. That the esophagal stage is identical with the earliest stage found under the skin.

If the old version were true, the larvæ ought to be found under the skin during November and early December; but since they are not, where are they if not in the esophagus? Just what course the larvæ take in passing from the esophagus to the region of the back, has not been definitely demonstrated. It is believed that they readily migrate through the intervening tissues. Owing to their small size and transparency, they could be found at this time only by a trained observer. That the larvæ can and do migrate, is demonstrated by the fact that they have been found by Brauer in the subcutaneous muscles, and on the thoracic side of the 11th rib; by Huirichsen in the spinal canal; and by Curtice in the connective tissue immediately adjacent the spleen. From the appearance and character of the earliest grub holes that have been observed in the skin, the size of which corresponds with the caliber of the grub, it is evident that the holes were bored from within outward, and not from without inward.

Dr. Curtice further observed that, "just preceding the time when one is able to find the young warbles in the skin, that condition known to butchers as 'lick' appears. The 'lick' is nothing more than an effusion of serum into the connective tissue membrane, and is produced by the inflammation set up by the wanderings of the young grubs. This effusion can also be found in the walls of the esophagus, just prior to the final disappearance of the grubs. The disappearance of the 'licks' from the tissues underlying that portion of the hide most infested, the saddle, is followed by finding the grubs in sacs in the first and second cutaneous stages. When the sacs are well formed the 'licks' have disappeared."

If Director Flagg still believes that there is an error in Dr. Curtice's observations, it is not yet too late for the experiment station to rear some of the flies by collecting larvæ from grubby cattle; and next fall and winter confirm or correct those observations.

To the criticism of C. H. B., I will only add, that many of the statements and theories we were taught during our boyhood, have since been discovered to have been erroneous. The identity and life history of our American Ox gadfly is one of them, as shown by the investigations of Dr. Curtice. Even before these observations, it had been conclusively shown that the gadfly did not saw holes in the cow's back, and that it was impossible for the fly to lay or deposit the eggs under the skin.

The Painted Hickory Borer.

C. E. P., Woodbridge, Conn.—I sold some hickory wood to a customer in New Haven, and some bugs came out of the wood and swarmed over the house, getting into carpets, rugs and portieres, becoming a nuisance. The customer complained, and I investigated, but could not find another case, although I put a number of cords in the same block, and a good deal more in different parts of the city. The wood had been cut and piled 18 months, and appeared to be in good shape. I have heard to-day of one other case in Brooklyn, N. Y., where they had the same trouble. I knew of the bug or beetle which eats into hickory as soon as cut, but have never seen them work in this way before. What made them come out in that particular case, and in none of the others?

ANSWERED BY M. V. SLINGERLAND.

It is not an uncommon experience for those who use hickory wood in fire-places, to find flying about the house, many beautiful black beetles with numerous yellow bands crossing the body. The beetles are nearly an inch in length, and are known as the Painted Hickory-borer (Cyllene pictus); they are frequently brought to light in splitting hickory wood. The beetles are the parents of grubs, resembling the Round-headed Apple-borer, which burrow in the wood, apparently in both living and dead tissue. They are often the cause of the "powder-posting" of hickory timber of all kinds. But little definite knowledge of the life history of the insect seems to have been recorded. For a long time, it was thought to be the same as the borer which is so destructive to locust trees all over the country; but the locust beetles emerge in the fall, while those from the hickory usually come out in the spring.

The hickory wood may have contained the eggs or young grubs when cut, and the beetles had nearly reached their development when the wood was drawn to the customer. The heat of the shed or room caused the beetles to emerge sooner than they naturally would in the forest. Not knowing all of the conditions, I cannot explain why the beetles appeared in such numbers in the one instance. Perhaps only the one tree was infested; possibly in the other cases, the wood was burned in stoves, thus not allowing the beetles to get into the rooms; or several other conditions may have made the difference. The beetles could do no harm in the house, and if the windows were opened, they would, doubtless, soon find their way out. Their favorite haunts are the beautiful flowers of the golden rod, which are so richly laden with their favorite food—pollen. I know of no way to prevent them from entering houses except to use some other wood than hickory; there is no practicable method of keeping them out of hickory wood.

Plant Traps for Cabbage Insects.

J. H. M., Chicago, Ill.—As a remedy against the ravages of the fly on cabbage plants, I have heard it said that the latter should be sown with some other seed whose leaves were fly-proof. Can you suggest a suitable variety to mix with the cabbage seed where both will grow together, and thus favor the young cabbage plants until large enough for transplanting?

ANS.—I believe that the theory or principle involved in J. H. M.'s question is wrong. That is, I do not believe that there is any plant that would exert sufficient influence, whether odorous or otherwise, over any insect life to prevent the insect from feeding upon its favorite food, however near the latter was growing to the supposed obnoxious plant. There are, doubtless, many plants that the flea-beetles would not ordinarily feed upon which might be grown with the cabbage plants, but how would these offer any protection to the latter? Insects are not slow to learn the whereabouts of their food supply, however carefully it may be hidden among objectionable plants. Another principle, directly opposed to the one just discussed, may sometimes be taken advantage of in our warfare against insects; and it may prove useful in this case. That is, it is sometimes practicable to divert the attention of insects from certain plants by growing among, or near by them, other plants more attractive to the insects. One of the most

practicable methods yet suggested for checking the Harlequin Cabbage bug, "Calico-back," a very serious Southern cabbage pest, is to have a crop of radishes or mustard plants up when the bugs appear from their winter quarters. The bugs flock to these plants, where they can be destroyed with kerosene; this also kills the plants, but they have served their purpose. Now it is possible that there is some plant which can be grown along with cabbage plants, that would prove more attractive to flea-beetles, and thus partially prevent their onslaught on the cabbages. However, as the cabbage flea-beetle is quite a general feeder, I am now unable to suggest what plant might thus serve as an attractive crop to sow with cabbages. Kerosene emulsion will check the beetles, and I think that they can be controlled by judicious work with this insecticide. M. V. S.

A Melon Disease; Bordeaux Mixture.

M. L. B., Rockland County, N. Y.—1. What is the cause of melon and cucumber vines rotting off at the surface of the ground, at about the time they begin to set fruit? I have examined them often, and closely, and find no insects. 2. Can I use Paris-green with water full strength as for potatoes, for bugs on egg plant, without injury to the leaves? If not, what can I use with safety? 3. In making Bordeaux Mixture, which is proper—four pounds of lump lime before slaking, or after in the shape of cream; or in the shape of milk of lime?

ANS.—1. The rotting of the melon and cucumber vines is, probably, due to one or more of the "damping off" fungous diseases which so often attack seedling plants, especially in greenhouses. Without specimens of the diseased plants, it is, of course, impossible to say definitely that these parasitic fungi are the cause in this case. If the plants are in cold frames or in greenhouses, give them plenty of light and fresh air, and keep the temperature even, taking care to avoid high temperatures. Frequent stirring of the soil around the base of the plants, to dry out the soil, will help to prevent the disease in the field. The commercial fertilizer used, doubtless, had nothing to do with the development of the disease; farm manures might. 2. Yes, egg plants will stand even a stronger dose of Paris-green than potatoes. You can use one pound of the poison to 50 gallons of water, provided you add about two pounds of freshly-slaked lime to prevent burning the foliage by the free arsenic. 3. The four pounds of lime given in the formula for Bordeaux Mixture, mean the lump lime, unslaked. M. V. S.

Grass Mixtures for Pasture; Apples.

L. R. S., Bridgewater, N. Y.—Have you tried the Batchelor pasture mixture? If so, with what success? What mixture do you recommend for a pasture on a gravelly loam soil? I have three or four acres of intervale land, that overflows, that was plowed the last of August, and sown to turnips, but the grasshoppers got the turnips. What shall be done with this land this year, the object in the end being grass? I have a large number of apple trees in pasture which I wish to graft. What shall be the variety, the object being a kind that will bring the most money?

ANSWERED BY PROF. I. P. ROBERTS.

We have not tried, in a large way, the Batchelor pasture mixtures, but we have several times tried mixtures of various sorts recommended by seedsmen. None of them has given entire satisfaction. The soil which it is proposed to use for a pasture, is not well adapted to keeping it permanent. The only way is to sow about one-half more seed than usual, of the ordinary varieties, that is, about four pounds of Timothy, one of Orchard grass, one of Tall Meadow Fescue and two of clover, one-fourth of which should be Alsike. If possible, top-dress the pasture, even though but little material be used, and that of an inferior quality, as often as possible.

It usually pays to treat permanent pastures, after they have been set two or three years, to a dressing of ashes or lime, or both. A good permanent pasture on such land, can only be made by pasturing lightly for the first year or two, and persisting in feeding the plants and adding seed when necessary until a perfect sward is formed. On poor lands, it may take five or six years to get the ideal conditions. Of course, one can secure success almost immediately by using a large amount of home or commercial fertilizers; but few people are willing to incur the expense of a liberal treatment. If the land is designed for a meadow, sow, at least, six quarts of Timothy seed and one quart of Alsike clover seed per acre. If for pasture, some Orchard grass, Tall Meadow Fescue and Red clover should be added. Plow as early as possible, and sow to oats or barley, not more than 1¾ bushel per acre, then sow the seeds.

The best plan would be to note the kinds of apples raised in the neighborhood, which succeed best and bring the largest results. The following varieties are considered superior: Sutton Beauty, Stark, Hubbardston Nonsuch, Gravenstein, Baldwin, Greening.

Steel Axles Or Pipe Boxes for Wagons.

P. W. Z., Pittsford, N. Y.—I intend buying a wide-tired wagon. Our roads are sandy. Which are preferable, steel axles or pipe boxes? Which is the lightest draft? I have had no experience with steel axles, and no one here has, but we have heard that they are not so good as those which we call pipe boxes.

ANS.—I can find no experiments to determine the relative drafts of wagons with steel axles and pipe boxes. The practical teamster says that steel axles are all right on hard pavements, or on smooth, solid roads; but in deep mud, or in the sand, they are very objectionable. Just how wide-tired wagons will work on sandy roads is not certain. In mud where it is from one to three inches deep, and there is a fairly firm soil beneath this mud, narrow-tired wagons run far easier than wide ones. It can be readily understood that, with wide tires, the wagon is virtually climbing up hill in order to press the mud down in front of the wheels; while with narrower tires, the wheels, with far less expenditure of force, push the mud to one side and find a hard roadbed underneath it. It needs only a practical test to show conclusively that wide-tired wagons are what the farmers term "horse killers" when used on public muddy roads. When used on hard roads and pavements, without doubt, the draft of wide-tired wagons would be something less than the narrower tired. Some students in agriculture at Cornell University, are now making extended experiments as to the draft of wide and narrow-tired wagons on dirt roads, brick pavements, stone pavements and other classes of roads.

I. P. R.

Clover as a Nitrogen Trap.

Chas. Parry, New Jersey.—THE R. N.-Y., in common with other agricultural papers, from time to time, has contained many interesting articles encouraging the growing of leguminous crops as nitrogen traps, contending that these plants gather nitrogen from the air, and store it up in the soil, to be used by future crops, in this manner tending to reduce the farmers' fertilizer bill on the most expensive article that he has to buy. This is a most beautiful and captivating theory; but is it in accordance with scientific fact? Perhaps the longest consecutive cropping of leguminous plants on record, has been followed at Rothamsted, England, by Lawes and Gilbert, where clover has been grown on the ground consecutively for 40 years. Now, according to the above theory, it should have abstracted from the air and stored up in the soil a vast amount of nitrogen during this long period of time, so that, at the end of the term, the soil nitrogen should show a large increase in quantity. But Lawes and Gilbert found, by an examination of the soil, that, instead of an increase, there was an actual loss of nitrogen amounting to 130 pounds per year, per acre, from the top nine inches of soil. The crop removed 160 pounds of nitrogen annually. But, as the roots of the clover run much deeper than nine inches, and as the top nine inches lost 130 pounds, it would seem that the soil below nine inches would furnish, at least, 30 pounds which would make up the whole amount removed by the crop, so that the soil suffered an annual loss of nitrogen equal to the whole amount removed by the crop. In view of the above facts, Lawes and Gilbert make the very conservative statement, that "there would seem to be very clear evidence that much of the enormous amounts of nitrogen assimilated by clover, comes from the soil." The above investigations at Rothamsted seem to be so much at variance with what we are daily taught by agricultural papers, that many farmers are puzzled to reconcile them, and I would be very glad if THE R. N.-Y. would publish some explanation of this interesting question for the benefit of myself and others.

ANSWERED BY DR. E. H. JENKINS.

I have not at hand the data referred to by Mr. Parry, but, granting that they are correctly given, they do not by any means indicate that it is irrational to sow clover or other legumes for the purpose of increasing the nitrogen-capital of the soil. He, however, calls attention to facts in this connection which are too often overlooked by writers in the agricultural press. Legumes do not always and everywhere get a large part of their nitrogen supply from the air, through the agency of the "root tubercles." If a soil have enough available nitrogen in it for the use of a clover crop, for instance, the crop draws nitrogen, like the cereals, from the combined nitrogen of the soil. Hence, the continuous growth of legumes on a soil will not continuously add to its supply of nitrogen, but after a time, will cease to enrich it in this respect, and the leguminous crops will draw their nitrogen from the soil-supply, and not from the air, till the nitrogen is again reduced to the point where the fixation of free nitrogen from the air begins.

Again, as a soil becomes richer in nitrogenous organic matters—as from the accumulation of the stubble and roots of legumes—nitrification is likely to become more active, and a larger proportion of the insoluble "organic" nitrogen of the soil is converted into nitrates, and thus exposed to loss of drainage, and, possibly, too, by the escape of nitrogen gas in subsequent denitrification. In other words, the larger the amount of nitrogen in a soil, the larger the proportion of it which is lost by these means.

Warrington, in a lecture delivered under the provisions of the Lawes Agricultural Trust, in 1891, says: "It must not be supposed that a leguminous crop necessarily leaves a soil richer in nitrogen than it was before its growth. The sensible increase in the soil takes place only when the soil at starting was not too rich in nitrogenous organic matter, and when the leguminous growth was abundant. The composition of the soil where beans have been continuously grown at Rothamsted, exhibits, apparently, no gain in nitrogen. The rich kitchen garden ground at Rothamsted, shows a considerable loss of nitrogen during the continuous growth of Red clover."

Unquestionably, many soils which contain but little available nitrogen, are made more productive, and, at the same time, the amount of vegetable matter and nitrogen in them is increased by the rational use of leguminous crops in the rotation. But this increase can only be carried to a certain point at which Nature has fixed the limit. It is altogether probable that the limit to the profitable use of nitrogenous fertilizers, in intensive agriculture, at least, lies far beyond this; that is, it will often pay to use nitrogenous fertilizers on a soil on which a clover crop will gather no more nitrogen from the air.

Are "Nitrogen Traps" Valuable?

H. P. N., Nichols, Conn.—Suppose that we count the cost of trapping nitrogen as $3 per acre, for plowing; $2 per acre, for harrowing and seeding, and $2.50 per acre for cow pea seed—a total of $7.50. How much more than this is the trapped nitrogen worth? This would purchase 400 or 500 pounds of a good fertilizer, dry, ground fish or cotton-seed meal. Which will increase the wealth of the farmer the most?

ANS.—In experiments conducted at the Storrs Agricultural College, it was found that an acre of cow peas gave, in vines and roots, the following fertilizing ingredients: Nitrogen, 117 pounds; phosphoric acid, 26 pounds; potash, 81 pounds. Of course we cannot say how much of this nitrogen was *added* to the soil by the clover; neither can we say how much of the potash and phosphoric acid was made more available by being stored up in the pea crop. It is not a mere question of plant food, for the humus or organic matter in the pea vines and roots, will benefit the ground by loosening it and making it better able to retain moisture. Take a corn or potato crop. Every farmer knows that he would prefer a good sod for a corn crop—without much regard as to the amount of plant food it contained. If, when the peas were ripening, a drove of hogs could be turned into the field to eat them, there would be a double advantage, as you would have the pork while the manure from the hogs would be even better than the pea vines—if some grain were fed with them.

Catch Crops for New England.

F. L., New Braintree, Mass.—1. What is the feeding and manurial value of spurry? Will it grow in New England? Will it grow on heavy soil having a clay bottom that will not produce clover owing to sourness? I wish to take a crop from a piece of land that I have not the time to fit, either for oats or clover. 2. Can clover be sown to advantage in ensilage corn for turning under in the fall?

ANS.—1. Spurry was introduced into Michigan in 1893. On the jack-pine districts of northern Michigan, it was satisfactory, but wherever the soil is at all fertile, and where other forage plants will thrive fairly well, it is believed to have no place. Numerous tests of it have been made in Michigan and Alabama, and the cultivation of it has almost entirely ceased. President Gorton says, "A word of caution is needed for rich soils, because the plant forms seeds so rapidly and scatters them so freely, that there is danger of its becoming a weed on such soils. On light sands where few plants grow with vigor, a thrifty and rapid-growing weed is a Godsend." From experiments made at the Rural Grounds, we conclude that spurry has little or no value except, possibly, on very sandy soil. 2. You can sow Crimson clover in the corn late in July or early in August, and let it grow through the winter and fall. If it survive the winter, you may feed it or plow it under in spring.

When and How to Sow Millet.

Subscriber, Johnstown, N. Y.—When is the best time to sow millet seed for early fodder? If sowed early, is it good to harvest for winter use? To what kind of soil is it best adapted? Can one seed lawns with clover and Timothy with it?

ANS.—Millet may be sown at any time after danger from frost has fully passed. It is frequently sown immediately after corn planting, though the sowing may be deferred until the middle of June, or even a little later; but it is best when sown rather early. What is known as Hungarian grass, or small millet, does not grow so large as the German millet, but the fodder produced from it is finer and more palatable, though less in yield than from the larger variety. Early-sowed millet is really better than that sowed late, for hay, as it ripens in warm weather, when it can be cured to perfection. Millet loves a rich, moist soil, though it will grow on almost any kind of land. Dry, gravelly soil is, perhaps, the worst for millet, as it is a rapid grower and takes up large quantities of water. As the seeds are small, the land should be well fitted and rolled after the seeds have been put in. It starts slowly at first, but makes a very rapid growth as soon as it is well established and the weather becomes hot. It is not likely that you would succeed in seeding to clover and Timothy with this crop, except in rare cases. The grass seeds would start nicely, but the millet tillers so profusely, grows so rapidly, and shades the ground and robs it of moisture to such an extent that it usually crowds out the grasses and clover.

Potash in Ashes or Straw.

T. J. B., Manchester, Ia.—How can I get the most potash out of straw—burn it on the ground, or plow it under?

ANS.—There will be no differenec, as potash is not volatile, and will not be driven off by heat. It is a matter of availability. The potash in the ashes is in an excellent form for immediate use, while the straw must decay before the potash can be used.

What Is "Imitation Creamery" Butter?

G. M., Meridale, N. Y.—Some people around here claim that "imitation creamery" butter, quoted in the market reports, is butterine or oleomargarine. Is this true, and if it is not, why is it called "imitation creamery"?

ANS.—The butter that is quoted as "imitation creamery," is supposed to be that which is picked up in small lots in the country, re-worked and packed in the same manner as creamery butter. Butter merchants say that they wouldn't be surprised if oleomargarine were sometimes worked in with it. It is a low-grade article at best, and its chief recommendation is its low price. It would not sell nearly so well as it does if it were not for the fact that it is put up in good shape.

Room for Hens; Dissolved Bones.

G. B. L., Niagara Falls, Ont.—1. How many hens could conveniently be kept in a house 16x60 feet? Would it be better to divide it into two or more parts? If so, why? 2. Can bones be dissolved in sulphuric acid? If so, what proportions of acid should be used to each 100 pounds of bones? How can it be used without danger?

ANS.—1. Between four and five square feet of floor space will be right for one hen. Our own plan would be to divide such a house into three parts. It will make more work in caring for the hens, but the flocks will be smaller, thus giving a better opportunity of observing individual hens, and noticing disease or lack of food in time to remedy the trouble. We do not advise farmers to use sulphuric acid at home. It is dangerous stuff to handle. The way to use it is to smash up the bones, put them in a vessel lined with lead, and gradually pour on the acid. About 1,200 pounds of acid will be necessary for a ton of coarse bone.

Will a Hydraulic Ram Answer?

W. H. S., Homer, Ont.—I have a spring well about 400 feet from the house, and about 25 feet lower than the ground at the house. There is also a creek or stream of water running between the house and well, about 100 feet from the latter. Could a hydraulic ram operated by the stream, be made to pump water from the well?

ANS.—It will be entirely possible to arrange a hydraulic ram to pump clear water with muddy, but the arrangement for such a purpose will be complicated and, possibly, unsatisfactory. Nearly all of the pump manufacturers construct a power pump for the especial purpose mentioned by W. H. S. The machine consists of two pistons and two cylinders, one of which receives the dirty water, and is operated backward and forward, by alternately receiving and discharging this water. The other is the pump proper which acts in a similar manner to any pump. The latter arrangement will, probably, be less expensive, and certainly much more efficient than the hydraulic ram.

R. C. CARPENTER.

What Is a Butter Starter?

J. S. C., Goshen, N. Y.—Can you inform me regarding a so-called "butter starter" for properly ripening cream? What is it, and how is it operated?

ANS.—THE R. N.-Y. told all about this in a series of articles entitled "A Pound of Butter," published in 1894. The principle of the "starter" is based on the fact that the changes called souring that take place in cream and milk, are due to minute forms of life known as bacteria. There are many different kinds of these bacteria, and the object of the "starter" is to use the kind that will start the souring in the right way. It is the same as using yeast to make bread rise—every housewife knows the necessity of having yeast of known and certain strength. Many dairymen make their own "starter" out of skim-milk. This is heated to about 90 degrees, and then put in a perfectly air-tight can. In 24 hours it sours and forms a thick curd. The cream is kept in an air-tight vat, and 24 hours before churning, it is warmed up to 70 degrees and then a quantity of the sour milk equal to one per cent of the cream is put in and the whole well stirred. This "starts" the souring of the cream, and it goes on in a regular and uniform way inside the air-tight vat, so that, at the end of 24 hours, it is just ripe enough for good churning. There are various commercial "starters"—powders and liquids—which contain this fermenting or souring principle, all ready prepared. Prof. Conn has prepared what he calls Bacteria No. 41, which is a specially active and valuable ferment capable of spreading through the cream uniformly, and imparting a peculiarly fine flavor to the butter.

Selling Direct to City Hotels.

M. A. S., Flint Hill, Va.—I see from an advertisement in a religious paper, that a hotel in New York City wishes to buy nice six-weeks-old chickens. What is the address?

ANS.—There are, probably, 500 hotels in New York where chickens from six to ten weeks old are wanted. If any one has advertised to buy from such a hotel, he is, probably, a fraud, for the better class of hotels and restaurants do not buy direct from the producer. They prefer to buy from agents or commission men, who can secure a constant supply of just what they want. One fashionable hotel in New York alone uses 20,000 broilers in the course of a year. If they were to buy them of 100 different parties, it would involve an endless correspondence and bother. The same is true of butter, eggs, and a dozen other things. The steward cannot afford the time to deal with individuals, except when a large and constant supply can be guaranteed. In most cases, these stewards will not even answer letters addressed to them. THE R. N.-Y. once wrote 30 letters to stewards of our best hotels, asking them if they would care to deal direct with producers. Only two ever replied, and one of these wrote an insulting letter. The other said that he would deal only with those who could guarantee a certain amount and uniform product all through the year. There is no use trying to secure this trade by mail, and only the best of business tact can secure it even in a personal interview.

Killing "Devil's Paint Brush."

"*Farmer*," *McKean County, Pa.*—How can I best destroy the weed known as devil's paint brush?

ANS.—The common names by which this weed is known, according to Lyster H. Dewey's report on "Weeds, and How to Kill Them," are: Devil's Paint Brush, Devil's weed, King Devil weed, and Golden Hawkweed. The technical name is Hieracium præaltum. It is injurious in New York and northern Pennsylvania, especially in McKean County, Pa. It is a perennial plant, flowering from June to September, and matures its seeds from August to October. The flowers are pink, red or yellow, one inch in diameter, resembling somewhat a paint brush, and are very handsome and showy. It propagates by seeds and rootstocks, the seeds being easily carried by the wind. It does the greatest damage in meadows and pastures, and can be destroyed by sheep pasturing, cultivation and heavy cropping.

E. H. S.

An Ice House for a Silo.

E. P. K., Leavells, Va.—We have a circular building about 20 feet deep and 16 feet in diameter, with a steep, cone roof. The foundation is a solid stone wall, coming within two feet of the surface, and on this is an eight-inch brick wall 10 feet high, with a door on the side for entrance, and one in the roof. The building was formerly used as an ice house. Would it do to line this and also put a cement or some other bottom in it for a silo?

ANS.—This abandoned ice house will make a fairly good silo, though the material put in it will, probably, not keep quite so well as it would in a building constructed of wood. We have just opened a brick silo about 12 feet deep, built entirely under ground like a cistern. The material that is now coming out is in good condition. The only doubt might be as to whether an eight-inch brick wall would stand the pressure of the ensilage. It would depend on the quality of the brick and the mortar, and the care which had been used in laying up the wall. For safety, it might be well to put two hoops around the silo, one about two feet from the surface of the ground, and the other three feet or so above the first one. Hoops may be secured suitable for this purpose, which come in sections and have appliances for tightening them, of the Aermotor Co., Buffalo, N. Y. No cement bottom will be necessary, unless it is required to keep the water out.

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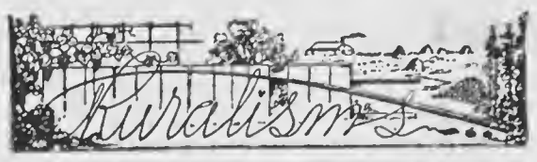

NEW ABSURDITIES.—We have received this note from our good friend, J. W. Kerr, of Denton, Md. :

On the editorial page of THE R. N.-Y. of March 21, there is a somewhat pointed criticism upon the influence exerted by the graft or bud on the root upon which it is grown. That the tops of nursery trees do influence, to a large extent, the root system, will no longer admit of debate. As, for example, compare the root system of a row of Limbertwig apple trees with that of a row of Winesap or Early Ripe—propagated similarly on stocks of the same kind, and you have irrefutable testimony as to the great influence of the stock upon the roots. Still, I think that it is straining badly the facts, when it is stated that subsequent to the budding of pear on quince, all the new roots formed by the quince will be pear roots. In this relation, however, my attention has been called to some strong statements made by Mr. A W. Pearson, of New Jersey, in an article written for a western agricultural paper, under the title of "'New' Things in Agriculture." In this article Mr. Pearson says, "I have mixed a white sweet potato with a red one—the varieties distinct—by merely placing the tubers of the two sorts contiguous, or, rather, contagious, to each other in the plant bed, thus getting a cross—a new variety which is superior to either of its antecedents. * * I have also mixed a white Peachblow potato with a red one by planting the two sorts of tubers near to each other along the row. * * When the crop was dug, the potatoes appeared mottled—white and red. * * Mentioning these new and queer experiences at a farmers' institute, I there learned that, several years ago, a neighbor farmer had mixed two varieties of sweet potatoes, a yellow and a red, by grafting together the vines of the two sorts planted near to each other." Here he describes the operation of grafting, and says further: "Among the tuber roots grown on the yellow, he found a few yellow externally, with red flesh, or more correctly, pinkish in color, changing, when cooked, to a decided red" ! ! !

Now, what becomes of Mr. Burbank's potato-tomato grafting, with X rays, such as the above, thrown upon it? Mr. B., possibly, is mistaken somewhere. Why doesn't he own up, if those potatoes with tomato tops grafted on them, had little seeds scattered here and there through them? Or, if the skins were "pinkish" in color, and possessed a tomato flavor? I am rather pleased to see Mr. B. get himself into a hole like the above, for I would not like to have my potatoes mixed with tomatoes. How would you enjoy a mixed dinner of that kind, Mr. Editor?

No one of experience can doubt that the graft exerts an influence upon the roots. It is a matter of nutrition only. If the graft or bud and the stock are uncongenial, the roots of the stock will be comparatively few and feeble, but they will be the roots of the stock—not those of the scion or bud. That the roots of quince stocks after being grafted with pear scions, will be those of the pear, is simply absurdly impossible.

Our attention was called to the article by Mr. Pearson in the New York Farmer, to which, our friend, Mr. Kerr, alludes, and we commented upon it under Ruralisms of December 14, 1895. We do not believe that the sweet or Irish potato was ever affected or changed by such contiguity, or that it ever will or can be. The same changes—color of skin, flesh and quality, would have occurred under favoring conditions just the same had the different varieties been planted in different fields or plots. We believe that, were any number of different kinds of potatoes planted in the same drill or hills, no changes, *owing to this fact*, would occur either in color, shape or quality. Such changes, when they do occur, as they certainly do, are owing to other causes. Stems cannot mix. We might graft hundreds of apples or pears, peaches or plums upon the same stock. Each variety—though more or less increased in size or quality or color by the congeniality or uncongeniality of the stock—would remain essentially true to name. So, too, we might graft different vines of the sweet or Irish potatoes, of beets, turnips, roses or ornamental trees or shrubs of any kind, the varieties would remain absolutely distinct. The changes that do occur in potatoes or plants of any kind, are not and cannot be due to contiguity or "contagion," but peculiarities of condition that favor the breaking out of a potency that previously existed but remained dormant. And this potency comes through a previous crossing or hybridization of the *seeds*.

We have endeavored to keep moderately well posted as to the excellent work that Mr. Burbank has been doing for years, and we think our respected friend, Mr. Kerr is mistaken as to whatever Mr. Burbank may have said as to the effect of grafting potatoes and tomatoes and *vice versa*.

A WRITER in that best of horticultural magazines, the London Garden, does not seem to hold a very exalted opinion of the trustworthiness of American catalogues. He has been induced to try Burbank's Primus—a hybrid between the raspberry and blackberry—and the Logan-berry. He says: "Both come with wonderful descriptions of their qualities, but blessed is he that relieth not on an American catalogue." We have received the leading English catalogues for many years and, it seems to us, that both the descriptions and engravings are quite as misleading as those of our own leading catalogues. Indeed, as to the illustrations of the catalogues of the two countries, ours are almost beyond comparison, superior artistically considered, or as portraits.....

AGAIN in the interests of our readers, we beg to allude to that grand rose, Rosa Wichuraiana—so different from any other, so almost wholly like unto itself, and a grand self it is. There is no other rose to take its place; no other that excels as a trellis plant or to cover the soil as vincas would cover it; no other that blooms out of the season of the ordinary hardy roses; no other that bears such shiny, dark-green little leaves and wax-like flowers. The writer's experience with it is confined to a single season, and we have given that bit of experience to our readers in full. The coming season, will, no doubt, give us the chance to speak more fully, because we have planted it in all the ways for which it seems to be suited—on the lake bank, as a bedding trailer, and to cover a trellis. Our accomplished friend, William Falconer, who seems to have been among the first to plant it, tells us in a late number of Gardening, that its habit is to spread flat upon the ground, forming a thick, close mat, covering a con-

(*Continued on next page.*)

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The best when you buy your Spring Medicine. Be guided by the experience of thousands of people who voluntarily testify that

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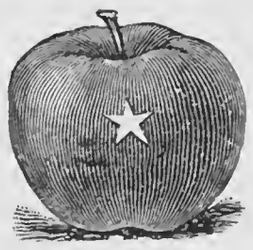

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Apples, Pears and Cherries at one-half rates. Champion Quince and Japan Plums at still less. Bismarck and Starr Apples. Rocky Mountain Cherry, all sizes. Send for special rates.
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30 Cheshire Pigs. 11 sold last week.
Single Comb Brown Leghorns.
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VINELAND Sweet Potato Plants.—From extra selected seed, $1.50 P M; 5 M or over, $1.25 P M. Cash with order. S. T. Dowler, Vineland, N. J.

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Moneymaker. Early Sunrise.
Four best. Grown on natural potato land and sprayed. Cheap to close out.
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paid Thorburn $26 per barrel; have never been sorry for they are grand in quality and production. I have a few barrels for sale at $2 f. o. b.
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RURAL NEW-YORKER No. 2,
DUTTON'S SEEDLING, OR
EARLY NORTHER SEED POTATOES.
All warranted true to name, and grown on our rugged slate land in Sullivan County, where the best quality of potatoes in the world are grown. Kept in ground pits all winter, they are in best possible vigor for seed. Orders may be sent to THE RURAL NEW-YORKER or to GROTTO FARM, Mongaup Valley, Sullivan County, N. Y.

WORLD'S FAIR DIPLOMA
on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 50c.; bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed limited. Our Early Siberian Oats are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address
HOWARD LOUCKS SEED CO., Chittenango, N. Y.

RURALISMS—Continued.

siderable spaee—20 feet or more. These vines take root at the joints, so that it propagates itself and will eover, in time, all the spaee given to it. The plant has no inelination to assume an upright or bushy form. Though usually employed to ereep over banks and to hang down walls in a most graeeful manner, or to eover stumps or roekeries, it is beautiful as a pillar rose. Mr. Faleoner planted a single root against a post seven feet high. The vines soon reaehed the top, so that they were led, areh-fashion, across a walk to an opposite post, tying them as they advaneed. When the tips of the vines reaehed the soil, they rooted there as a blaekeap raspberry would do. "Without any exeeption," he says, "when it was in bloom, it was the finest sight in the way of a rose areh I ever saw, and it riveted the attention of everybody who eame within sight of it." A heavy erop of red hips (fruits) followed the flowers whieh hang upon the vines all winter. Again the vine is perfeetly hardy—not a bud or tip is injured. We wish you, friends, to try this eharming rose .....

AGAIN THE OTAHEITE.—A few weeks ago, we told our readers about how long the oranges would last upon the little bushes after ripening without blemish. At Figs. 96, 97 and 98, first page, we show the same orange, in the perfeet fruit, the half fruit, and the perfeet fruit with the skin partially removed. The last shows the extreme thinness of the rind. This particular orange seemed to be ripe last Christmas. When removed last week, it was as you see it in the photo-engravings, without a blemish. The quality is inferior, because it is a trifle bitter. Still it is edible, and, when served with sugar, nearly as good as the cheap Messina oranges so abundant in the markets at this season. They are without seeds.

The flowers are nearly an ineh in diameter when fully unfolded. The five white petals are nearly as fleshy as miniature magnolia flowers, and as fragrant as other orange blossoms. The stamens are many and ereet about a pistil, the stigma of whieh is nearly as large as a pin head. The anthers shed their bright, yellow pollen as soon as the flowers are fairly opened, and the plants are nearly always both in fruit and flower. The Otaheite is a most interesting house plant, enduring the heat and gas of sitting rooms quite well, if the soil is kept eonstantly moist—not wet—and the leaves are sponged from time to time. The plant sueeeeds well in the garden, also, if shaded from the sun during the hottest part of the day.

It will be remembered that this variety is used for stoeks upon whieh to bud other and superior varieties when it is desired to dwarf them, the same as the Paradise stoek is used to produce dwarf apples. The leaves are evergreen.

FARMERS' CLUB DISCUSSION.

The Blue Victor Potato.

C. E. B., CROSSVILLE, TENN.—On page 857 of last year's R. N.-Y., W. W. W. asked, among other things, about the Blue Vietor potato. I think it is the best potato grown, eonsidering quality, produetiveness and good keeping qualities. I have raised it, alongside of the R. N.-Y. No. 2, Early King, Burbank, Late Rose, American Wonder, Salzer's Early, Early Mayflower, Early Ohio, Peaehblow, Early Peaehblow, and several other kinds, of whieh I do not now remember the names; but I have never yet found a variety that would make as large a yield, for two eonseeutive years. The tubers are large, smooth, shapely potatoes, blue in eolor, exeept that a part of them are slightly mottled with white. I found several pure white ones, and have planted and seleeted for several years, and now have them all white. They are beautiful potatoes, with a smooth, glossy skin.

Following is a report of the yield of several kinds planted in the same field: The rows were nine rods long and four feet apart, plants 15 to 18 ineches apart in the row. Eaeh row had 10 pounds of fertilizer, whieh analyzed about two per eent ammonia, 10 per eent phosphoric aeid and three per eent potash. Blue Vietor yielded 1¼ bushel per row; White Vietor, 1¼ bushel: Ameriean Wonder, 1 1-5 bushel; R. N.-Y. No. 2, 1 1-6 bushel; Early King, one bushel; Early Ohio, one bushel. The Blue Victors are very white-fleshed, but are not so dry and mealy as some potatoes. We consider them a little better in quality than the R. N.-Y. No. 2. They grow larger than the latter potato, but not quite so smooth; there are very few small ones.

Some Thoughts About Roads.

T. D. J., DUTCHESS COUNTY, N. Y.—I wish to eoneur heartily with the remarks in THE R. N.-Y. on making a road part stone, say, 10 feet wide. I fear the idea will lose some of its value beeause some will throw it aside at reading of the estimated cost for a mile of Macadam road, 18 feet wide, as $2,000 or $3,000. When one has had experienee, he knows that sueh a road, with the greatest care, cannot be eonstructed for less than $6,000 per mile. Another remark about eonsidering the wear and tear on harness and wagons, may lead to indifference, for it is not the plaee to begin. It is not the best way of getting at the value of a stone road bed, in my judgment, while I believe it is a very valuable eonsideration. Here is another way. I ask any reader of THE R. N.-Y. if he can tell how many miles of road there are in his township. I never yet heard a definite answer to that question. Year in and out, the farmers have laid the tax, threw on the dirt and paid the bill. Their fathers may have lived and died in the township, in blissful ignoranee of what it was eosting them per mile.

Here is my idea. Let some five farmers in a township get together, and agree to give $1 apieee to some boy with a bieyele whieh has on it a pedometer. Let him go over the roads of a township, and measure them aeeurately. They would have some definite idea of eost under the old system, to compare with that under a new. I give an instance to prove the importanee of this. As soon as I began to eonsider this road question as a State matter, I took up a Register of New York State, and got the number of townships. But I found no word in referenee to the number of miles in eaeh township. I turned to three farmers of this township for the number of miles here where they were born. One said 50 miles, another 200, and the third said 300. They were simply guesses. How in the wide world are you going to eount the eost of anything unless you know something definite about it?

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Largest Pump and Hay Tool Works in the U. S.
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Write for Particulars, Prices, etc.
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Ask your dealer for Myers' Pumps.

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Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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Eight Years Cured:
W. L. WEDGER,
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WE OFFER
A CURE THAT STAYS.

Our constitutional treatment not only gives relief, but eradicates the cause of the disease and cures to stay cured. Particulars and blank for free examination on application.

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Rose Cold, June Cold, Hay-Fever, Asthma.

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The only Pump with a Perfect Agitator a paddle worked automatically—our own patent. Heavy brass cylinder, brass rod and solid brass plunger, double brass spout with stop cock, galvanized suction and brass strainer, large, powerful air chamber, two ten foot sections of hose and two improved spray nozzles. No scorching the foliage. No leather or rubber valves. No open place in top of barrel to receive leaves and dirt. Catalogue free.
Address FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N. Y.

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For Orchard, Vineyard or Field.
A Dry Sprayer.
No Bother with Water or Plaster.
Time and Money Saved.
Thousands in Use.

A Fruit Grower writes: 'Can treat 100 large plum and apple trees per day. Used your Fungirold on potatoes and fruit trees with good results."
Treats two rows of potatoes as fast as a man walks
Ask for Leggett & Bro.'s pure Paris-green; it is the best.
TWENTY-FOUR-PAGE CATALOGUE FREE.
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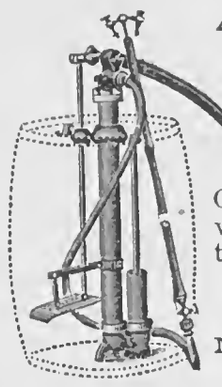

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That's our record.
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SAVE YOUR FRUITS
from the Pests BY BUYING
A DOUGLAS SPRAYER.
Only $9 complete, except barrel. Especially adapted for spraying Paris Green or London Purple. Throws a constant stream.
THE BEST PAY THE BEST
Our book on SPRAYERS will give you valuable information; it is FREE; ask for it.
W. & B. DOUGLAS,
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LOOK OUT FOR YOUR FRUIT.

Protect your trees against caterpillars, canker worms, and other insect pests, by using the new insecticide,

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Book about it free.
Send for one to-day.

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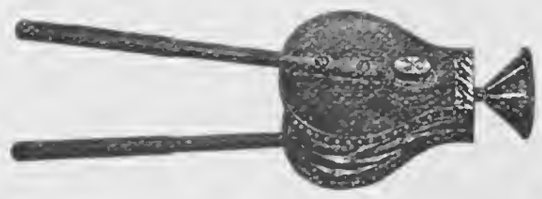

Death on Potato Bugs and all Insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.
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Slug Shot Kills Currant Worms and Insects that prey on Vegetation. Used for 16 Years with Safety, and is Cheap.

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Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MAY 2, 1896.

CRIMSON CLOVER AND WINTER OATS.

Many of our readers are trying these crops—some for the first time. We would like reports as to their behavior on your farm. Please tell us:

1. When and how were they sown?
2. What soil and fertilizer?
3. Have they survived the winter?
4. Do they promise to be as valuable as Red clover and spring oats?
5. For what purpose, and under what conditions, are they most valuable on your farm?

⊙

ANY reader who has fed cotton-seed meal to poultry and observed its effect on the hen or her product, will greatly oblige us by stating the results of such feeding. What was the effect of the meal on the hen? Did it affect the flavor of the eggs? How much may be fed with safety, and what foods should be fed with it?

⊙

MR. A. J. COE has just returned from Venezuela, and has many good things to say about that favored land as a winter residence. Among other things, he says that the flies there never come into the house, but remain out in the street. They are, certainly, the most polite flies of which we ever heard. Some of our scientific men ought to import a flock of them and breed them to the Yankee species, in the hope that the resulting broods would inherit this tendency to stay outdoors!

⊙

HERE is a Southern dairy beginner with a Sunday problem:

Will some of THE R. N.-Y. readers tell a beginner how best to manage on Sundays in separating milk? I have to feed calves, pigs, etc., on warm skim-milk. My neighbors think that hitching up a mule to run the machine looks very "heathenish." How do the Northerners do?

We shall be pleased to have some of our Northern dairymen tell us what they do with the separator on Sunday.

⊙

CHARGES have been made against Secretary of Agriculture Morton by a Chicago seed house, which insists that it was unfairly treated in the recent awards of contracts for seeds. THE R. N.-Y. has received long statements from both sides, and will soon give the facts in the case. This whole seed distribution business is a nuisance, and our opinion is that the true facts in this dispute between the Secretary and the dealer, will show up the system in blacker colors than ever.

⊙

DEPOSITS of mineral phosphates have been found in Pennsylvania, and it is probable that there is enough of the material close to railroads and farming sections, to make phosphate mining a profitable industry. In the few beds already examined, the phosphate lies in such a location that it can be easily mined and carried at slight expense to the farms where it is to be used. This would give it a great advantage over the phosphates in South Carolina and Florida, for there is a long and costly haul between these beds and northern farms. Such discoveries put an end to the fear frequently expressed that the world's supplies of manurial substances will be exhausted ere long. With the air charged with nitrogen, and the hills stocked with phosphoric acid, we are not likely to suffer for lack of these substances. We need an American supply of potash. It is probable that vast stores of this substance are waiting down below our salt mines, and some day a wise and energetic man will, doubtless, find a way to reach it. Man need not perish from the earth while the clover plant can be fed.

NOT content with a coal trust to put up the price of the poor man's coal, a new combination has increased the price of the shovel with which he handles it. All the leading shovel manufacturers of the country are reported to have entered into an agreement to limit the production, and the price has already been increased 20 per cent. If this much has been accomplished before the ink on the agreement is hardly dry, what won't the combination do after it gets fairly organized and at work?

⊙

THAT is certainly a very interesting article by Dr. Kilborne on the life history of the insect that causes the lumps or "grubs" on the backs of cattle—see page 303. Here is a singular instance of the hold some of our popular beliefs have upon the minds of the people. The scientific men are dangerous fellows. Just as we get some pet theory nicely fitted for a standing place, they come along with a fact, knock the underpinning all out, and leave us high and dry. In these days, it pays to be open to conviction. It is a mistake to shut yourself up in a shell of "know it all." You may shrivel up before you can get the shell off.

⊙

SOME weeks ago, we asked our scientific friends why "musele-makers," "fat-formers" and "pure fat" are not simpler and more comprehensive than the words generally used by them to denote the nutritive principles in food. They have not yet replied, but we are none the less desirous of having them do so. Our opinion is that "protein" is not nearly so expressive as "muscle-maker," and we feel sure that "fat-former" means more than "carbohydrate" to the man of average education. If this is wrong, we wish to be set right, and certainly the men to set us right are those who persist in using the scientific terms.

⊙

THAT is an interesting question and answer about clover and nitrogen on page 304. There can be no question about the ability of the clover plant to assimilate the free nitrogen from the air. That has been proved beyond dispute. Dr. Jenkins points out, however, that on soils rich in available nitrogen, the plant is not so likely to absorb the air nitrogen. We conclude that clover is most likely to make use of this valuable propensity on poorer soils, and that it is often good economy to add available nitrogen, even in connection with clover. There is nothing in this, however, to show that it is not good economy to use all the clover that we possibly can.

⊙

THE agricultural papers on the Pacific coast have been trying to decide why there has been such a decrease in the demand for dried prunes. One reason assigned is that trade has been dull in the eastern towns and cities, so that people have had less money to spend for luxuries. It is also believed that thousands of workmen who formerly worked in towns, have now gone to small farms, producing fruits, vegetables, poultry, etc., and thus providing immense quantities of products that come into direct competition with the prunes. These reasons are correct, but when the papers go on to say that, when times grow better, eastern farmers will give up "small farming" and go back to grain or stock, they are mistaken. Instead of decreasing, the production of fruits and garden products is sure to increase, and eastern consumers will never leave first-class, fresh fruit for dried prunes!

⊙

CLOVER and corn form a simple cattle food combination that is hard to beat for producing milk or butter of good flavor and color. Good clover hay and corn meal will produce excellent milk, and so will clover hay and corn ensilage. There are some farmers who believe that first-class clover hay and sweet ensilage, with plenty of corn in it, make a perfect butter ration, and that one will not receive enough more milk or butter by adding other grain, to pay for the extra cost. Most dairymen believe in adding grain to this ration, but all agree that clover and corn, in whatever form they are fed, are the soundest basis for a good dairy ration. It is easy to see what an advantage is gained by farmers in Delaware or other sections where Crimson clover will thrive. They may harvest a good crop of corn for the silo, and sow Crimson clover in the growing crop so that, when the corn is removed, the clover crop will continue to grow through the fall and winter. The clover may be cut in spring and put into the silo with stubble and roots plowed under for another crop of corn. This may go on, year after year, on a field near the barn so that short hauls only are needed for these bulky crops, while the manure from the corn and clover may be hauled to fertilize other fields. The clover stubble, with acid rock and muriate, will provide ample fertility for corn and clover. That is the way the Crimson clover dairyman is able to cover his land with butter—and all he needs to buy to feed with the ensilage is cotton-seed meal.

⊙

THE R. N.-Y. has frequently warned its readers against fraudulent commission merchants, and has also advised them to cash all checks received, at once. The New York Produce Review tells of a certain New York State cheesemaker who barely escaped a heavy loss by not heeding the former, saving himself by prompt action on the latter. An unknown party sent for a sample lot of cheese, which was sent and sold for a high figure. A check was promptly sent, and a request for the shipment of the rest of his cheese. He banked the check, and got the rest of his cheese ready to ship, but before he sent it off, he received word from the bank that the check was worthless. He at once came to this city, secured the aid of the police, and managed to force payment of his claim. But he had a narrow escape from losing the whole of his cheese. Don't ship at random to unknown and irresponsible firms. There are many good firms.

⊙

THE debate which led up to the passage of the "Filled Cheese" bill in Congress, brought out the fact that many of our common articles of food are shamefully adulterated. As Representative Dolliver put it:

You have read the precept of Scripture which exhorts you to take no thought of what ye shall eat or what ye shall drink, or wherewithal ye shall be clothed. That Scripture will need a new interpretation unless we can in some way manage to rescue the food and drink and clothing of the people of the United States from the hands of the counterfeiters. As the case now stands, neither the clothes on our backs, nor the food on our tables, nor the common weapons for fighting thirst between meals, have escaped suspicion. In this carnival of deceit, the rich and the poor alike suffer.

The wholesale frauds that are practiced by some of those who handle and sell food products, have had much to do with the present low prices of farm products. It is encouraging to see that farmers are taking the matter into their own hands, and demanding laws that will give them some protection against the counterfeiters.

⊙

BREVITIES.

When John, the politician, wants to make the people stare,
He trundles out his high silk hat and rubs it up with care.
Then jauntily, a little tipped on to one side, it goes
With inspiration for his friends and terror for his foes.
For somehow, though the reason why is difficult to state,
The plug hat man must go up head—the wool hat man must wait.
There's nothing in the high plug hat, yet Hobb and all his ilk
Believe it full of dignity, although its very silk
Is but the cast-off clothing of a worm, while Mr. Sheep,
The father of the wool hat would despise the things that creep,
And laugh to scorn the notion that the worm's old overcoat,
When on a hat would influence his master's voice and vote.
The sheep is greater than the worm, but when their clothes are shed,
And turned to hats for covering man's high and mighty head,
Oh, then the worm is magnified, while poor old sheep is cursed.
Silk hat is up—wool hat must serve—positions are reversed.

BE alive now!

MISS LAID—a soft-shelled egg!

LET pie plant sup-plant the pie.

DON'T knuckle down, but buckle up.

COTTON-SEED meal feeds both crop and cow.

A CALF "weaner" makes a suck-shun pump.

TRY an experiment with cow peas this year.

LET each institute recruit plant fruit to suit.

IN the early part of this month, there were 2,410,091 tons of sugar in sight in the world's markets!

LOCAL papers in New York State report a mild boom in cabbage which is being shipped to St. Louis, Mo.

THERE are three political "bugs" this year—gold bug, silver bug, and straddle bug. The last is the most dangerous.

THE more that egg question is discussed, the more evident it seems that most of our poultry science is at best but "guesses at truth."

IT is reported that rock salt is going out of fashion with many Western stock raisers. Self-feeding salt boxes are taking its place.

IN growling about Secretary of Agriculture Morton, don't forget that his department has saved nearly $1,200,000 thus far out of its appropriations.

THOUSANDS of buyers have not yet bought their plants and seeds. They will hang to the dollar till the last moment and then come with a rush.

THINK of that new "Vineless strawberry" with roots 17 inches long! There is a collection of suction pumps for you that will give sure irrigation.

THE State of New Jersey has passed a law prohibiting the use of machines in picking huckleberries! That is class legislation in favor of the human hand.

THERE has been a great demand for early varieties of potatoes this season, especially in New England, where the early crop has always given best satisfaction.

Now then, Mr. Farmer, the townsman may find it easier to obtain cash, but why should he have food on his table that you can provide from the farm and do not?

J. H. HALE reports the Georgia peach crop in fine condition thus far. He says that, apparently, fewer potatoes have been planted in the southern truck-growing districts, but more of peas, beans, cabbage, etc.

FRED GRUNDY announces his adherence to the "new woman" as follows: "Nine-pound young lady arrived at our house last night. Evidently a singer, judging from the variations in her voice. 'Looks like papa,' of course."

Prices Reduced 1896—Standard Fully Maintained.

THE MAPES MANURES

For Corn, Potatoes, Tobacco, Cauliflowers, Cabbages, Celery, Late Truck, Corn Fodder, Hungarian Grass, Mangolds, Turnips, Fruit Trees, Cherkins, Hops, Etc.

THESE MANURES CAN BE APPLIED AT PLANTING AS A TOP-DRESSING, OR AT HOEING. THEY WILL SUFFER LITTLE, IF ANY, LOSS OF STRENGTH BY EXPOSURE ON THE GROUND.

THE MAPES MANURES AT THE AGRICULTURAL EXPERIMENT STATIONS.

[From the American Agriculturist, March 30, 1895.]

The Mapes Fertilizers have long been recognized as the standard in quality. Mr. Mapes, like his father, Prof. Mapes, before him, has been a leader in developing the manufacture of fertilizers of the highest grade. He believes that the best fertilizers are the cheapest, and demonstrates this by the analyses of his goods, not only for the present year, but for a long series of years. In every case the Mapes fertilizers are found to contain even more actual plant food than is stated in their guarantee, so that they can always be depended upon to give value received. As to their crop-producing power, and the profit that follows the use of the Mapes manures. thousands of farmers testify in the most emphatic manner. The books of the Mapes Company contain an immense fund of practical and valuable information on the whole subject of fertility, and can be consulted to advantage by every farmer. Mr. Mapes has long been careful to employ not only the best materials in making the Mapes manures, but to supply the nitrogen, particularly, in various forms, so as not only to give the crop a good start, but back it up as the season advances. The importance of this matter is emphasized by the article, on page 6 of this issue, on the crop-producing power of nitrogen in different forms. It will be noticed that the difference between average cost and chemist's valuation of these goods is *only half as much as with the ordinary fertilizers.*

[From Massachusetts Ploughman, March, 1895.]

THE MAPES CORN MANURE.

The Mapes Corn Manure excels all the leading competitors in the reports of the Connecticut State Agricultural Experiment Station for 1894 and 1895. The important ingredients of these fertilizers are soluble and efficient. They act quickly, and give good value received for the cost. The phosphoric acid, for instance, is derived from bone and Peruvian guano, the most costly, yet the most soluble substances. The farmer can afford to use such fertilizers, however hard the times may be.

Alva R. Blodgett, East Windsor, Conn., writes under date of September 25, 1894: "This spring I had a seven-acre field of worn-out mowing piece that I plowed and planted to corn quite late in the season. On four acres of this field I used one ton of Mapes Corn Manure, and on the remaining three acres, for the novelty of the thing, I used cotton-seed meal and ——'s mixed formula for corn. I saw scarcely any difference between the formula and cotton-seed meal, but on the four acres where Mapes Corn Manure was used, the growth was 'way ahead, and I believe as large a growth as I ever had. I feel very well satisfied if I can grow two ears on a stalk. I found one stalk that had six ears on it With the Mapes Corn Manure I find it profitable to grow corn, and, I believe, farmers make a mistake in not growing more corn than they do."

[From the American Cultivator, April 27, 1895.]

THE MAPES CORN MANURE.

Many farmers who have an insufficient supply of barnyard manure can profitably raise all the Indian corn they desire to cultivate by using Mapes Corn Manure. For a long series of years and on a great variety of soils, enterprising farmers have grown magnificent crops of corn by the use of this well-balanced fertilizer. Many years of experience and observation have taught the Mapes Company how to select the best ingredients for plant food, and how to supply a corn manure that is at once soluble, available, efficient and economical.

[From the American Agriculturist, March, 1895.]

THE MAPES CORN MANURE

Makes it possible to raise corn at hard-times prices. Many farmers who have not sufficient stable manure, are able to raise all the corn they want by using Mapes Corn Manure. Many astonishingly large crops have been grown on this fertilizer for a long series of years on a great variety of soils. It is made of the best ingredients, and furnishes the plant with the needed food, both at the start and as the season advances. Farmers who are not posted on the modern methods of corn culture with fertilizers should by all means consult the Mapes advertisement in our last issue, send for Professor Mapes's pamphlet, and try an acre or more with the Mapes Corn Manure.

CORN.

G. H. Pearson writes in The Rural New-Yorker, June, 1895: "Another four acres I plowed a year ago, and during the winter hauled about 80 loads of stable manure on 3¼ acres. I planted one acre of early cabbage and two of late, which gave me more money than anything else. The other three-fourths of an acre (one-fourth was very wet ground, and corn did not do well) I planted to corn, used 1,300 pounds of Mapes corn manure, and got 120 bushels of ears; variety, Longfellow. Sweet corn did well with the same fertilizer."

CORN OVER 200 BUSHELS PER ACRE.—213 bushels SHELLED Corn per acre; New York, 800 pounds Mapes Corn Manure. Cost of manuring, $18.50; cost of cultivating, $36.50. Yates County.

Of this crop, grown with the Mapes Corn Manure exclusively, the American Agriculturist says (page 126, March number, 1890: "If we allow only $15 as the value of the tops for fodder, and make no account of bottom stalks, the cost comes within 20 cents a bushel (shelled corn)."

One hundred and nineteen bushels per acre; New York, 800 pounds of the Mapes Corn Manure. Westchester County.

The largest crop grown in the American Agriculturist Contest with fertilizers other than the Mapes (45 in all) was 84 bushels (chemically dried, 60 bushels).

CABBAGE AND CAULIFLOWER.

[From the Practical Farmer, December 14, 1895.]

TOPIC No. 184.—WHAT FERTILIZERS WILL BEST TAKE THE PLACE OF STABLE MANURE IN MARKET GARDENING, AND IN WHAT WAY HAVE YOU FOUND IT MOST PROFITABLE TO USE THEM?

I find the Mapes Complete Manures for special crops take the place of stable manure, and give better results than I can obtain from stable manure, and they are more easily and quickly applied. For cabbage and cauliflower, I break a clover sod in the fall; and in the spring, when we fit the ground, we apply one ton per acre of the Mapes Cauliflower and Cabbage Manure, broadcast, and harrow it in. When plants are well started, we sow about half a ton per acre between the rows, and cultivate it in. For potatoes, we use from half a ton to one ton of the Mapes Potato Manure per acre, sowing it in the furrow before we plant the seed, and mix with one horse walking in the furrow and dragging two log chains. For corn, I drop some in the hill, and mix with a hoe. Tomatoes, beets, radishes, celery, etc., sow broadcast and harrow in, and make frequent applications around the plants, working it in. All fertilizers should be well mixed with the soil.

Margaretsville, N. Y. W. F. VAN BENSCHOTEN.

TOBACCO.

[From the Connecticut Farmer, (Hartford, Conn.), December 14, 1895.]

FERTILIZERS FOR TOBACCO.

RESULTS OBTAINED AT THE CONNECTICUT EXPERIMENT STATION.

The experiments in growing tobacco with different fertilizers at the Connecticut station in 1894 resulted: Castor pomace, cotton-seed meal, linseed meal, tobacco stems, nitrate of soda, dry fish, cotton hull ashes, double sulphate of potash and magnesia, carbonate of potash, high grade sulphate of potash, double carbonate of potash and magnesia, wood ashes, and several brands of fertilizers were tested in various combinations. Castor pomace and cotton-seed meal afforded practically the same yield. Of the potash salts, double sulphate of potash and magnesia gave the best results.

This is the continuation of an experiment reported in the annual report of the station for 1893. The yields of unfermented tobacco are tabulated and briefly discussed, a full discussion being postponed until after five successive crops shall have been raised, cured, and fermented.

The maximum yield, 2,115 pounds of sorted tobacco, was obtained by the use of a mixture of 2,200 pounds of the Mapes (Wrapper Brand) tobacco manure, and 600 pounds of the Mapes Tobacco Starter, per acre.

The Mapes Formula and Peruvian Guano Co., Central Building, 143 Liberty St., New York.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

TRAILING ARBUTUS.

I know a spot to which I've roamed, on balmy
days of early spring,
Where high upon the mountain side, the clusters
of arbutus cling;
Beneath the drifts of moldering leaves, the
hardy, green and russet vine,
Matures its rare, sweet-scented bloom upon the
rocky, steep incline.

How oft with each recurring spriug, my thought
returns to that wild spot,
The rough, steep, winding mountain road that
leads up to the high wood lot;
The clinging, sinuous, trailing vine that through
the moss-grown woodland weaves
With wealth of rare, pink-tinted flowers, veiled
by the sheltering green-brown leaves.

Scarce are the snows of wiuter gone, before the
blossoms, pink and white,
Fling to the breeze their odors sweet, distilled
upon the wooded height,
By frosts that linger, loath to go before they kiss
the blossoms fair;
Or early dews that press the blooms to liberate
their perfume rare.

Though bards their lyrics sweet have sung, and
poets rhymed to this fair flower,
In sweet, unconscious modesty, it favors still the
woodland bower;
And oft, unseen by mortal eye, it blossoms on the
rocky height,
Wooed by the amorous sun by day, watched by
the silent stars at night.

Who could, from thy surroundings wild, trans-
plant thee, lovely flower of spring,
And not destroy the rustic charms that ever
closely round thee cling?
For half thy fascination lies, in rambling far, in
quest of thee
The eager search in mossy wood, the wild,
romantic scenery. BELLE H. GARDNER.

LET us have a little Primer Science right among ourselves. We'll take a very simple subject to begin with, and use materials that almost every one has, even to waste. Let us make pot cheese, perfect pot cheese, and tell in detail just how it is done. Begin by telling just at what stage the milk is in best condition. How much must it be scalded? Give every step of the process for finishing it for the table. Describe the perfect product, and tell how to avoid a failure. The faults of most recipes are their omissions of what not to do. How long will pot cheese keep? Now put on your thinking caps, and do your best, and the Chief Cook will be proud of you!

*

HOUSE-CLEANING is one of the necessities of life rather than a pleasure. But it is a very good time to exchange courtesies with the men folks. We have taken so much of their territory in the fields of employment, that it is but just that we cede to them some of our heavier tasks. House cleaning is more suited to a man's strength; so give the men and boys a chance this spring, and save some of your own muscle for the flower beds.

MRS. GANNETT'S ARBOR DAY.

MRS. GANNETT'S great aunt had died and left her a legacy—a legacy of $25. Mr. Gannett had just brought the letter containing the money, from the postoffice, and stood by while his wife opened it.

"Well, mother, what you going to do with it—going to bank it?" he asked.

"No, I'm not going to bank it; I'm going to spend it. It has come to me without working for it, and I'm not beholden to anybody for it, and I am going—to—spend it." Mrs. Gannett's cheeks were slightly flushed, and there was a hint of defiance in her tone.

"But how are you going to spend it—for a new cow?" persisted Mr. Gannett.

"No, Cyrus, I am not going to buy another cow. I'm going to spend that money, every cent of it, on fruit trees, and vines, and plants, and seeds."

"You must be crazy to spend all that money that way," protested Mr. Gannett, irritably. "I don't see what you want of more fruit trees, anyway. We've got five or six Baldwin apple trees, and a long row of currant bushes, and bushels of huckleberries growing all around us. What more do you want?"

"I want a good deal more," retorted Mrs. Gannett. "That's what you've said every year, for 20 years, and I've had to get along with Baldwin apples once in two years, and currants not much bigger than homeopathic pills, and huckleberries, if I'm smart enough to get ahead of the regiments of village folks who swarm through the pastures in summer, and hardly leave a red berry on the bushes. I've always wanted pears and peaches and early apples and grapes and strawberries, and now I'm going to have them."

Mrs. Gannett was usually so meek that her husband was taken somewhat aback at this outburst. "All the same, you're foolish to spend good money that way," he grumbled.

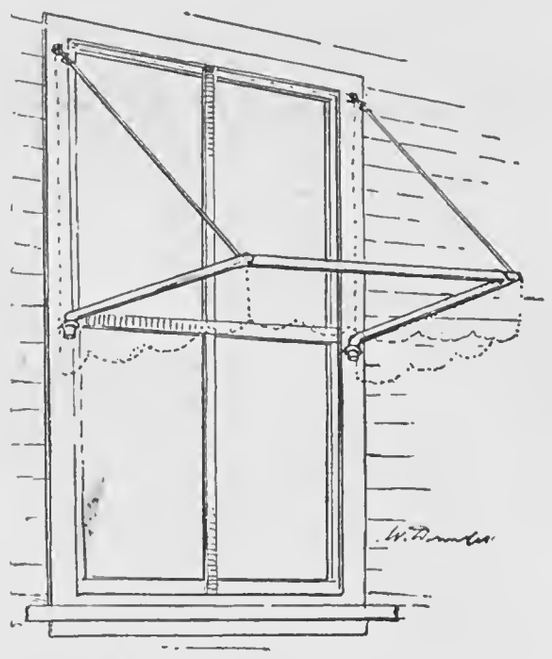
"I'll be foolish then."

"Where you going to put all the truck?"

"Oh, I'll find places, don't you worry."

"Well," muttered Mr. Gannett, as he turned to leave the room, "you and the children 'll have to set 'em out—I can't bother with 'em."

There were four of the Gannett children; Ben, who was 18 and helped his father on the farm; Luey, a little younger, who helped her mother in the house, and Joe and Emma, who still went to school. They were all more or less discontented, and each had secretly intended to get away from the farm the instant he or she was of age. Mr. Gannett was to blame for this discontent. All work and no play was his motto, and he didn't believe in spending



FRAME FOR AN AWNING. FIG. 100.

money on improvements, or on anything else, unless more money could be made by the operation. He wouldn't paint the house, because it had gone so long without, that it would soak up more paint than it was worth; he wouldn't fence the hens out of the flower garden, because flowers were of no earthly use; he never could be brought to see that a room needed re-papering, or a worn article of furniture replacing. In fact, it required so much talk and argument and persistence to get even the smallest amount of money from him for any such purpose, that his family had fallen into the habit of keeping their desires to themselves, and doing without everything but the bare necessities of life. When, therefore, Mrs. Gannett asserted her independence in regard to the legacy, it created an excitement among the children that would have been amusing if it had not been pathetic.

"After supper, we'll look over the catalogues and find out just what we want," said Mrs. Gannett. "It is April, already, and there's no time to lose." So the girls hurried to get the work done up, and the boys hurried their chores, and by 7 o'clock, they were all sitting around the kitchen table with several seedsmen's catalogues spread open before them.

"Ever since I knew this money was coming to me," said Mrs. Gannett, "I have borrowed papers and books, and read all I could find about fruit, and I've talked with one and another, so I know just about what kinds I want; but I don't know the prices, or how many of a kind to get, or just where to set everything. You can look up apples first; I want a Red Astrachan, a Sweet Bough, a Porter, and a Rhode Island Greening."

There was a rustling of leaves.

"Fifty cents, and a dollar apiece," said Ben.

"Why!" exclaimed Luey, who was sharing her book with Emma, "they're only 12 cents here—12 and 15."

"Are you sure?" asked Ben incredulously. "Let me see. Humph, that's queer!"

"My old catalogue hasn't any trees in it; nothing but seeds," said Joe in a tone of disgust.

"You can do the writing and figuring," said his mother, handing him her pencil and paper.

"All right," said Joe. "Shall I set down 12 cents apiece, or a dollar?"

"I want the very best," said Mrs. Gannett.

Mr. Gannett, who was sitting by the light stand on the opposite side of the room, ostensibly reading, groaned audibly at this, and as the talk and discussion went on around the table, he continued to give vent to his feelings at intervals, till, at 9 o'clock, he could, apparently, endure no more, and betook himself to bed. By this time, Joe's list was filled out, and read as follows, for out of curiosity, he had set down the lowest prices in Lucy's catalogue, as well as the highest in Ben's:

4 apple trees	$4.00	or	$0.48
1 cherry, Black Heart	1.00	or	.15
1 pear, Bartlett	1.00	or	.15
1 pear, Bosc	1.00	or	.35
1 pear, Vicar	1.00	or	.12
1 crab apple, Transcendent	.50	or	.12
2 peach, Crosby	1.00	or	.20
2 peach, Early Crawford	1.00	or	.20
2 peach, Late Crawford	1.00	or	.20
1 plum, Abundance	.75	or	.15
1 plum, Burbank	.75	or	.15
1 quince, Orange	.50	or	.15
1 quince, Champion	.50	or	.20
1 grape vine, Concord	.35	or	.04
1 grape vine, Moore's Early	.50	or	.05
1 grape vine, Pocklington	.50	or	.10
1 grape vine, Worden	.35	or	.05
1 dozen currants, Fay's Prolific	2.00	or	.60
1 dozen blackberry, Kittatinny	1.00	or	.50
1 dozen raspberry, Cuthbert	1.00	or	.35
100 strawberry, Bubach	1.00	or	.75
100 strawberry, Timbrell	1.00	or	1.00
100 strawberry, Sharpless	1.00	or	.60
Totals	$22.70		$6.66

All exclaimed over the difference in the prices. "Yet," said Ben, "that man has a big trade; his stock must be good, even though his prices are low."

"His trees and plants are, probably' very small," said his mother. "But just think, if we could only have planted even

thin baby

Poor baby! Your pity goes out to it and rightly. To be thin, for a baby, is to be deprived of its natural ease; to suffer and not be able to feel it; to wear a sad pinched face; to live on the edge of sickness; to grow imperfectly; and to lose the power of resisting disease. When a baby is thin it needs more fat than it gets from its food; it is starved, fat-starved. **Scott's Emulsion** is the easiest fat it can have; the fat it needs. Half of

Scott's Emulsion

is taken by babies. Mothers like it because it brings the dimples back.

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (*Ask your doctor.*) This is because it is always *palatable*—always *uniform*—always *contains the purest Norwegian Cod-liver Oil and Hopophosphites.*

Insist on Scott's Emulsion with trade-mark of man and fish.

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

Farmer's Handy Wagon

A "NEW IDEA" farm wagons, 30 in. high, 6-in. tire, recommended by the Agricultural Colleges and Farmers in every State in the Union. We wish agents, and will give special introductory prices in new territory. Other farm implements are used only in one kind of work and in one crop during the year, but our *Handy Wagon* saves you money and labor every day. Good on sidehill or flats. It is handy, cheap, durable, and leaves no tracks in the fields. Beautiful Catalog free. Costs nothing to investigate, and will interest every farmer

Metal Wheels for your old Wagons.

Farmer's Handy Wagon Co., Saginaw, Mich

DO YOU HAUL

Hay, Grain, Wood, Stumps, Stones, Apples from the orchard, Silage corn from the field—Oh anything?

Then you need a "HANDY" FARM TRUCK

Ours is constructed Entirely of Steel. That makes it cheap, Light and STRONG. Isn't that what you have been wanting for years? When you buy a "HANDY" you ALWAYS have a wagon—It will last a life time.

GUARANTEED TO CARRY 2 TONS.

Sold by all reputable Jobbers and Implement dealers. Write for circulars, FREE.

Bettendorf Axle Co., Davenport, Ia.

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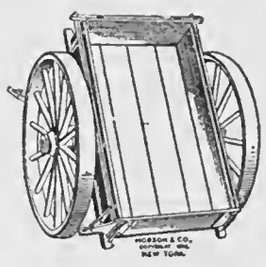


HEADQUARTERS FOR DUMPING

Horse Carts

Wide and narrow tires. Steel axles. Low rates of freight from our works, Tatamy, Pa., to all points

HOBSON & CO., No. 4 Stone St., New York.

STEEL HANDY WAGONS.

The labor savers of the age. Only 28 and 34 inches high. You save the lift, that saves your back Wheels have 4-inch tire.

JUST THE THING for hauling over the farm. Is the BEST for Logs, Fodder, Wood, Manure, etc. We Make Metal WHEELS FOR WAGONS AND TRUCKS. All Sizes—fit any skein....

Our handy wagons are GUARANTEED to carry 2 tons. We tell more about them in our FREE catalogue. Write us and get one

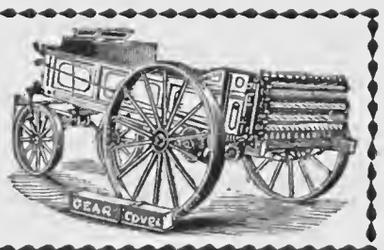
HAVANA METAL WHEEL CO. Havana, Ills.

Kemp's Manure Spreader

15 Years on the Market. Improved for 1896.

Spreads any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. *Largest and Oldest Manufacturers of Manure Spreaders in the World.*

KEMP & BURPEE MFG. CO., Box 38, Syracuse, N.Y.



the smallest 10 years ago, they would all be bearing now," and she sighed over the lost time.

"I'll take the list up to the nursery, and see what Mr. Swanson says about it," said Ben.

"Had we best get them there?" said Mrs. Gannett.

"Oh, yes," returned Ben. "Swanson's got the largest nursery of any one around, and folks send from ever so far for his stock. We know he's square, too, and it's so near that everything will be in first-class shape when it gets to us."

L. ROBBINS.

(To be continued.)

AWNINGS FOR COUNTRY HOMES.

AWNINGS let in the light, but keep out the sun's heat, affording just the conditions needed in summer. Blinds keep out heat, but make a room dark and gloomy. Awnings may easily be made at home, the plan shown at Fig. 100 being easy to carry out. A ⅜-inch iron rod is bent by a blacksmith, into the form shown, and this is supported by screw-eyes in the window case, and wires extending from the outer corners to the top of the window case, hooks being placed there. These hooks also support the top of the awnings, eyelet holes being made in the cloth. A. H. D.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6736. Misses' Norfolk Waist with Ripple Basque.

The waist in the popular Norfolk style has graduated box plaits applied on the front and back, buttons in clusters of three decorating the center front plait, which conceals the closing. The ripple basque that joins at the waist line is stiffly interlined and faced with taffeta. The box plaits are made separately and applied with invisible stitches, or may be machine stitched on each edge, if so preferred. The neck is finished with a close-fitting collar, the pointed right end of which overlaps the left. The leg-o'-mutton sleeves droop from gathers at the shoulders over comfortable two-seamed sleeve linings, and are finished at the wrists with pointed bands to match the collar. A belt of the material is finished to match the edges of collar, cuffs, belt and ripple basque, being completed with machine stitching in tailor style. Pattern No. 6736 is cut in sizes for misses of 12, 14 and 16 years of age.

6736—MISSES' NORFOLK WAIST WITH RIPPLE BASQUE.

LOOKING BACKWARD.

A REMINISCENCE social is a welcome relief after a series of gypsy, cobweb, flower and other socials, because it requires no elaborate dressing of person, house or hall. Each guest is requested to bring a picture of himself, or herself, taken in infancy or early youth. These serve as tickets of admission, and are delivered to a committee in waiting at the door. The pictures are all numbered, and lists bearing corresponding numbers with a blank space for a name after each number, are prepared. While this is being done, selections of vocal and instrumental music may be rendered. "Backward, turn backward, oh, Time, in your flight," "How dear to my heart are the scenes of my childhood," "I remember, I remember," at once suggest themselves as appropriate songs, but many others are less hackneyed and as suitable as these.

After the pictures are numbered, they are placed upon small tables scattered about the room. Each guest is given a blank list and a pencil, and told to guess as many pictures as possible. There is no set order of progression from table to table, but each goes where fancy leads. At the end of an hour, or an hour and a half, time is called and the guests are asked to sign their papers and hand them to the committee for examination. While the committee are at work, short selections may be read or recited. Some of Eugene Field's poems of childhood are very fine, and they would have an added interest because of the recent death of the poet whom every one loved.

First and booby prizes add to the interest—a tin rattle or a tin plate with the alphabet around the edge, will serve for the latter. Light refreshments may be served, and the evening closed with a "good-night" chorus. It may be a private affair, or be made a means of replenishing the treasury of some society, by charging a small fee for the refreshments. GILLETTE M. KIRKE.

CRUMBS FROM DIFFERENT TABLES.

Do the work that's nearest,
Though it's dull at whiles,
Helping when you meet them
Lame dogs over stiles. —*Credit Lost.*

....F. MARION CRAWFORD: "It is only a man of no imagination who has no vanity. He cannot imagine himself any better than he is."

....THE ARENA: "Too much stress in the past has been laid upon the necessity of inculcating a dumb, uninquiring gratitude in the mind of the child for the mere privilege of being."

....THE HOUSEKEEPER: "Men like to converse with intelligent women. They do not like to be taught or corrected by them, but they do like that kindly sympathetic intellect which follows them readily, and that grasps quickly the knowledge which is conveyed, while here and there she adds to the fund of discourse and information from her own valuable store."

.....FLORENCE NIGHTINGALE: "Keep clear of the jargon now current everywhere which urges women to do all that men do merely because men do it, and without regard to whether this is the best that women can do; and to do nothing that men do, merely because they are women, and should be recalled to a sense of their duty as women; and because this is women's work, and that is men's, and these are things which women should not do; which is all assertion, and nothing more."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

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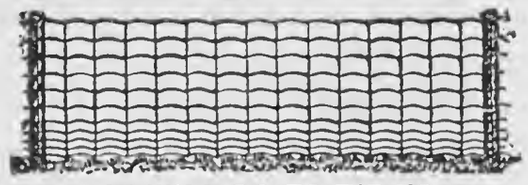
Will Ayer's Cherry Pectoral cure your cough? Unless it's some unheard-of kind of a cough. Probably would cure, anyway. *It cures all coughs and colds.*

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

HARTSHORN'S SELF-ACTING SHADE ROLLERS
NOTICE NAME THUS Stewart Hartshorn ON LABEL AND GET THE GENUINE HARTSHORN

HARTMAN STOCKADE WIRE FENCE
A cheap, durable lasting fence for all kinds of uses. Horses, Cattle, Sheep, Hogs, and Poultry. Fits all cases. No breaking in winter, nor sag in summer. ALL GOOD ROUND FENCE Made of the best Galvanized Steel Wire. 24 to 60 in. high. Is Easily put up 3 and 6 in. mesh 20 rods in a roll. Send for prices & circulars. It saves money.
Hartman Mfg. Co. Ellwood City, Pa. Manhattan Bldg., Chicago. 277 Broadway, N. Y.

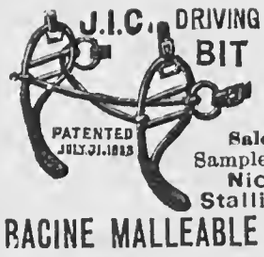


IT WILL DO TO TIE TO.
This phrase expresses the frontierman's idea of **security**, and experience has taught him that a yielding limb or sapling makes a safer "hitch" than a solid rock. Some wire fences will safely hold even a **pulling** horse, hitched to the middle of a panel. The owner of that fence will tell you it was made by
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Buckeye Wrought Iron Punched Rail Fence.
Also manufacturers of **Iron Creating, Iron Turbine and Buckeye Wind Engines, Buckeye Force Pumps, Buckeye, Globe and Champion Lawn Mowers.** Send for Illustrated Catalogue and Prices to
MAST, FOOS & CO. SPRINGFIELD, O.

WOVEN WIRE FENCE
Over 50 Styles The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from 14 to 22c. a Rod. Illustrated Catalogue Free. KITSELMAN BROS., Ridgeville, Indiana.

IF YOU NEED
Machine Oil, Harness Oil, Cylinder Oil, Axle Grease, Gasoline for Stoves or Gas Machines,
or anything in the line of oils or greases, write us for prices. DERRICK OIL COMPANY, Titusville, Pa.



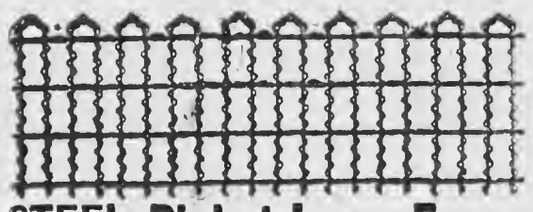
Still King
THE BIT OF BITS.
Will controll the most vicious horse.
Sales Greater Than Ever.
Sample mailed XC for Nickel, $1.50. $1.00
Stallion Bits 50 cts. extra.
RACINE MALLEABLE IRON CO., RACINE, WIS.

Why Pay Retail Price

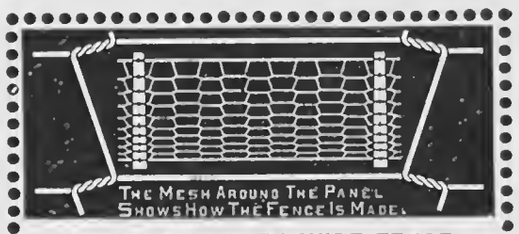
When you can buy a custom handmade oak leather **Harness** direct from the mfrs. at wholesale price. Send 2c. stamp for Illustrated Catalogue, giving full description.
KING HARNESS CO., Mfrs., 10 Church Street, Owego, N. Y.

TO THE TRADE.
WHAT ARE YOU LOOKING FOR?

A FIRST-CLASS
Buggy, Carriage Phaeton or Trap
at a reasonable low price. OH, IS THAT ALL, then write to
AMBROSE & HARRIS CARRIAGE CO.,
Perin Building, Cincinnati, Ohio.
Don't Buy until you get their catalogue and prices.

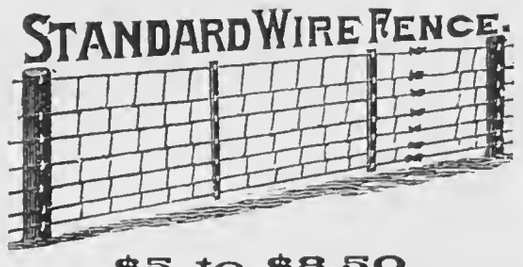


STEEL WEB Picket Lawn Fence
Steel Posts, Steel Rails and Steel Gates; Steel Tree, Flower and Tomato Guards; Cabled Field and Hog Fence, 24 to 58 in. high; Poultry, Garden and Rabbit Fence; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.



KEYSTONE WOVEN WIRE FENCE
Will turn your stock. Perfectly safe. 25 to 58 inches high.
If interested, drop us a card, and we will mail illustrated catalogue.
KEYSTONE WOVEN WIRE FENCE CO., 19 Rush St., Peoria, Ill.

STANDARD WIRE FENCE.



$5 to $8.50
For machines to weave your fence at 18 to 25 cents per rod; strongest indorsements; send for illustrated pamphlet giving valuable information on fence building. Unparalleled chance for agents to sell fences and machines. STANDARD WIRE FENCE CO., 6 Main Street, Canandaigua, N. Y.

CYCLONE FENCE
PATENTED 1885. PATENTED 1894.
Cheap Fences are sometimes made of too light fine wire. The CYCLONE is as cheap per lb. as any, using equally good material, and made better.
CYCLONE WOVEN WIRE FENCE COMPANY, HOLLY. MICH.

Are You Going
to build a FENCE? If so, you had better put your wire fencing on ANCHOR POSTS. They can be used with all kinds of WIRE, WIRE NETTING, or WOVEN WIRE STOCK FENCING. They will not rot, as they are made of steel.
Write for FARM CIRCULAR.
ANCHOR POST CO., 13 Cortlandt St., New York City

AGITATOR SEPARATORS WITH NETHERY WIND STACKERS
ARE MOST PRACTICAL AND MOST POPULAR

AS ARE ALSO THE
SELF FEEDERS
AUTOMATIC SWINGING STACKERS
SAW MILL MACHINERY
TREAD POWERS & SAW FRAMES
GRAIN ELEVATORS & MEASURERS
DINGEE WOODBURY POWERS
AND
SIMPLE AND SINGLE CYLINDER
COMPOUND
TRACTION, PORTABLE, SKID & STATIONARY
ENGINES

CATALOGUE MAILED FOR THE ASKING; ASK FOR IT!
J.I.CASE THRESHING MACHINE Co.
RACINE WIS.

"A" Grade, $44. Style, Finish.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $60. Durability.

RHEUMATISM
Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The latest, surest an best. Sample sent free on mention of this Magazine. The Dr. Whitehall Megrimine Co., South Bend, Ind.

As We Go To Press

"PLAY BALL!"

The voice of the umpire has been heard in the land, and thousands of men and boys who find it too hot to work, have started for the field to play a game of ball. The national game is all right so long as it is honestly played in hours that are not stolen from regular duties. It is a good thing for young farmers to take half a day, now and then, and limber up their joints on the diamond. And not only is the physical exertion a good thing for a man, but the mental training of base ball will help him in his farming.

Here you are going to bat this season in the hope of running up a good score in the nine innings before January 1. Jack Frost is the first pitcher you will be called upon to face, and some of his curves will be likely to strike you out unless you watch things like a hawk. May will "knock Jack out of the box," and then Pitcher Bug will send you some slow twisters. You must be prepared to step up to the plate with a spray pump for a bat, and make a home run that will turn Mr. Bug green (Paris) with sorrow, and put a bone in his arm at once. Then the captain of the other nine will put Pitcher Drought into the box, and you will be in bad shape unless you have such heavy batters as Soiling Crop, Surface Cultivation and Mulch on your side. It will be a thrilling moment if Isaac Irrigation comes to the bat in this inning with two men on bases. He will moisten up his hands, get a fresh grip on his section of water pipe, and catch one of Drought's slow out curves on the end of it. That ball will go sailing over the outfield until it looks as small as a marble with Burned Pasture and Dry-as-Dust in hopeless pursuit. There will be three runs chalked up to your credit.

Oh, dear! It's going to be a great game this season, and you must make a good score. Here's one nine we suggest:

Frank Farmer	Catcher
Good Management	Pitcher
Queen Cow	Short Stop
Isaac Irrigation	First Base
Balanced Ration	Second Base
Clover or Peas	Third Base
Soiling Crop	Left Field
The Business Hen	Center Field
Ham Fat Hog	Right Field

Maybe some of you will substitute Handsome Horse or Simon Pure Sheep for some of these players. That is all right, only make the best nine you can. Now, then, get the butter off your fingers, and cultivate a "good eye."

Play Ball!

The game has begun with Farmer at the bat, and Good Management on deck. And by the way, there is another game that you might take a hand in. We need a few more runs to complete our list of subscriptions. Why can't you bat a few runs in for us? Your neighbors and friends do the pitching in this case.

One man says, "Oh, I guess I don't want the paper!" That's an out curve.

Another says, "I've got more papers than I can read!" There you have an inshoot.

"Times are too hard!" There's a "drop"—and so on. Now, my friend, you take the bat of confidence in The R. N.-Y., step up to the plate and knock the tar right out of those curves. You can do it if you will only think so.

To whine is to play *bawl*. We don't want any of that, but we do hope that you will make a base hit or two when one of these excuses comes within reach of your bat.

Why, see what this man, away down in Virginia, says:

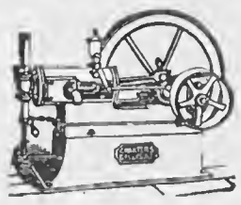
"I would almost as soon think of farming without plows, as without The R. N.-Y." O. O. G.

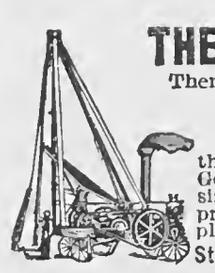
Aylett, Va.

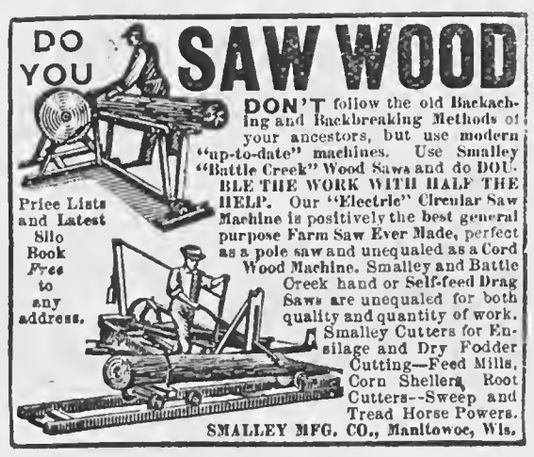
First thing you know, that man will have The R. N.-Y. playing on his nine. Keeping score is nearer our size just now, but we could stand a few innings anyway!

"*Play Ball!*" Farmer to bat!

Efforts are being made pursuant to a resolution of the California Fruit Growers' and Shippers' Association, to have all the California fruit sold in a single auction room in each city, instead of having the shipments divided between different auction houses, as has heretofore been done in New York and some other cities. It has been expected that receipts of fruit from the Pacific coast would be heavy this year, for not only California, but Washington and Oregon promised to send large quantities; but recent heavy frosts in some parts of California, the thermometer at Fresno going to 27 degrees after an unusually warm period, have seriously damaged most of the fruits. It is to be hoped that first reports will prove to have been exaggerated, for the California fruit growers have been none too well remunerated in recent years, and can ill afford a serious loss.







CROP AND MARKET NOTES.

The fur trade is about over for the season.

Sweden has increased the import duty on pork.

Receipts of milk and cream have been very heavy.

New York has been shipping eggs to South Africa.

A small lot of Egyptian onions is on the way to this market.

The stock of dried blackberries is reported to be very light.

And now the Germans are legislating against oleomargarine.

Some California growers are contracting wine grapes at $20 per ton.

The few days of hot weather have started the grass into rapid growth.

The western packing of hogs is somewhat greater than one year ago.

Heavy frosts have done considerable damage in some parts of California.

Many Orange County onions have sold for just about enough to pay the freight.

Farmers are reported to be holding corn for better prices, and selling oats freely.

The first Savannah peas arrived in fine condition, and brought extreme prices.

Cheese trade is very dull and weak, and likely to continue so for several weeks to come.

Don't forget that infertile eggs are better for preserving, no matter what the method used.

The National Association of Canned Goods Packers will be held in Syracuse, N. Y., May 6.

Hay receipts are liberal, demand good, and trade lively, though prices are somewhat lower.

Some very good hothouse tomatoes came in from Canada last week, and brought high prices.

The first California cherries for this season, have arrived, and they are expected by the carload early in May.

A combination of ice dealers in this city took effect April 15, and doubled the price of ice which before was a luxury.

At a recent auction sale of California oranges, the following prices were realized: navels, $1.70 to $3.35; seedlings, 90 cents to $2.45.

The passage of a law has been recommended to Congress, which would open to American tobacco the markets of France, Spain and Italy.

Canadian horses are hereafter to be examined on their arrival at Liverpool, and the vessels in which they are transported are to be disinfected.

Sugar beet planting is about finished in California, and the acreage is reported to be largely increased, in some localities more than doubled.

Dressed lambs are in good demand this week, and when of good quality and in prime condition, sell for very good prices. They must be iced if from any distance.

Cheese factories are reported to be opening much later this year than usual. This is a good thing for the market, as it gives a chance to clean up the old stocks on hand.

The potato market is still flat. It will be necessary to move old potatoes within the next month, as the new crop from the South usually begins to arrive in considerable quantities about the first of June.

"Put it into pork," was the advice of a railroad president to Nebraska farmers who talked of burning their corn rather than sell it for 30 cents per bushel. As pork, it would bring about 30 cents per bushel.

Maple sugar is dull and low, despite the reported shortage, selling at seven to eight cents per pound; syrup is very slow of sale, ranging from 40 to 60 cents per gallon.

It is stated that the canning of apples is on the increase, and that there is a rapidly growing demand for them abroad. They are so superior to dried fruit, that the demand for the latter is constantly decreasing.

The Georgia peach crop, according to J. H. Hale, will be 50 per cent ahead of that of last year, and will come in several days earlier. This is good news for consumers, as the northern crop will, probably, be short.

Minneapolis millers have appeared before the Ways and Means Committee of Congress to protest against the discriminations now practiced against American flour by the transatlantic steamship companies, and by the London dock companies.

The Northern settlers in North Carolina will hold a convention at Southern Pines, N. C., on May 5. It promises to be a great event, and the Seaboard Air Line Railroad is planning for a large attendance. THE R. N.-Y. will be at the convention to meet old and new friends.

The New York Produce Review says that a Vermont paper company has ordered from a dairy firm over 100,000 pounds of milk powder to be prepared according to formula, and used in making paper. This would be a good way to dispose of some of the miserable stuff now sold as milk.

The New York City Board of Health has refused to allow a dealer who applied, to sell horse meat in the city. He said that he could sell the best cuts for five cents per pound, all from sound and healthy horses. There is no earthly reason apparent why this trade should not be allowed, under proper inspection, of course.

It is reported that Yakima County, Wash., has 3,546 acres planted to fruit trees and small fruits. Of this acreage, 1,736 acres are devoted to apples, 785 to prunes, 416 to peaches, 204 to pears, 64 to cherries and the remainder to other fruits. Oregon and Washington will be important factors in the fruit supply of the not distant future.

The hot weather knocked out the butter. It was bad on the quality, and the price went down until 14 cents was the highest price for the best creamery. Jobbers were unprepared for such a hot wave, and they took no more goods than they needed to supply their trade. It was the worst time the trade has known in years. At present writing the situation is improving somewhat, though the price still rules low.

Recent arrivals of lemons in this market have been very heavy, and the market has become demoralized. It is said that the lowest prices on record have been received recently. The lower prices have increased consumption largely, and importers have decided to curtail shipments so that somewhat higher prices are probable. But there will be plenty of lemons, and prices will be reasonable throughout the coming lemonade-picnic season.

The dressed calf trade has recovered somewhat from the wreck of last week, which was said to be the most disastrous ever experienced. Many calves were seized by the Board of Health, and many which escaped were sold for 50 to 75 cents each, less than the skins were worth. This week, calves which arrive in good condition, are selling readily at fair prices. They should always be iced, and it is better to put one large piece in the calf than to use several smaller pieces.

It is reported that an act has been passed by the legislature of the Province of Santa Fe, Argentine Republic, providing for the distribution by the government of 3,000,000 kilos (about 110,000 bushels) of wheat for seeding purposes. Many of the farmers, it is said, are without resources at the present time. Those who accept the free offer of seed now will be obliged to return an equal amount after the next crop is harvested. Santa Fe is the chief wheat-producing section of the Argentine Republic, and it is considered a matter of public expediency thus to keep the land in cultivation.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	14	@14¼
Western, firsts	13	@13¼
Western, seconds	11½	@12½
Western, thirds	10	@11
State, fancy	14	@—
Common to prime	10	@13
State dairy, half-firkin tubs, fancy	13	@13½
Firsts	12	@12½
Seconds	11	@11½
Welsh tubs, fancy	13	@—
Welsh tubs, firsts	11	@12½
Welsh tubs, seconds	11	@—
Tubs, thirds	10	@—
Western imitation creamery, firsts	11	@11½
Seconds	9½	@10
Western dairy, firsts	10	@11
Seconds	9	@ 9½
Thirds	8	@ 8½
Factory, fancy	—	@—
Factory, firsts	10	@—
Factory, seconds	9	@—
Factory, thirds	8	@ 8½

EGGS.

New-laid, fancy (nearby)	12	@	12½
Pennsylvania & Md., country marks	11	@	11½
Western, fresh collections, fancy	11	@	11½
Southern, fresh collections, choice	9¾	@	10
Common to good	9¼	@	9½
Duck, per doz	17	@	—

FRUITS—GREEN

Apples, extra, fancy, per bbl	3 00	@4 00
Baldwin, per bbl	2 00	@3 25
Greening, per bbl	3 00	@4 50
Ben Davis, per bbl	2 00	@3 50
Russet, Roxbury, per bbl	2 00	@3 00
Russet, Golden, per bbl	2 00	@2 50
Strawberries, Fla., extra, fancy, per quart	20	@ 23
Poor to good, per quart	12	@ 18
Charleston, good to choice, per quart	20	@ 25
N. C., good to choice, per quart	15	@ 20

POTATOES.

Bermuda, prime, per bbl	6 00	@8 00
Seconds, per bbl	3 50	@4 50
Florida, prime, per bbl	5 50	@7 00
Seconds, per bbl	3 50	@4 50
Maine Rose, per d. h. bbl	1 00	@1 25
State Rose, per d. h. bbl	85	@1 00
Maine Hebron, per sack	75	@ 90
Long Island, in bulk, per bbl	50	@ 65
State Rose and Hebron, per 180 lbs	70	@ 85
Burbank, etc., per 180 lbs	50	@ 70
Jersey, in bulk, per 180 bbl	50	@ 65
State and Jersey, per sack	50	@ 65
Common, per sack	25	@ 50
Sweets, Vineland, fancy, per bbl	3 50	@5 00
South Jersey, per double-head bbl	2 50	@3 00
South Jersey, cloth top, per barrel	2 75	@3 25
Jersey common, per barrel	1 00	@2 00

DRY-PACKED POULTRY.

Turkeys, average best, young hens	14	@	—
Average mixed hens and toms	12½	@	13½
Young toms, average run	12	@	13
Old toms	11	@	12
Capons, Phila., large, per lb	20	@	—
Medium sizes, per lb	17	@	19
Small and slips, per lb	13	@	16
Western, large, per lb	15	@	18
Western, small and slips, per lb	12	@	14
Chickens, Phila., broilers, under 3 lbs	30	@	32
Phila., broilers, 3-4 lbs., per lb	25	@	28
Phila., broilers, 4-5 lbs., per lb	22	@	25
L. I., broilers, scalded, per lb	23	@	25
Phila., yearlings, choice, per lb	15	@	17
Phila,, fair to good, per lb	12	@	14
Western, average best, dry-picked	8½	@	9
Western, fair to good, per lb	7½	@	8½
Western stags	8	@	7
Fowls, Western, choice, dry-p'k'd, per lb	8½	@	9
Western, fair to good	7	@	8
Old cocks, per lb	5½	@	6
Squabs, tame, white, per doz	2 50	@2	75
Mixed lots, per doz	2 25	@	—
Dark and poor, per doz	1 75	@2	00

FROZEN.

Turkeys, mixed, hens and toms, No. 1	15	@	15½
Young toms, No. 1	14½	@	15
Old toms	12	@	12½
No. 2	9	@	11
Chickens, soft meated, No 1	11	@	12
Average, No. 1	8½	@	9
Fowls, No. 1	8½	@	9
Fowls and chickens, No. 2	7	@	8
Old cocks	6	@	6½
Ducks, No. 1	15	@	17
Geese, No. 1	9	@	11

MEATS—DRESSED.

Veals, country dressed, prime, per lb	7½	@	—
Fair to good, per lb	6	@	7
Com. to med., per lb	4½	@	5½
Small, per lb	3½	@	4½
Spring lambs, country dressed, each	3 00	@7	00
Pork, country dressed, light, per lb	6	@	—
Medium, per lb	5	@	5½
Rough, per lb	—	@	—

VEGETABLES.

Asparagus, Char., colossal, per doz bunches	4 50	@5 50
Charleston, prime, per doz bunch	2 25	@3 50
Charleston, culls, per doz bunches	1 50	@1 75
N. C., prime, per doz bunches	2 00	@2 75
N. C., culls, per doz bunches	1 25	@1 50
Norfolk, prime, per doz bunches	2 00	@3 50
Del. and Md., per doz bunches	2 00	@3 00
Jersey, per doz bunches	2 00	@3 50
Beets, New Orleans, per 100 bunches	—	@ —
Florida and Charleston, per crate	1 00	@1 50
Florida, per 100 bunches	4 00	@8 00
Cabbage, Florida, per barrel-crate	2 50	@2 75
Charleston, per bbl-crate	2 75	@3 00
Carrots, washed, per bbl	75	@1 00
Unwashed, per bbl	50	@ 75
Cauliflower, Fla., per half bbl	—	@ —
California, per case	—	@ —
Celery, fancy, large, per doz	75	@1 00
Average, prime, per doz	40	@ 65
Small, per doz	15	@ 30
Cucumbers, hothouse, per doz	50	@1 00
Florida, per carrier	2 00	@3 50
Egg plant, Florida, per box	3 00	@5 00
Green peas, Fla., per basket	75	@1 25
Savannah, per basket	1 00	@3 00
Charleston, per basket	2 00	@4 00
Horseradish, per lb	2	@ 5
Kale, per bbl	50	@ 75
Lettuce, Charleston, per bushel basket	1 00	@1 50
Norfolk, per basket	75	@1 25
North Carolina, per bbl	—	@ —
Onions, Eastern, white, per bbl	50	@1 00
Eastern, red, per bbl	20	@ 50
Eastern, yellow, per bbl	20	@ 75
Bermuda, per crate	1 25	@ —
Peppers, green, Fla., per crate	1 00	@2 00
Radishes, Norfolk, per bbl	1 00	@2 00
Spinach, per bbl	75	@1 75
Squash, Marrow, per bbl	75	@1 00
Hubbard, per bbl	50	@ 75
Florida, per crate	1 25	@1 50
String beans, Florida, per crate	2 50	@5 00
Tomatoes, Fla., per carrier	3 00	@6 00
Per crate	2 50	@5 00
Turnips, Jersey, Russia, per bbl	75	@ —
Canada Russia, per bbl	75	@ —

MILK AND CREAM.

The total daily supply has been 22,030 cans of milk, 220 cans of condensed milk and 772 cans of cream. The average price paid for the surplus on the platforms has been $1.20 a can of 40 quarts.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

If a man knew he was going to be hanged, he would certainly make every effort to prevent it. He would do everything he could and strain every nerve to the last minute to get himself out of his predicament. Men have been saved from hanging after the rope was around their necks. There are ways of dying that are not so quick that are even more certain. The man who neglects his health, and who in sickness refuses to take medicine, really has the rope of disease around his neck. He will die if he doesn't throw it off. A man who would struggle against hanging may yet be careless about his health. He may be traveling straight toward consumption and pay no attention to it, and yet death by consumption is much more terrible than death by hanging. Dr. Pierce's Golden Medical Discovery will cure 98 per cent. of all cases of consumption. Consumption is likely to be caused by weakness and in its turn, it increases the weakness. The "Golden Medical Discovery" is an invigorating, strength-giving and flesh-making medicine. It increases the appetite, puts the digestive organs in perfect order, purifies and enriches the blood, and builds up firm, healthy flesh.

In one chapter of Dr. Pierce's great thousand page family doctor book—"The People's Common Sense Medical Adviser," are scores of letters from people who have been cured of consumption, lingering coughs, throat and bronchial diseases by the use of "Golden Medical Discovery." Their full names and addresses are given and their cases were generally pronounced hopeless by the local doctors. Twenty-one (21) one-cent stamps, to pay for mailing *only*, will secure a *free* copy of this great book. Address, World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

GRASS SEEDS Golden, Russian and Common Millet, Hungarian. Field Peas, Crimson Clover, Onion Seed, Dwarf Essex Rape Seed, and all kinds of vegetable plants. Little Giant Seeders, Clipper Grain and Seed Cleaners, Bicycles. Write for Seed Catalogue and Price List.

The Henry Phillipps Seed and Implement Co.,
TOLEDO, OHIO.

Every Horseman Should Try

"Tuttle's Elixir,"

The greatest horse remedy in the world. Not simply guaranteed to cure in the advertisement, but backed by a standing offer of **$100 Reward** for every failure. If it won't cure your horse of Colic, Curbs, Splints, Contracted and KnottedCords Shoe Boils, when first started, and Callous of all kinds, you will receive the above reward. Used and indorsed by Adams Express Company. Sample free for three two-cent stamps to pay postage.

DR. S. A. TUTTLE—Dear Sir: This is to certify that I have used "Tuttle's Elixir," and cured a spavin on a mare that had been lame more than a year, and for colic I think it is the best I ever saw.
J. H. SHAW, No. Weymouth and Boston Express.

Address Dr. S. A. TUTTLE, 27 Beverley St.
BOSTON, MASS.

GARNER & CO.,
Produce Commission Merchants,
32 LITTLE 12th ST., NEW YORK.
Can get you highest market prices for fine goods. CHOICE CREAMERY BUTTER, FANCY LEGHORN EGGS, DRESSED POULTRY AND CALVES a specialty. Shipping cards and stencils on application.
Reference: Gansevoort Bank.

E. H. PECK (Successor) M. N. Edwards & Co. (Est. 1861)
General Commission Merchant,
BERRIES, VEGETABLES, Etc.
No. 193 DUANE STREET, NEW YORK.
Liberal advances by arrangement. Sales and checks mailed daily.
References: Irving Nat'l Bank and THE R. N.-Y.

SOMERS, BROTHER & CO.
PITTSBURGH, PA.
Fruits and Produce
Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.
Send for our little book, "Suggestions to Shippers," Market Reports, Special References, Stencils, etc., all free.
Inquiries and Correspondence Invited.

PRINTING. We make a specialty of printing for farmers, fruit growers and stock raisers. Letter-heads, Envelopes, Cards, Tags, Circulars, etc. New type, good work, reasonable prices.
POULTRY MONTHLY, Albany, N. Y.

AGENTS WANTED.

KILLS ALL BUGS
You can dust one acre of potatoes in 40 minutes by doing two rows at once. No plaster or water used. With this machine you can dust tobacco, cotton, fruit trees, currant bushes, etc. BOOK FREE. Write to
HOTCHKISS BROS.,
Wallingford, - Conn.

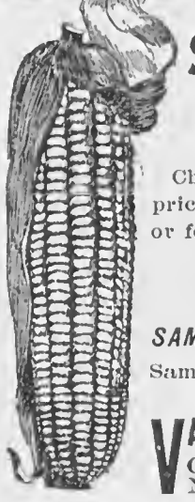
50,000 Conover's Asparagus. Strong two-year. Per M, $2; 10 M. $15. Order now.
EDGEWOOD FARM, Cromwell, Conn.

POTATOES—Carman No. 3, $1; No. 1, Great Divide, Sir William, Parker's Market, 40 cents; Early Harvest, World's Fair, Early Ohio, Maggie Murphy, Orpban, Rural New-Yorker No. 2, New Queen, 25 cents per bushel, in three-bushel sacks.
O. H. WHITE & SON, Miller Corners, N. Y.

WAY DOWN PRICES Carman No. 1, $1.25 Carman No. 3, $3.00 Thirty New and Standard sorts, true stock, no sprouts, closing 90 cents to $1 per barrel. OATS—Lincoln, American Banner, Pride, Bonanza, 50c. CORN—Early Mastodon, $1. Free catalogue; low prices; prompt shipments.
ENTERPRISE SEED CO., Newark, N. Y.

25 Barrels **Carman No. 1** $1 35 per Barrel.
Send P. O. order or draft. Catalogue free. *That Great Early Thoroughbred. $1.50 a peck. See April 11, page 265.* S. J. SMITH'S STOCK AND SEED FARM, Padelfords, N. Y.

SWEET CORN



Stowell's Evergreen

Choicest Seed ever offered, at a price for table use as green corn or for fodder.

Per bushel.....$1.60
Two bushels for.... 3.00
Six bushels for..... 8.00

SAMPLE FOR 2-CENT POSTAGE.

Sample, with our 116-page complete catalogue, 6 cents postage.

VAUGHAN'S SEED STORE
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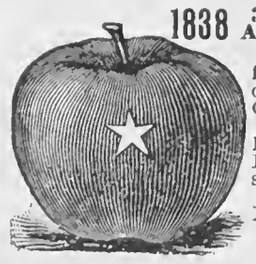

1838 300 Acres NUT AND FRUIT CULTURE 58 Years 1896

MORE PROFITABLE than WHEAT or COTTON, with less LABOR and RISK. Send for catalogue illustrating and describing best varieties. ALPHA, the earliest Chestnut, opens Sept. 5th to 10th without frost; RELIANCE, the most productive; PARRYS' GIANT, the largest, six inches around; PARAGON, RIDGELEY and others.
STARR, "the perfection of early Apples." BISMARCK, fruits at two years' old; PARLIN'S BEAUTY, the handsomest; LINCOLN CORELESS, KOONCE, GOLDEN RUSSET, ANGEL and other Pears. JAPAN QUINCE COLUMBIA, a handsome shrub, producing a VALUABLE fruit unequaled for jelly.
SMALL FRUITS, RARE NOVELTIES, and VALUABLE introductions. JAPAN BERRIES, FRUIT, SHADE and ORNAMENTAL TREES.
PARRYS' POMONA NURSERIES, PARRY, NEW JERSEY.

Live Stock Matters

THE RIGHT PRICE FOR EGGS.

"Are these eggs you are advertising for hatching purposes, the same kind that you were selling me a few weeks ago at 30 cents a dozen?" asked a customer recently. The question appeared to be a little in the line of joking the seller of the eggs.

"Well, y-e-s;" was the somewhat hesitating, but composed reply. "From your point of view, I suppose they may be. I own somewhat the same hens that I then had (having merely added a few showing special good points) and, for table purposes, the eggs are practically the same as those you bought."

"But if they are the same, why cannot you afford to sell them lower, no matter what the point of view? Eggs are selling at one-half the price they brought then, in open market, yet their owners don't complain of losing money."

"Perhaps not. But market eggs can be produced without a cock, and a *good* cock is worth 10 times the value of a market fowl, at least. Then, from the whole lot of hens which gave me the January eggs, have been selected the very best, the cream, say, one out of twenty. That should make the eggs 20 times as valuable, should it not? Yet I am selling them at less than *five* times the former price."

"Well, that *is* a point isn't it? Hadn't thought of it that way."

"But that is only a beginning. The hens that lay the eggs for hatching, now require a separate yard and house for each breeding pen; while of the eggs which these selected fowls lay, a second selection must follow. For any one who has ever set eggs, can tell you that at least one-fifth will be defective for the purpose, either in shell or in size and shape."

"I see. Then I suppose you will sell me some of those sorted out cheaper?"

"Certainly, they are but market eggs, and have no justification for bringing more than market price, even though they be from fine stock. I can no more use them for my own sitters than I can sell them. Indeed, the first point with me must be to use only the very best—for myself, as well as for my customers, else I shall defraud both them and myself.

"The price which seemed to you high, may then be really very low. I know of a man in Massachusetts who sells eggs from his regular stock at $3 per sitting, and that is not called high among those who know, but the rather, moderate. The point I wish to bring out, however, is this: The man in question has made up some yards from fowls of extra size. He makes no claim that there is *any* difference between these and the rest of his yards except in the one point of size. Yet he asks $5 per sitting for eggs from these extras. If extra weight alone can add $2 per sitting to the price, what of any price less than his? How much is *right* for selected cock, selected hens, selected eggs, etc., etc., etc.?"

MYRA V. NORYS.

FORKFULS OF FACTS.

RYE FOR HORSES.—How can I prepare rye so that it will be a safe feed for horses? I have barley, corn on the cob, and rye. How would it do to get them ground, equal parts? How would barley and rye, equal parts ground together, do? I fed whole rye dry to a brood sow, last winter, and it killed her, so I have been a little shy about it since. I have been feeding ground rye and cooked potatoes to 17 hogs this winter, with good success. The potatoes keep the bowels loose. I. H.

Spooner, Wis.

R. N.-Y.—Farmers near the Rural Grounds feed considerable rye to horses, rye straw being one of their best crops, with not much sale for the grain. For work horses, one successful farmer grinds a barrel of ear corn and a bushel of rye mixed. This ground feed is sifted to take out the sharp pieces of cob, and is fed with cut hay well moistened. This does well for work horses, but driving horses do better on whole oats or barley. How do you know that the whole rye killed the sow? We doubt it.

SELL RYE, BUY GRAIN.—I noticed in THE R. N.-Y. of April 4, an article from J. O. T., of Brighton, Mich., headed, "Rye and Bran." I think that J. O. T. will be better pleased with the results, if he will sell his rye at 35 cents and invest the proceeds in equal parts (by weight) of corn, oats and wheat middlings, as rye has a tendency to decrease the flow of milk when fed to cows giving milk. I think the mixture is also far better for work horses. I. P. Q.

Burnt Hills, N. Y.

FEATHER-EATING HENS.—What is the cause of my hens picking feathers from their mates, and also eating those that drop off? The hens are "scrubs," but are carefully and regularly fed, and are fairly well housed, but are confined to a small run. J. R.

Middletown, Conn.

R. N.-Y.—This trouble is not due to the fact that the hens are "scrubs," but is usually caused by laziness and lack of animal food. The hens are, probably, too fat, and do not have to exert themselves. We would feed them meat in some form, and put them on short rations of grain—scattering it in straw so that they will be forced to scratch and work for it. If the hens had more space for exercise, they would not be so likely to get into mischief.

LAWN GRASS AND CLOVER HAY.—Is there any objection to feeding the short grass cut from lawns, to a cow or pigs? Is there enough oil from the machine on it to do harm? I see that you recommend clover hay for bitter milk. I have had trouble with three cows in succession, beginning three months before calving. I can get no clover hay here. I have used ordinary hay. What else do you advise? I. E. B.

Worcester, Mass.

R. N.-Y.—There is no objection to feeding the short grass. It will make pretty close to a "balanced ration" for the cows, and will keep the pigs in good condition. Clover hay is about the best rough fodder we have for giving the milk good color and flavor, but considerable of the bitter taste in milk is due to changes that take place when the cow is advanced in pregnancy. Probably no food can overcome this disagreeable taste, when it is very strong, until after calving.

A TALK ABOUT MEAT MEAL.—I noticed an article in a late R. N.-Y. concerning meat compounds for poultry feeding, in which you quote our animal meal. You do not speak, however, of the bone which is in these compounds, and which goes to supply lime for the shell and phosphorus, no doubt, for the yolk of the egg. Our animal meal will carry from 40 to 50 per cent of protein, or, as you term it, "muscle-forming material." I have never seen any meat meal which contained 76 per cent of protein, and I think that you have made some mistake. If you figure that out, it would be over 18 per cent of ammonia, which is not possible. We have got our animal meal as free from fat as it is possible to make it, unless we extract the fat by the naphtha process, and in that case we think that it would injure it for feeding purposes. It is possible that the meat meal which has 76 per cent, has all the fat extracted by this process, but if so, we are inclined to think that it would be less digestible. It is not altogether the per cent of protein which is contained in the meat, but it is the digestibility of the protein. We have seen samples of what is called "black blood," containing, probably, 75 per cent of protein, but they were almost a charcoal, and would be very indigestible, and so would hoof meal and horn waste. As I take it, it is not the amount of food which a hen, or a man, or an animal consumes that is to be considered, but it is the amount of it they digest, and that depends upon the individual organism

(Continued on next page.)

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Make Cows Pay.

Twenty cows and one SAFETY HAND CREAM SEPARATOR will make more butter than twenty-five cows and no separator. Sell five cows; the money will buy a separator and you save cost of their keep, while the butter you make sells for two cents more per pound. Send for circulars. Please mention this paper. P. M. SHARPLES,

Rutland, Vt. West Chester, Pa.,
Omaha, Neb., Elgin, Ill.

A COOLER THAT COOLS YOUR MILK and aerates it at the same time. A convenient, economical and simple device that every dairyman should have. Our circular telling all about it sent FREE. Prices from $7 to $10. Agents wanted
CHAMPION MILK COOLER CO.,
Box R. Cortland, N. Y.

THE COMMON SENSE MILK BOTTLE

No rusty metal covers or twisted wire fasteners, less breakage, and can be washed absolutely clean and much quicker than any other milk bottle, avoiding tainted or sour milk. It is the handsomest, cheapest and best milk-bottle ever offered for sale in any market. For Circulars and Price Lists, send your address to

THATCHER MFG. COMPANY, Potsdam, N. Y.

No More Tainted or Stale Butter.

If Creamery and Dairymen pack their butter fresh from the churn in RECORD'S TIGHT-SEAL COVER PACKAGES, they can provide their patrons with delicious butter, free from taints. These packages are air-tight, and can be opened and closed instantly; in 9 sizes, from 1 lb. to 60. We mail sample 1 lb. for 10c. Write for quotations. RECORD MFG. CO., 111 Main St., Conneaut, O.
USED ALSO FOR LARD.

Cream Separator
For Farm Dairies.

We are now enabled to offer you an excellent machine at the low price of $75. Our Ideal Babcock Milk Tester at $3.00, for two bottle size, is an equally good bargain. We are complete outfitters of Dairies, Creameries and Cheese Factories. Our large Illustrated Catalogue for Dairymen, free.

Creamery Package Mfg. Co.
1-3-5 W. Washington St., Chicago, Ill.

BUCKLEY'S IMPROVED BASIN.

We make Watering Basins for Horses and Cattle, with styles adapted to every kind of fastening, at prices from 75 cents to $1.50.
WRITE FOR CATALOGUE.
C. E. BUCKLEY & CO., Dover Plains, N. Y.

AN ACRE OF CORN
and its possibilities under the Silage system—being the theme of
"A BOOK ON SILAGE"
by Prof. F. W. WOLL of the University of Wis., neatly bound into a volume of 195 pages and now being sent out by the Silver Mfg. Co., Salem, O., is unquestionably the best work yet introduced on the subject. Includes:
I—Silage Crops. II—Silos.
III—Silage. IV—Feeding of Silage.
V—Comparison of Silage and other Feeds.
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and many valuable tables and compounded rations for feeding stock. They are going rapidly. Write for a copy to-day—to-morrow may be too late. IT IS FREE.
SILVER MFG. CO.
Salem, Ohio.

FRENCH BUHR MILLS
28 sizes and styles. Every mill warranted.
For All Kinds of Grinding.
A boy can operate and keep in order. "Book on Mills" and sample meal FREE.
All kinds mill machinery. Flour mills built, roller or buhr system.
Reduced Prices for '96.
NORDYKE & MARMON CO.,
270 Day Street, Indianapolis, Ind.

OUR FAMILY OF TREAD POWERS
has been increased by the addition of this

BABY JUNIOR which is specially adapted for Cream Separators, Churns, Etc.
St. Albans Foundry Co., St. Albans, Vt.

HEADQUARTERS FOR EXCELSIOR WIRE & POULTRY SUPPLY CO. 28 VESEY ST. N.Y. WRITE FOR CATALOGUE OF POULTRY SUPPLIES POULTRY FENCING.

POULTRY
60 Standard Breeds illustrated & fully described in my new Poultry Book. Reliable information for poultrymen & intending buyers. Good stock Ducks & Geese; also Shetland Ponies. Send 6c in stamps
E. H. COOK, Box 42, Huntley, Ill.

NEW MAMMOTH POULTRY GUIDE showing colored plate of chickens in natural colors. Finest book ever published. Almost 100 pages. Tells all about Poultry for Profit or Pleasure. Price only 15c.
JOHN BAUSCHER, JR., Box 66 Freeport, Ills.

Free Catalogue of 22 varieties of prize winning fowls. 32 prizes at one show. Every bird bears a score card by F. H. Shellabarger. Scientific Poultry Yds. W. E. Senneff, Prop., Dixon, Ill.

BEEKEEPERS SEND FOR Sample copy of CLEANINGS IN BEE CULTURE. A Handsomely Illustrated Magazine, and Catalog. of BEE SUPPLIES FREE. THE A. I. ROOT CO., Medina, O.

BEES QUEENS HIVES
All supplies for the Apiary can be obtained at Cook's Beekeepers Supply House New York City. Send for full descriptive catalogue.
J. H. M. COOK,
283 Washington Street, New York City.

The American Bee Journal
ESTABLISHED IN 1861. OLDEST BEE-PAPER IN AMERICA
Established in 1861.
The leading paper, and only weekly; 16 large pages. 5 late but diff. copies free as samples. Write to-day.
G. W. YORK & CO., 118 Mich., St., CHICAGO, ILL.

A SOLID LINIMENT FOR MAN OR BEAST
Heals fresh cuts without a scar, and cures old sores and lameness. Inflamed Udder (Garget) cured in 12 hrs. Also, cures Rheumatism in pigs and other animals. No bad smell or stain; fully guaranteed 50c. a box, postpaid. PASTEURA MEDICINE CO., Chittenango, N.Y.

Pain often concentrates all its Misery in RHEUMATISM
Use at once ST. JACOBS OIL if you want to feel it concentrate its healing in a cure.

LIVE STOCK MATTERS.

(CONTINUED.)

and the digestibility or the availability of the foods furnished.

We do not claim that we make the best animal meal in the world, but we do claim to have put the first animal meal or dried meat product on the market in this country, advertising it and introducing it as early as 1873, and we have made a study of the process of manufacture and think that we have got a preparation that is pretty nearly right. Still, we are open to suggestions and improvements, and aim to keep abreast of the times. W. H. BOWKER.

R. N.-Y.—As we stated at the time, the analyses were furnished by Mr. H. M. Cottrell who collected them from various sources—chiefly from statements made by experiment stations.

BUTTER FROM POTATOES.—On page 195, M. A. G. tells his experience in making butter while feeding raw potatoes. My first experience the past winter, was similar to his only after churning about 50 or 60 minutes, I became discouraged and added hot water until the butter gathered in good shape. After removing the butter from the churn, I found that the temperature of the buttermilk was about 76 degrees. After that, I commenced churning at a temperature of 76 to 78 degrees, and the butter came in 12 to 15 minutes and was solid and of as good color as one often sees in winter, without the use of artificial color. We have had no ill-flavored butter. One of our customers said, "Why is it that your butter is so nice and solid, while the other butter that we get is so soft?" We keep one cow and feed one-half to three-quarter bushel potatoes, and two quarts rye and wheat bran, at two feeds, with clover hay. L. W MCE.

Wilawana, Pa.

"A NEW STOCK FOOD."—A man in this section has been introducing what he calls a new stock food. He says that it contains ginger, sulphur, charcoal, saltpeter, gentian root, burdock root, dandelion root, salt, pepper, and several other ingredients that I can't remember, besides two or three that the manufacturers keep secret. He is taking orders for this feed in 100-pound packages at $8.50 each. He says that about one ounce a day fed to a cow, will increase the flow of milk very much, about 50 pounds per day for 16 cows, and that the butter fat will be increased 30 per cent. The claim is that this food causes the animal to digest perfectly and assimilate all of her feed, thus the benefit. What do you think of it? Is it a fraud or not? E. H. B.

Mt. Riga, N. Y.

R. N.-Y.—This food is not worth any such price. The formula often printed in THE R. N.-Y., can be made at much less expense, and is, probably, just as good. The "claims" made for it are unreasonable. We do not believe that they can be made good. One way of conducting this business is to send agents through a section to sell all they can, and then never go back for another sale.

CAKED UDDER AND GARGET.—What is the cause of, and remedy for, caked udder and garget? I have two cows afflicted, one has dropped a calf, the other is just running dry to calve in a few weeks. J. K.

North Kingston, N. S.

R. N.-Y.—Any one of several causes may cause garget—injury to the udder, neglect in milking, or leaving too much milk in the udder, or leaving it too long, especially when drying off the cow, overfeeding, etc. Give the cows a laxative diet, avoiding anything heating like corn meal. Rub the udder thoroughly but gently with camphorated spirits. Unless the case is very bad, a hungry calf will do good work in kneading the udder. Keep the cow from cold storms or drafts, and milk as clean as possible.

"FARM POULTRY."—A writer in The Iowa Homestead relates the following incident:

Inquiring of a poultry dealer the other day as to whether he was getting as many chickens now as formerly, he replied: "No, sir; I do not get enough to supply the home demand." "Why," said I, "do the town people like chickens so well as that?" He replied, "I do not sell very many to the people here in town. My best customers are the farmers. I have sold as high as three dozen to one man, and chickens are engaged away ahead." "Choice breeds?" I said. "Not much," he replied; "they take anything they can get. Why, I have actually sold chickens to men from whom I have bought them earlier in the season."

It must be pleasant to live in a country and be in a business that will permit such transactions as that! Surely, no business but farming would ever stand it!

THE BEST BUTTER PACKAGE.—Which is the best retail butter package for summer use in a private dairy trade? B. P.

ANS.—I would put up butter in pound prints, using Carter's butter print, wrapping each pound neatly in parchment paper, printed with the name of the farm, and my own name and address. I employ a good printer. I would deliver butter, and it may be kept in the cool room, from print carriers, which are sold by all dairy-supply houses, and made in different sizes with a capacity of 20 to 144 pounds. A galvanized tank for use in summer, holding 5 to 15 pounds of ice, will keep butter hard and in fine condition several hours. This is the way all top-price butter is delivered in Connecticut. H. G. M.

A HARD COUGH distresses the patient, and racks both Lungs and Throat. Dr. D. Jayne's Expectorant is the remedy wanted to cure your Cough, and relieve both the Pulmonary and Bronchial organs. The best family Pill, Jayne's Painless Sanative.—*Adv.*

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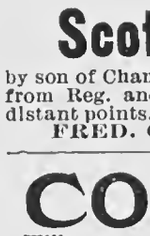
Cuts at the rate of a pound Green Bones, per minute by hand. Excels them all in ease and fineness of cut. $5 with crank, $7 with balance wheel in place of crank. Get special circulars.
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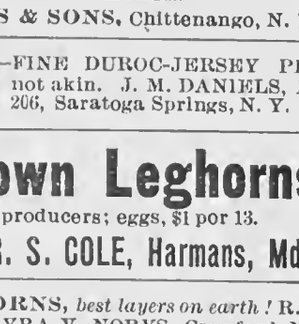

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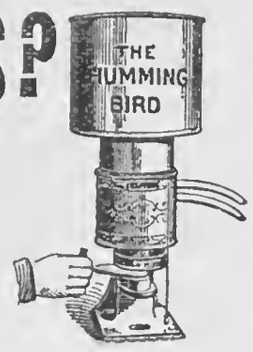

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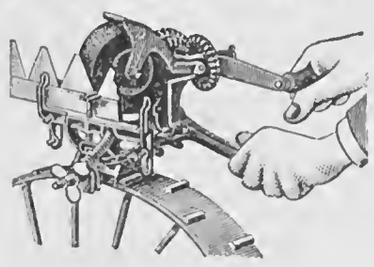

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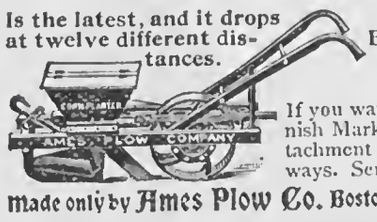

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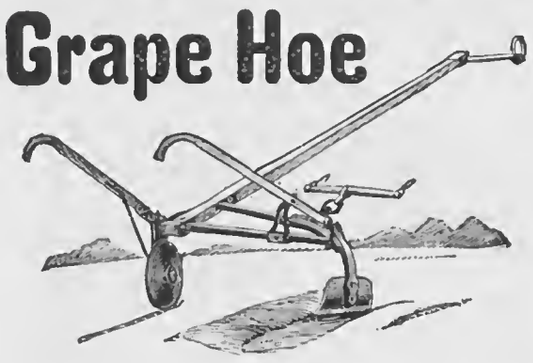

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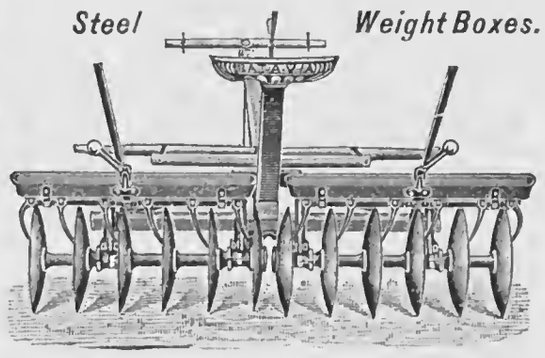

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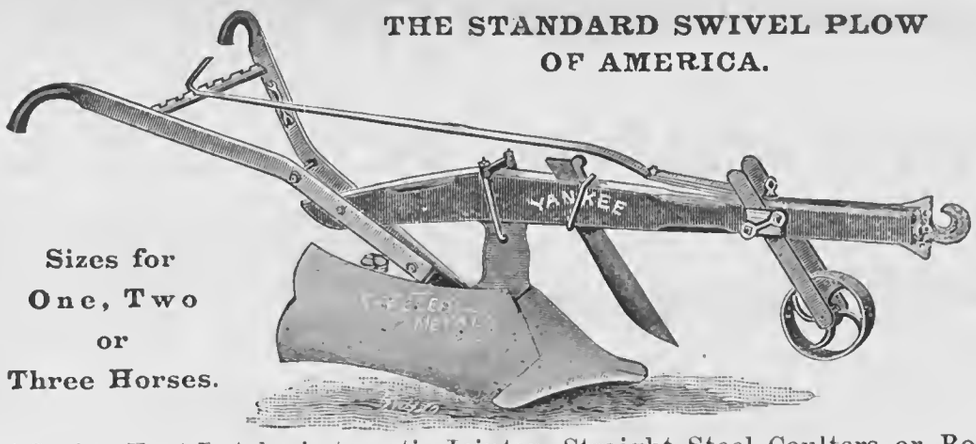

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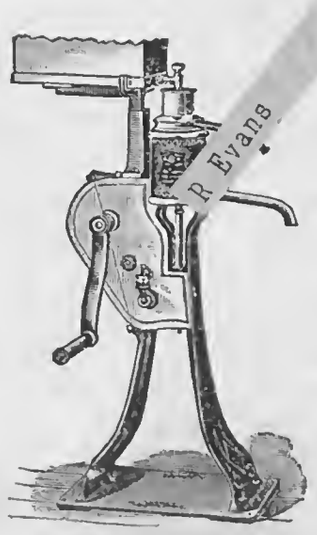

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MAKING THE MOST OF A HARD SOIL.

Fertilizer, Milk, Butter and Ice Cream.

PART II.

Complete records of the milk yields are kept—each cow's mess being weighed and recorded twice a day. The milk pails are all brought to the same weight, and the finger on the spring balance is turned back so that, in weighing, the weight of the milk alone is indicated.

The cows have all been tested with tuberculin, and 17 animals that reacted were slaughtered. Four of them were found in bad condition, though externally they seemed in good health. Mr. Manchester said that it is remarkable how these cows could look as well as they did, while their lungs were a perfect mass of decay! The others were but little affected—most of them so slightly that the milk could not have been considered dangerous. All the affected animals had been bought from other dairies—not one of the homebred cows responding to the test. Of course no cow will be bought hereafter that will not pass the tuberculin test.

When asked how much the State paid for the slaughtered animals, Mr. Manchester said, "About what they would *sell* for, but not as much as their earning capacity to us." There is room for much thought in that remark. The market price of a cow may be $40. That represents her average value as a money earner. That is, the average dairyman can make her earn, let us say, $15 above the cost of labor and food. Another dairyman may take her and by better and more economical feeding, and by keener business insight in selling milk, cream, or butter, make her pay a profit of $25. The market value of the cow remains the same, but her earning capacity is largely determined by the man who handles her.

The tuberculin test has been, in one way, a good thing for the Manchesters, since it has enabled them to guarantee their milk and cream. Every package of butter or cream that is sold, bears the legend, "Inspected Dairy," and cards advertising the fact that the herd has been tested, are distributed. Wherever the newspapers talk about testing cattle and the dangers of tuberculosis, consumers are sure to become more careful about their milk supply, and the "Inspected Dairy" is sure to become more popular as the people have an increased confidence in its owner.

At the time of our visit, the ensilage had all been fed, and the cows were having early-cut hay for their rough fodder. For the grain ration, the following mixture was used: 100 pounds cotton-seed meal, 125 gluten meal and 100 pounds wheat bran. The cows are fed from three to ten pounds of this mixture per day, depending on the amount of milk they give. This seems to us like a large proportion of cotton-seed meal to feed with hay and without ensilage, but it was giving excellent results at the pail, and the cows were certainly in fine condition. This mixture seems to be death to calves, however, and no more cotton-seed meal will be fed to young stock.

The hay crop was short last year, and, naturally, the Manchesters have been looking about for cheap hay substitutes. When asked for results in this line, Mr. Manchester said:

"Having more stock than usual this year, and a short hay crop, and the ensilage giving out, we have been feeding wheat bran once a day in place of hay. The cows like it, and keep in good condition. As it costs us but $12.75 per ton, and hay is worth $20 per ton, it makes quite a difference in our feed bill."

It is certainly a singular state of affairs when wheat bran makes cheaper "roughage" than hay. That certainly indicates the possibility for good hay farming in New England on drained swamps or irrigated meadows.

"How do you plan to keep up the flow of milk in summer," we asked.

"We always plan for the dearth of pasturage that usually occurs in August and September, by putting in several acres of sweet corn. We are usually able to sell most of the corn at from 9 cents to 15 cents per dozen ears, wholesale, and as the stover will about pay for growing, we find it quite a profitable crop. Our favorite varieties in their order of ripening, are Early Essex, Crosby's Early, Potter's Excelsior, Stowell's Evergreen and Country Gentleman. We use an Eclipse planter, and it works well in our rough country. We always have to tar our corn to keep away crows. We use a leaky pail or tub, and pour warm water over the corn; then add two tablespoonfuls of tar to a peck of corn. Vigorous stirring will give it all an even coat. Then we sift wood ashes on it, stir until dry, sieve the corn, and we're never troubled."

"Have you ever tried growing any other crops among the corn?"

"Last year we grew a good many dollars' worth of Hubbard squashes and citrons in our sweet corn, with practically no expense, as the seed was mixed in the fertilizer tank. They do not bother the cultivator or hoeing machine, and the plants in the outside rows run off into the meadow or on to the fences and grow as well as in the garden. We fertilize the corn well, mostly with stable manure, and like to get two crops off the same land Three or four years ago, the Department of Agriculture sent us two half pint papers of 'Cut Short or Corn Hill" beans. We threw them into the fertilizer tank of the corn planter. They came up finely and bore heavily, using the corn stalks for poles without injuring the corn. This year we expect to plant a quantity with the corn, and shall cut them into the silo with the corn hoping to make a more nitrogenous fodder at little cost, save for seed and extra fertilizer. As they are in the green bean stage at the time of corn cutting, we hope that they will be palatable, especially if we mix the grain ration with the ensilage."

As stated last week, the Manchesters are making more of the potato crop than they used to do. They find that potatoes of excellent quality will grow on their soil, and their intention is to grow, in addition to their main crop, a number of standard varieties for

A LOAD OF COLORADO CABBAGE. A CASE OF "BIG HEAD" FROM IRRIGATION. FIG. 101. SEE PAGE 319.

seed. The fertilizer described last week, is liberally used. They have just bought a Robbins potato planter, and though their land is rough and hilly, they hope to beat Chapman's 9-cent potato crop. Mr. Manchester gives the following notes of potato experience:

"We find it pretty hard work to get pure seed potatoes. We are afraid that many dealers don't know their own varieties. In one lot of four barrels of Early Ohio bought this year, we picked out one bushel of New Queen, with a few Polaris. It is needless to say that we shall not buy of that man again. Many farmers are learning that the early potatoes bring the most money. They can often be sold before the late varieties are matured. It saves storing, shrinkage and a possibility of lower prices. Even with not quite so large a yield, they pay better. Several dealers have written us "all sold out" or "nearly out" of early potatoes. We like the Early Harvest very much, and hope great things for it this year. On about a half-acre plot, we have planted the following varieties to compare yield and earliness. Early Ohio, Early Harvest, Early Norther, Early Pearl, Burpee's Extra Early, Earliest in the World, Lee's Favorite and King of the Roses. We have used 1,000 pounds of good fertilizer on the plot, furrowed deep and shall cover or fill up gradually with a smoothing harrow. On our trial grounds last year, of 40 varieties, Early Pearl outyielded all, and nearly all were handsome, marketable potatoes. The Keystone had immense vines, and we expected great potatoes, but found only a few small ones. We were never deceived quite so badly before. We paid a good price for some new Extra Early Blush; they were not early, and did not yield half a decent crop."

It will thus be seen that efforts are made at "Prospect Hill Farm" to grow a few standard crops, and grow them well—just as a manufacturer would proceed to make his goods on scientific principles. What does that mean? Why, it means, buying the raw materials at the lowest cash prices, and putting them together in the most skillful way, and with most of the muscular force performed by engine, horse or machinery. It is a mistake for a man's hand ever to work alone. It should never undertake a job that does not have enough in it to warrant the admission of brain as an equal partner. You will notice that all the crops on this farm naturally run into the barn. The sweet corn stalks all go there, and some of the money obtained for the potatoes will go to buy grain or pay the milkers. So that the products of the milk from the 40 cows will largely represent the farm's profit. These products are ice cream, butter, sweet milk, pot cheese, cream and skim-milk. When all the customers are supplied, there is little left for the cats and calves. In most of the smaller Connecticut towns, there is a regular demand for skim-milk at 10 cents a gallon, which is a greater value than an ordinary calf can get out of it.

We shall not take time in these articles to describe the making of any of these products, except the ice cream. That is a feature of this farm, and it is one that might well be copied on many dairy farms throughout the country. If any reader cares to ask questions about the other products, we shall gladly answer.

During the spring and summer, the Manchesters open an ice cream room in the town where cream is sold at wholesale or retail, and where milk, pot cheese, cream, butter or eggs are also furnished. This year, the room was opened April 17. On April 18, the sales amounted to $22.89 for 13 gallons of cream, and two gallons of ices. If the cream had been made into butter, it would have made about 24 pounds which, at a wholesale price of 23 cents, would have brought $5.52. All other materials used in the cream did not cost over $2.50, which leaves a difference of $14.87 in favor of the cream, with the cost of labor, rent of store, and interest of investment to come out. That will do to think over until next week, when we shall try to tell how the cream is made.

WHAT SAY?

CHEAP ROOF AND PAINT.—What is the cheapest and best roof for henhouses, that is, warm, vermin-proof and durable? Would gas-tar and gasoline, painted on the inside of a henhouse, be better than to whitewash with lime? G. B. L.

Ontario.

A WATER GATE.—At Fig. 103, is a plan for a fence across a creek that runs through our farm. Every spring, there is quite a rise of water, and we have to take the fence away in the fall and rebuild it in the spring, or else lose the rails. The water was from five to six feet deep this spring, but it soon goes down again to about one foot. At high water, it is about 100 feet wide. Do you think that stone pillars built, say, 30 feet apart with a gas pipe at the top on which heavy wooden gates are hung, would make a permanent fence? The high water would push the gates with the current and allow the water to pass. Sometimes small logs and stumps float down when the water is high. Do you know of a better plan? Would it be very expensive? G. F.

Bartonville, Ont., Canada.

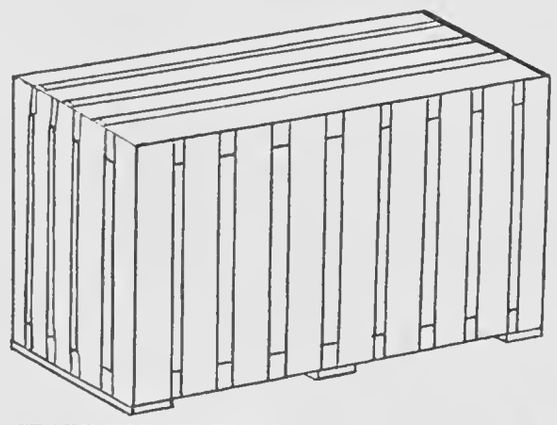
R. N.-Y.—We shall be pleased to have those of our readers who can do so, give us their experience in this matter.

WILL BROOM CORN PAY?—Is it practicable to grow broom corn on good corn land, with the idea of making the product up at home in the winter time, and selling the same to near-by markets? Would it likely succeed in the climate of central New York? Would the cost of machinery or lack of experience, be a serious objection? From what I have seen, it does not seem to be an intricate or costly affair. Please submit this subject for consideration. A. H. G.

Oakwood, N. Y.

WHAT THEY SAY?

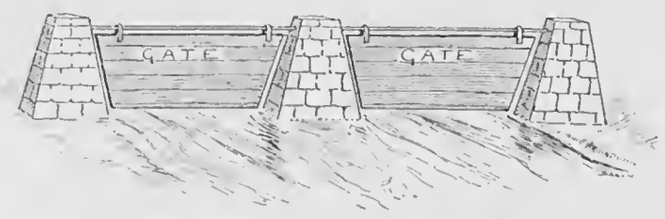
SHIPPING BREEDING FOWLS.—I have shipped a large number of fowls to breeders and farmers in all the Western and Southern States, and never had but one injured. For one Plymouth Rock cock, I make the coop 16 inches wide, 18 long, and 20 high. For two



CRATE FOR SHIPPING POULTRY. FIG. 102.

or three hens, 16 inches wide, 16 high, and 24 long. For cock and two hens, same width and length, but 20 inches high. The bottom is tight, ½-inch stuff with one strip across each end and one across the middle, underneath. Sides, ends and tops are made of plastering lath placed one-half inch apart. No cloth, pasteboard or paper is used. The only bird I ever failed to land safe and sound at its destination, was placed in a coop lined with cloth and open only at the top. It met with disaster in a warm express car, and arrived looking weary and sad, and soon after turned up its toes. I use lath coops to conform to the new reduced-rate rule of the express companies, and to secure good ventilation. A fowl that can't stand ventilation is of no value as a breeder. The agents of the companies advised me to make the sides of all my shipping coops perpendicular, and strong enough to stand the pressure when piled one upon another. Sometimes goods are piled about coops so closely that ventilation must all come from one side, hence all four sides should admit air. In a properly constructed coop, a fowl will go to the farthest corner of the country as safely as to roost. FRED GRUNDY.

A CALF BIT.—The best bit for a sucking cow (page 271) is to give her a bit of weaning before she ever had an opportunity to learn to suck. That is, by weaning the calf as soon as it is born. I have followed this plan for over 30 years, taking the calf from the cow as soon as it is dropped, or, at the latest, before it has had time to suck the cow. The cow is put into



A WATER GATE FOR A CREEK. FIG. 103.

a special stall alone, as soon as it is evident that the calf will be dropped in a day or two, and is fed and cared for attentively. A small, sliding door is made in the side of the pen, so that one may see how things are going on without disturbing the cow. As soon as the calf is born, it is picked up and taken to a pen, out of hearing of the cow, and it is fed on the milk as it is taken from the cow, beginning four hours after the birth of the calf. It is easily taught to drink, a few lessons patiently and kindly given, without cuffs or kicks, or blows or even hard words, being sufficient to wean the little, often-stupid, thing. After the fourth day, only skimmed milk is given, but it is warmed to the ordinary milk temperature. Three quarts are given at first, at a meal twice a day, and this is steadily increased as the calf grows, and the milk should be continued for three or four months. This makes a fine calf, a big frame, plenty of vital force, good bone, and one without any of those annoying tricks that seem natural to a calf which has once sucked the cow. The comfort of having such animals in one's herd; all to be trusted and free from vices; and without any instinct of sucking, or even of being sucked after a few generations; and the profit of it, are together well worth the having. H. STEWART.

SILO FOR SMALL HERD.—I wish that I could say something to encourage E. W. V., page 256, to build a silo for his "six or eight cows." I have been just where E. W. V. is now, and found it entirely practical to use a silo. As a few items not often mentioned by the advocates for the silo, I will call attention to the fact that a "wider" ration can be fed where ensilage is used, thereby making quite a saving, as the feeding stuffs rich in protein are by far the more expensive. As E. W. V. is making butter, he will find a decided improvement in the "churnability" of the cream. A rectangular silo 10x10 and 24 feet deep, would contain sufficient for eight cows, with a chance to carry some over for summer feeding. In feeding from a silo where two inches are not removed every day, use boards to cover one-half, changing back and forth every day or two, so as to keep the surface level.

Wisconsin. CHAS. SOLVESON.

A SILO PAYS.—I don't agree with S. C. H. on not having a silo for eight cows. The first cost may be a trifle more proportionately, but it can be saved in labor. I built a silo three years ago last fall, and like it better each year. I could keep no more than four cows before I built it, but this winter I fed five cows, four two-year-olds, three yearlings and a bull, also a pair of oxen. My silo is 22 feet deep, and 12 feet in diameter. I filled it full to overflowing from not more than three acres of drilled corn. I opened it on December 1, and have enough ensilage left to feed my cows till grass comes. Besides, I have about seven tons of hay left. I sell butter to private families, have no complaints, and some of the parties are very particular. If a man can keep eight cows on his farm now, he can easily keep 16 with a silo of the proper dimensions. I say that it is the best paying thing I have on the farm, because I can winter my stock so much cheaper, and can produce more milk with less grain than formerly. G. K.

Georgetown, Conn.

SUNSHINE FOR THE STOCK.—Do you see that calf standing in the sunlight just inside the open barn door? Fortunately, the barn faces south, and as the wind is in the west, the calf has a comfortable place, even though it is zero weather outside. There it stands and has stood for an hour, chewing its cud and blinking its eyes, the very picture of contentment. But why is it there? Did its mother tell it that a sun bath would be good for its health? Or has it, by a long course of reasoning, come to the opinion that sunlight is beneficial and, therefore, it stands there from a sense of duty? How foolish! It is instinct, the same as it is instinct that taught her to suck.

But every instinct found within a calf's hide, was put there for some good purpose. Anything the matter with that proposition? Well, then, if that calf enjoys the sunlight, it follows that it needs the sunlight. It makes no difference whether it is for its light, or for its warmth, or for some of its mysterious chemical properties; it needs the sunlight. The calf's mother and her mates have the same affection for it, too, for this very day they are enjoying the sun in the field and are very reluctant about going back into the stable after a three-hours' soak, even though it is considerably warmer than the field in which they are standing.

Yesterday the sun did not shine, and although the thermometer was 15 degrees higher than it is now, the wind was blowing, and the cows, as soon as through drinking, were anxious to go back into the barn, and, of course, were allowed to do so. It is the same instinct with them, and do you think that it is best to deprive them of this enjoyment, believing, as we do, that it pays us to take thought for the comfort of our animals? Better arrange this winter for the cows to have a bath on every sunshiny day. E. B. W.

R. N.-Y.—Early winter was the time to think about this. Possibly the appearance of the cattle as they leave the barn for pasture, may "rub it in."

MULCHING THE GARDEN.—Last year, we determined to see whether we could not have a garden without the everlasting hoeing that must be resorted to if one expects to find where the vegetables were planted. The experiment was carried out with peas, tomatoes, cabbage, squashes, and part of the melons. The ground was made fertile with good manure, and some fertilizers. As soon as the plants were well started, cut straw was used in abundance for mulch, enough to check any growth of the weeds. There was no use of hoe, or weeder on this part of the garden. The plants grew right on without interruption from the dry weather. In growth and yield, they exceeded anything before grown in that garden. The peas kept green, and supplied the table well into the summer. We never had finer tomatoes or any freer of rot, than were these, and they fruited abundantly. The same was true of the vines of various kinds, and between leaves and mulch, there was a total absence

of weeds, and the melons grew by the hundred on the warm, clean straw. For the beetles, striped and otherwise, we used the airslaked lime with a little sulphur in it, and had no further trouble with them. This reduced the work in our garden to the minimum, and our weed crop was not known and spoken of by all men. We might say here that our currants and berries of different kinds, are all mulched, thoroughly, have not been cultivated for years, and finer or more fruit it would be hard to grow. I shall extend this experiment along other lines of truck, the coming summer, and hope that I may be able, in addition. to find out how mulching succeeds in a wet summer.

Portage County, O. JOHN GOULD.

KAFFIR CORN IN TEXAS.—For some time, we ground wheat, Kaffir corn, and corn in a family grist mill by hand, to take the place of oatmeal as a breakfast dish, and found that they were greatly preferred to the prepared cereals. Then we began to use Kaffir corn for batter cakes, biscuits and even for light bread, in each case, I think, mixing in some flour. We also used it for waffles, muffins, gems, etc. We have this winter had it ground at a steam mill, as it gives a finer, better, bolted flour; but I think not so fresh and sweet as the hand ground. The Kaffir corn biscuits, served at the same meal with white flour biscuits, are by many preferred. From what I can learn regarding the feeding quality of Kaffir corn unground to horses, cattle and hogs, in our own experience as compared with Indian corn, it is not equal in quality, using the same quantities The great advantage is that Kaffir corn, in this semi-arid climate, is always a reliable crop. We have planted five or six crops. and last year we got our best yield of Indian corn—250 bushels good corn from 10 acres.

Clifton, Tex. O. F. R.

SOME DESIRABLE HARDY PERENNIALS.

Such a great collection of hardy perennials is listed nowadays in the leading nursery catalogues, that it is puzzling to those not well acquainted with this class of plants, to make a judicious selection. There are many country homes where a small collection of these plants would look well. Here is a list of about two dozen kinds, which are strong growing and showy, and which need no very great care to get them to thrive. To make the list more valuable, I will give the months in which they flower in this State, and the color of the flowers.

In the month of May, there are these: Aquilegia Canadensis, the scarlet columbine; Armeria maritima, sea pink, with rose-colored flowers; Dicentra spectabilis, salmon pink; Iris florentina, white, and Ajuga reptans, blue. June gives a good assortment, as follows: Astilbe Japonica, white; Dicentra eximia, pink; Iris lævigata, and other Japanese sorts of varied colors; Pyrethrum roseum, rose, and Senecio Doria, yellow.

With the coming of July, the following expand: Campanula grandiflora, in both blue and white flowers. This is now properly called Platycodon grandiflorum, though better known as Campanula; Chelone barbata, scarlet; Delphinium formosum, and other blue larkspurs; Liatris pycnostachya, lilac; Lychnis Chalcedonica, scarlet; Lythrum salicaria, purple, and Monarda mollis, the pink bergamot. August makes a good showing with such sorts as Asclepias tuberosa, yellow, and incarnata, flesh; Betonica rosea, rose; Funkia lancifolia, blue; Perennial phloxes in many colors, and Spiræa venusta, deep pink. In September, many composite plants flower, among them, Aster Novæ—Angliæ, purple; Boltonia latisquama, lilac; Monarda purpurea, purple bergamot and Solidago Canadensis, one of the yellow golden-rods. October practically ends the season, and we have for this month, Helianthus Maximiliana, golden yellow; Tricyrtis hirta, flesh; Plumbago Larpentæ, indigo blue, and Solidago cæsia, a beautiful golden-colored, late-flowering golden-rod.

As will be noticed, there are one or two golden-rods and other native plants in the above list. Other pretty ones may be brought from the woods and fields, which are just as worthy of a place in one's garden as those from foreign lands. I have found golden-rods excellent plants for the garden, especially when in strong clumps, to make a good display. Canadensis is a tall grower, with rather light yellow flowers. Cæsia, the later one to flower, has rich yellow blossoms closely set along a rather slender, but strong stem. It is often in flower when frosts come.

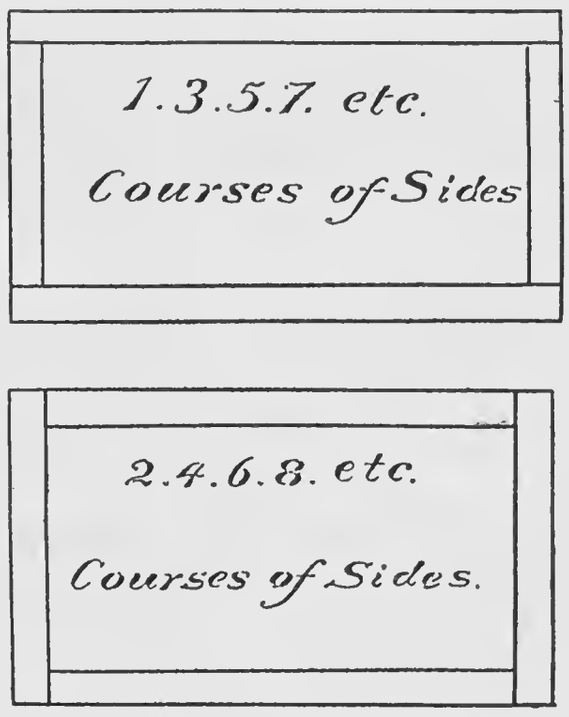
The mistake is often made of setting out perennials and failing to feed them. They will repay a little rich food occasionally. As good a way as any of doing it, is to mulch them in the fall with manure. Acting as a covering for the winter, it is a help, aside from the enrichment of the ground. When spring comes, this covering may be lightly forked in about the plants, taking care not to disturb the roots.

Pennsylvania. JOSEPH MEEHAN.

HOW TO MAKE A WATER TANK.

Water boxes made of plank in the ordinary way, are expensive, not only on account of the cost of the high quality of lumber required, but also on account of the skilled labor needed to put them together properly. Besides, they must be strongly ironed at the ends. Tanks just as good in every respect, and in some ways much better, may be made of good, sound, narrow stuff—1x4 or something similar—by any one having a fair degree of skill with square, saw and hammer. These three tools, the lumber and a good supply of ten-penny nails, are all that is needed. It is very important that the lumber used be of uniform thickness, and unless it has been so sawed, it is better to use planed stuff.

To make the bottom of the tank, cut pieces of the boards the length of one side of the bottom, and lay them close together till they make the bottom wide enough the other way. On these, lay closely together another course running crosswise of the first. Nail these two courses together thoroughly, and clinch the nails. The bottom is now complete. To get greater strength, for a large tank two-inch plank should be used for the first course of the bottom; or three courses of the inch stuff may be used, putting on the third course crosswise of the second. Begin the sides of the tank by cutting two lengths of the boards the length of one side of the bottom. Lay these flatwise on opposite sides of the bottom, even with the edge, and at the ends, and nail firmly. Next cut two pieces that will fit exactly between these two at their ends, and even with the other two edges of the bottom, and nail firmly. For the next course, first put on two boards over the last two put on in the first course, and run them out the whole width of the



HOW TO MAKE A WATER TANK. FIG. 104.

box. Fit two exactly between these at the ends, and exactly over those of the first course, and so on alternately, breaking joints at the corners, until the box is of the desired depth.

To make a tank that shall be perfectly watertight and a success in every way, it is important to make every joint exact, to break joints at the corners, and to nail firmly all the time. A box put together in this way, is much stronger than the ordinary tank with expensive bolts through the ends. Of course, 2x4, 2x2, 2x3, or any other such lumber, may be used for a tank of this kind, provided it is straight-edged and of uniform thickness. The wider the stuff used, the thicker and stronger will be the sides of the tank, and the warmer in winter and cooler in summer will be its contents. If desired, paint may be used in the joints and between the layers of the tank, but I do not think it any advantage, rather, perhaps, a detriment. We are using a box of this kind made of 1x4 planed pine fencing, with a double-boarded lid, and it is the perfect milk tank for winter as well as summer.

Westchester County, N. Y. MERRITT M. CLARK.

A LOAD OF COLORADO CABBAGE.

At the Greeley "Potato Day," which was described in THE R. N.-Y. last fall, one of the "novelties" displayed was the great load of cabbage illustrated at Fig. 101, first page. This was part of a crop grown by F. W. Scott.

I asked him, "Have you learned anything new about cabbage culture this year?"

"Why, yes," was his reply; "I have learned that I can raise 10,000 pounds more to the acre by growing my own seed."

"How did you do that?"

"I selected my very finest cabbages, and the florist raised the seed for me. Besides the extra amount raised, I have derived another benefit from growing my own seed. I have a new variety of cabbage. When my plants matured, I found that I had a cross between the Flat Dutch and the Winnigstadt—a fine cabbage, that had the shape and solidity of the Winnigstadt with nearly the size of the Flat Dutch. I shall have none of that seed to plant next year, for I did not know that I had it this year—it came in the Flat Dutch seed—but I am saving my finest specimens, and intend to have the seed in future."

"You estimate that you raised 43,000 pounds of cabbages to the acre?"

"Yes, I did even better than that; on three acres I raised 45,000 pounds to the acre."

"How did you prepare the ground?"

"Early in the spring I spread over the ground 53 loads to the acre of coarse stable manure. Then I plowed it shallow, flooded the ground well with irrigating water, and let it lie to rot. June 1, I plowed it deep, and found the manure well rotted. Then I prepared the ground to set the plants. I have learned that I must be very particular about the time of sowing the seed, and also of setting the plants of the different varieties. I sow the Flat Dutch April 20, the Fottler's Brunswick April 25, and the Winnigstadt, May 7. I set out the plants of the Flat Dutch between June 10 and 15; the Brunswick between June 15 and 20, and the Winnigstadt from June 18 to 25. Started at these times, the matured heads give me the best results at shipping time."

"What do you do for the flea that so often injures the young plants?"

"Irrigate well. It is all I need to do; the flea does not like the damp ground. Others sprinkle them with road dust and coal ashes, but I depend on irrigation."

"What do you do for cabbage worms?"

"The blackbirds take care of them. They come in great flocks and devour the worms."

"What do you think of selling cabbage at 25 cents per 100 pounds?"

"There is not a living in it; but I am planning to raise 20 acres next year, for I shall hope for better prices." S. E. H.

HORSE SHOE FARM NOTES.

THE "SLOW AND SURE" IN STRAWBERRY CULTURE.

A Poor Man's Method Explained.

F. H. Ballou's article on strawberry culture, on page 253, is very interesting. I agree with him that early spring is the time for planting, and would not plant on sod; neither would I grow but one crop before the strawberries. When I get the soil rich enough by applying barnyard manure, bone and muriate of potash, I grow two good crops in spite of blight, drought, or frost. He tells about digging the plants, shaking the soil from the roots, putting them between pieces of wet carpets, carrying them to the packing shed, clipping leaves and runners, shortening roots, putting into a bucketful of water, and then picking them out and tying in bunches of 25. This takes a good deal of time, and makes a great deal of travel back and forth, consuming much time which, if paid for, would cost a great amount of money. This is what I call a "slow and sure method." He says, mark with a line and light hand marker, spacing the rows at 3½ feet. This is altogether too wide, and not one hired man in 100 can set a line and have it row within gunshot of anywhere. He does not allow his rows to be over 16 inches wide, which leaves a two-foot space between each two rows, one-half of which is simply wasted ground. He could easily have one-fourth more rows with correspondingly increased yield, leaving plenty of room for the pickers between the rows.

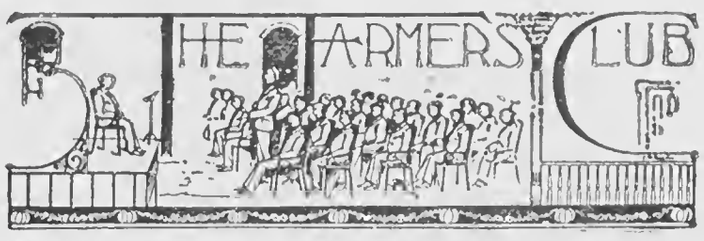
I much prefer setting the plants with the roots left on full length, and running straight down into the ground, for the reason that we cultivate within an inch of the plants on all sides, and if the roots are spread out fan-shaped, such close cultivation will pull out some of them. Another reason is that the ends of the roots are sure to be down to damp soil, no matter how dry it is on top. He sets his plants with a trowel. My ground is stony, and after several years of sore knees and sore fingers, and jabbing among the stones with a trowel, I quit. He seems to have time to go back to the packing house for a few bunches of the prepared plants, every half hour; but a poor man has not. My method, in brief, is to prepare the soil as early and as thoroughly as possible, mark it out in rows 32 inches one way and 18 inches the other. Wait for a cloudy day, better just before it threatens a south spring rain. Have plenty of boys engaged ahead. One boy digs the plants with a light pick, the second boy picks them up carefully and packs them in pans or potato crates. If the ground is damp, some earth will adhere, but it does not matter. These are loaded into the wagon and taken directly to the field. These two boys shear off all but three green leaves and no leaves showing a blight spot or discoloration are ever left on. After cutting these leaves, they place them in pans which have about an inch of quite thin mud paste in the bottom. I push a straight-bladed shovel four or five inches into the soil with my foot

at the crossing of the two marks. I push the handle from me, and the third very small boy who can bend his back very easily, being close to the ground, takes one of the plants by the leaves, and gives it a flip into the hole at the back side of the shovel so that the roots shall go straight down to the bottom of the hole. I pull out the shovel, put a foot each side of the plant, putting my whole weight on it. By this method, I can set almost as fast as I can walk, and rarely lose a plant. The labor bill for the three boys' work is only $1.50 per day.

I would caution any one against using straw for mulch, unless very sure there is no Timothy seed in it. Timothy seed, whether in the straw or in horse manure, which some advise to use for mulch, will seed a bed so as to ruin it almost the first year.

Mr. Ballon says, "When warm, settled spring weather comes, the straw should be carefully raked from over the plants and allowed to remain between the rows, where it will serve the triple purpose of retaining moisture, keeping down weeds, and keeping the fruit clean." In looking at Fig. 78, one sees the wide stretch of ground unoccupied, and will readily agree with his reasons for removing the mulch. Had he but a narrow path, why would not the mulch be much better where it is? The plants will grow right up through it, the soil will be kept soft and damp around the plants, instead of in the middle of the row, the fruit will be much cleaner, as it lies on top of the straw, and beating rains have very little unmulched surface from which to spatter soil upon it. If the mulch is too thick in spots, and the plants are not coming through, the mulch should be loosened a little. Why take off the mulch? Cultivating both ways reduces the cost of hoeing three-fourths. I grant that Mr. Ballou will raise, by his method, large berries and large crops, but that I can get as many or more quarts at one-half the expense by the "cut-and-cover" process. This is not intended as a criticism on his article, but a look at the subject from another standpoint.

C. E. CHAPMAN.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Swelled Sheath and Legs On a Horse.

W. F. R., Peshtigo, Wis.—The sheath on my horse is beginning to swell; it is about twice its natural size now. He is a lumber horse, and has worked in the woods for the past five winters. He has done no work since he came home this spring, about a week since. He seems to be all right otherwise, with the exception of stocking behind. His sheath swelled some last spring, also, but not so much as now.

The swelling of the sheath and "stocking" of the legs, may be due largely to overfeeding and idleness, or to the condition of the blood. See that the horse has daily exercise, either light work or turned into a yard or field. If his condition is good and you are feeding liberally, reduce the feed. Give little or no corn. In his grain night and morning, give two tablespoonfuls of the following powders: Glauber salts, one pound; powdered nux vomica, four ounces; nitrate of potash, six ounces; sulphate of iron, two ounces; mix.

A Cribbing Mare; Lame Foot.

E. C. A., Aberdeen, S. D.—Some two months ago I came into possession of a mare eight years old. She is all right except that she is cribbing, and the lower bars of her month are badly swollen. It seems as though the itching of the bars is, in part at least, the cause of the cribbing, as she will grasp any outstanding edge and fairly rub her mouth back and forth on it. She was quite sore in her front feet when I got her, from constant use in the livery business, but has improved materially in them since. What should be the treatment?

Place the mare's feed-box on the floor, and have nothing in front higher than her knees, upon which she can crib. This will effectually prevent cribbing in the stable. Avoid hitching out of the stable where she can crib. In this way, the habit may be broken if not a confirmed cribber. Have the swollen bars lanced lightly, to relieve the congestion. Apply a fly-blister around the coronet of both front feet, and repeat once or twice if necessary.

Blanket to Help a Horse's Coat.

W. J., Fredon, N. J.—I have a very fine saddle horse, and I am advised to keep him blanketed in the stable so as to keep his hair healthy and glossy. Does blanketing in wool or cotton produce this effect? Human beings are directed to keep their heads free from close covering for the same reason.

Blanketing a horse gives the coat a sleek, glossy appearance, with only moderate grooming. Extra grooming, without the blanket, will produce a similar effect. A light linen or hemp blanket is suitable for summer, and a woolen blanket during cold weather, the weight of the blanket depending upon the warmth of the stable, the climate, and whether the horse has been clipped.

An Old Collar Gall.

W. G. K., Owensburg, Ky.—I have recently bought a six-year-old mare that had a very sore breast, probably caused by her collar not fitting her. I have tried almost everything to heal her, but without success. How can I heal this sore, probably of long standing?

Cover the raw surface with finely-powdered sulphate of copper, and allow it to remain for 12 to 18 hours. Then wash off with warm Castile soapsuds, dry, and dust over once daily with iodoform. If discharging freely, it may be desirable to dust on the iodoform twice daily for a few days. If at any time the sore have an unhealthy appearance, or cease to improve, apply the sulphate of copper again; but only a single application at one time.

Wolf Teeth Again; Lumpy Eyes.

O. F. R., Clifford, Texas.—I have a fine filly between two and three years of age, that, for two months, has been reported to be afflicted with "wolf teeth," "blind teeth," etc.; but I failed to learn, upon inquiry, that there were any symptoms except "weak eyes" or "watery eyes." There are "lumps" below each eye, which are hard, roundish—apparently attached to the bone—one about the size of a half of a hen's egg, the other smaller. Both are increasing in size. What are they? What causes them? Is there a cure? If so, how should they be treated?

The "wolf teeth" certainly have nothing to do with the trouble. As has been repeatedly stated in these columns, the so-called "wolf teeth" are simply rudimentary teeth which are harmless, and in no way connected with disease of the eyes or other organs. Running or weeping eyes may, however, be due to the upper back molar teeth, which are situated directly below the eye, and are cut when the colt is three to four years old. For the lumps under the eyes, if they continue to increase in size, I would advise you to take her to a competent veterinarian for treatment.

How to Kill Cabbage Insects.

M. W. W., Vienna, Va.—How can I spray cabbages to destroy the various enemies to their growth and perfection? Is Paris-green a safe insecticide for that plant? What is better, or, at least, safer?

ANSWERED BY M. V. SLINGERLAND.

What insecticides shall be used "to destroy the various enemies to the growth and perfection" of cabbages, depends entirely upon what kind and the nature of the insects which may be at work upon the plants. There is no one insecticide that is the best for all occasions, whatever the insect that may be at work. Kerosene emulsion comes the nearest to being a general panacea of this sort. Make it according to the Hubbard-Riley formula, so often quoted in bulletins and the agricultural press, and dilute it with about 10 parts of water. When poured around the base of the plant, this emulsion may check the onslaught of the cabbage maggots on the roots, but an emulsion made with crude carbolic acid (one pound of soap, one gallon of boiling water, and one pint of the acid, all thoroughly agitated and diluted with 25 or 30 parts of water) or bisulphide of carbon injected into the soil under the roots with the McGowen injector, will prove much more effectual against the cabbage maggot than the kerosene emulsion.

For the green worm of the cabbage butterfly, Paris-green, mixed with three or four parts of flour, and dusted on when the dew is on, or mixed with water (one pound to 150 gallons), and sprayed on, is the best insecticide to be applied before the plants begin to head. If the green caterpillars are checked in this way when the plants are young, there will not often be any occasion to fight them on the headed plants. Some scruple against the use of this poison on cabbages, but there is no danger before heading begins, and it has been shown by experiment, that a person would have to eat more than a barrel of heads thus treated at one meal, to get enough arsenic to kill him. It is said that many of the largest market gardeners in the neighborhood of large cities, use the Paris-green freely on the young plants. Hot water (130 degrees F.) pyrethrum powder, or kerosene emulsion may be effectually used to kill the worms on the headed plants. If the children could be interested in catching the lively yellow butterflies flitting here and there over the cabbage patch, stopping to drop one of their pretty eggs now and then, with a butterfly net, the numbers of the greedy worms would be very materially lessened. This, and the other kinds of caterpillars that feed upon the cabbage, are the only enemies of the plants that can be successfully fought with the Paris-green. The poisonous insecticides are only for those insects that bite off and chew their food.

The cabbage is often attacked by two insects which suck their food through long beaks that pierce the outer skin of the plant, and pump out the juices; thus these insects are incapable of eating the poisonous particles with which a leaf might be coated. This very important distinction in the way insects feed, is not understood by a large majority of those most interested. One of the sucking insect pests of the cabbage, is as yet a Southern insect; I refer to the Harlequin Cabbage bug. It is, probably, the worst cabbage pest of the South, for it is not very susceptible to the insecticides that are ordinarily used to kill sucking insects. The only sure method of controlling it is to hand-pick the bugs, beginning early in the season so as to get as many as possible of the old bugs which hibernated, to prevent their laying eggs for the future generations. The other sucking insect, the Cabbage Aphis or plant-louse, attacks cabbages in all parts of the country, and is often very destructive. It may be the most successfully checked by the thorough and frequent use of the kerosene emulsion.

Crickets as Strawberry Pickers.

E. G., Moons, N. Y.—What can I do to protect my strawberries from the crickets? They are the worst enemies to strawberry culture that we have here. They eat them in both the green and ripe state. I grow Bubach, with Miner to fertilize them, also Gandy. I find that the Gandy will escape serious injury on account of lateness, when the others will be nearly ruined.

ANS.—It is not often that the companionable and familiar chirp of the cricket presages harm to our cultivated crops. I have been able to find on record only one or two cases where the cheerful little, brown creatures have done noticeable damage. In 1887, they infested cotton, tobacco and potato fields, and gardens in one locality in Louisiana. The usual methods of rapid cultivation, large flocks of poultry, and numerous birds failed to keep them in check, so thick did they get. In Bulletin 33 of the Indiana Experiment Station, Mr. Webster states that crickets had long been accused by growers of eating the fruits of the strawberry; but no one had actually seen them at work on a berry. In 1886, Mr. Webster caught one at work destroying a berry. This observation and E. G.'s query, show that strawberry growers must count the crickets among the insect enemies of their fruit. The only recommendation which seems to me practicable for combating these little chirpers, was suggested by the late Dr. Riley in his answer to complaints from the Louisiana sufferers in 1887. The method was to make a poisoned bran mash by thoroughly mixing with dry bran enough Paris-green to give the whole mixture a decided green color (an equal amount of white arsenic would answer as well and be cheaper), and then add sufficient water to make a bran mash. The addition of a little sugar or molasses might make the mixture more attractive to the crickets. Distribute this poisoned mash in tablespoonfuls among the infested strawberry plants. Use it liberally, and keep all domestic animals away. If applied towards night, it will not dry out so quickly. This is one of the best methods of fighting cutworms, and I think that it will prove an efficient check for the crickets.

M. V. S.

Acid Phosphate and Green Crops for Sourness.

L. A. B., Nimmo, Va.—1. Will the continued use of acid phosphate have any bad effect on land? 2. It is the opinion of some farmers in this vicinity, that green crops plowed in, unless followed with an application of lime or something else to neutralize the acid, will sour the land and promote the growth of sorrel. Is this true?

ANS.—1. The long-continued use of acid phosphate alone on land, would be injurious to the extent that it lacks provision for a "balanced ration" for any crop. On some soils, this would be far more serious than on others, as some contain more potash than others. 2. The condition of the crop plowed under, as also the soil when the plowing is done, are factors, regulating to a very considerable extent, the production of acidity of the soil. A heavy crop of green succulent matter, turned under when land is wet, and temperature high, would be poorer farming than the continued use of acid phosphate alone. As fine a stand of sorrel as I ever saw, was produced by the use of 500 pounds to the acre of dissolved animal bone, on land that was too wet at the time. The use of lime, subsequently, failed to eradicate the sorrel, but 400 pounds of kainit per acre left not a vestige. There is a whole world of difference as to the value of a green crop plowed in, when the stage of maturity of the crop is considered. At certain periods, the water in such green crops is greatly in excess, and their value relatively small, and vice versa. The former condition would require lime and plenty of it; the latter none.

J. W. KERR.

The Squash and Its Enemies.

G. G. B., East Pembroke, N. Y.—I intend planting about six acres to either Marrow or Hubbard squashes. Which would you advise? What insects will be liable to attack them, and how shall I exterminate them?

ANSWERED BY N. HALLOCK.

G. G. B. should go slow if this is his first attempt to grow squashes in quantity; but if he persist, this may help him. Many acres are grown in this town. The Boston Marrow yields most, the Hubbard brings a little the most. All growers of six acres of squashes have squash houses, where they are stored before frost, kept warm and dry by stove heat, and marketed through the winter. They plant about the last

week in June, or first week in July, when they avoid the striped bug to a certain extent, and the soil being warm, the squashes soon grow beyond them. If the striped bug is bad, they are dusted with airslaked lime or tobacco dust. The next thing here, that attacks the vines, is the borer in the root that deposits its eggs in the root stalk near the ground, works its way through the stalk, and if not killed, kills the plant. For this enemy, constant watchfulness must be given, and he is easily discovered by the excretions at the place he keeps open. These insects may go in at all the joints of the vine and leaf. When found, a slit is carefully cut lengthwise of the stalk, and the worm killed. Sometimes I use a narrow, sharp-pointed blade, and thrust it in the stalk until I think that I have struck the grub. A cluster of stout needles one-sixth of an inch apart, thrust in, is another good instrument; but kill him you must. Next comes the stink bug of some. This fellow is not so easily got rid of, as he does not chew, but sucks, so that he cannot be poisoned. Kerosene emulsion is used to some effect. Searching for and destroying the eggs is likely to help keep them in check; but it is a fight all through if they are plenty. I would advise getting Station Bulletin No. 75, September, 1894, Geneva Experiment Station, which will give results of the Station work at Jamaica in that line. I should have said that the hills are planted 6x8 feet generally, and fertilized with commercial fertilizer.

Some Beans for Nova Scotia.

C. H. W., Middleton, Nova Scotia.—I wish to grow beans for seed. What is the minimum distance at which the various kinds may be planted from each other, and be perfectly sure that there will be no danger of crossing? What is an average crop of such beans as Indian Chief? If overtaken by a frost sufficient to kill the vines before they are perfectly ripe, will it injure them? What fertilizer would you recommend to cause a rapid growth and thus escape the frost?

ANS.—We never grow two kinds of beans on the same farm. This is not essential, of course, but we would not like to have beans grown within 20 rods, unless the two kinds bloom a week or ten days apart. For instance, it would be perfectly safe to plant an early variety alongside of a late sort. We believe that C. H. W. cannot grow Indian Chief beans in Nova Scotia, as the season is not long enough. We would advise him to grow some of the earlier varieties in garden beans, or Day's Improved Leafless Medium beans, Pea beans, or varieties that will mature in from 60 to 70 days. The average yield of beans is about 16 bushels per acre in New York State. This is five bushels above the average yield of wheat. With us in our section, we have been enabled by high culture and fertilizing to bring the average above 20 bushels per acre. If the beans were ever struck by frost, they most certainly must have been seriously injured, as beans will themselves wither and shrivel. The fertilizer that we use has had a great many tests. The analysis is as follows: 1 to 2 per cent of ammonia, 8 to 10 per cent of available phosphoric acid, and 5 to 6 per cent of actual potash. On our soils, the beans grow vine enough, and we use a strong preparation with potash and phosphoric acid to obtain the grain.

EDWARD F. DIBBLE SEED COMPANY.

An Apple Orchard for Northern Ohio.

J. C., Paulding County, O.—I have 17 acres of clay land which I intend to plant to a market and family orchard of apples, pears, cherries and plums. The site is elevated, situated on the bank of a creek, which runs around the west and north sides. I intend to drain the ground thoroughly with tile, and plant a row of Norway spruce around the whole for a wind and sunbreak. As I own the land on both sides of the creek, I think of planting the evergreens on the side of the creek opposite the orchard. The ground slopes slightly towards the creek, and is about 12 feet higher than the most of the surrounding ground. I have a good market near home. What varieties of fruits mentioned would you recommend planting? Do you think that York Imperial, Sutton Beauty and Jonathan would do well here? Fruits do better in the northern part of this county than here.

ANS.—The windbreak of trees proposed by J. C. will be good, especially to break the force of sweeping storms when the trees are laden with fruit. It is now too late to plant an orchard this spring in northern Ohio, but if J. C. will ask for a list of fruits to be given through THE R. N.-Y. early next fall or in the winter, so that others may profit by the same advice, it will receive careful attention, and serve him the same purpose as now. There is scarcely a doubt regarding the success of the varieties he names.

H. E. VAN DEMAN.

What About the Bismarck Apple?

H. S. B., Rome, N. Y.—Can you give us any light on the Bismarck apple? We have a trying climate for apples.

ANS.—Go slow on the Bismarck apple or anything else for which such extravagant claims are made. I tasted a specimen of this apple last winter, that came from England, and it was poor—very poor. Making allowance for the poor flavor of English grown apples, I would advise H. S. B. and every one else to let it alone. The pictures and puffs in some of the catalogues of nurserymen of good reputation, make me fear for their future. I believe that the Bismarck apple is a delusion, if not a fraud in America.

H. E. V. D.

Graft the Marianna Plums.

H. J. H., Marion County, Ind.—What shall I do with a thrifty, 12-year-old Marianna plum tree, in rich soil, and growing rapidly? It blooms freely, but sets only a few fruits. Curculios are not the trouble. Shall I graft to new and better kinds?

ANS.—The Marianna plum is not self-fertile, or, at least, almost so. It is, also, of such poor flavor, especially when cooked, that it would be well to graft to something better—Wayland, Hawkeye, Whittaker, or almost any of the native kinds. H. E. V. D.

Building a Silo.

Several Subscribers.—Will J. H. S., who speaks of silos on page 255, tell us how his was built?

ANS.—My silos are built 16x24 feet, and 18 feet high. I use for sills, 6x8-inch timber, for the rest 2x4 joists laid flatways on the sills, spiked solid commencing at one corner, then around to the point of starting. I keep laying it up in this way, as high as desired, and am careful to break joints on each ring and have it laid up true and straight on the inside. Then I use oil or tarred paper and cover the paper with three-eighth or one-half-inch boards, running up and down, to protect the paper. To lay the floor, I use the 2x4 joists for sleepers, and fill and pack in earth to the tops of the sleepers. Then lay any kind of rough boards for a floor. If I should build another, I would use 2x6 joists in place of 2x4. J. H. SNYDER.

The Strength of Bordeaux Mixture.

J. L. W., Overbrook, Pa.—On page 256 I read, for Bordeaux Mixture, to dissolve "48 pounds of sulphate of copper in 50 gallons of water." Is this right?

ANS.—The directions for Bordeaux Mixture (as per THE R. N.-Y. of April 11), are correct except that the quantity of lime and sulphate of copper with water, should make 400 gallons of Bordeaux Mixture, instead of 200 gallons. I intend to have two barrels, one containing one bushel of fresh-burned stone lime, slaked with water to make 50 gallons. One containing 48 pounds sulphate of copper dissolved in 50 gallons of water. The contents of these barrels are the stock Bordeaux Mixture. To use, take 6¼ gallons of dissolved sulphate of copper, add 25 gallons of water, then add 6¼ gallons of strained lime wash, and fill in water to make 50 gallons of Bordeaux Mixture. The formula, in short, is 400 gallons of water, 48 pounds of sulphate of copper, 70 pounds of stone lime.

S. H. DERBY.

The Yorkshire Breed of Swine.

E. T., South Pittsfield, N. H.—Which is the best of the Yorkshire breed of swine, Small, Medium or Large, on a farm where only a few hogs are kept? Are they hardy, prolific, and well adapted to ordinary farm care? Is there anything better where white pigs sell the best? How much will they weigh dressed at eight months old?

ANS.—If it is imperative to use the Yorkshire, we would select the Medium for general purposes. For any one who can sell young suckling pigs, the Small Yorkshire would be preferred. Where they were to be kept until eight months, we would use the Medium. With the ordinary farmer's care, they should dress at about 200 pounds. But why not use the Cheshire, if you must have a white breed?

Something Better than "Good Enough."

The letters we get from farmers this season more than ever seem to indicate that many are coming to realize that while the fertilizers they have been using were good ones and gave good results, yet the Stockbridge did even better. The following personal letter to one of our employes tells the story well.

"This is the first year we ever used fertilizer that we got real satisfaction from, and we have used it ever since it came around.

"The Hebrons turned out nearly 500 bush. to the acre, with no dressing but 1600 lbs. Stockbridge Potato Manure per acre, on land that was in only fair condition.

"On ten acres of ground that cut grass last year, getting not over 500 lbs. hay to the acre, broken after haying, sown to oats this year with Stockbridge, got twenty-eight big two-horse loads. We had a little strong half acre of peas and oats on the same manure from which we got 28 bushels without cleaning up the floor.

"We had a piece of two acres which we considered about worthless, the poorest on our farm. Last year we used another brand of phosphate and got 11 bushels per acre. This year we used 500 lbs. Stockbridge on the same ground, and got 68 bushels of buckwheat. With kind regards,

"DANFORTH BROS, Carroll, Me."

We have never claimed that the Stockbridge Manures were the only good ones offered for sale; we claim nothing more than what practical farmers have found to be true, namely, that they are high grade goods, made scientifically for different crops; and other things being equal, are more likely to insure better results in the field than the very good fertilizers that are offered to compete with ours.

Our annual catalogue should be in the hands of every farmer who believes in the economical use of fertilizers.

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Potatoes,

Tomatoes, Melons, Cabbage, Turnips, Lettuce, Peas, Beets, Onions, and all Vegetables, remove large quantities of Potash from the soil. Supply

Potash

in liberal quantities by the use of fertilizers containing **not less than 10% actual Potash.** Better and more profitable yields are sure to follow.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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Also, Six Per Cent **Peruvian Guano. Fine Ground Dried Fish.**

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BEST TREES WE EVER SAW FOR THE MONEY, is the verdict of those who had had their orders filled with "Fresh-Dug" Trees **FROM ROGERS, DANSVILLE, N. Y.**

CRIMSON CLOVER FOR 1896

THE FIRST BATCH OF REPORTS.

Good, Bad and Indifferent!

Crimson clover is all dead this spring, froze to death root and branch; not a plant alive. The ground was bare all winter, and froze hard. The spring very late, and no seeding done yet. Everything is low in price but milch cows. No price for potatoes. E. P. B.

La Plume, Pa.

I sowed one-half acre of Crimson clover on plowed oat stubble, near the end of July, among the corn. I sowed the seed on the freshly cultivated soil, and brushed after sowing. No fertilizer was applied. The seed came up nicely, and made a fair growth, considering the dry autumn that followed. Repeated freezes and thaws were too much for it, and by the end of December, the roots lay mostly on top of the ground. A few plants are still alive, but not enough to leave. I think it is a mistake to sow it on ground occupied by growing corn, and it may do well in a more favorable season. This is my second venture with this clover, and, although the second is a worse failure than the first, I shall try it again. J. R. S.

Allegheny County, Pa.

I took THE R. N.-Y.'s advice, and sowed a field of four acres of corn immediately after cultivating. It came up nicely in a few days. I never saw anything look so pretty, but the grasshoppers got wind of it, and left less than one-half acre. I don't believe that one root has winterkilled. It has been exceedingly warm here for the past week, 80 to 85 degrees in the shade, and that clover is just humping. I shall try it again.

Sinclairville, N. Y. R. C. F.

R. N.-Y.—That is a little bigger dose than we advised, but we are glad that it came through.

Last year, about July 5, a young orchard, situated on one of the highest knolls of land on the Chestnut Ridge of the Alleghany Mountains, in Fayette County, Pa., exposed to the fierce northwesterly winter winds, was plowed and sowed to Crimson clover. The soil is light and sandy, and poor in quality. The clover germinated with astonishing rapidity; my hired man was willing to swear that it sprouted within 36 hours. It made a good growth despite the continuous drought of summer and autumn. Though in such an exposed position, subjected to successive thaws and freezes, and so swept by the north winds that no snow could long remain upon it, the clover at this writing looks finely and is stooling out nicely. I sowed another plot of ground—low and sheltered—from which potatoes had been dug, with Crimson clover, about August 25. Owing to the severe and protracted drought, the clover failed to catch, and at this writing, there is not a vestige of it. Perhaps the most failures in securing a good catch, result from too late sowing as, doubtless, in this case, for of late years, it seems, at least in this locality, that there have not been any continuous rains to sprout the clover properly and insure a sufficient growth to withstand the midsummer sun. It is probable that many harrow the clover too deeply; I would suggest that it be covered by a brush harrow, and the ground then rolled. Crimson clover, I believe, is the very thing for which orchardists have been looking, to renew the soil of their orchards, and to furnish the proper plant life for their trees. D. L. P.

Jumonville, Pa.

The last week in July of last year, I plowed under an old strawberry patch, sowed broadcast and then harrowed in Crimson clover seed at the rate of eight pounds per acre. I did not use any manure or fertilizer. It came up and grew well, although it was very dry all through the latter part of the season. It was very cold during the winter, but my clover is looking finely at this writing. The soil is a black loam. Many farmers here sowed too late, the last of August and until the middle of September. The result is that it died out because it did not get big enough to protect its roots. M. W. S.

Forestville, N. Y.

I have attempted to grow Crimson clover for the past two years, and now am perfectly willing to go out of the business, satisfied that the plant has no practical value for this locality. With a light seeding of oats, I sowed the clover in April; a portion matured seed. In July, I sowed in corn and beans, and also cultivated it in pea and oat stubble. Out of a seeding of over 20 acres, I, probably, have an acre of fair clover. The small plants winterkilled; the strong ones headed out after the first of April, and it doesn't seem to matter much whether they were strong or weak, we are short of clover. Considerable was sown in this locality last year, with about the same result. One man had a 15-acre buckwheat field. When the buckwheat was harvested, the clover was fine; to-day it would not require a very large hat to hold the crop. A fruit and vegetable farm had, probably, better results; but it is surely a very unreliable clover for this locality. D. A. R.

Kittanning, Pa.

Crimson clover does not seem to stand the winters of this part of Michigan; not one plant in 100 is alive this spring of that sowed August 8 last, while the Red clover is unharmed and, at this date, has made a satisfactory growth. Red clover does not kill out here, as a rule, for the snow lies on the ground almost all winter. Only twice in 14 years, have I known Red clover to freeze out. The winter of 1895 was a severe one, followed by a cold spring, and alternate freezing and thawing, which heaved out the Red somewhat. So last summer, I thought that I would sow the Crimson earlier than the year previous, which was on September 2; but poor Crimson is again dead. I don't think that it will pay to sow Crimson clover here for fertilizer, because no crop will ripen here, in northern Michigan, before September, and this is too late, and it would make too small a growth. However, I shall make one more trial with it this year, and sow it with buckwheat in June. I rather think that it will more than pay for the seed sown, if it should die this coming winter, while the expense of sowing will not be great. J. H. H.

Oscoda, Mich.

Not long ago, Wallace's Farmer said that they did not know of a single instance in which Crimson clover had survived an Iowa winter in any kind of shape. They need not say that now, for I can report a plot, part of which has stood the winter in good shape. The seed was sown August 2, and another plot August 22. It began to rain August 23, and both plots came up together, a few days after that. The two plots joined ends, and made a strip one rod wide between two rows of young trees. The strip was plowed, throwing the soil towards the trees, leaving the middle considerably the lowest. In this furrow, the clover is alive and growing. A strip about five feet wide has a good stand. Outside of that strip, there is an occasional clover plant. The reason that it did better in the furrow, may be because of more moisture, a better protection, a firmer seed bed, or a combination of these. Or it may be something else. The winter has been mild and dry. The lowest temperature was 10 degrees below zero. There was very little snow, the ground being bare most of the time. E. B. W.

Newton, Ia.

I sowed clover after digging early potatoes, say, by September 1. The clover should be in earlier. The soil was a sandy loam. Plenty of barnyard manure was spread on the winter before The earliest winter oats sowed and harrowed in deep, are a heavy turf on the ground, and stood the winter well; some sown later and not so well covered, froze out one-half. The clover set well, but during the winter, about three-fourths of it heaved out; except where I

(*Continued on next page.*)

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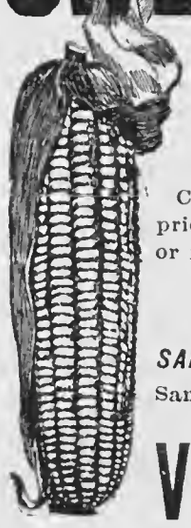

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CRIMSON CLOVER FOR 1896.

(CONTINUED.)

scattered thinly a load of old manure; that held it down, and it looks well. This is my third failure with it. I think that I shall get the hang of it soon. I am well pleased with the looks of the oats. I shall cut and feed green, and plant corn or potatoes. I sowed them just to see what they would do, and as an object-lesson, a strip of clover, 20 feet wide next the road fence, then 30 feet of Winter Turf oats, then 50 feet of rye. The rye was sowed in sugar corn for fodder, which was drilled at the last working of early potatoes.

Marion County, Ind. H. J. H.

July 3, 1895, I sowed 15 pounds of Crimson clover seed on an acre of ground, with buckwheat sown the same day, and all lightly harrowed in. It came up quickly, and made a fair growth, covering the ground well when the buckwheat was removed, September 23. It was then about two inches high, but made no more growth that fall. We had snow on the ground nearly all winter until March 27, when it disappeared from the fields. At that time, the clover looked as green as at any time during its growth. We then experienced about two weeks of freezing nights with thawing during the day. That weather proved the death of most of the clover. At this date—April 27—there is only an occasional bunch left alive, and that has made no growth, though for two weeks we have had a warm and moist time very favorable for plant growth. A neighbor sowed Crimson clover after wheat, turning over the stubble and sowing without any other crop. His results were similar to mine—a moderate growth in the fall, survival through the winter, but death in the spring freezing and thawing. I consider the crop a failure on some accounts, though my soil may have received enough benefit from root growth to pay for the expense; that is not demonstrated. I shall try again. In both these experiments, the soil was a clay loam with a hard clay subsoil. W. L.

Monroe County, N. Y.

I sowed winter oats on August 31 on plowed oat stubble; they were broadcasted and well harrowed in—2½ bushels on 1½ acre. The soil is a sandy loam, sloping to the south and east, and well protected, of average fertility, but no fertilizer was used. They made a fine growth, and although the severe winter killed many of them, they are still quite promising, and are getting better looking every day. The oats have stood the winter quite as well as wheat under the same conditions. R.

Perrysville, Pa.

Last fall, I obtained three bushels of Winter Turf oats which I sowed on two acres of well-prepared land after potatoes, on September 7. They came up well, grew well and looked as well as the wheat up to the very last of February, when the blizzard seemed to discourage them, and they gave up the ghost. To-day—with the exception of a few scattering stools—they are as dead as Dickens's door-nail. Crimson clover is a success so far as two years' trial can prove. I sowed in the corn July 3, 1895, and plowed under for potatoes this spring. The ground was well filled with roots, and, I think, will pay well all expense. My neighbor made some Crimson clover hay last year. W. L. J.

Long Island.

NOTES FROM WOODLAND FARM.

WINTER OATS.—Last September, I sowed four acres of No. 1, good corn land to winter oats, on corn stubble. The season was dry, and the oats did not make a great growth in the fall. During the winter, every plant perished. This ends the chapter with me. I think that some winters might be so favorable that the oats would survive. I won't run chances in farming when I can help it. I do not even sow wheat; it is too uncertain in yield, and too certain as to price.

CRIMSON CLOVER.—Last July, I again sowed Crimson clover in the corn at the last working. It made a poor growth during the summer and fall, and winterkilled almost completely. I do not think that we can depend on it here, especially to sow in the standing corn; the corn takes the substance out of the soil too completely, and the seasons are too dry. Some plants that grew up last spring and went to seed, seeded the land where they stood, and the result is a nice spot of green about there. Why these plants did not kill, I do not know, unless they are a hardier kind, or that they got a better start by being sown early in well-enriched land, not cropped.

ALFALFA.—While I do not mean to advise using Alfalfa as a catch crop, yet I know that it would come nearer being a success in our climate than either Winter oats or Crimson clover. At the same date that I sowed the Crimson clover in the corn, I sowed Alfalfa. It made a much better growth and heavier root, and some few plants survived the winter. No doubt, in some favorable years, it would do very well, sown among the corn in July. Of the 10 acres sown with oats last spring, I am very proud. It is now a beautiful sight, in part a full stand, and in part thin, but all of it a foot high against Red clover's four inches. I have sown 30 acres more of it this spring, and most of it is up well and promises a good stand. It is a glorious success here and an inestimable gift to us.

SHREDDED FODDER.—I note that THE R. N.-Y. asks how the shredded fodder came out I put in fully 100 tons last fall and early winter, and not one ton in all damaged. Much that I had expected to spoil, came out all right. I used much salt on it, and put it in as dry as I could get it. It nearly all heated pretty hot, but did not mold or injure. I would certainly have been short of fodder had I not had this reliance last winter. The horses have eaten no other hay to date, and have stood up to work better than ever before. Neither have they had any other grain than corn.

OAT HAY—Is a great thing, too. I shall cut 50 acres of it. J. E. WING.

Champaign Co., Ohio.

Abuses in the Seed Potato Trade.

C. R. W., ONTARIO COUNTY, N. Y.—It appears to me that a word of warning should go out through the agricultural press, regarding the purchasing of seed potatoes, grains, and nursery stock. Since the farm seed business has reached such gigantic proportions, many dealers in produce have taken to selling seed stock. Among them we find the worst and most flagrant deceptions practiced.

One very large dealer who ships large amounts of potatoes south, has openly said "If a man wants seed potatoes, all he needs to do is to furnish me the name and I will furnish the potatoes." Thousands of bushels of Dakota Reds and Rural Blush are annually shipped for choice western New York Early Rose, and also any long white potato for Early Goodrich. Within the past three weeks, several car-loads of potatoes were loaded at our own station, for Virginia points, in which Dakota Red and Rural Blush were mixed, and are sold to the planters for western New York Early Rose.

While in Baltimore, recently, I was talking to a dealer to whom I attempted to sell a car of Early Rose. After quoting him prices, he said, "You are entirely too high; here we have some Early Rose from your section, which we get delivered at $1.29 per barrel, and they are choice." Whereupon he opened a barrel. They were choice, but they were Brownell's Winner and not Early Rose.

I have seen a great many articles in the papers regarding the sale of filled cheese and oleomargarine for the pure stock; but I fail to see in what particular they are worse than substitution of seeds and nursery stock. Both are death to the honest producer, and a swindle on the consumer. In the case of the consumer of seeds, etc., the loss may be not only the loss of the cost of the seed, but the loss of price of the crop.

There is no hope, at present, of getting any legislation that will put a stop to this fraud, but farmers can, by patronizing firms which stake their reputation upon the quality and purity of their stock, be reasonably certain of getting what they buy. In the meantime, let every reader of THE R. N.-Y. pledge himself to the standard of honest goods in every line, and death to fraud. Let him take a stand for principles, not parties, and decline to vote for any party which will not pledge itself to the support of the reforms, even though forced to cast his vote with a slim minority, and it will be only a question of a little time, when like the farmers of Ohio, we can show a record in perseverance for these great reforms, of which we can all be proud.

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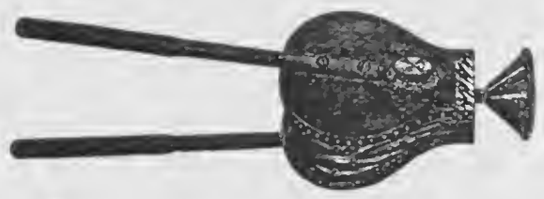

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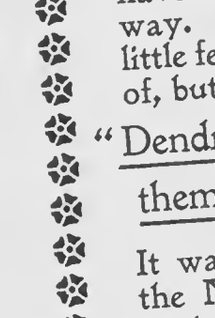

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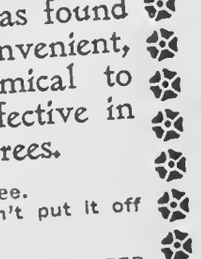

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Borers kill trees

if they are allowed to have their own sweet way. They are hard little fellows to get rid of, but

"Dendrolene" stops them all.

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The Rural New-Yorker.

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A National Weekly Journal for Country and Suburban Homes.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MAY 9, 1896.

NEW YORK COMMISSIONER OF AGRICULTURE.

When Levi P. Morton was elected Governor of New York State, we think that most conservative and thoughtful men were disposed to believe that he would conduct his office in a businesslike way. THE R. N.-Y. certainly thought that, at last, a man had been elected to the Governor's chair who would recognize the needs of improved agriculture. Governor Morton is personally interested in farming. We know that he takes a deep interest in matters that pertain to soil culture. We also know that he is a keen, shrewd and successful business man, who in his own business, recognizes the fact that men of special fitness and training, are needed to fill positions of trust in a satisfactory way.

When the matter of appointing a new Commissioner of Agriculture came up, we were satisfied that Governor Morton would recognize the true needs of the farmers of New York State. We put ourselves on record as saying that we believed that the Governor would, in this matter, rise above mere partisan politics, and appoint a man who deserved the office; not because he was a mere politician, but because long years of experience, observation and study had taught him the true needs of New York State agriculture.

We regret to say that Governor Morton has not risen to the occasion. In fact, he has made a most ignominious failure, and has appointed the one man among the many suggested for the place, who is notoriously unfit for the position. Passing by such men as S. D. Willard, J. S. Woodward, George T. Powell and other men who have, by long years of service, proved their fitness for the position, he has appointed a man whose only backing for the place, so far as we can learn, comes from professional politicians; men who desire to use the office for partisan ends.

Governor Morton had a great opportunity, but he has failed utterly to meet the demands of the farmers of the State. He has simply yielded to the politician (probably carrying out some old political promise), and turned his back upon the truest friends of the farmers. There might be some excuse for this, if it could be said that the Governor did not know the real state of affairs. That cannot be said, however, for the case has been repeatedly put before him in the most forcible way. He has been waited upon by the members of the New York State Agricultural Society, Western New York Horticultural Society, and dozens of other influential organizations, who said to him, in effect, "Appoint any of the candidates except this one politician who is particularly objectionable." Farmers of wealth and standing, as well as those of humbler degree, who seldom leave their homes, have waited upon him. In fact, the issue has been defined with the utmost clearness; yet, in spite of all this, he has done the very thing that he should not have done. Governor Morton has been tried in the balance, and found wanting by the farmers of New York State. Here was a case that directly concerned agriculture. The farmers have not interfered in all the other hundreds of appointments that the Governor has made, but in this case, they, with right, demanded a man in whom they had confidence. They have received a direct slap in the face. This matter of the appointment of Commissioner of Agriculture was one that came straight to the heart of our farmers. It had a direct bearing upon their business, and they have been watching the Governor with great care to see what he would do for them. He has failed to meet their needs, and, in our judgment, has missed a great opportunity.

THE R. N.-Y. has never taken an active part in politics, but when the issue is forced upon us in this way, we do not hesitate to say that Governor Morton has placed himself in opposition to the best interests of New York State agriculture. We do not see how any self-respecting farmer in this State, can now support him for any further political advancement. THE R. N.-Y. takes this position with deep regret, but the conviction has been forced upon us more and more during the past few years, that our politicians have no more regard for the welfare of the individual farmer, than has the gambler for the cards with which he wins his game. As, one after another, once trusted friends desert him, it becomes more clearly evident that the American farmer must take an active and independent part in public affairs.

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THERE is a good point about that Manchester farm in Connecticut. Here are a father and two sons with their wives, living on one farm, and finding plenty of room to work and develop the lines of farming that suit them best. How much better such coöperation is than for this family to maintain three different farms, requiring three sets of tools and more capital, without correspondingly large increase of returns. It is a mistaken idea that the boy must go away from the farm in order to make a success of farming. This Manchester farm upsets that theory entirely. There is room on your farm for the boys.

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A BUSINESS that seems to have suffered greatly in some parts of the West, is that of mule breeding. When the great shrinkage in the price of horses began, it was thought that mule breeding would improve as a business; but two things seem to have upset these calculations. The South has always provided the chief market for mules, but of late years, Southern farmers have begun to breed their own mules, so that the demand for Western animals has greatly fallen off. Then again, the drop in the price of horses has enabled the teamsters in Western towns to secure much better animals for the money formerly paid for mules. So that the Western mule has his sorrows like all the rest of us.

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"WHAT'S one man's meat is another man's poison!" It was a wise man who put that thought into words. The truth of the old saying crops out quite unexpectedly—oftentimes where we least expect it. For example, take this letter from a friend in Connecticut:

> IN THE R. N.-Y. not long ago, somebody asked how to get rid of rats in a barn, and the replies sent were nearly all to get a cat. My trouble is cats, and I wish to ask, in all seriousness, how to get rid of them. Just at the foot of our yard is an old barn. I can't have a young chicken anywhere near it, and they have become a very serious nuisance. I am no shot with a gun, and if shooting be prescribed, I shall have to hire somebody to do it.

Now a cat is a sure antidote for a rat, but a rat simply makes more cat, and when the cat itself becomes a nuisance, what is to be done to counteract the effect of the rat medicine? Here is a case for our wise men. Will anything short of strychnine destroy the nine lives of a cat?

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MR. MANCHESTER tells us how he uses bran in the place of hay for feeding cows. Pound for pound, the bran is cheaper than the hay, and if the latter were ground as fine as the bran, it would occupy but little more space. In fact, as we have often stated, Timothy hay is the most expensive food one can give to a cow. At the writer's home, good hay sells at $22 a ton from the farm. The best of baled hay cannot compete with it. With a silo and a few acres of oat hay to feed as dry roughage, our farmers might sell nearly all their Timothy, and thus make it one of the best crops on the farm. Many people still think it a wise policy to stuff a horse with 20 pounds or more of long hay each day. THE R. N.-Y. has often told its readers of a new horse food in which hay, corn and oats are all ground to a coarse powder. This feed is, we understand, giving the best of satisfaction, and is certainly more economical than long hay and whole grain.

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IT is now time to attack the Elm-leaf beetle if you expect to cut it off this year. Late in May, the beetles lay their eggs on the under-sides of the young leaves. In about a week, the larvæ or young worms hatch out, and at once proceed to feed on the leaves until full grown, when they go to the ground where they change into beetles. The time to fight this insect to the best advantage, is when the worms are most active, and the way to do it is to put Paris-green or other poisons where they will eat them. In other words, the tree must be sprayed with some poisonous solution, so that the under sides of the leaves will be covered. Last fall, Mr. Edwin Hoyt, of Connecticut, told us how he operates against this insect. A boiler, tank and pump are loaded on a wagon with a half-inch hose about 100 feet long fitted with a McGowen nozzle. For 100 gallons of water, one pound of Paris-green and three pounds of lime are used. It is also a good plan to add two quarts of molasses, which will make the poison "stick." A man with "creepers" climbs the tree, hauls up the hose and nozzle, and choosing a good position at some crotch, sprays the leaves from the under side. The entire cost of Mr. Hoyt's outfit, which includes boiler, pump, tank, hose, etc., was about $275, and, of course, the same outfit can be used for other spraying. In many towns, the Elm-leaf beetle is a sad pest. Now is the time to fight it.

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WE have been planning a mixture of chemicals for an oat crop—out of nitrate of soda, acid rock and muriate of potash. There was no good place in the old barn for mixing, and the farmer had never used chemicals before. So directions were given to mix on a level piece of grass near the field. A space 10x12 feet was selected and covered lightly with soil. Then half the acid rock was spread and the lumps crushed with a shovel. Then more soil was spread, and then half the nitrate with more soil on that, and then half the muriate. In this way, the mixture was spread, with layers of soil between each layer of chemicals. The whole thing was then shoveled together and spread out several times. It was broadcasted by loading on a drag and spreading from that with a shovel. It was then worked in with a spring-tooth harrow. Of course, this was but a crude way of doing the work, but it seemed the best plan under the circumstances.

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BREVITIES.

You, perhaps, have heard folks say—at their work or at their play
"I'm the one to show you how to do that right!"
I'm the man that knows it all, and my head is built so tall
That it towers above all others in the fight.
Oh, the chap that knows it all, with his knowledge right on call,
Is a nuisance, sir, from any point of view!
For, though he be right or wrong, he has got so far along
That he can't absorb an atom that is new.
"Me or my or I or mine"—how around his tongue they twine!
But the people size him up—he wonders why—
But his head is hard as wood, and he's never understood
That there's neither size nor substance to his I!

DON'T shun education.

"*Good roads by bad men!*"

MONEY is certainly tight when it is drunk!

"PROGRESS and poverty"—running into debt.

PLASTER will make you master of stable nitrogen.

IT appears that Nebraska pays a bounty on chicory!

Too much champagne will make a real pain in the head.

How many farmers realize *why* they put manure in the ground?

IT'S a good slip of the pen when the hog gets into the clover field.

How can a man grow by reading only what he already understands?

WHAT element do you need to balance the ration of your books this year?

HARD work will cure soft-shelled eggs in hens and soft-shelled ideas in men.

"BALL" bearings—that is the groove many a boy's mind is running in just now.

MR. MANCHESTER'S corn and beans will make what the Indians called succotash!

MR. CUSHMAN makes some good points in advocating corn for poultry—page 330.

HOT water purifies the skin, but what will make you pure within? Not "hot water"!

YOU may have city privileges in the country, but you can't have country privileges in the city.

TEACH your child to fear God, to love honor, truth, home, labor, health, soap and a tooth brush.

WHY did God make you capable and strong, except that you might help put down the wrong?

THAT ice cream, page 317, is cold comfort to the consumer while it warms the pocketbook of the producer.

THE Crimson clover reports are not all rosy. That is the way they started last year. The report from the Rural Grounds comes next week.

WE have some early Parker Earle strawberries. They were forced by removing the mulch early. They are grown in frames as described by Mr. Crawford last year.

SCIENTIFIC men now say that pure butter is as much a medicine as is cod liver oil. No doubt of it. Kill off oleo, and butter will be the medicine to cure many an ailing farm.

IF grandfather were alive to-day, and had only your years, do you mean to say that he would follow the methods of 60 years ago? What a question! You know better. Then why do you follow them?

How doth the little busy bee improve each shining hour by adding to the sweets of life and driving out the sour. Now here's a word for you, my friend, just imitate the bee—pile up the sweets—drive out the sour in your own family.

How the world does change. Here is New Jersey importing one bug from California to kill off another. Read Prof. Smith's article—page 325. How our ancestors would have rubbed their eyes at the thought of setting one bug to eat up another!

AT the Maine Experiment Station, an effort was made to hasten the heading of cabbage by tying up the outer leaves. The result was that maturity was not hastened, while the tied up leaves held the water and produced decay, so that not a single head was fit for market.

THIS week Mr. Chapman tells us about what he considers a cheaper method of strawberry culture than the one proposed by Mr. Ballou. One thing he must remember, and that is the fact that Mr. Ballou has made the strawberry build him a home. That's good enough for "a poor man's method."

AN INVITATION TO LADY-BIRD BEETLES.

WANTED IN NEW JERSEY AT ONCE.

At the meeting of the Horticultural Society, held early in January, one of the points particularly discussed was the spread of the San José scale, an insect introduced from California some years ago on nursery stock. The species has increased rapidly, and is one of the most serious dangers to fruit growing in southern New Jersey at this time. Insecticide applications have not been as successful as was to be desired, and the difficulty of reaching all the specimens is so great that it is only under exceptionally favorable circumstances that badly infested trees can be entirely cleared.

On the Pacific coast, whence this insect was introduced, it is said that there are certain natural enemies that keep it in check, among them, some of the lady-birds introduced from Australia, and which were intended to destroy the cottony cushion scale. It had gradually become a conviction in the minds of certain farmers, that the only way in which these insects could be controlled in the East, was to introduce some of the very species that keep them in check in California, and this was voiced in a paper by Mr. Charles Parry. I pointed out the difficulties in the way of introducing insects into such widely different climates, and called attention to some of the reasons why the scheme did not seem to me to offer any very overpowering chances of success. Nevertheless, there was good authority for the belief that some of the species, if properly selected, might endure our variable New Jersey climate, and I admitted that there was, at any rate, to say the least, a possibility that the importation could be successfully accomplished, and that the insects might survive and multiply. It was resolved to request the State Board of Agriculture to act in the matter, and to attempt to obtain an appropriation for the purpose of carrying on the necessary investigations and securing supplies of the desired insects. The matter was brought up at the meeting of the State Board of Agriculture, also held in January, 1896, and a resolution was passed requesting the Legislature to appropriate the sum of $1,000 for the purpose of studying the insect enemies of the San José scale and introducing them, or some of them, into the State of New Jersey. The matter was duly presented to the Committee of Agriculture, was favorably acted upon, and the appropriation of $1,000, to make it immediately available, was introduced into the Deficiency bill which recently received the signature of the Governor and became a law.

To carry out the work, it is my intention to leave for California at once, and to make my first investigation at Los Angeles, studying there the character of the predatory species found feeding on scales in general, and upon the San José scale in particular, and investigating also their life history, to determine which offer the best chances of surviving in the East. Fifteen points have been selected to which the Californian insects will be distributed; of these, 13 are in New Jersey. The coöperation of Prof. P. H. Rolfs of Florida has been secured, and he will take charge of sendings that can be colonized in the infested regions in Florida. The entomologist to the United States Department of Agriculture, Mr. L. O. Howard, will also coöperate in this effort, and will place colonies, as they reach him, in some infested orchard either in Maryland or Virginia, or both, as may be most convenient, or offer the best chances of success.

The object of placing the colonies in Florida and in Virginia or Maryland, is to give the insects from the Pacific coast as many chances as possible of becoming acclimated. It may be that they will survive without trouble in Florida, and that from Florida, colonies can be more easily obtained to be sent to the North. If they survive in Virginia, it would be easy to select specimens to send to New Jersey in future years, and the chances are that each generation will become a little better fitted to sustain our changeable climate.

Besides Los Angeles, Santa Barbara, San José, Marysville and the regions surrounding these places will be visited, and in each case, the predatory species that is doing the most effective work will be gathered and sent to the East. JOHN B. SMITH.

New Jersey Experiment Station.

We can remember the time when the great majority of farmers believed that it was of little use to try to make apple trees bear a crop in an off year. At last there came, here and there, men who claimed that, by properly feeding and caring for a tree, it could be made to bear a fair crop each year. This idea of driving off the "off" seemed like upsetting Nature to many a farmer; but it is growing, because the reason for it is being made plain. For example, this is what an observing farmer in Maryland has noticed:

> The persistent use of the spray pump in my apple orchards, of late years, seems to have changed, to a great extent, the bearing years to the "off" or lucky ones. Has any one else ever noticed this peculiarity?

We have heard the same thing mentioned by farmers in other parts of the country. The careful spraying has kept down the attacks of insects and fungi, and this, carried on for a number of years, has given the tree new vigor, especially where it has been liberally fed and carefully pruned. It does not, therefore, exhaust itself with one large crop, and then stand idle for a year, accumulating energy for another crop. The "off" year generally represented a vacation brought about by overwork. Continued spraying and feeding render the vacation unnecessary. That is about the story.

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Encouraged by the success of the legislation against oleomargarine and filled cheese, Representative Cooper, of Wisconsin, has introduced a bill defining pure beer. This bill defines adulterated beer as fermented liquor, containing any substances of whatever name or nature, used as a substitute or in place of pure barley, malt or hops, or pure hop extract. Manufacturers of adulterated beer are to pay $2,500 in addition to the present taxes, and wholesale dealers $1,000 extra, and retailers $250. Special taxes and fines are also levied, and wherever adulterated beer is sold, notices in German and in English must be posted informing the public of the fact. The design of this bill is twofold. First, to protect the manufacturers of the pure article, and second, to protect the public against adulterated goods. It is said that, of late years, the sales of adulterated beer have increased enormously, so that to-day, but comparatively little of the really pure article is sold at retail. The R. N.-Y. would get along very well if there were no beer brewed at all. We are happy to state that beer is not essential to our existence or happiness. At the same time, so long as this liquor is legally brewed and sold, we are in favor of every reasonable restriction that shall compel manufacturers to make a pure article, and avoid the introduction of injurious drugs and other substances.

BUSINESS BITS.

The Henry Phillipps Seed and Implement Co., Toledo, O., make something of a specialty of grass seeds of all kinds. They are also manufacturers of the Little Giant seeders. Their catalogue and price list may be had free.

That enterprising seedsman, J. C. Vaughan, of 86 Randolph Street, Chicago, Ill., has a branch store at 14 Barclay Street, New York, so that his customers can order from the nearest place. Just now he wishes to send samples of his Evergreen sweet corn for a two-cent stamp.

For running a cream separator, a churn, or an ice cream freezer, the Baby Junior tread power is just what is needed. It is made by the St. Albans Foundry Co., St. Albans, Vt. This house makes a large line of tread powers for heavier farm work such as running thrashing machines, ensilage cutters and wood saws. Any goods made by this firm will be found first-class in every particular.

Willm. Cooper & Nephews, Galveston, Tex., request secretaries of all State and county fairs to apply to them for copy for insertions in premium lists of a special premium which they intend to present to every winner of a sheep premium at all the 1896 fairs. The special premiums will be given only where officially referred to in the premium list of the fair.

Slug Shot has the advantage of killing bugs without injuring the foliage of plants. It is also harmless to domestic animals, though it will kill lice on cattle or dogs. Though it kills currant worms, cabbage worms and potato bugs, the writer has seen Mr. Hammond eat it out of his hand. It can be distributed with Leggett's dry powder gun. Hammond's Slug Shot Works, Fishkill-on-Hudson, N. Y., will send full information if desired.

The De Laval Separator Co., 74 Cortlandt Street, New York, have added a new machine to their already full line of separators. This new machine is the smallest of the Baby separators, and is called the "Humming-Bird." It is operated by a ratchet strap instead of a crank like the other Baby machines, the motion being backward and forward. It is said that it may be operated easily by women or children, and is intended for very small dairies, or households where small quantities of cream are desired.

The Noblestown Mfg. Co., Noblestown, Pa., are making a butter package which they call the Burton dry air preserving and storage vessel, which we think will meet with favor. It consists of a cedar pail covered air-tight with lid and clasps, inside of which is a glass vessel protected on all sides with springs, and also covered air-tight by a lid which is held down by means of a steel spring. The underside of the lid rests on a hard-rubber gasket where it comes in contact with the mouth of the glass vessel. The butter, milk, cream, or fruit is put in the glass vessel, which is in itself not only air-tight, but is also surrounded by a cushion of dead air in the cedar pail. Being insulated, it is free from electric influence, and it is claimed that it will keep butter almost indefinitely.

The Mapes fertilizers have always been regarded as standard goods. They are always well mixed, dry and fine, so that it is possible to secure the most perfect distribution. Whenever sampled fairly for analysis, they are sure to show more than the guaranteed per cent of available plant food. They are composed of the best forms of chemicals—in fact, they represent the highest type of the fertilizer-maker's art. This year's prices are reduced, especially on the corn manure. There is likely to be a heavy planting of corn in many parts of the East, so that the Mapes Corn Manure will be specially useful this year. The Mapes Company, 143 Liberty Street, New York, have issued a pamphlet entitled, "The Brighter Side of Farming." Send for it. It is a good thing to read in connection with "Blue Stone," on page 328.

Prices Reduced 1896—Standard Fully Maintained.

THE · MAPES · MANURES

For Corn, Sweet Corn, Potatoes, Tobacco, Cauliflowers, Cabbages, Celery, Late Truck, Corn Fodder, Hungarian Grass, Mangolds, Turnips, Fruit Trees, Gherkins, Hops, Etc.

THESE MANURES CAN BE APPLIED AT PLANTING AS A TOP-DRESSING, OR AT HOEING. THEY WILL SUFFER LITTLE, IF ANY, LOSS OF STRENGTH BY EXPOSURE ON THE GROUND.

THE MAPES MANURES AT THE AGRICULTURAL EXPERIMENT STATIONS.

[From the American Agriculturist, March 30, 1895.]

The Mapes Fertilizers have long been recognized as the standard in quality. Mr. Mapes, like his father, Prof. Mapes, before him, has been a leader in developing the manufacture of fertilizers of the highest grade. He believes that the best fertilizers are the cheapest, and demonstrates this by the analyses of his goods, not only for the present year, but for a long series of years. In every case the Mapes fertilizers are found to contain even more actual plant food than is stated in their guarantee, so that they can always be depended upon to give value received. As to their crop-producing power, and the profit that follows the use of the Mapes manures, thousands of farmers testify in the most emphatic manner. The books of the Mapes Company contain an immense fund of practical and valuable information on the whole subject of fertility, and can be consulted to advantage by every farmer. Mr. Mapes has long been careful to employ not only the best materials in making the Mapes manures, but to supply the nitrogen, particularly, in various forms, so as not only to give the crop a good start, but back it up as the season advances. The importance of this matter is emphasized by the article, on page 6 of this issue, on the crop-producing power of nitrogen in different forms. It will be noticed that the difference between average cost and chemist's valuation of these goods is *only half as much as with the ordinary fertilizers.*

Our specialty is complete manuring for each crop and building up the strength of the soil. Any of the books, including Mortgage Lifters, Fertilizer Farming, Fertilizers and Fruit, Tobacco Growing, Top-Dressing and Seeding Down to Grass, and Descriptive Pamphlets, will be mailed free.

The Mapes Formula and Peruvian Guano Company, 143 Liberty Street, New York.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

MRS. RORER advises the use of flour instead of cornstarch in making lemon pie, as, she says, the cornstarch settles to the bottom of the pie, and prevents the lower crust from baking. To avoid this settling, we always cook the corn starch before adding it to the other ingredients of the pie, and think that this will always insure a better filling.

*

THE person who does his work in a very humble sphere, and clips the wings of ambitions that would carry him away from duties that are near at hand, is really worthy of more honor than that which attends the success of more ambitious lives. Yet we, who decide what measure of praise a man shall receive, are not just, according to this standard.

*

IT is recorded that Josh Billings once said that woman could never ride a machine because "she was not built that way." That was before the bicycle adapted itself to the artificial disadvantages which hamper womankind. The wheel having made such generous concessions to the wearers of skirts, one would suppose that they would mount it without more ado, and ride away to pleasure and health.

*

SOME of them do. But a large part of womankind are more concerned about their clothes than anything else. The aim of their lives is to preserve all of the artificialities which tend to perpetuate the illusion which Josh Billings evidently believed was real. The latest things designed for the feminine humbugs are imitation leggings. They consist of ordinary black hose with mock buttonholes and buttons extending the whole length of one side and stitched to simulate leggings. Cloth leggings have been found too clumsy for comfort. The women who have common sense discarded them, buttons and all. Now Fashion has mercifully provided for the woman who couldn't be so immodest as to possess common sense. How thankful we ought to be that some women can't vote.

MRS. GANNETT'S ARBOR DAY.

(*Concluded.*)

The next day, Ben and his mother drove to Swanson's nursery, about four miles away. Mr. Swanson looked their list over carefully.

"If you get the very best, these highest prices are about the same as mine," he said; "or I can let you have the same varieties, only smaller plants, for about half that. I'll own I can't sell as low as this lowest price list, but that man is thoroughly reliable. I often buy of him myself, and have found his stock first-class. All the drawback is that it is young stock, and you would have to wait considerably longer for the fruit."

Mrs. Gannett didn't want to wait any longer than was absolutely necessary, and told him to give her the best he had.

"It is a good order," said Mr. Swanson, "and I'll throw in a few extras."

From this time till the plants and trees were delivered, Mrs. Gannett and the children talked of nothing but where the different things should be planted, and of the soil and treatment best for each, until Mr. Gannett declared he never saw such a set of lunatics out of a madhouse. Their enthusiasm, however, was contagious, and he grew interested in spite of himself, offered suggestions, and helped prepare the ground. When the eventful day came, and with it the trees and other things, he not only superintended the setting of them, but worked harder than any of the rest, and did not spare the needed fertilizer. "If you will persist in planting the farm to bushes and briers, you might as well have 'em grow," he grumbled.

The extras proved to be two ornamental trees for the front dooryard, a linden and a catalpa, and a Hall's Japanese honeysuckle.

"Oh, mother," said Emma, when the delightful day had come to an end. "There are two dollars and thirty cents left; can't we get flower seeds with that?"

"Yes, mother," said Lucy, "I heard father say that he was going to shut up the hens so they won't scratch the strawberry plants out of the ground."

The boys wanted flowers, too, and after some discussion, they decided on:

Sweet peas, collection of 12 colors	$0.40
Nasturtium, collection of 12 colors	.60
Asters, collection of six colors	.40
Phlox Drummondi	.35
Morning glory, mixed	.15
Poppy, mixed	.10
Sweet Alyssum	.05
Mignonette	.15
Marigold, mixed	.05
Castor bean	.05
Total	$2.30

Everything lived and grew, from apple trees to Castor beans. Whatever Mr. Gannett had or had not done for his children, he had certainly trained them to work, and work on such pleasant things as fruit trees and vines and flowers, seemed to them like play. It was a never-ending delight to watch and assist in the development of each plant and seed, and an incitement to much study of soils, fertilizers, and modes of propagation.

Mrs. Gannett's legacy was a small one, and her way of spending it a small matter; but the result was not small. In the first place, it kept the boys on the farm, for Ben became so enamored of fruit growing, that, when he became of age, he made that his business, while, for a similar reason, Joe turned his attention to floriculture. Both were successful in their chosen callings. The girls were as enthusiastic as the boys, and the mutual interest strengthened the bond of affection between the brothers and sisters.

Mrs. Gannett, having tasted the joy of spending money in her own way, decided that she would, in the future, brave her husband's displeasure, and have other things she had long wanted. "Cyrus always gives in if I keep at him long enough," she told herself. "It's right that we should have the spending of a part of the money we've helped earn and save, and it isn't as though he was poor and couldn't afford it."

So she "kept at him," and gradually the old house grew more homelike and pleasant; books and music found their way into it, then came friends, old and young. The fruit trees came into bearing eventually, and then there was an abundance of fruit to eat and to give away.

Mr. Gannett's purse strings never became very loose. He grumbled a good deal, and frequently referred to the poorhouse as his probable home in the not far distant future. But he sat in the comfortable chairs, listened to the music, read the books, laughed and chatted with the visitors, and ate quantities of fruit. He did not lose flesh, either, and it really seemed as though his grumbling and his trials agreed with him. L. ROBBINS.

BY THE KITCHEN WINDOW.

LOOKING from the window to-day, I see the pruners at work. The master, who has tended the apple trees he planted nearly 40 years ago, takes to himself the task of pruning them still. He has just critically surveyed a winter apple tree, and all superfluous branches are cut out that bearing boughs may live. The naturalist at a little distance is examining and destroying some eggs of the Clisiocampa, and scraping the loose bark that harbors insect depredators. How these trees show their growth as they stand leafless to-day, without giving promise of their future to the careless observer.

Snowdrops are blooming and other early flowers, but all these treasures of the spring are late this year. The kitchen has the full benefit of the spring sunshine, and its window is the delight of some orphan chickens whose mother will not own them. It is astonishing how much charcoal and grit a chicken a few days old will consume. They like company, too, and are sure to give a lonesome peep if they stray from the rest. A bottle of hot water in the bottom of the box serves the place of a mother or brooder, and comforts them at night. What a trade there is in little chickens nowadays. It is not long since a broiler would not find a market, and now there is a constant demand, even in this limited market, for chickens seven to nine weeks old.

The furs are hanging out in the sunshine; it is time they were put away. We find that newspapers, with a few camphor balls, make them safe from moths, provided they are well shaken and beaten beforehand.

Apples have not kept extra well this winter, and the amateur cook is busy beside me paring and coring a number that have commenced to spoil. She has made a syrup in the preserving kettle, and drops the pieces in for a few minutes, then skims them out and puts them into the self-sealing cans. They are often more appreciated than a sweeter fruit, in early summer, when apples are not to be found, especially in a household where that fruit is a favorite.

How the spring sunshine beams on the windows, as it nears the noon hour. No need of curtains yet; let us bask in its rays, and get a sun bath after the long, dreary winter, for, looking backward, it does seem very long, and its shut-in-ness is the greatest drawback when one is not strong to endure the rigors of this climate. I do not wonder that people want to go South till spring really comes. I remember a pleasant springtime, and a few days spent at River Edge, when the season was three weeks in advance of our own, and I saw apple trees bloom in three different places, two weeks behind each other. But we have faith that it will come even to our own kitchen window. ANNIE L. JACK.

THAT SUNBURNED HAT.

TO whiten a sunburned and yellowed white straw hat, fasten a strap across the top of a good tight barrel or box from which to suspend the hat. Suspend it firmly, and place in the bottom of the receptacle a tin dish with a double handful of broken stick brimstone, touch a match to the brimstone, cover quickly and tightly with a board, and over this place heavy mats or sacking. Allow it to remain so covered until the sulphur is burned out, and the smoke has evaporated. This is the way the green rye-straw, of which the braid was plaited, was originally bleached. The hat should be thoroughly wet with hot water, before being suspended.

"Chip" is not a straw, but is split poplar, and when once sunburned can never be made as white as new, as may the straw; but it may be much improved by the sulphur smoking. Do not think that powdered sulphur will do as well as that which comes in sticks and has to be broken into walnut-sized chips before setting on fire; for though, in nature, the same article, the powdered burns too rapidly, thus not giving the long smoking and smouldering necessary. The powder will last only minutes, where the coarser form works for hours.

Yellowed flannels, white worsted shoulder shawls, and head coverings, are whitened by a similar suspension and smoking. Hang them in, after thorough washing and clear rinsing. The backyard will do if one has not a wash-house or shed at hand. So much smoke will escape despite the close coverings, that it is not desirable to go through the process in one's living rooms.

In the days when straw braiding and straw sewing were common industries

There is just a little appetizing bite to HIRES Rootbeer; just a smack of life and good flavor done up in temperance style. *Best by any test.*

Made only by The Charles E. Hires Co., Philadelphia.
A 25c. package makes 5 gallons. Sold everywhere.

SCHOOL OF EXPRESSION. —ART, LITERATURE, ORATORY. Summer Term, Plymouth, Mass., July 8. Catalogue free; also specimen copy of the new review, Expression. S. S. CURRY, Ph.D., or Expression, 458 Boylston Street, Boston.

Sneezing, sniffing and nagging

Hay Fever and Rose Colds

are more easily *prevented* than *cured*—both yield to Booth's "HYOMEI," the Australian "Dry-Air" treatment of Asthma, Hay Fever, Catarrh, Bronchitis, etc., which

"CURES BY INHALATION."

Kattskill Bay, East Lake George, N. Y., July 31, 1895.
Inclosed please find $1.00 for two extra bottles of Hyomei. I am entirely cured of Hay Fever, but I do not like to be without your remedy.
MRS. R. A. LINENDOLL, Mayflower Cottage.

Hyomei is a purely vegetable antiseptic, and destroys the germs which cause disease in the respiratory organs. The air, charged with **Hyomei,** is inhaled at the mouth, and after permeating the minutest air-cells, is exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief.

Pocket Inhaler Outfit, Complete in Sealed Case (see cut), by Mail, $1.00, to any part of the United States; consisting of pocket inhaler, made of deodorized hard rubber (beautifully polished), a bottle of **Hyomei,** a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** does cure.

Are you open to conviction?

R. T. BOOTH, 23 East 20th St., New York

in half the New England homes, perfectly tight "smoke-cupboards" with rows of slatted shelves, were a common convenience, but it is doubtful whether many are still in existence, since imported straws have crowded out the domestic industry. KEZIAH SHELTON.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6735. Girls' Dress.

Grass linen, trimmed with white embroidery and insertion, made this attractive-looking dress. It may be finished without sleeves and yoke, to wear with a guimpe, as shown in the back view. Broad bretelles, curved in pointed outline, are handsomely edged with a frill of embroidery headed with a band of insertion. The full bishop sleeves

6735—GIRLS' DRESS.

are gathered at top and bottom into round cuff bands at the wrists. Pattern No. 6735 is cut in sizes for children of two, four, six, eight and ten years of age.

ODDS AND ENDS.

SOFA CUSHIONS.—Those living in the country, of course, do not have the same facilities for seeing pretty things; but they have the advantage over city girls, in having a quiet time to do what they have on hand. A charming and inexpensive piece of fancy work is the sofa cushion made of denim cloth. Get the new colors of red and dull blue, with the Persian designs stamped on them, and outline these patterns with Asiatic rope silk (pink silk is pretty) on the dark red, and white on the blue. Make a ruffle on the cushion of the plain denim cloth, but match the goods in color, and scallop the edge of the ruffle with a buttonhole stitch. This makes two lovely cushions, and they wash well. To keep them from fading or the silks running, launder them with warm rain water, a lather of Ivory soap, rinse out quickly, and iron while damp on the wrong side first, then press on the right side with a layer of cotton goods between. It will be charming work for afternoons.

SARAH H. HENTON.

GOOD FOR DIGESTION.—It has become a chronic habit with some writers on rural affairs to criticise and slander the average farmer's bill of fare. It is usually done by those most ignorant of the subject. The first grievance is the pie, which is declared to be unfit for use as an article of food. While reading some of these heated discussions, I am reminded of a little real life which came under my own observation. A quarter of a century ago, I met at a social gathering, a young married woman, who had entered enthusiastically on the theory and practice of using only Graham bread, and its accompaniments, pie and cake, were ignored, and great results were predicted to follow this course of living. She was a fresh, rosy-complexioned woman, and brought to the carrying out of her ideas, an amount of energy which would make a success of any good theory. After many years, I met her again, and remembering her zeal for dietetic reform, I looked to see results in her appearance. But, while being an interesting woman in the prime of life, she was as gray and faded as any of the farmers' wives living around me, whose lives had been too full of hard work to have either studied or practiced elaborate rules of living. A happy forgetfulness of what we have eaten, and a worthy aim in life, are both aids to good digestion. AUNT RACHEL.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

SENSE AND SENTIMENT.

It matters little how long I stay
In a world of sorrow, sin and care,
Whether in youth I am called away,
Or live till my bones and pate are bare.
But whether I do the best I can
To soften the weight of adversity's touch
On the faded cheek of my fellow man,
It matters much!

—*From the Swedish.*

....HARYOT HOLT CAHOON: "There is no time in the year when housekeeping assumes the character of a business that lends itself to enterprising management, as much as it does in the spring."

....PHILLIPS BROOKS: "When levity, which has its graceful places among pleasant and trifling things, is brought among sacred and awful truths, how ugly its jesting face and tinsel dress and tinkling bells appear."

....CHARLES DUDLEY WARNER: "If children in the family and in the public schools, were fed with only the best literature, if their minds were treated with as much care in regard to the things sown in them as our wheat fields, what a result we would have!"

....BAB: "A woman dies a hundred deaths from headache and heartache and rheumatism and diseases that verge on pneumonia, but don't quite reach it, and everything else that is unpleasant and not dangerous. And these occasional deaths are the ones when she would like to have a little thought given to her. When she is absolutely dying, she doesn't care. She is not troubling herself about men then."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

The Best. The Rest. The Test.

There are two kinds of sarsaparilla: **The best—and the rest.** The trouble is they look alike. And when the rest dress like the best who's to tell them apart? Well, "the tree is known by its fruit." That's an old test and a safe one. And the taller the tree the deeper the root. That's another test. What's the root,—the record of these sarsaparillas? The one with the deepest root is Ayer's. The one with the richest fruit: that, too, is Ayer's. Ayer's Sarsaparilla has a record of half a century of cures; a record of many medals and awards—culminating in the medal of the Chicago World's Fair, which, admitting Ayer's Sarsaparilla as the best—shut its doors against the rest. That was greater honor than the medal, to be the only Sarsaparilla admitted as an exhibit at the World's Fair. If you want to get the best sarsaparilla of your druggist, here's an infallible rule: Ask for the best and you'll get Ayer's. Ask for Ayer's and you'll get the best.

SCOTT'S Emulsion

Is the standard emulsion the world over. There is not a man, woman or child who is run down or emaciated or has weak lungs that Scott's Emulsion will not benefit. When you ask for it you will likely be told by the druggist that he has an emulsion "just as good." It is not true. No emulsion is as good.

Scott's Emulsion has benefited millions of people. Ask your druggist if he can refer you to a single case that has been helped by the unknown emulsion he sells, and if so, we will send you a book giving thousands of cases. You want the standard; not something that nobody knows anything about.

All druggists sell Scott's Emulsion.
Two sizes—50 cents and $1.00.
SCOTT & BOWNE, Chemists, New York

ASK YOUR DEALER FOR
W. L. DOUGLAS $3. SHOE
BEST IN THE WORLD.

If you pay $4 to $6 for shoes, examine the W. L. Douglas Shoe, and see what a good shoe you can buy for **$3.**

OVER 100 STYLES AND WIDTHS,

CONGRESS, BUTTON, and LACE, made in all kinds of the best selected leather by skilled workmen. We make and sell more $3 Shoes than any other manufacturer in the world.

None genuine unless name and price is stamped on the bottom.

Ask your dealer for our $5, $4, $3.50, $2.50, $2.25 Shoes; $2.50, $2 and $1.75 for boys.

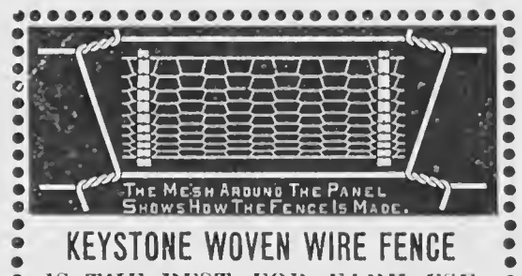
TAKE NO SUBSTITUTE. If your dealer cannot supply you, send to factory, enclosing price and 36 cents to pay carriage. State kind, style of toe (cap or plain), size and width. Our Custom Dept. will fill your order. Send for new Illustrated Catalogue to Box M.

W. L. DOUGLAS, Brockton, Mass.

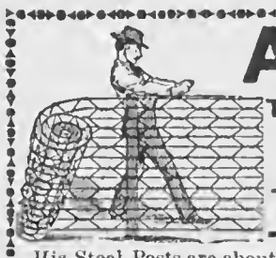
IF YOU NEED
Machine Oil, Harness Oil,
Cylinder Oil, Axle Grease,
Gasoline for Stoves
or Gas Machines,
or anything in the line of oils or greases, write us for prices. DERRICK OIL COMPANY, Titusville, Pa.

TO THE TRADE.
WHAT ARE YOU LOOKING FOR?

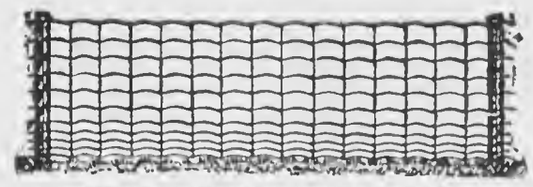
A FIRST-CLASS
Buggy, Carriage Phaeton or Trap
at a reasonable low price. OH, IS THAT ALL, then write to
AMBROSE & HARRIS CARRIAGE CO.,
Perin Building, Cincinnati, Ohio.
Don't Buy until you get their catalogue and prices.



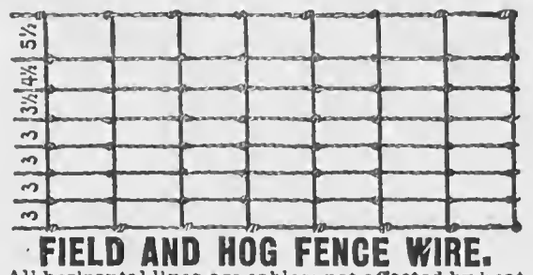
KEYSTONE WOVEN WIRE FENCE
IS THE BEST FOR FARM USE.
25 and 28-inch for hog lots. 46, 55 and 58-inch for general use.
Send for illustrated catalogue.
KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.



ADAM
The FENCE MAN
Makes Woven Wire Fencing so that it Cannot Sag.
The BEST Farm Fence Made
His Steel Posts are about as cheap as wood.
His Steel Lawn and Cemetery Fence have no equal
His line of Wire and Iron Gates are unsurpassed.
His 1896 catalogue tells all about all of them.
W. J. ADAM, Joliet, Ills.



AN IRISHMAN'S REASON.
A group of Kentucky farmers were discussing fences. **One only**, defended a ratchet device, all the others preferred "the Page." Each in turn gave his reasons, a son of the "ould sod" last. "Begorra"! said he, "I'd rayther hev a cow that'l coom up hersilf than be goin afther her twice a day."
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



FIELD AND HOG FENCE WIRE.
All horizontal lines are cables; not affected by heat and cold; adjusts itself to hilly ground without buckling. Built for service and durability. Write for full information.
UNION FENCE CO., DeKalb, Ill.

Ten Farmers' Wives WANTED
You can assist us by sending us the names and addresses of ten reliable farmers' wives likely to be interested in our revised tea and coffee club order circular for Farmers' Grange and Alliance Buyers. By complying with the above we will send you a beautiful panel picture, large size, 14 x 28 inches, suitable to frame. Old Reliable House. Highest reference. EMPIRE CITY TEA CO., 28 De Peyster Street, New York City, U. S. A.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

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When you can buy a custom handmade oak leather Harness direct from the mfrs. at wholesale price. Send 2c. stamp for illustrated Catalogue, giving full description.
KING HARNESS CO., Mfrs.,
10 Church Street, Owego, N.Y.

Buy Direct
from maker, and save intermediate profits and have the maker's guarantee—a difference of 40 per cent. in your favor. Freight paid both ways if not as represented. Carriages, Buggies and Spring Wagons. Our 1896 Bicycles are marvels of beauty. You pay for the wheel and not for a fancy name. Send for Catalogue, free.

Binghamton Carriage and Cycle Co.
Box E Binghamton, N.Y.

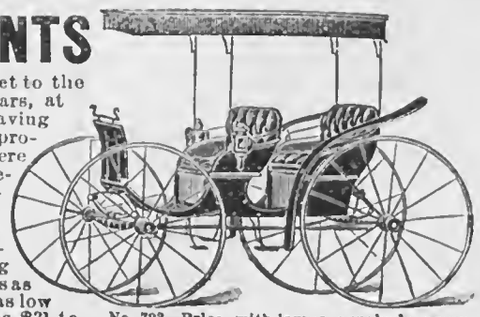
BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**
"A" Grade, $44. Style, Finish.

"A" Grade, $60. Durability.

WE HAVE NO AGENTS

No. 16¼—Surrey Harness, Price $14.50. As good as sells for $20.

but have sold direct to the consumer for 23 years, at wholesale prices, saving them the dealers' profits. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 90 styles of Harness, 41 styles Riding Saddles. Top Buggies as low as $35. Phaetons as low as $55. Spring Wagons $31 to $50. Send for large Catalogue.



No. 723—Price, with lamps, sunshade, apron and fenders, $60.00. As good as sells for $90.

ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

"BLUE STONE."

Most of you who have been in our eastern towns and cities, know how the sidewalks are paved with wide blocks of a smooth, light-colored stone. Millions of these blocks have been used for this purpose. They are better than brick, more durable than wood—in fact, for many reasons, they are superior to any other substanee for keeping the feet of foot passengers out of the mud. In several parts of the country, great masses of this "blue stone" crop out near the surfaee, and these great quarries have been formed where large ehunks of the stone are taken out, split to the proper thickness, and then sawed into blocks of the desired size. It is wonderful how this trade in stone is spreading all over the country—led by the desire of the people to keep the mud off from their boots and shoes. That desire is at the basis of all this immense trade just as other desires and wants have developed trade in other lines.

While many of our farmers have little use for this blue stone, there is one faet about its preparation that may well serve as an ineentive to many young men and women. When the stone is split into slabs of the proper thiekness, the next thing is to eut them up. You might say that they, probably, take a saw and do that—something with teeth on it that will eut it off just as a man saws through a stiek of wood. That won't answer, for the stone is harder than steel—you may use it for a grindstone if you like. You might make progress with a heavy saw, but it would cost too much to keep it sharp. To eut the "blue stone," therefore, they use a plain band of steel without any teeth on it. It just runs along over the stone, and the groove in which it runs is kept filled with sharp *sand.* The eonstant friction and seratching of the sand eats or euts away the stone so that it may be broken off with a elean eut. The sand is harder and sharper than the saw, for every eorner of it is a tooth that never needs filing or setting.

Now, if you will look up the definition of the word "sand," in the latest dietionaries, you will find "eourage, pluck, grit," given as the latest aeeepted meaning, and this is the side of the word we expeet to take up. Farming has been eovered with very "blue" stones for the past few years. Many of us feel as though a regular slab were resting right upon the farm. It's resting on our baeks—we want it eut into ehunks that we ean put under our feet so that we may keep out of the mud. And the question at onee arises, With what ean we eut the blue stone up?

If a fellow had money out at interest or some fat political offiee to yield him an easy revenue, the way would be easy, for sueh things are just like sharp teeth to eut off the blue stone into any size you like. With such teeth, all a man has to do is to supply the needed power. But when a man has not the eapital or the offiee—in faet, when he has nothing but his head and his hands to work with, it looks as though the stone might master him. But no—if that thing were true in the stone business, what would we do for sidewalks? A man without the teeth of eapital to eut with, must fall back upon his "sand." Be true as steel to the right prineiples of farming! Make a definite plan! Start the thing going, pour in the sand and hang on! Don't quit, but keep the maehine moving! It will be a long, hard grind, but if you hang to it, you will surely saw off the bloek, and get it where you ean stand on it! Now is the time to throw in a double dose of "sand"! Don't get discouraged! Put on the sand and rub it in!

Thus far you will notiee that we have said nothing about THE R. N.-Y. Next week, we shall give the names of the prize winners, and then we shall take oeeasion to talk R. N.-Y. for all we are worth. In the meantime, let us hear from an Illinois man who has been putting "sand" on that blue stone. Here is his letter:

I am glad that you jogged my memory in regard to my renewal, which I sent at once, for I value THE R. N.-Y. above all of the farm papers. I would like to tell some of the younger readers of THE R. N.-Y., why I like the farm. In the first place, we only have to do our work, and trust an allwise Creator for our living. Second, I think breeding and rearing stock is one of the most noble pursuits that a man can follow. Third, a farmer can be more independent, even with a small capital, than at any other calling. To prove what I say, I will give a summary of my last year's work. One year ago, I bought 70 acres of land for $2,800. I went in debt $500, bought a team, wagon, harness, plows, harrows and all things needful; that is, I bought snch tools as I could not get along without. I lost one horse, and bought three more. These tools and horses eost me $370. I also bought four purebred Poland-Chinas—three sows and one boar—and one purebred Berkshire sow, paying $100 for them. I got them all paid for out of last summer and winter's work, have $280 for hogs sold, 800 bushels of corn in the crib, and my horses are worth more than they were the day that I bought them, for they are young. I have 13 sows bred for spring, and have 40 aeres of clover to pasture them on. I have till January, 1897, to pay the $500, and I think, with reasonable success and as much hard work as I did last year, that I shall get out of debt. I almost forgot 1,200 gallons of vinegar that I made from my orchard. I wish to say in conclusion that I had backing, so that every time I spent a dollar, I got 100 eents' worth.

Hutsonville, Ill. C. K.

CROP AND MARKET NOTES.

Hops are getting worse and worse.

The wool market is well sustained.

Good goods guarantee good gains.

Pork euts a small figure in the market.

Bananas are always plentiful and cheap.

Dried small fruits are mostly low and dull

Eggs for this market should be closely graded.

California oranges are still being sold at auction.

Prices of dried beans have an upward tendency.

Honey is scarce, bnt demand is light and trade dull.

Boston egg prices are higher than those of New York

There is a considerable export trade in dried apples.

Receipts of foreign oranges and lemons continue large.

Receipts of milk are heavy, and the price of the surplus is lower.

Pure beeswax is searee and is held at 30 to 31 eents per ponnd.

The cultivation of sugar eane is to be offieially encouraged in Egypt.

Most New Jersey small fruits promise well this year, exeept blackberries.

The first arrival of Egyptian onions, consisted of a lot of 250 bags, and sold for $2 per bag.

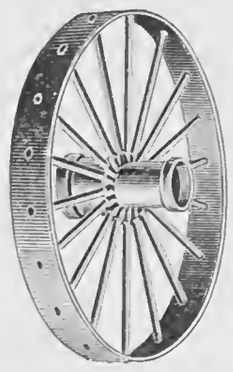
Green apples are still arriving in considerable quantities, and find a good demand if choice.

Receipts of cheese in this market last year were about 20 per cent less than those of the preceding year.

The year's receipts of butter, up to May 1, of this year, were considerably in excess of those one year earlier.

(Continued on next page.)

A Labor Saver.



The most labor-saving of farm implements today, considering cost, is the low Metal Wheels with wide tires. By using low wheels the wagon is lowered so as to save one man's labor in loading and unloading. Wide tires prevent cutting of ruts on farm; also make hauling easier for horses. The Metal Wheels also save expense of resetting tires, no blacksmith bills to pay. Are made in any size wanted and any width of tire, hubs to fit any skein or axle. We suggest that every reader write to The Empire Mfg. Co., Quincy, Ill., and get their catalogue.

SPRAY Your Fruit Trees We can serve you well in the line of Spraying Apparatus & Insecticides.

Brass Horticultural Syringe, $1.25
Little Gem all Brass Bucket Pump, $3.50
Leggett's Dry Powder Gun, $7.50—puts Paris Green on without mixing, and does it rapidly and well.
Write us your wants, and get our circulars, catalogues, prices.
JOHNSON & STOKES, 217 & 219 Market St., Philada., Pa.

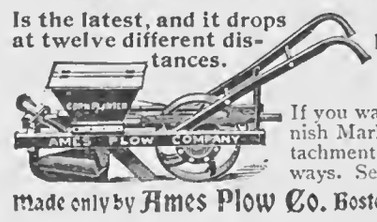
FOR SALE, CHEAP!

One eight-can COOLEY CREAMER, elevator style; one Davis Swing Churn, No. 5, with folding frame; one Improved Philadelphia Butter Worker, No. 2. These goods are nearly new and in perfect order. Will sell very cheap, as I have quit the dairy business. Address
W. E. BONZO, Brush Creek, Beaver Co., Pa.

A FARM of 280 aeres. Good land; good buildings. 4,400 Peach Trees, bearing. Price, $10 per aere. With present prospects for full crop, peaches should more than pay for farm this season. AMOS COLE & SON, Dover, Del.

STAR PATTERN BILLINGS **Planter and Fertilizer**

Is the latest, and it drops at twelve different distances.

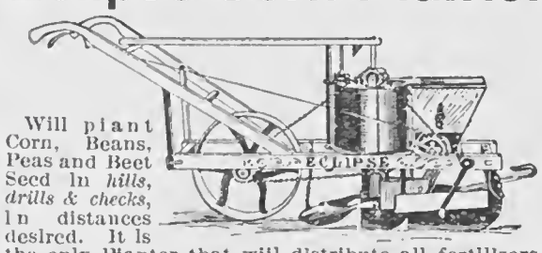


For CORN, BEANS, PEAS and BEET SEED.

If you want them, we furnish Marker and Trip Attachment for rowing both ways. Send for Circulars.

Made only by Ames Plow Co. Boston and New York.

Eclipse Corn Planter



Will plant Corn, Beans, Peas and Beet Seed in *hills, drills & checks,* in distances desired. It is the only Planter that will distribute all fertilizers, wet or dry, with a certainty, in different amounts, each side of seed. Send for circulars.

ECLIPSE CORN PLANTER CO.,
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AN INSTRUMENT *OF TORTURE* Is the old style leather valveSpray Pump.

The "Eclipse," Model '96, is far ahead of all. Everybody enthusiastic who sees it.

SEND FOR CATALOGUE.
MORRILL & MORLEY,
Benton Harbor, Mich.

Aeration vs. Cleanliness

"DON'T HAVE SOUR MILK."

NOTHING is of more importance in the proper handling of your milk for *any* and *every* purpose than cleanliness.

NOTHING aids you in dairy cleanliness more than the proper aeration of milk.

NOTHING aerates your milk and at the same time cools it as well and as easily as the Champion Automatic Milk Cooler and Aerator.

NOTHING costs so little and saves so much for you as this same Champion.

"IT PAYS FOR ITSELF IN A WEEK."
A request for it will give you full information.
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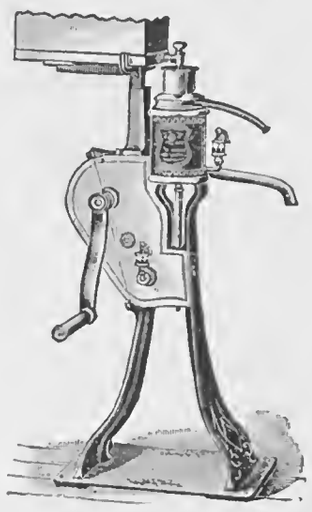
IMPROVED United States Separator.



Users are enthusiastic in its praise on all points that go to make a first-class Separator.

One says:
"We make 15 per cent. more butter."
Another writes:
"0.03 of 1 per cent. was the test of the skim-milk to-day, running the Separator as it runs every day."
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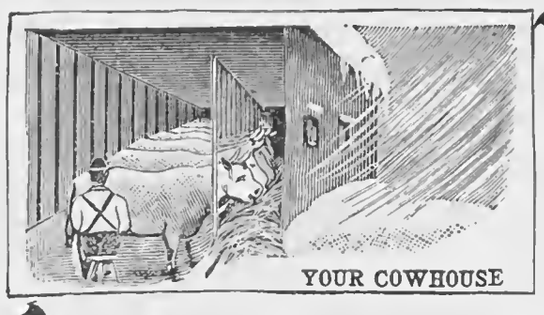
"It's a fine running machine. Can be easily turned with one hand, and only takes from 3 to 5 minutes to clean it."

"And there are others," hundreds of them, in our special catalogue. Have you one? If not, ask for it and we will gladly send one.

We furnish the best **Babcock Tester,** the best **Churn,** as well as the best **Butter Workers, Butter Printers, Cooley Creamers, Butter Packages** of all sorts, **Vats, Engines** and **Boilers,** and everything for the Creamery and Dairy.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.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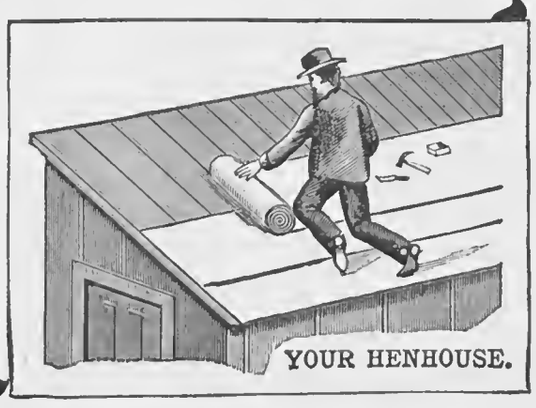

YOUR HENHOUSE.

CROP AND MARKET NOTES.

(CONTINUED.)

Some California asparagus sold for scarcely enough to pay freight, on aecount of the plentiful supply from nearby points.

The Filled Cheese bill is now in the hands of the Senate committees, with a prospect of being favorably reported later.

Reports from several hundred of the largest peach growers in New Jersey, say that prospects are favorable for a large yield.

A plan has been agreed upon for eonducting the auction sales of California fruits in one room instead of in different places as was done last season.

Some poor, small cabbage from North Carolina met a poor sale, because the market is well supplied with good stock from Charleston and Florida.

It is getting late for shipping dressed lambs, unless from nearby. The weather is too warm, and they do not arrive in attractive condition if iced. Better send them alive.

The demand for cheese is so moderate that trade is dull and prices have declined somewhat. Dealers buy very sparingly, as the season for new cheese is so near at hand.

Receipts of dressed calves are heavier, and prices declined considerably. Much care in dressing, icing and shipping is neeessary to have them arrive in marketable condition.

The egg market is weak under heavy arrivals, and poor quality of some of the receipts. Many are now being put into cold storage which will help the accumulations somewhat.

The tobaeco crop of Roumania for 1895, was about double that of the preceding year, and the improvement in quality was so marked that the price was about 50 per cent higher.

New Orleans shippers have a large quantity of onions they are anxious to ship, but the low price and large supply of those from other sources in this market, tend to keep them back.

Butter has recovered from the extreme depression of last week, the receipts have been lighter, the weather more favorable, and the market is in excellent shape. The price is too low, and a little more advanee is probable.

The production of sugar in Austria-Hungary, Germany and France was considerably less during last year than in the preceding year. The outlook for a good market in this country for the next sugar crop, seems bright.

Late reports indicate that the first reports of damage to California fruits by frost were not overstated, but, on the contrary, the damage may prove greater than was expected. Grapes, apricots, cherries, pears, peaches and prunes were all more or less badly damaged.

It is now reported that evaporated potatoes are to be put on the market next fall, from Minnesota. Experiments have been made which were said to be successful, and plans are under way to conduct the business on an extensive scale. This will be a great boon to potato growers if it succeed.

In spite of the great glut of old potatoes all over the country, prices of new ones are high, and the demand good. Old ones have advanced slightly, and the market is slightly improved. This is the last month in which they can be sold to any extent in this market, as the new crop from the South will soon crowd them out.

Prospects are good for an unusually heavy make of butter the coming season. Many new creameries have been established, and the producing territory has been widely extended. Lower average prices than those of previous seasons must be expected. Grass butter is beginning to come in at an unusually early date.

The American Wool Reporter says that the recent exports of American wool, and the prospects of very large shipments during the present year, are a matter of very great importance. The shortage in the Australian clip cannot be placed at less than 150,000 bales, or 60,000,000 pounds. It is already predicted that the shipments of domestic and re-shipments of foreign wool from the United States, must reach as great a total as 40,000,000 pounds. This will make American wool growers somewhat independent in future negotiations with manufacturers, because it does away with the old argument, that the welfare of the grower is entirely dependent upon the domestic goods market. It had been supposed that greater difficulties would exist in the adaptation of domestic wools to foreign requirements.

"BIG FOUR" to ST. LOUIS.

"NO TUNNEL ROUTE."

The National Republican Convention will be held in St. Louis, June 10, 1896. There will be many thousand people in that city on that occasion. The "Big Four" offer to the public the most comfortable and luxurious line to St. Louis with elegant Through Wagner Sleeping Car service and unexcelled Dining Car service from New York, Boston, Buffalo, Cleveland, Columbus, Cincinnati, Indianapolis, Washington and all Eastern and Southeastern cities.—*Adv.*

CONDENSED CORRESPONDENCE.

SUGAR BEETS IN NEW MEXICO.—A sugar-beet factory has been located at Eddy, N. M.; capacity, 225 to 250 tons of sugar beets per day, with a finished product of from 25 to 30 tons of fine, granulated sugar, every 24 hours. Farmers are to receive $4 per ton for beets delivered anywhere on the Pecos Valley Railroad, which analyze 14 per cent, with an increase of 25 cents per ton for every additional per cent over 14. Nearly all our farmers are getting ready to plant from 5 to 20 acres. The beets must be raised by irrigation. Lehi factory, Utah, is the only one of the established factories that produces beets by irrigation; their average yield is about 10 tons per acre. W. B. W.

WILL COUNTY, ILL.—Everthing is growing rapidly. Grass is taller now (April 25) than usually the middle of May. Cattle have been out to pasture some days. Spring was late in coming, but since she put in her appearance, it has been ideal weather. April has been a continuation of sunshine and showers; on the 16th, it was 90 degrees in the shade, but still not oppressive; the 20th brought a light frost, but did no damage. Peach, plum and cherry trees are loaded with bloom, and pears are just coming into bloom, Our currant and gooseberry bushes are loaded with blossoms. Oats are sown, and some pieces are up finely. This is a hay and grass section, hay being shipped to the Chicago market which is only 30 miles north of us. There seems to be plenty of corn fodder. Shredded fodder sells for $5 a ton. Not so many potatoes were planted this year as last. Considerable fruit is being set out this spring, as it is so wet, and frequent showers make it just about the right weather. More or less drought for the last two years prevented much being set. F. C. J.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 35@1 37
Medium, 1895, choice	1 17@ —
Pea, 1895, choice	1 15@1 18
Medium or pea, common to good	90@1 10
White Kidney, 1895, choice	1 25@1 30
Red Kidney, 1895, choice	1 10@ —
Red Kidney, common to good	80@1 00
Black Turtle soup, 1895	1 25@ —
Yellow Eye 1895, choice	1 20@1 25
Lima, Cal., 1895 (60 lbs)	1 85@1 87
Pea, foreign, 1894	85@ 90
Medium, foreign, 1894	75@ 85
Green peas, bbl., per bushel	77@ —
Bags, per bushel	70@ 72
Scotch, bags	70@ 75

BUTTER—NEW.

Creamery, Western, extras	15½@—
Western, firsts	14 @14½
Western, seconds	12 @13
Western, thirds	10 @11
State, fancy	15 @15½
Common to prime	10 @14
State dairy, half-firkin tubs, faucy	14½@—
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @—
Western imitation creamery, firsts	11 @12
Seconds	9½@10
Western dairy, firsts	10 @11
Seconds	9 @ 9½
Thirds	8 @ 8½
Factory, fancy	— @—
Factory, firsts	10 @—
Factory, seconds	9 @—
Factory, thirds	8 @ 8½

OLD BUTTER.

Creamery, Western, summer make	9 @11
State dairies, firkins and tubs, finest	11 @—
Firsts	10½@—
Seconds	9 @—
Tubs or firkins, thirds	8 @ 8½
Western factory	7 @ 9

CHEESE—NEW.

Full cream, large, fall made, col'd fancy	9½@ 9¾
Large, fall made, white, fancy	9½@ 9¾
Late made, choice	8¾@ 9¼
Late made, good to prime	8 @ 8½
Late made, common to fair	6 @ 7
Summer made, choice	7½@—
Summer made, common to prime	5 @ 6
Small, white, fancy, fall made	9¾@10
Small, colored, fancy, fall made	9¾@10
Small, late made, good to choice	9 @ 9½
Small, late made, common to fair	7 @ 8
Small, summer made, prime to choice	7½@ 8
Small, summer made, common to fair	4¼@ 6½
Light skims, choice	5 @ 5½
Part skims, common to prime	3 @ 4½
Full skims	2 @ 2½
Pennsylvania skims	1 @ 1½

EGGS.

New-laid, fancy (nearby)	12 @ 12½
State, fresh gathered	11½@ 12
Pennsylvania & Md., country marks	11 @ 11½
Western, fresh collections, fancy	11 @ 11½
Southern, fresh collections, choice	9½@ 9¾
Common to good	9 @ 9¼
Duck, per doz	15 @ 17

FRUITS—GREEN

Apples, extra, fancy, per bbl	3 00@4 00
Baldwin, per bbl	2 00@3 50
Greening, per bbl	3 00@4 50
Ben Davis, per bbl	2 50@4 00
Russet, Roxbury, per bbl	2 00@3 00
Russet, Golden, per bbl	2 00@2 50
Strawberries, Fla., extra, fancy, per qnart	—@ —
Poor to good, per quart	8@ 18
Charleston, good to choice, per quart	18@ 20
N. C., good to choice, per quart	15@ 18
Inferior, per quart	8@ 11

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	5½@ 5¾
Choice, 1895, per lb	5 @ 5¼
Prime, 1895, per lb	4½@ 4¾
Common to good, per lb	3 @ 4¼
N. C., sundried, 1895, sliced, fancy	3 @ 3½
Southern, sundried, common to choice	1½@ 2½
State, sundried, quarters, bbls	2½@ 3⅛
Western, sundried, quarters, bbls	2 @ 3
South-West'n, sundried, quarters, bbls	2 @ 2¾
Southern, sundried, quarters, bbls	1¾@ 2½
Southern, sundried, quarters, bags	1½@ 2¼
Chopped, 1895, per lb	2 @ 2⅛
Cores and skins, 1894, per lb	2 @ 2¼
Peaches, Sundried, 1895, peeled, per lb	4 @ 7
Cherries, 1895, per lb	8 @10
Blackberries, 1895, per lb	5 @ 5½
Raspberries, evaporated, 1894, per lb	16½@17
Sundried, 1895, per lb	16 @—
Huckleberries, 1895, per lb	5 @ 5¼
Plums, Southern Damsen, 1895, per lb	4½@—

GRAIN.

Wheat	68 @83
Rye	44 @47
Barley	38 @41
Buckwheat, silver	40 @42
Buckwheat, Japan	— @—
Corn	33 @38
Oats	23 @28

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

HAY AND STRAW.

Hay, No. 1 Timothy	95@ —
No. 2	85@ 90
No. 3	70@ 80
Clover, mixed	75@ 85
Clover	60@ 70
Salt	45@ 50
Straw, long rye	80@1 00
Short rye	50@ 60
Oat	50@ 55
Wheat	45@ 50

HONEY.

State, white clover, comb, fancy, per lb	—@—
Fair, per lb	—@—
Buckwheat, comb, per lb	7 @ 8
Extracted, per lb	4 @ 4½
California, comb, fair to prime, per lb	10 @12½
Extracted, per lb	5 @ 6
Southern, in bulk, per gallon	45 @55

MEATS—DRESSED.

Veals, country dressed, prime, per lb	6 @ 6½
Fair to good, per lb	5 @ 5½
Com. to med., per lb	3½@ 4½
Small, per lb	3 @ 4
Spring lambs, country dressed, each	2 50 @6 00
Pork, country dressed, light, per lb	6 @ —
Medium, per lb	5 @ 5½

POTATOES.

Bermuda, prime, per bbl	8 00@10 00
Seconds, per bbl	6 00@7 00
Florida, prime, per bbl	7 50@9 00
Seconds, per bbl	5 50@6 50
Havana, prime	7 00@8 00
Maine Rose, per d. h. bbl	1 00@1 25
State Rose, per d. h. bbl	90@1 10
Maine Hebron, per sack	1 00@ —
Long Island, in bulk, per bbl	50@ 75
State Rose and Hebron, per 180 lbs	75@ 90
Burbank, etc., per 180 lbs	50@ 75
Jersey, in bulk, per 180 bbl	50@ 75
State and Jersey, per sack	50@ 75
Common, per sack	25@ 50
Sweets, Vineland, fancy, per bbl	3 50@5 00
South Jersey, per double-head bbl	2 25@2 75
South Jersey, cloth top, per barrel	2 50@3 00
Jersey common, per barrel	1 00@2 00
Southern yams, per bbl	1 00@2 00

DRY-PACKED POULTRY.

Turkeys, av'ge best, mixed hens and toms	11 @ 12
Capons, Phila., large, per lb	20 @ —
Medium sizes, per lb	17 @ 19
Small and slips, per lb	13 @ 16
Western, large, per lb	15 @ 18
Western, small and slips, per lb	12 @ 14
Chickens, Phil., under 3 lbs. per pr., per lb	30 @ 32
Phila., broilers, 3-4 lbs. per pr., per lb.	25 @ 28
Phila., broilers, 4-5 lbs. per pr., per lb	22 @ 25
L. I., broilers, scalded, per lb	23 @ 25
Phila., yearlings, choice, per lb	15 @ 17
Phila., fair to good, per lb	12 @ 14
Western, average best, dry-picked	10½@ 11
Western, fair to good, per lb	9 @ 10
Western stags	7 @ 8
Fowls, Western, choice, dry-p'k'd, per lb	10½@ 11
Western fair to good	9 @ 10
Old cocks, per lb	5½@ 6
Spring ducks, L. I., per lb	28 @ 30
Squabs, tame, white, per doz	2 50 @—
Mixed lots, per doz	2 00 @2 25
Dark and poor, per doz	1 50 @1 75

FROZEN.

Broilers, dry packed, good to choice	14 @ 16
Scalded, good to choice	12 @ 14
Turkeys, mixed, hens and toms, No. 1	15 @ 15½
Young toms, No. 1	14½@ 15
Old toms	12 @ 12½
No. 2	9 @ 11
Chickens, soft meated, No 1	11 @ 12
Average, No. 1	9 @ 10
Capons, western, per lb	15 @ 18
Fowls, No. 1	9½@ 10
Fowls and chickens, No. 2	8 @ 9
Old cocks	6 @ 6½
Ducks, No. 1	15 @ 17
Geese, No. 1	9 @ 11

POULTRY—LIVE.

Spring chickens, per pair	60 @ 90
Fowls, local, per lb	9½@ 10
Western, per lb	9½@ 10
Southwestern, per lb	9½@ —
Southern, per lb	9 @ 9½
Chickens, yearlings, por lb	9 @ 10
Roosters, old, per lb	6 @ —
Turkeys, mixed, per lb	9 @ 10
Ducks, local, per pair	75 @1 00
Western, per pair	70 @ 85
Southern, per pair	60 @ 65
Geese, local, per pair	1 00 @1 25
Western, per pair	75 @1 00
Southern, per pair	75 @ —
Pigeons, old, per pair	40 @ 45
Young, per pair	25 @ 30

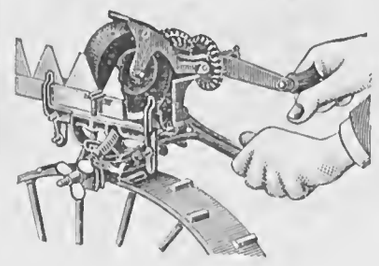
VEGETABLES.

Asparagus, Char., colossal, per doz bunches	2 50@4 00
Charleston, prime, per doz bunch	1 50@2 25
Charleston, culls, per doz bunches	75@1 00
N. C., prime, per doz bunches	1 25@1 75
N. C., culls, per doz bunches	75@1 00
Norfolk, prime, per doz bunches	1 25@2 50
Del. and Md., per doz bunches	1 25@1 75
Jersey, per doz bunches	1 25@2 25
Beets, New Orleans, per 100 bunches	4 00@5 00
Florida and Charleston, per crate	1 25@1 75
Florida, per 100 bunches	5 00@7 00
Cabbage, Florida, per barrel-crate	2 00@2 50
Charleston, per bbl-crate	2 25@2 75
N. C., per bbl-crate	1 50@2 00
Carrots, washed, per bbl	75@1 00
Unwashed, per bbl	50@ 75
Southern, new, per 100 bunches	2 50@5 00
Cauliflower, Fla., per half bbl	—@ —
California, per case	—@ —
Celery, fancy, large, per doz	75@1 00
Average, prime, per doz	40@ 65
Small, per doz	15@ 30
Cucumbers, hothouse, per doz	75@1 25
Florida, per carrier	2 00@4 00
Egg plant, Florida, per box	3 00@6 00
Green peas, N. C., per basket	75@1 00
Savannah, per basket	25@ 75
Charleston, per basket	50@1 00
Horseradish, per lb	2@ 5
Kale, per bbl	50@ 60
Lettuce, Charleston, per bushel basket	50@1 00
Norfolk, per basket	50@ 75
North Carolina, per bbl	—@ —
Onions, Eastern, white, per bbl	50@1 00
Eastern, red, per bbl	25@ 75
Eastern, yellow, per bbl	25@ 75
Bermuda, per crate	95@1 00
Egyptian, per bag	2 00@ —
Peppers, green, Fla., per crate	1 00@2 00
Radishes, Norfolk, per bbl	1 00@1 50
Spinach, per bbl	1 25@2 00
Squash, Marrow, per bbl	75@1 00
Hubbard, per bbl	50@ 75
Florida, per crate	1 25@1 50
String beans, Florida, per crate	1 00@3 00
Tomatoes, Fla., per carrier	2 25@2 50
Per crate	1 00@2 00
Turnips, Jersey, Russia, per bbl	50@ 75
Canada Russia, per bbl	50@ 75

MILK AND CREAM.

The total daily supply has been 22,674 cans of milk, 213 cans of condensed milk and 480 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

AGENTS WANTED IN EVERY COUNTY



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OLD DOMINION LINE
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165 Acres—One of the finest farms in Kent Co., Del. Large brick dwelling; good barn, stables, and other outbuildings. Within two miles of two railroad stations. 1,500 Peach Trees; good Apple and Pear Orchard. Six acres in small fruits. Will sell very cheap. AMOS COLE & SON, Dover, Del.

PRINTING. We make a specialty of printing for farmers, fruit growers and stock raisers. Letter-heads, Envelopes, Cards, Tags, Circulars, etc. New type, good work, reasonable prices.
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Produce Commission Merchants,
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Can get you highest market prices for fine goods CHOICE CREAMERY BUTTER, FANCY LEGHORN EGGS, DRESSED POULTRY AND CALVES a specialty. Shipping cards and stencils on application.
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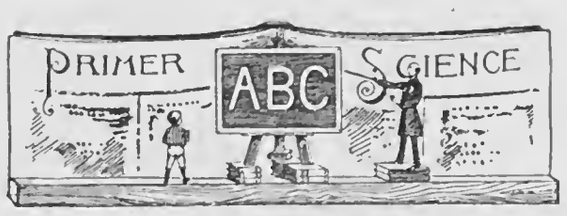
ORATOR F. WOODWARD, Le Roy, Genesee County, N. Y.



FEEDING A HEN.

PART XVI

We are now ready to take up some of those points raised by Mr. Truslow on page 282. It will pay you first to turn back and read that article over. Then we may be the better able to think over what Mr. Cushman says in the following article. Mr. Cushman has charge of the poultry department of the Rhode Island Experiment Station. Rhode Island is a famous State for turkeys, ducks and geese:

Notes on Food and Feeding.

DROPPINGS AND CHARCOAL.—The appearance of the droppings of fowls is a good indication of the effect of the food given hens, ducks, geese, turkeys and all fowls; in fact, it is the best means of judging their thrift and health. No experienced raiser fails to watch closely, and change their feed accordingly. Looseness in fowls and turkeys, shows that something is wrong. Hens with droppings firm enough to roll off the board, are in a normal condition, and less liable to disease. More fertile eggs will be secured from such fowls than from those from which the droppings are softer. Charcoal is a very important article to give poultry. It neutralizes the products of indigestion, and seems to stimulate digestion. Charcoal bought of the burners, broken up with a hatchet, and crushed in an Enterprise mill, sifted through a coal sieve lined with ordinary wire window netting, gives the raiser granulated charcoal to be fed like shells or grit, and powdered charcoal for mixing with the feed. Powdered charcoal causes the cooked mess to look dark, and fowls are less liable to eat it, and I prefer the granulated article. Hoppers that will contain a supply that will last a week or two may be used. We consider this as of very great importance, especially where fowls are confined to yards. When fed, it immediately heightens the color of their combs.

ADVANTAGES OF CORN.—I thoroughly believe in feeding corn to hens. The sluggish breeds that would store away the carbon or starch as fat, must be fed sparingly with it. But the active breeds work this fuel off in exercise. It supports the strength of the active forager, gives energy, and as it is constipating, it enables the fowl to eat quantities of grass and insects without looseness. It counteracts the effects of this loosening food. Hens allowed full liberty in summer, will do well on nothing but corn, others to the contrary notwithstanding; for the corn eaten is but a small part of what is secured. Hens in yards should be fed little corn, but not too much wheat or oats. Hens at liberty in summer, if fed whole wheat and oats only with what grass, etc., they secure, become undesirably loose, and less energetic foragers. Bran is always loosening. Wheat middlings, wheat flour, and corn in any form, are about the only constipating foods with which we have had any experience. Overfeeding the corn with nothing else, will also cause looseness.

To counteract the loosening tendency of rich food, is one of the most important points to consider in making up a ration for hens. A proper selection and combination of foods, will do this in most cases, and pepper and ginger may be used to help out when using certain materials. Boiled roots, potatoes, etc., are also loosening. No matter how rich the food, or how correct the proportions, if all or half of it goes through without being absorbed or taken up, it does no good and simply taxes the fowl. Cooking is not always a benefit. Food that is not too concentrated when uncooked, may be, when cooked, too rich for the digestive apparatus of the fowls. Even if digested, it causes irritation or congestion of the bowels, cannot be absorbed, and is hurried along and out. If much water be added to cooked food or uncooked food, it makes it less digestive, less quickly or easily absorbed, and more loosening. I want my cooked mess for fowls to be stiff like putty. No sloppy mess for me.

SLOPPY AND BULKY FOOD.—Ducks and geese can stand more sloppy food, as it is their nature; but I imagine that feeders who feed heavily, go too far in this direction, and that more hard grain would cause the birds to be less logy and dull, and increase the per cent of the fertility of the eggs. However, there is another very important consideration, which is that bulk, waste, or indigestible material, should be combined with, and constitute a good proportion of, the food of fowls. The same food that would cause looseness by itself, may be held and digested if a certain amount of chaff, cut straw, or even sawdust be added. This is a well-known fact among feeders of horses and cattle. Feed a horse or cow grain and no hay and what would be the result? The hen at liberty can look out for herself, and get just about what she needs, except, perhaps, plenty of carbon or starch.

(Continued on next page.)

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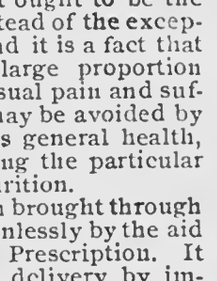

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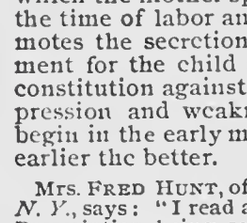

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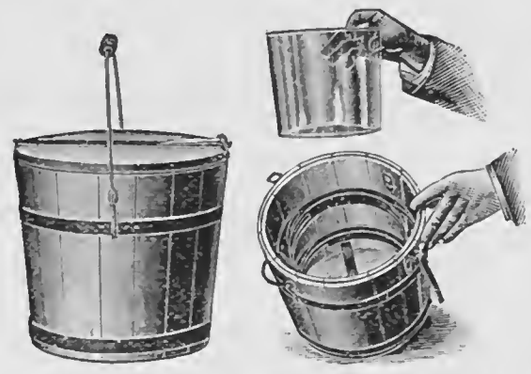

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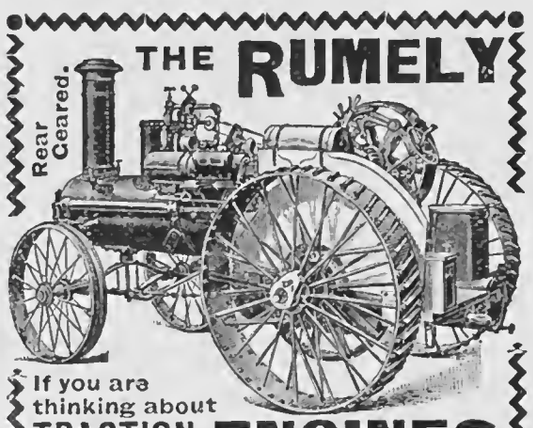

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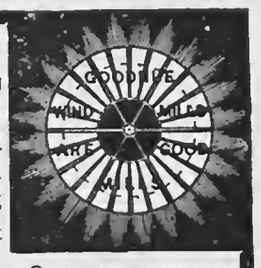

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PRIMER SCIENCE.

(CONTINUED.)

She gets her nitrogen and fat from the grass and insects, and then corn comes in and makes the balance, and offsets the loosening qualities of the pasturage.

The need of bulk and unconcentrated food for little chicks and, especially, for ducks and goslings, is too little understood. Late teachings cause beginners to err in the opposite direction. They may do well on rich food for a while, but later become worthless. Finely ground whole oats furnish bulk, are not so loosening as bran, and we use a good proportion of the Quaker oat feed (that which is discarded in the preparation of the Quaker rolled oats) in feeding breeding geese before grass is plenty, and intend to give it to goslings this season as a part of their feed. Hens, when confined, must receive much thought and attention, that they may be supplied with everything that they need.

MASHES AND MEAT.—Some breeds of fowls require different food from others. Active breeds should be fed differently from the sluggish breeds. Games and other firm, closely built fowls, are not so liable to looseness as are Dorkings, Brahmas and loosely-built fowls. A skillful feeder will watch the droppings so closely, and head off any tendency to undue looseness so quickly, by the use of certain foods, that medical treatment for this trouble is hardly ever required. Long continued looseness, brings on diarrhea, and makes them easy victims of fowl cholera. Corn seems to have a drying, astringent or tonic effect on the digestive organs, but if it be fed exclusively or too long, a reaction takes place, and the bowels become relaxed.

A few days' fasting after a feed of hard grain, with free range, will often bring a flock that has been fed high, and has loose bowels, around all right. Fasting after a feed of soft mess, would be undesirable, unless the birds were in very restricted quarters. Sedentary hens, so to speak, unable to forage, do not thrive well on whole grain alone. Warm messes, as well as watery messes, make hens more sensitive to colds. We have a horror of soft droppings, but most modern poultrymen who feed high and get great yields of eggs, cannot feed as they do, a rich, soft mess in the morning, hard grain twice a day, and keep the droppings so that they will roll off a board. Fowls kept in this way, are more susceptible to all kinds of disease, and especially to colds, and the care they require is much greater. There is more profit, but more risk in this way of feeding.

I prefer good meat scraps coarsely ground, so that I can see how much good, lean meat there is in them. I do not want fine ground stuff that may be half bone, and thus contain an excess of lime, which oyster shells will furnish just about as well and cheaper. The finely ground animal meal can be more thoroughly dried or steam cooked, and is not so liable to cake or spoil. A good test of beef scraps is to see how much of a tea you can make from them. Horse meat, I understand, figures in the best brands of beef scraps, and furnishes an abundance of lean meat. Pork scraps are not so desirable as meat scraps.

Palatability or flavor of food plays a part that should not be overlooked. It means a good appetite and good digestion in one case, while its absence may cause the refusal of the food, or but a small amount be digested. Two rations containing the same chemical constituents, one having a bad or objectionable flavor, and the other a wholesome flavor, are not to be compared in feeding value. Remove the beef tea from meat and what is left is unpalatable to many stomachs, although easily dissolved and rich in certain food elements. Salt and pepper would supply part of what is lacking, and make it more acceptable. Probably the flavor and the easy digestibility of raw bone or green bone and of raw meat, is of more benefit to the fowl than the nutritive constituents; it stimulates the digestive organs, and aids them to digest the grain food more readily.

FEEDING FISH.—On Long Island, the duck business was greatly injured at one time, on account of the fish flavor given to the young ducks by feeding Menhaden and other fish, and the raisers, when taking them to market, have to tag them, "Warranted not Fish Fed" to insure their bringing anywhere near what Eastern ducks would be sold at in New York markets. These duck raisers tell us that it was all right to feed little ducks fish, but it should be discontinued long before they are to be marketed. Cooking the fish and removing the oil, made them less objectionable for this purpose.

When the fish-fed ducks have been kept awhile and then cooked, there is such a strong, fishy taste and odor that they are objectionable. One New York dealer told me that he would rather have lost $1,000 cash than to have had one or two of his best customers get such ducks from him. Feeding fish, it was said, had set back the sale of green ducks very much, and injured the business on Long Island to a great extent; but this was a number of years ago. The dessicated fish people say that their fish have all of the oil removed, and being steam-cooked, will not give any fishy taste to ducks. chickens or eggs. Most duck raisers now prefer, I believe, to feed good beef scraps.

The "white night cap," mentioned by Mr. Truslow, is composed of urates, and is the same as what is passed off in the urine of animals. They are projected into the cloaca with the feces, and when the bowels are not too loose, or their contents do not pass too often, the urates accumulate sufficiently to give this white appearance to a part of the droppings.

SAMUEL CUSHMAN.

ELOQUENCE FOR THE COW.—In the debate in Congress over the "Filled Cheese Bill," Representative Dolliver of Iowa, ended a speech in favor of the measure as follows:

I say, give the American cow a fair chance. She has been the faithful servant of man. She landed with our ancestors at Plymouth Rock, and, tied behind the old weather-beaten emigrant wagon, she has marched, with the household goods of the pioneers who have taken possession of this country, from ocean to ocean. She has increased and multiplied and replenished the earth, until to-day, the industries which she has made possible, contribute annually to the wealth of the world more money than the great combinations of modern capital—more than iron and steel, more than lumber and coal, more than cotton and wheat, more than all the looms of New England, more than all the mysterious riches of gold and silver. Yet there are men in this House whom I have heard to-day sneering at this bill, who spend most of their time trying to get protection for some insignificant local enterprise, or "talking through their hats" in the silver debate. I say, give the American cow a fair chance.

For myself, I am in favor, Mr. Brumm, of her monopoly—a monopoly that God gave her—in the production of butter and cheese. That is one monopoly that I am in favor of. And if every man in this House who in the days of his boyhood got up at daylight to feed the cows, and stayed up after dark in order to milk them; if every man who has churned actual cream with a reliable upright churn, and has watched with a boy's enthusiasm, the old-fashioned process of making cheese in the days of its honor and repute, will stand by this bill, we will drive from the American barnyard the horde of counterfeiters and cheats at common law, and keep them out "till the cows come home."

Mr. Dolliver makes one little mistake. The cow did not "land at Plymouth Rock" with the Pilgrims. The first of their cattle came two years after the Mayflower landed.

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MISS DOROTHY W., of Winthrop, aged two years, and with a younger rival near the maternal throne, was found in silent and perilous intimacy with the parlor bric-a-brac. "What are you doing, Dorothy?" demanded her mother. "I'm all right," responded the young woman, "you go and take care of your baby."—*Lewiston Journal.*

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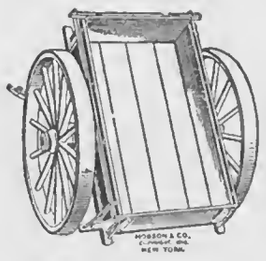
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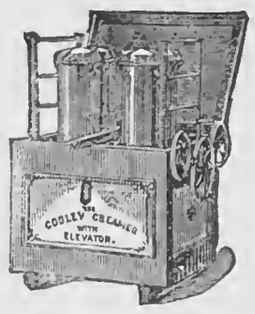
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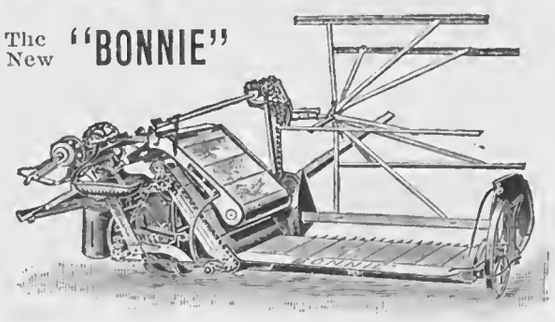
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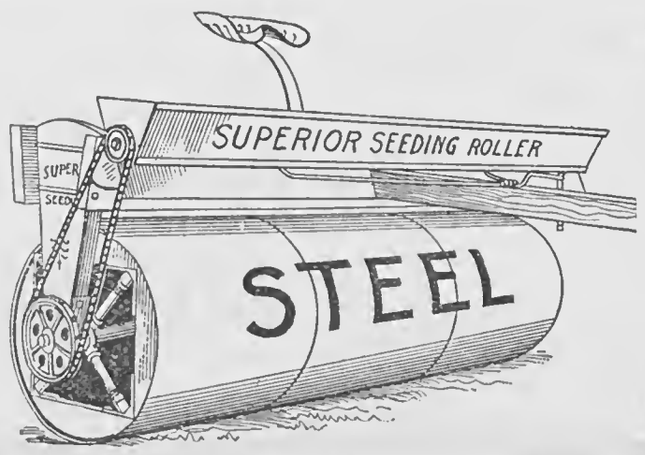

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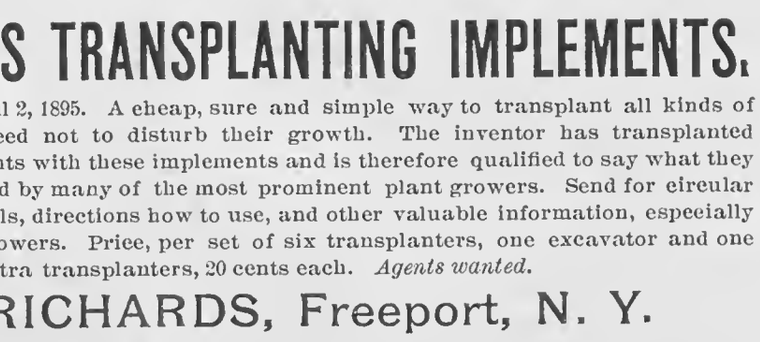
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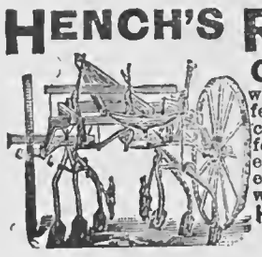
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2416. NEW YORK, MAY 16, 1896. $1.00 PER YEAR.

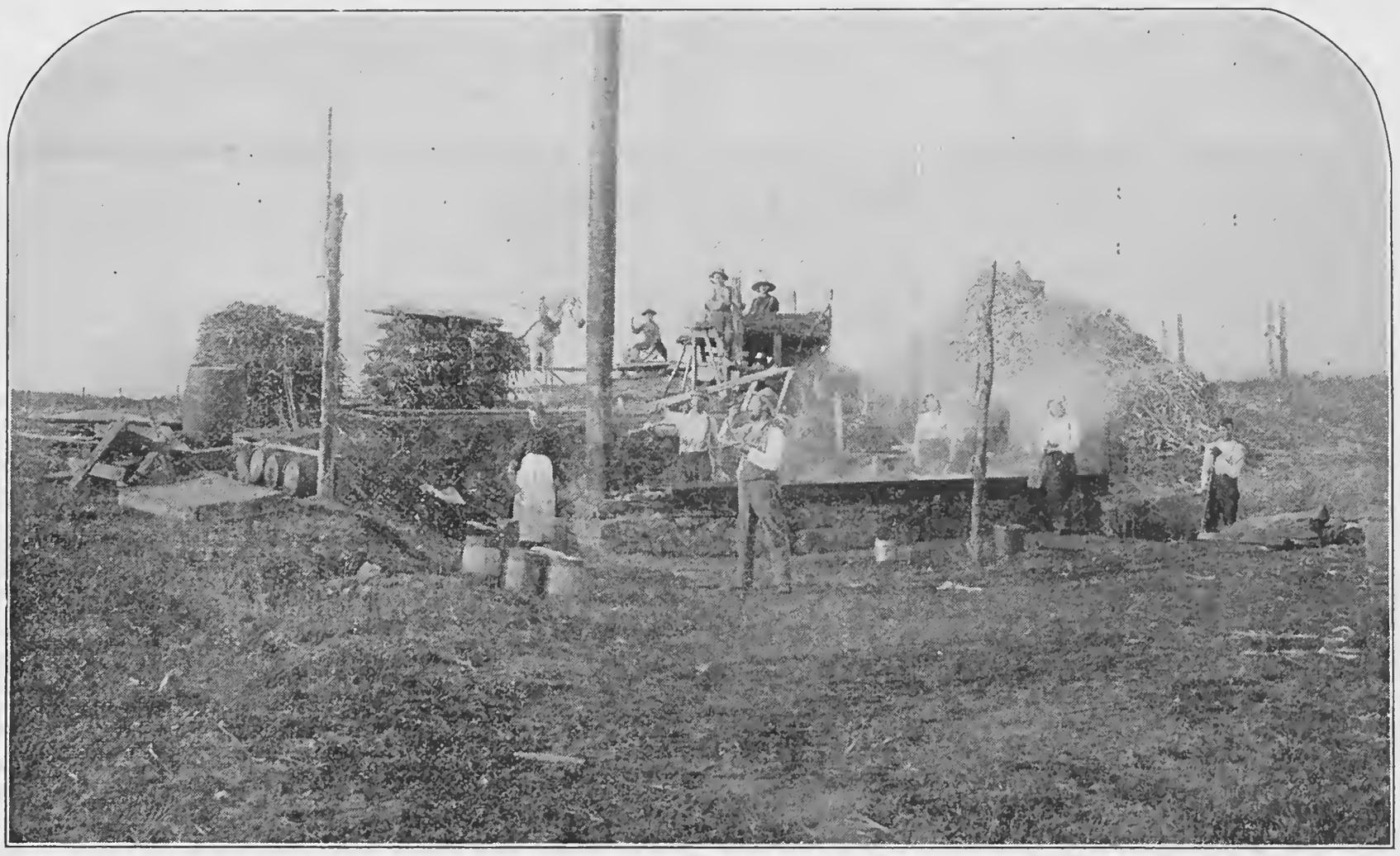
THE SWEET SIDE OF LIFE.

HOW THEY RAISE CANE IN WISCONSIN.

The Whole Story Briefly Told.

Sugar and syrups may be had at a price that, apparently, leaves no encouragement for the production of homemade sweets. But the quality of sale syrups is so varied and unsatisfactory, that many farmers are, this season, joining the few who have always grown cane, and will supply their table with sweets from their own fields. Many more would do likewise, if they knew that the cheap syrups of commerce have not an atom of sugar in them, and are not only unwholesome, but injurious to health. City dwellers know this. I have sold merchants syrup for their own tables at 60 cents per gallon, when they were selling my neighbors beautiful-looking syrup for 10 or 15 cents per gallon. Why? For the same reason that they buy of the butcher leaf lard in preference to the cotton-seed grease standing in pails on their shelves, or purchase dairy butter of a reliable farmer at 20 cents a pound, when they could get oleomargarine for a few cents. They wish a pure article of food, and know where to get it.

A light, loamy soil is best adapted for producing a light-colored, sweet, amber syrup. Clover sod, manured if necessary, plowed the last of August, and again in April; or, if there be no weeds, thoroughly worked with a disk and spring-tooth harrow, makes the best seedbed for sorghum cane. Potatoes may be followed by cane, and a good crop grown with a minimum of labor. Any good corn soil will support a crop of cane, but it needs to be in finer mechanical condition for cane than for the coarser growing corn.



"THE SWEET SIDE OF LIFE." A FAMILY AFFAIR WITH AMBER CANE. FIG. 105.

The field is marked one way with a sled marker making straight marks three feet apart and an inch in depth. The hills are planted 18 inches apart, eight kernels being dropped in a hill, and the plants afterward thinned to a stand of five stalks. The dropping soon becomes quite easy and regular by taking, for each hill, a pinch of seed between the thumb and first finger. Counting will be necessary only occasionally. The seed is covered by brushing one-half inch of soil over it from the side of the mark with the foot. This leaves so much of the mark undisturbed that the first cultivation may be done before the plants come up.

Cane germinates more slowly than corn, and should be planted earlier than that crop is. It also grows more slowly than corn after breaking ground, giving weeds a chance to outstrip it unless cultivation precede its appearance above the surface. When we would usually harrow our corn, say, six days after planting, we cultivate the cane by the marks without blotting them out. Frequent, thorough, shallow and level cultivating, with an occasional hoeing, is continued through June and the crop laid by as early in July as possible, that there may be a long period of quiet growth between cultivation and harvest. The longer this maturing period, the better the syrup.

When the seed is in the dough, the cane is at its best. It loses rapidly, both in quantity and quality, during the process of ripening. Thin, narrow, straight hardwood swords are used for stripping the standing cane. The topping is done also while standing, with a butcher knife, and knives made from old scythes with the back rib removed, fitted to convenient handles. After cutting a hill, the corn knife is drawn down through the butts to remove all clinging leaves, which are usually dead and covered with a dark mold very injurious to the syrup if not removed. Stripping, topping and cutting must follow each other closely. It is not too much to say that they should be done the same half day, and at noon or night, all stalks stripped or topped should be cut. The bundles should be bound in at least three places, with binding twine, slough grass or willows. If piled so that air can circulate through the piles, and covered from rain and sun, the stalks may stand some time before being made up, without loss or injury.

Crusher and evaporator should be about equal in capacity. If the crusher have an equal or greater capacity than the pan, a continuous flow of sap can be maintained, the evaporation be steady and rapid. But the reverse will not do. If the fire must be checked to wait for sap, a decline in quality of syrup is sure to follow. Our 18-foot pan is filled with pure water. The sap started in over the fire drives the water back, and reaches the back end of the pan syruped down without being checked in the onward flow so necessary in producing the best syrup. Between crusher and evaporator, is a system of filters to remove all impurity that can be taken from the sap before heating. Poplar wood and shavings are used for fuel; they make very little coal, and this is shaken through the grate into a vat of water leaving only a flashy blaze under the pan. The blaze causes rapid evaporation without overheating.

The smaller the quantity of syrup stored in a single receptacle, the better. Stone jugs and jars are best, but are too expensive. New casks are cheap. Old ones should never be used. We use five-gallon, basswood kegs. The syrup is drawn from the cooling vat through a faucet near the bottom, that no particles or scum that will get past the skimmers may find its way into the finished product. The bungs are kept out of the kegs for a day after placing them in the cellar, that all steam may escape.

Much of the help around a cane mill must be trusty, almost to the point of being "expert"; but it may be "family help." A boy may drive the horses on the power. Another boy or girl may feed the crusher. They should be provided with comfortable seats, and guarded from the machine. It is steady but very light work, since the stalks are fed from a table a little above the rollers. A good, careful man should carry stalks, and care for the mill. A stoker for the fire, two skimmers and one to "temper" the syrup and keep it running off, complete the "crew" necessary, though an extra may find plenty to do measuring, etc., and also be on hand in case of a breakdown, or sickness of any of the other help.

Wisconsin. F. M. BENEDICT.

R. N.-Y.—As the erection of such a plant as that described involves considerable outlay, and the manufacture of a first-class product requires considerable skill, not every farmer can avail himself of its benefits. But, in some localities, a considerable business is done in the manufacture of syrup for others, either for a cash payment of a certain price per gallon, or for a share of the product. Some man who grows a large area himself, and who has the capital, may thus be a benefactor to his neighborhood. In these days of low prices for farm products, the farm should be made to produce as many of the family supplies as possible. True, the price of the sale syrups is low, but they are most abominably adulterated, and as a matter of health, it pays to produce these sweets on the farm. This point cannot be too strongly enforced, for pure food is of the greatest importance.

TREES AND SHRUBS FOR A HALF-ACRE LAWN

Fruits and Ornamentals Required.

THE QUESTION.

There are certain large fruits, ornamental shrubs and trees, that, like the Concord grape, will thrive almost anywhere. For a lawn not less than one-half acre in area, what five plants of the following would you select, could you have but five of each: Pears, plums, apples; ornamental shrubs and trees, deciduous and evergreen? In other words, will you please tell our readers what trees and shrubs they may safely plant for good effect on the lawn?

THE ANSWERS.

A List for Michigan.

In making out the following list of varieties, an endeavor has been made to include such as will, in the case of the fruits and shrubs, furnish a succession throughout the season. While the fruits are not of the highest quality in all cases, I have included only such as will be most likely to succeed in this State under ordinary conditions. Apples: Red Astrachan, Keswick Codlin, Shiawassee, Hubbardston, Northern Spy. Pears: Bartlett, Howell, Seckel, Anjou or Angoulême and Lawrence. Plums: Washington, Lombard, Shropshire, German Prune, Bavay. Evergreens; Norway spruce, Dwarf pine (Pinus pumilio), upright form, hemlock, American arbor vitæ, Siberian arbor vitæ. Deciduous trees; Norway maple, Wier's Cut-leaved maple, Cut-leaved birch, White ash and Van Geert's Golden poplar. Shrubs: Spiræa triloba, Philadelphus coronarius, Lonicera tartarica, Hydrangea paniculata grandiflora and Golden elder.

L. R. TAFT.

Recommended for Wisconsin.

It is difficult for me to name five varieties of pears that I could recommend for our own State. I generally confine my recommendation to one variety, viz., Flemish Beauty. I could recommend no variety of peach to succeed in Wisconsin. Of plums, I would name Lombard, Moore's Arctic, De Soto, Rollingstone and Forest Garden; of apples, I would name Oldenburgh, Wealthy, McMahan, Northwestern Greening and Talman Sweet. Among ornamental trees, I would name of evergreens, the Norway spruce, Siberian arbor vitæ, Colorado Blue spruce, hemlock, Mountain pine and Scotch pine. Of deciduous trees, the Hard and Silver maple, American elm, American linden, Cut-leaved Weeping birch and European larch. Among shrubs, I would suggest Van Houtte's spiræa, the Large Panicled hydrangea, Prunus triloba, Tartarian honeysuckle and Golden elder. [PROF.] E. S. GOFF.

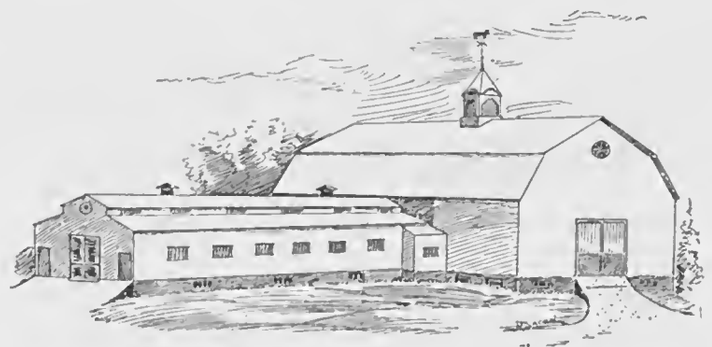
What Nebraska Farmers May Plant.

From present knowledge, I would name five varieties of each for this region, about as follows: Pears are a practical failure here. Plums: Wyant, Cheney, Rollingstone, Wild Goose, Lombard. Peaches: Alexander, Early Rivers, Hale's Early, Hill's Chili, Wright. Apples: Duchess, Roman Stem, Grimes's Golden, Winesap, Ben Davis. Shrubs: Sand cherry, lilac, Rosa rugosa, Philadelphus coronarius, Amur Tamarix. Deciduous trees: Elm, White ash, Honey locust, Russian mulberry, Soft maple. Evergreens: Pinus ponderosa, Austrian pine, Scotch pine, Red cedar, Banksian pine. This list is arranged wholly from the standpoint of eastern Nebraska. For New York or Pennsylvania, it would, of course, be entirely different. For this section, cherries certainly ought not to be omitted. Early Morello, Early Richmond, Large Montmorency, English Morello and Wragg succeed well, but no sweet varieties. As yet, we know comparatively little as to what ornamentals are best adapted to our condition. FRED W. CARD.

A List for the East Discussed.

Many sorts of trees and shrubs that are as hardy and enduring as the Concord grape, and have also the other required merit of making a good figure on the lawn when young and leafy, are likely to lose this latter character, after they have borne the burdens of blooming and fruiting for some years. This damage can be much relieved, however, by judicious annual pruning with the object of maintaining good shape, and of removing all weakening branchlets as soon after they have bloomed or fruited as may be, in order to favor young, healthful wood to take their places. Keeping hardiness in first view, and admitting nothing of a low scale of excellence, I would name, of pears, Sheldon, Seckel, Nelis, Wiest, and Bartlett. The Bartlett last, but not least, by any means; but, on severe trial, not quite so hardy as others. The Wiest is not much grown. The fruit is not large, and plain green in color, but as juicy and rich as any peach, and the tree is of good figure and at the very head as to hardiness. Plum trees suit a back yard better than a lawn, and are less troubled by curculio, the shy insects being oftener disturbed there. If set on a lawn, pruning must be deftly done to prevent unsightly scragginess as the trees become old. I name Lombard, Wild Goose, Miner, and leave the other two to local choice. The Japans are promising. Pissard is a beautiful and rare lawn object when pruned closely every year; but that leaves little chance for fruit, of which, at the best, it yields but little. Of apples, the following will please in trim, erect figure, and in fruit: Red Astrachan, Early Joe, Ewalt, Winter Sweet, Paradise, Jonathan.

Of the taller-growing shrubs, or low trees, I name the Viburnum plicatum, the lilacs, Mock Orange, Hydrangea paniculata, Double-flowering hawthorn and a climbing rose on a suitable frame, which may be hinged at the ground so as to lie flat, and so preserve the annual young flowering shoots under the snow in severe climates. The rose being the queen of flowers, merits this extra care. The Baltimore Belle, or Queen of the Prairie or the new Crimson Rambler would suit. They show best from some rather distant



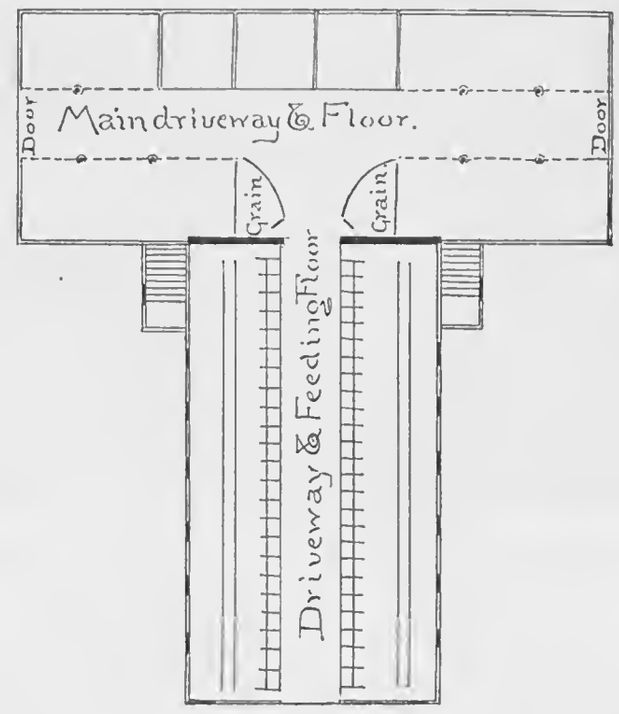
EXTERIOR VIEW OF COW BARN. FIG. 106.

point of view. The common elder, selected for large leaves and fruit, and kept well pruned, is well worthy of place. Among small shrubs, there is a crowd of qualified competitors. I name Spiræ Bumaldi, Cornus elegantissima (albo marginata), Variegated snowberry, Flowering almond (or the Variegated corchorus), and such a rose as La France or the dwarfer Clothilde Soupert, both to be mulched over the roots with manure, and the tops wrapped up as a measure of security—doing this towards Christmas after the surface soil freezes. Of deciduous trees, not over large and reliable up to latitude 42 degrees, a good native mulberry, Paragon chestnut, Richmond cherry, Japan lilac. Catalpa speciosa, Dychouse cherry or Montmorency would serve here, or a choice of Siberian crabs. Of evergreens, Abies Nordmanniana and White spruce, Swedish juniper, Siberian arbor vitæ, and the Tree box would make a varied collection, the Box being safest in some shaded corner. If the shrubs are grouped together in a corner bed, or otherwise out of the way of lawn mowing, the dwarfest to the front, many bright herbaceous plants may be placed among them, and on the outer line, such as sorts of pæonies, phloxes, woodruff, lilies, Japan anemones, hollyhocks, violets, ranunculus, dicentra, veronica, etc. W. G.

A MODEL STABLE FOR COWS.

PURE AIR THROUGH A NEW ENGLAND WINTER.

With the present agitation for better hygienic stabling for dairy cows, the consequent remodeling of many old stables, and the building of new ones by progressive dairymen, anything in this line that has the advantage of being both healthful for the occupants, and convenient in caring for them, is especially



GROUND PLAN OF COW BARN. FIG. 107.

timely. A model cow stable of this kind is one designed and built by Mr. Geo. L. Clemence of Southbridge, Mass. Having now been in use for several years, it has proved to be exceptionally well adapted to the use for which it was designed—the healthful stabling and economical keeping of a herd of cows kept for the production of a wholesome milk supply for a retail trade in the neighboring village.

Fig. 106 shows the stable and old barn to which it is attached on the south side. The length is 80 feet, width 40 feet; it has eight-foot posts, and a monitor roof which has windows on both sides of its entire length. At the south end, is a glass door opening to a feed floor 10 feet in width, and running the whole length of the stable, where there is another door opening on to the floor of the main barn. Fig. 107 shows the floor plan of both stable and barn. Where the stable and barn join, there is a stone partition wall 14 inches thick, and extending the whole height and width of the stable. The sliding door through this partition, being covered with sheet iron, the whole is designed as a fire check in case the main barn should take fire from any cause, thus giving time to run the cows out through the doors at the other end of the stable.

Fig 108 gives a view of the interior of the stable looking south from the door opening into the main barn. The floor from stanchion to stanchion is 13 feet in width, the mangers occupying 11½ feet on each side, leaving a clear floorway of 10 feet in width. The width of each side from the stanchions back is 13 feet, divided into a five-foot floor for the cows to stand, a two-foot gutter for manure, and the rest for a walk. There is a passageway at present at the center, where one stanchion is left out. The sides of the stable are studded, boarded, sheathed with building paper, and clapboarded on the outside; on the inside, it is sheathed up about four feet high, then lathed and plastered. The rafters are 2x8 lathed and plastered on the under side over the cattle, and the roof is double-boarded, with a three-inch space between the boarding filled with sifted coal ashes to keep out the heat in summer and the cold in winter. The roof of the stable is covered with steel roofing. The roof of the monitor is sheathed on the inside as shown in Fig. 108. The round holes in the ceiling are the openings into the galvanized iron ventilator which are always kept open. The windows in the sides of the monitor, are hung to swing open as shown in Fig. 108; they are held shut or open at any angle, by elbow-jointed irons, as shown, which are operated with a long staff from the floor.

Each one of the round-headed posts at the front of the manger divisions, is hollow, and has four or five three-fourths-inch holes opening on the side facing the floor; the bottoms of these posts are connected with a tight wooden spout running through under the floor, and having an opening through the outside walls of the building. This spout is provided with a trap, so that, in very windy days, the supply of air passing up through these posts can be regulated With this arrangement, and the swinging windows, the supply of air, as well as the temperature, is regulated. In winter, the aim is to keep the temperature at as near 56 degrees as possible.

Under the stable, is a cellar for manure, and under each manure gutter, is a wooden conductor so placed as to catch and carry off into a brick tank built for the purpose, most of the liquid manure.

Between every other pair of studs in the sides of the building, is a ventilating shaft running up from an opening in the cellar near the sills, up through the roof between the rafters, and opening into the iron ventilators. The warm air passing up through these creates a draft which carries off all smells from the stored manure in the cellar. The cows stand upon a raised platform about six inches higher than the bottom of the manure. This platform is made next the stanchions, where the forefeet of the cows come, of short pieces of boards and plank, all cut of a length and set on end on the under plank floor, the first course being nailed to the side of the bottom stanchion timber, and the next to the first course, breaking joints, and so on until the whole extends back 18 inches or so; the whole, when finished, resembles the end of a bunch of shingles. The rear end of the platform is made of plank laid flat, as shown in 4, Fig. 109, while 5 shows a sectional view of the platform. The first floor plank on the back edge of the manure gutter, see 6, Fig. 109, is hinged so as to turn back, as it is at A, 7, to allow of the manure being easily scraped through into the cellar below with a common garden hoe. The hinge is made of cast iron, and is a complete half circle, so that, when the scuttle is closed down, it is down out of the way of the cow's feet, and also back where the urine does not get at it so as to cause it to rust.

The small additions at the angles where the stable joins the main barn, are covered stairways from the stable to the cellar under the main barn, and were originally intended for the cows to pass through to the cellar for exercise. But it was found in use to be too much of a change in temperature, from the comparatively warm stable to the damp cellar, and a tight-covered shed, with glass roof, has been built this winter, adjoining the southeast end of the stable, where the cows can be turned for exercise.

The cows are tied in the Smith swing stanchion, and watered with the Buckley watering device, the water supply being pumped to a tank with a windmill, and passing from the tank through a supply pipe that is coiled around the steam heater in the dwelling-house cellar, which warms it to about 80 degrees. The main barn now has a common pitched roof, but Mr. Clemence intends next year, when it needs reshingling, to put on a roof as shown in Fig.

106, so as to give more storage room for hay and fodder.

Mr. Clemence and his help did most of the work in building the stable, he having only one carpenter to help. The total expense was about $2,000, making the cost per cow stabled between $40 and $50. Many of the features of this barn were copied by Prof. Brooks when building the new $45,000 barn at the Massachusetts Agricultural College.

Intending, in the near future, to build a cow stable for myself, I had about given up the idea of following the New England practice of having a manure cellar under the stable; but, after visiting this place several times, I am pretty well satisfied that, if the manure is not allowed to accumulate in the cellar in too large quantities, especially in warm weather, there is not much danger of a polluted atmosphere from this source. F. A. PUTNAM.

Massachusetts.

A MODERN YANKEE FARM.

MAKING THE MOST OF A HARD SOIL.

Fertilizer, Milk, Butter and Ice Cream.

PART III.

As was stated last week, the first Saturday's sale of ice cream this year, brought $22.89 from cream that, if made into butter, would have brought $5.52. This ice-cream trade has developed from a small beginning, and was the outcome of a desire to find a milk product that would yield better returns than butter. Mr. Edward Manchester gives the credit for starting the business to his daughter-in-law. She first suggested that pure cream of uniform grade and flavor would be sure to sell. Accordingly, they began to freeze cream, and a room was opened in town for retail or wholesale trade. The first season, one of the sons, George E. and his wife, went to town and conducted the rooms themselves. From that beginning, the business has grown every year, for the cream has advertised itself wherever it has been sold.

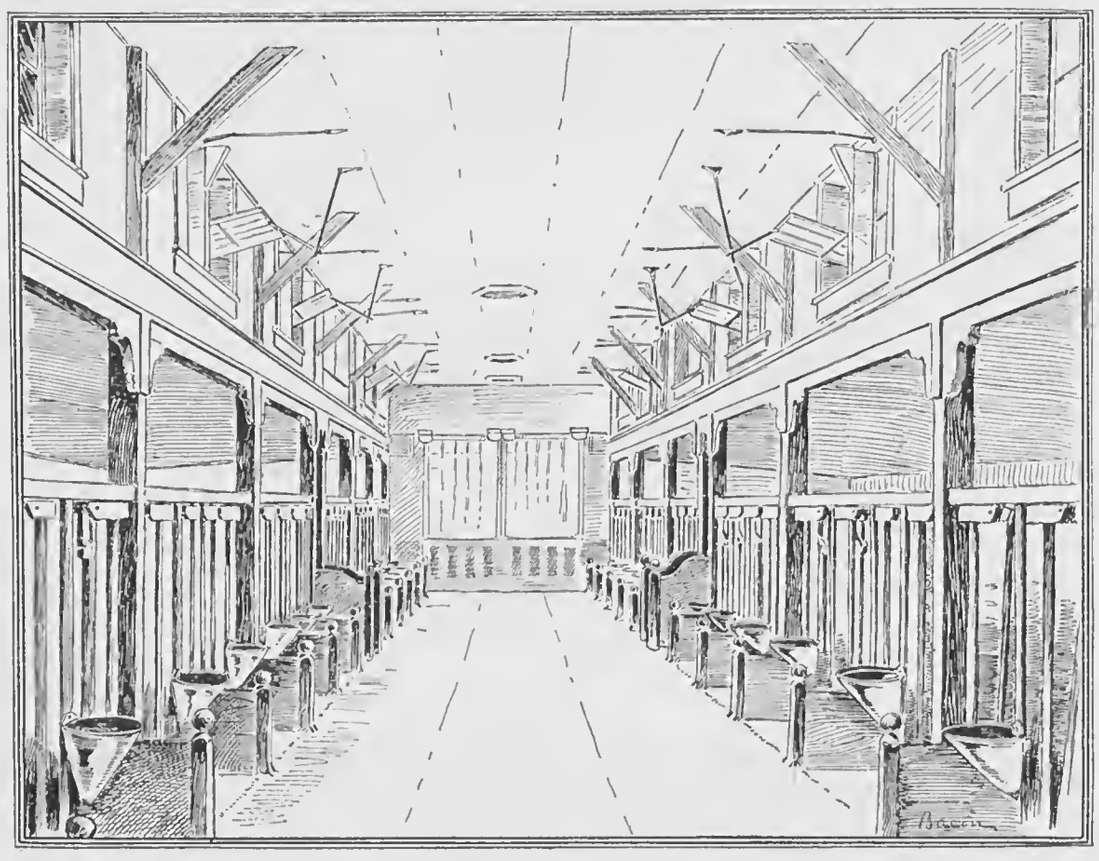
There is no cornstarch, egg, flour or other substance used in this ice cream. It is *pure* cream, sugar and flavoring. The milk, as it comes from the barn in cans, is set in a tank of spring water, which stands at about 40 degrees winter and summer. The cream is skimmed in 12 hours. To a gallon of cream a pint of sugar is added, with flavoring extract to suit the taste. No fruit extracts are used, but the pure fruit is cut up in an Enterprise meat chopper, and stirred directly into the cream. There is no great amount of beating, stirring and frothing, as is the case when a custard is made and named "cream."

The freezing is done in a side room of the creamery. The ice house is close at hand and everything is kept as clean as scouring and steam will make it. Shafting from the engine is run overhead, so that four freezers can be run at once. This "shafting" is homemade like many other contrivances about the place. "White Mountain" freezers of four or five-gallon capacity are used. They were formerly run by hand, but now the engine does all the turning. The mixed cream, sugar and flavoring are put into the freezer, and the cover fitted on in the usual way. A cake of ice is brought in from the ice house, broken by striking it with the flat side of an ax, and then crushed with a maul. This is done in a movable box or frame placed on the floor. The freezer is put in the tub, and surrounded with ice and salt. Then the belt is attached, and the freezer slowly revolves. The point is to have the turning stop at just the proper time. An experienced hand can tell by the way the freezer turns when to stop; but a new beginner is liable to get it wrong unless he examine it from time to time. After the cream has reached the proper consistency, the dasher is removed and the can is packed in ice and salt all ready for shipment. "Neapolitan" cream is made by spreading layers of different flavors in a tin box, and then freezing it all together.

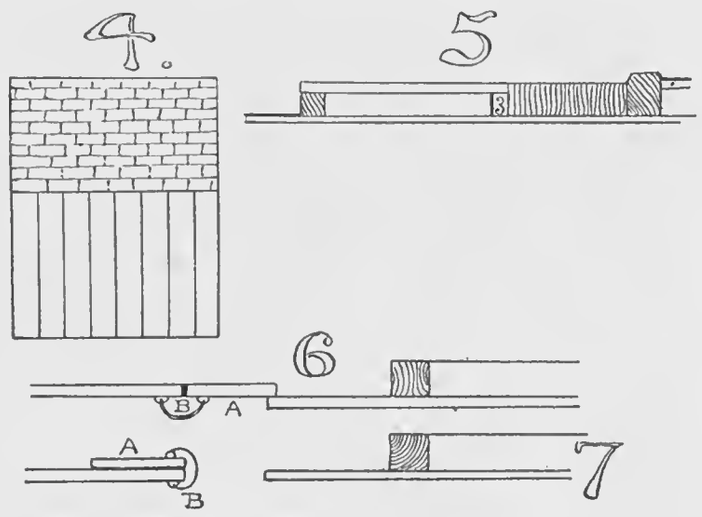
There is not much that is new about *making* ice cream, because thousands of farmers make it at home for their own use. There ought, really, to be an ice-cream freezer in every family that supports a cow. There are details about freezing and handling the cream that a careful man will pick up by experience. There are several good reasons for Mr. Manchester's success. He uses nothing but absolutely pure cream—no milk, eggs or starch. This cream, when frozen, does not show such a firm and solid body as the starch creams; but customers soon overlook that when they once get a taste of it. The pure, fresh "cream" taste is something that drives customers back for more. As a matter of fact, such cream is a better and more agreeable *medicine* than cod-liver oil or other substances that depend upon fats for their chief benefit.

Besides knowing that this cream is absolutely pure and clean, and that it is uniform, the public know that the Manchester herd has been tested and pronounced free from disease. This counts for more than is apparent at first thought, and the more this matter of tuberculosis in cattle is discussed, the more will the better class of buyers demand milk and its products from "inspected" dairies.

Our belief is that there are hundreds of farmers in this country who might find, in ice cream, a new and profitable source of income. As a rule, we think that this business will pay best near smaller towns and cities, where there are no large ice cream factories, and where more or less cream is imported. We would advise a small beginning. Make nothing but pure cream of the finest quality, and establish a reputation for making uniform goods. Get a few customers first among friends, and let them advertise your product. Finally you can either open a room of your own, or make arrangements with some neat dealer to sell your cream at retail. In this same place, you can sell milk, pot cheese, butter, eggs and similar articles from the farm. If there are some live newspapers in your town, it will pay you to advertise in them, and keep changing the advertisements. All this will cost some money, but it will be money spent to bring money back. You don't begrudge the sowing of a bushel of wheat to bring 12 bushels back, and you should not be afraid to spend a dollar if it is to be the means of earning 10 more dollars. The ice cream business will require some capital, and more patience and business tact, but we feel confident that Mr. Manchester's success may be duplicated in 1,000 towns in this country. Why cannot you be one of the 1,000 dairymen to share in such success?



INTERIOR VIEW OF THE COW STABLE. FIG. 108.



ARRANGEMENT OF FLOOR AND GUTTERS. FIG. 109.

CRIMSON CLOVER; GRASS, LIME AND "STOVE SHARK."

COMMENTS UPON A BACK NUMBER.

This heading doesn't look exactly right, as I refer to THE R. N.-Y., and it is never a "back number." Compliments, they say, are cheap, but THE R. N.-Y. is so thoroughly instructive and up-to-date, that it should not be bad form to tell its maker how much it is valued. It is a good paper to study, especially the "Farmers' Club," from which one can take what he needs and leave the remainder for the other fellow.

CRIMSON CLOVER.—THE R. N.-Y. expresses the opinion that this clover is better suited to vegetable or fruit culture than to general farming. It is true that it has made many failures on unmanured land; but may this not be largely due to the very unfavorable seasons we have had lately? If Red clover had been given its first general trial in this country in the last two or three years, it would be voted a great failure on thousands of farms. Timothy seedings, also, have failed largely, and last fall, many farmers were so discouraged that they were saying they would spend no more money in grass and clover seeds until the earth's crust was once more saturated with water.

Timothy and clover plants make their start at a time of year when drought is not so severely felt as in mid-summer, and it is little wonder that the Crimson clover, trying to begin life in August, with drought so severe that a six-months-old Red clover plant could not survive, would fail to get a sufficiently strong root growth before winter to withstand the effects of frost. Where I have had sufficient moisture in the soil to make fall growth, this new clover has done well. If the last two seasons had been wet ones, I believe that Crimson clover would now be enjoying—or suffering—a great boom. An undue boom hurts anything, and in the end, the many failures of this clover may not injure its chances for a permanent place among our valuable clovers. If this year prove seasonable, another trial should be made, and the result will be, more friends for Crimson clover. The popular idea of sowing it in corn fields, can hardly be the correct one, as growing corn evaporates water so extensively that there is rarely sufficient water left in the soil to push the growth of any small plant so long as the corn stands.

GOOD GRASS IN POOR WHEAT.—F. E. D., page 289, who wishes to get a permanent meadow, is advised to sow the oats thinly so that the grass may have a chance for sunlight and moisture. This year, Ohio wheat fields are a bad failure, and in the southern part of the State, many fields will not make one-fourth of a good crop. We have a compensation to some extent, in that the young grass and clover are not being stunted, as is so often the case, and the promise now is for a good growth of hardy plants at the time of wheat harvest, when often, the grass is so spindling and tender that a few days of hot sun on the wheat stubble effectually end the grass. A thick stand of wheat plants is not encouraging company for tender grass and clover plants, and oats are still worse. One and a half bushel of oats on rich land, is sufficient seed per acre, when the chief object is to get a stand of grass. Oat plants are thirsty fellows, and an oat stubble in a droughty year, is the driest place on the farm.

LIMING LAND.—Prof. Roberts, in his instructive reply to E. W. J., does not state the amount of lime one should use per acre. One does not hear much of applying lime to land in Ohio, chiefly, probably, on account of the limited area that has limestone at hand; but in Pennsylvania, the practice is much discussed at the institutes, and I observed that the leading farmers are using a much less quantity per acre than was formerly the case, and they believe that the comparatively small quantity now used, is just as effective as larger quantities. Forty bushels per acre of unslaked lime, are considered a sufficient quantity by many, and some say that 25 bushels produce the desired effect. The majority of farmers, however, continue to use much larger quantities.

"THE STOVE SHARK."—I am glad that THE R. N.-Y. is going to give "the Stove Shark" some free advertising. This Western firm has been operating in Ohio for six or eight years, selling a steel or wrought-iron range for $69, to many who preferred to pay for the ranges that had been set up in their kitchens rather than wrangle with the agent. The contract is peculiarly worded. In fine print, it states that the company shall not be held liable for representations made by the agent. The latter is usually a very voluble young man, gifted with a wonderful flow of conversation, and an assurance that is simply sublime. Temporary headquarters are usually established at some town convenient of access to two or three counties, and from this point, the territory is worked by several agents who are employed by the month, and are sent out in wagons with the ranges. The agents are expected to place the ranges in the kitchens of the farmers under some pretense, and then to secure a note that binds the business.

Last summer I suffered two inflictions of these agents, the second one driving his mules up my private driveway as though he owned the place, and ordinary courtesy and a firm refusal had no more

visible effect upon him than it would have had upon his mules. The first agent had failed, and he had been sent to get the range into the kitchen. After one hour of courteous treatment of the stranger, I changed my tactics and offered him the alternative of getting his mule team off my place in two minutes, or taking a sound thrashing. He chose the former, much to my relief, as he was a very able-bodied man. While at a Columbus (Ohio) hotel a short time afterward, a young man was given a seat at my table in the dining-room. Some inquiry by him led to conversation, and I learned that he was an employee of this western range company. That interested me, and he was encouraged to talk. Among other things he said: "There is plenty of hard work in this business. I go to men who have no more idea of buying one of our $69 ranges than of buying a steamboat, and sell to them before I leave. I can get $20 more for one of our ranges than a regular hardware dealer can get." If the range company is inclined to dispute the authenticity of this incident, I can, at least, furnish it with the name of the agent, as I took the precaution to get it from the hotel register. The fact is that the methods of this concern can not stand THE R. N. Y.'s searchlight, and it should be turned on for the benefit of the public. ALVA AGEE.

RYE AS A GREEN MANURE.

DON'T LET IT GROW TOO LARGE.

Some years ago, I plowed, in July or August, a field from which had been harvested a crop of wheat and rye. I sowed the rye early, to get a good growth for plowing under the next spring for corn. The land was not tile drained, and the best soil, naturally, was the wettest. The rye on the higher parts of the field, started the quickest, while that on the black soil was nearly two weeks later. Authorities said that if the most was to be made of the rye as a fertilizer, it should be out in head before it was plowed down, and I followed directions to the letter. When it was fully headed, I started the plow, with three good horses drawing it, and put on a heavy chain to drag the rye down into the furrow. It was a heavy growth, and difficult to get under. At that time, the weather was dry, and the heavy growth of rye drawing moisture from the soil, made the plowing very hard. We had a hard time getting the land in order to plant, as it broke up cloddy, and remained so till there came a rain after the corn was planted.

The benefits to the corn crop failed to materialize, for the season was too dry; the mass of straw plowed under did not become thoroughly saturated during the corn-growing season, or at most, not to a sufficient extent to prevent the corn from suffering. As a result, I got nothing but hard work, disappointment, and a deal of experience out of the trial. The corn crop was only about one-half what I would have had without the rye. To get the greatest growth of rye, I delayed plowing about two weeks longer than I would otherwise have done. While I planted about the same time that my neighbors did, the land was not in so good order; it was too dry, and too cloddy, on account of the late plowing when the weather was so dry. Had I been satisfied with a smaller growth of rye, and plowed two weeks sooner, the land would have been in excellent condition for plowing, and the rye been so full of sap that it would have begun decaying at once.

A neighbor owning rich bottom land, sows rye in the standing corn when laid by, and if that fail, sows after the corn is cut. When plowing time comes, he goes ahead, regardless of the growth of rye. Of course, the rye has not made a very tall growth, but he says that he cannot afford to take the risk there is in plowing under a heavy growth of it; if the growth is not very heavy, he says that it pays. A short, thick growth fills the soil with roots, which prevent packing, and make it more easily worked. If it is expected to follow a crop of rye, plowed under, with a crop of corn, the only safe way is to plow at the usual time, and not wait for the rye to complete its growth.

Ross County, Ohio. JOHN M. JAMISON.

WHAT THEY SAY.

NEAT FRONT FENCES.—A house has a sort of broadly pleasant, inviting appearance when open to the street or road—that is, without any front fence or hedge; but, in a majority of cases, especially in the country, the open lawn is the favorite night pasture of the "poor man's cow," and a very attractive frisking spot for all the stock that may be driven along the road. Nice walks, flower beds, and ornamental trees and shrubs, invariably meet with disaster when frisky stock mingles with them, especially when the soil is softened by rains. A few years ago, I had a little experience along this line, and the result was a front fence that was barb-clad, and guaranteed proof against the most vigorous assaults of any animal that was likely to come along. Since that time, I have not advised anybody to open his lawn, shrubbery or flower garden to the "poor man's cow" and steer rampant.

Almost anything ornamental or unique is suitable for a front fence. I have seen solid stone walls, and light, airy, twisted and twirled iron rods, and both were elegant and effective in their way. I have also seen arbor vitæ hedges, well grown and neatly trimmed that were very good. In sections where stock ran at large, these arbor vitæ hedges were made bull-proof by setting short posts 12 feet apart, and attaching three or four barbed wires to them, the whole being concealed by the growth of the trees. Such a hedge looks innocent enough, but the quadruped or biped that attempted to pass through it, invariably came to grief.

Another neat and effective fence is made of woven wire netting, 3½ to 4 feet high, attached to posts set 8 to 12 feet apart, and topped with a barbed wire to prevent animals from breaking it down, the whole being nearly concealed by climbing roses and other vines trained upon it. This sort of a fence is cheap, easily constructed and, if kept neatly trimmed, one of the most ornamental fences I ever saw. FRED GRUNDY.

SULPHUR AS AN INSECTICIDE.—For three years or more, the almond and prune trees have been badly infested with red spider or yellow mite, the trees being entirely denuded of foliage in midsummer. The only remedy so far found effectual, is dry powdered sulphur, which has been applied in many primitive ways. I find that one-fourth pound to the tree, is sufficient for good-sized almond trees, four years old, and two ounces for a prune tree of the same age. In many parts of the San Joaquin Valley this season, the army worm, or a similar insect, did great destruction to grape vines, the loss amounting to many thousands of dollars. In this vicinity, several persons saved their vineyards, at a cost of a few cents per acre, simply powdering the vines immediately in front of the invading army.

In this State, thousands of tons of sulphur are used on vineyards to prevent mildew, the sulphur being thrown on by hand, shaken from perforated cans, or grain bags, or blown on by use of a bellows arrangement. In most cases, they could save the price of the Paris-green gun, through the lessened quantity of sulphur required by one man's work, as the ordinary methods are very wasteful, as well as disagreeable, and sulphur sold last season for two to three cents per pound (ordinary ground sulphur). The tomato worm is a serious pest on many plants here, but a very light dusting with Paris-green, has saved my vines.

On early peaches, the diabrotica, a yellow-spotted beetle resembling a lady-bird, is very destructive, eating its fruit or spoiling its appearance for market. This season, I used a mixture of one part Paris-green to 12 parts sulphur, dusting the trees early in the season. It kept the beetles away, and I saved my early peaches. There is no danger in this practice, as the quantity required is very small, and it should be applied as soon as the fruit is half grown. The same method will save a considerable portion of the apricot crop. Some of the larger orchards are sulphured by the use of a broadcast seed sower, which is mounted on a wagon, and driven by gearing from the wagon wheel. This arrangement sulphurs three to five rows of trees at one trip, the trees being full grown, and 20 to 40 feet in height. A larger style of Paris-green gun to be hauled on a wagon, etc., would be a great improvement over the seed sower, and would be a great saver of material. W. B. J.

Merced, Cal.

WHAT ARE "FARMERS' WAGES"?

"I see in your article, the Making of a Smoothing Harrow" (page 176), "that you figure your wages at $2.50 per day. Do you charge your corn crop $2.50 per day when you are hoeing, and do you never charge more than that when you are doing work of a professional nature?" says Honest Doubt.

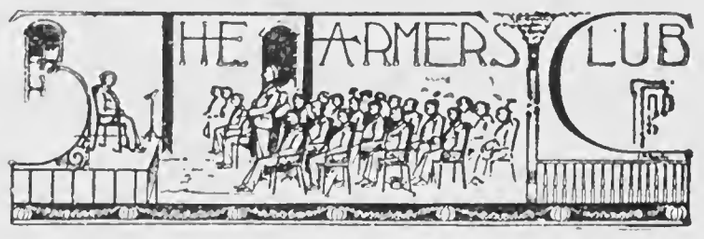
A farmer is a jack of all trades, an all-around man, a more or less well-rounded man. He is town official—in Connecticut a large percentage of the selectmen, the highest town officers, are farmers—local preacher, justice of the peace, day laborer and every kind of mechanic. Therefore, a farmer's wage scale will have as many ups and downs, and as wide a register between maximum and minimum, as a weather chart for March, 1896. As he invades the various callings, it is necessary to adjust his compensation to the rates common therein.

If all his days are spent in physical drudgery upon his farm, doing only work which a greenhorn can do for $1.25, he places himself upon the level of that man. He is a dollar-and-a-quarter man. Too much of such work will dull him below a profitable brain working point. On the other hand, the man who has made a lucky strike, and taken in a casual $5 with little effort, does ill to go to the corner store and wait for another like job. That kind of patience, when averaged for the year, is likely to put him into the "cent-a-day band" instead of the "five-dollar class." The dollar-and-a-quarter man is away ahead of him.

A successful farmer once said that he could hire muscle cheaper than brain, and was himself a fine example of a brainy farmer. Probably $1,000 per year would have been necessary to hire a suitable substitute for him on his own farm.

Another large farmer, in figuring the expense of an onion crop of some 20 acres, charged his own time at $10 per day. The farmers' club took him to task for this item. Perhaps $5 would have been better. It is doubtful whether he could have found a man for less than $1,500, capable of taking entire charge of his diversified and extensive business, and of running it at a profit.

We should measure ourselves from time to time. I may ask, For how much could I have hired that job done, or what would a professional ask for this piece of work? By so doing, I can construct a dynamic chart of myself, and find how many pounds I am pulling on the car of progress. E. C. BIRGE.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Cause and Treatment of "Snuffles" in Sheep.

J. L., Ripley, N. Y.—What is the cause of, and cure for, the disease in sheep called "snuffles"?

G. H. C., Spencerport, N. Y.—What is the cause of "snuffles" in sheep? The symptoms are a constant discharge from the nose, and hard breathing. The sheep are strong and thrifty, strongest in the flock affected. Is it chronic, or caused by a cold? What are the remedies to arrest the disease, if it be a disease?

ANSWERED BY DR F. L. KILBORNE.

The condition in sheep commonly called "snuffles," may be due to either one of two causes: 1. Nasal catarrh or cold in the head, which affects sheep that have been exposed to vicissitudes of climate, especially during fall and winter. The condition usually appears suddenly in several animals, following exposure or a sudden change in the weather, and is indicated by the discharge from the nose, also from the eyes in severe cases; frequent sneezing or snuffling, and more or less labored breathing, with dullness and stupor. If neglected at the outset, it runs into a chronic catarrh which depletes the animal very rapidly. In prolonged cases, the disease proves fatal, with extensive inflammation of the air passages, the inflammation often extending down the trachea to the lungs. If taken at the outset, this disease usually readily yields to proper nursing and a good diet, with little or no medical treatment. The sheep sheds should be made comfortable and free from draughts of air, but not too hot and close. When the catarrh has become chronic, I have had excellent results from feeding spirits of turpentine in wheat bran or on oats. Feed one tablespoonful of the oil of turpentine, well mixed in two quarts of the grain, once every other day to about eight sheep, and continue for two or three weeks if necessary.

2. Œstriasis, or grub in the head, due to the presence in the sinuses of the head, of the larvæ of the sheep bot or gadfly, the œstrus ovis, a dull-colored fly little more than one-half the size of the horse botfly. During midsummer, the female gadfly deposits the young larvæ just within the rim of the sheep's nostrils, where they soon attach themselves by means of minute hooks, then gradually work their way upward in the nose and into the sinuses. The larvæ remain in the sinuses about 10 months to complete their larval growth, when they crawl out and, escaping from the nostrils, fall to the ground, where they bore beneath the surface for an inch or two, and then transform into the pupal stage. They remain in this state three or four weeks, when the fly emerges, thus completing the cycle of its life history.

The symptoms due to grub in the head, are very similar to those of simple nasal catarrh, except that they appear less suddenly, without reference to changes of weather, and are often more or less confined to one nostril, while in the catarrhal trouble, both nostrils are affected alike. Positive diagnosis in many cases can be made only by opening the sinuses on the head of a dead sheep, and examining them for grubs, which, if found, will be from one-fourth to three-fourths inch in length, according to their age. It is rare to find a sheep's head in winter in which one or more larvæ are not found. In such small numbers, they prove harmless, the irritation being slight; but when present in large numbers, they cause much irritation, a copious nasal discharge,

falling off in flesh, and in extreme eases, dropsical swellings, especially under the throat, rolling of the eyes and giddiness.

While most writers say that medieinal treatment is of little advantage, I have found the following very satisfaetory: Shake well together, oil of turpentine, three ounces; carbolic aeid, four drams, and ehloroform, six drams; always shake just before using. Dose, one large teaspoonful for a full-grown sheep. Place the sheep on its baek, and have it held by an assistant. Turn the head slightly to one side, and pour one-half teaspoonful of the mixture into the upper nostril, then roll the head to the other side and pour the remaining half teaspoonful into the other nostril. Move the head from side to side for a few seconds before allowing the animal to rise to its feet. Repeat the dose onee a week until relieved. This nasal injection may, possibly, be found to be equally efficaeious in ehronic cases of catarrh, when the turbinated bones and sinuses are affected. The grubs can, also, be suecessfully removed by trephining the sinuses; but as the operation requires the services of a veterinary surgeon, it is unneeessary to deseribe the method here.

Much may be done during the summer to prevent the sheep becoming extensively affeeted with the œstrus larvæ. One of the most effeetive methods is to give them shelter in an airy but darkened shed or stable during the heat of the day, this being the time during whieh the fly works, the sheep to be turned to pasture towards evening, and taken up again in the morning. The presence of the flies is shown by the sheep running wildly about, as if trying to avoid or shake off something, shaking of the head, stamping of the forefeet. While running about, the sheep hold the nose close to the ground to avoid the attacks of the fly. The floek is usually seen huddled together along the fence, under a tree or other shelter, with heads to the eenter and their noses low down and elose under each other.

A method often employed to prevent the attacks of the fly, is to smear the nose every two or three days with some viscid substance whieh is distasteful to the flies. One of the most effective mixtures is equal parts of pine tar and fish or whale oil, to be applied with a brush around the nostrils. Others recommend feeding the sheep salt from two-inch auger holes bored in a log, the margin of the holes being smeared with tar, so that the sheep get a dressing every time they reach for the salt. This method is fairly effective.

June Budding of Peach Trees.

J. G., Sable, Ontario, Can.—I have a lot of peach trees that I budded last fall, and a number of them missed. What shall I do with them? Can I bud them in June again?

ANS.—Peaches that were budded last fall and failed to take, ean be budded again this season in the new growth, if it is desirable to leave them where they are now growing; but if in nursery row to be transplanted, these two-year roots would not be of mueh use for this purpose. J. H. HALE.

The Chinch Bug in New York State.

M. B. S., Centerville, N. Y.—Chineh bugs appeared here last summer, in quite large numbers, and did some damage. Will they be liable to be here again this summer? If so, will they not be liable to kill our new seeding? We have failed to get a catch of grass in this seetion for three years, and there will be a large amount of new seeding. I see that in Minnesota they have an infectious disease that they send out from the State experiment station, that causes the bugs to die. Have they anything of the kind in this State? If so, where can it be obtained?

ANSWERED BY M. V. SLINGERLAND.

The Chinch bug is one of the most destruetive, and one of the hardest to fight, of any of our inseet foes. It is naturally a Southern insect, and most of its destruetion has been wrought in the South, and in the Mississippi Valley, especially in the States of Illinois, Missouri, Kansas and Minnesota. It was first recorded in North Carolina in 1783, but did not receive a seientifie name until 1831. Since 1839, it has attracted more or less attention almost every year by its ravages in some locality in the Mississippi Valley. It is estimated that it damaged Illinois farmers to the extent of $10,000,000 in 1871; in 1874, Missouri lost $19,000,000 through its ravages; and in 1857, the losses in several States amounted to the enormous sum of $60,000,000 from this little foe. Is it any wonder that New York farmers are anxious to know whether any sueh dire results are likely to follow the appearanee of sueh a destructive insect in our State?

The Chineh bug is known to oeeur in all of the Eastern and Middle States, and in Canada; but it has rarely appeared in sufficient numbers in these parts of the country to have attracted notice from its ravages. It was first met with in New York State in 1847 and 1851, when Dr. Fiteh found three specimens. Sinee that time, and until 1882, the inseet had been rarely seen in our State; so rare was it that insect writers then had no knowledge of its oeeurrenee in the State, except the reeord of Dr. Fitch's capture of the three specimens mentioned. However, in 1882, it appeared in destructive numbers in several Timothy meadows in Jefferson and St. Lawrenee Counties, and continued its ravages in these counties during the following year. Although the insect went into hibernation in large numbers that fall, the apprehension of its inerease and spread in 1884 was not realized; it seemed to have been eheeked by natural causes, as the severity of the winter and early spring rains. The bug seems not to have appeared in injurious numbers in that portion of the State sinee. In 1888, the bugs appeared in some meadow lands in destruetive numbers, in Erie County, but eold rains in May cheeked them. It was not until six years afterward, or 1894, that the insect again attraeted the attention of New York farmers. Last year, we learned from a eorrespondent in Allegany County, that the bugs had ruined his meadows the previous season, and were then at work in his grain. Another report from the same county stated that "hundreds of acres of Timothy meadows were totally dead, and most of the remainder were dying rapidly." M. B. S.'s query shows that the bugs were also numerous in Sullivan County in 1895. Last year seems to have been very favorable for them all over the country, for never before have their injuries been so general over so large a territory; Ohio as well as New York farmers suffered from this, to them, strange foe.

We have no knowledge of the numbers of the insects that went into hibernation last fall in our State, but its history as given above would strongly indieate that New York farmers have but little to fear from the Chinch bug. For, it has appeared in injurious numbers in the State but three times in 13 years, its ravages have not eontinued for more than two seasons in any instance, and it has never reappeared in noticeable numbers in the same locality. It is thus very doubtful whether it ever beeomes the serious and constant menace to farm crops in New York State that it is in Illinois, Kansas or Minnesota.

The Chinch bugs hibernate in the adult winged State, in any sheltered nook they ean find; they like to work their way down to the stools of grass below the surface of the ground. They come forth early in the spring, probably in May in New York State, and lay their amber-colored eggs, 1-33 of an inch long, at the base of grasses or grain. One female can lay nearly 250 eggs, usually oceupying several weeks in their deposition. The eggs hatch in about two weeks, and the young bugs, called nymphs, soon become of a bright-red color, and shed their skins four times before the adult winged stage is reached. The name, Chineh bug, was applied to the insect from the fact that the nymphs resemble the well-known and much-despised bed bug, which was everywhere known in the south by the Spanish name, chincho. The first brood of these red nymphs mature in July and August, and the adults lay eggs for a second brood, whose nymphs develop into the adults that go into hibernation. There are thus two broods of the bugs a year.

Several years ago, it was diseovered that, in some seasons, millions of bugs died from the attaeks of some fungous disease. It was found that this fungus could be propagated in large quantities, and there are now several distributing stations from which millions of the diseased bugs are sent out annually to afflieted farmers who apply. There are sueh stations at Urbana, Ill., St. Anthony Park, Minn., Lawrence, Kan., and Lineoln, Neb.; I think thatsome were also distributed from Wooster, O., last year. Large quantities of this fungus have been propagated here, at Cornell University, but it was for use at the Minnesota Station. There is no doubt that mueh good has been aeeomplished from the distribution of this disease in this way. In some cases, wholesale destruetion has soon followed the introduetion of a few diseased bugs into an infested field; but in other cases, entire failure has resulted.

Careful experiments have reeently shown that this method eannot be depended upon for the wholesale destruetion of the Chineh bug, unless eertain favorable weather eonditions prevail. When these eonditions do not prevail, the spread of the disease is so slow that the diminution in the numbers of the bugs is scareely perceptible. It has been eonelusively shown that the disease cannot be sown here and there regardless of favorable eonditions, with any hopes of good results. Man cannot bring about the favorable conditions, so that Nature must take her course. Thus far, the work of the insect in New York State has not seemed to warrant the necessary expense attendant upon the propagation and distribution of this fungous disease. No doubt, any of the stations above mentioned, would supply any New York farmer who cares to apply, with some of the disease; or I will gladly try to get some for any one who may desire to try it.

We believe that the Chineh bug can be eontrolled in New York State by deep fall plowing, or burning over of infested lands late in the fall. By either of these methods, many of the hibernating bugs will be destroyed.

Fertilizer for Orange Trees.

C. G. A., Sorrento, Fla.—What is your idea of a fertilizer composed of nitrate of soda, kainit, and Florida acid phosphate, to be used on orange groves to make wood? Some old groves might be benefited by the application of the chlorine which is in the kainit. It might be a good time to kill out the insect and fungous growth which may have been prevalent in some groves, and I understand that chlorine is good for that, though objectionable where fruit is desired. Do you think blood and bone or tankage a good thing to put on old groves to make wood? Of course, the main thing now is to make good, healthy wood for fruiting two or three years hence?

ANS.—On light, leachy soils, we would not use mueh nitrate of soda. Our opinion is that blood and bone, or cotton-seed meal will give cheaper nitrogen, and also be as effeetive in promoting wood growth. In any part of the South, we would figure closely on the eost of eotton-hull ashes before buying other forms of potash. At anything like equal priees, the potash in the ashes is to be preferred. For fruit, we would eertainly prefer muriate to kainit.

The Symptoms of Tuberculosis.

W. W. P., North Ferrisburgh, Vt.—What are the symptoms of tuberculosis in cattle?

ANS.—Dr. Law says that it is simply impossible to detail the symptoms so that every man may reeognize tubereulosis if present in his own herd. Yet there are some symptoms with whieh he may acquaint himself. In tubereulosis of the throat, the nodular gland masses, felt beneath the ears and around the throat, are enlarged and irregular in form on the two sides or they are shrunken and hard like gristle. The afflieted animal, too, makes a wheezing noise in breathing, espeeially when driven or excited. These symptoms are not positively conelusive, sinee they may be the result of other causes. In tuberculosis of the lungs, there is a dry, wheezing, persistent eough, espeeially when the affected animal leaves the stable for the eooler air outside, drinks cold water, eats dusty or fibrous food, or when it is driven hard or excited, and in the last case, the breathing beeomes rapid and panting. The breath has an offensive odor, and there is usually a discharge from the nostrils containing whitish floeeuli. The animal beeomes emaeiated, the skin dry and scurfy, and adherent to the ribs, and the hair stands on end in patches, especially along the ridge of the back, and is dry and lusterless. The eyes are sunken and dull. Pineking the baek at the shoulders or the breast bone, or the spaees between the ribs, is liable to eause wineing and groaning or eoughing, as well as striking the ribs with the fist. The ear applied at the side of the chest, will deteet a differenee in the respiration between an affected and a healthy animal. In tubereulosis of the udder, there is usually some enlargement of the affeeted quarter without any very pereeptible heat, pain, or tenderness, and a corresponding enlargement of the lymphatie glands in front of and behind the udder. In general, if an animal fail to thrive on liberal feeding, lose flesh and the natural gloss of its eoat, tubereulosis may be suspeeted. Dr. Law says that the most aeeomplished veterinarian will fail to detect the great majority of cases of tuberculosis, so that it would seem unreasonable to expeet the farmer to do so with his own herd.

Some Queer Results With Corn.

E. P. O., Cheshire, Conn.—I have fed corn stalks in all stages, and in varied quantities, to cows, grade or purebred Jerseys, which I keep for their butter qualities alone, and have never fed them without getting less butter, whieh was harder to churn and of inferior quality, though the flow of milk was always increased in a marked degree. I have tried them carefully back and forth alternated with a poor quality of hay with the same amount of grain in each case, and each time I clearly got the best results in butter from the dry, poor quality hay. I have fed the stalks in all stages, from green suckers in July to dry stalks in winter, and have always used Evergreen sweet corn. My experienee with turnips has been similar—less butter, more milk—though fed without any injury as to taste. Mangels seem to be about neutral, but apples have given me the very best of results. I have fed as high as one-half bushel per cow a day, and thought that I was getting good value for my windfalls—better than letting them go to make intoxicants. As to the stalks, where is the trouble—in the manner of feeding, in the cows, or are they better suited for milk, than for butter? I use gluten meal and bran for grain, with good results in milk and butter, but 10 quarts a day leaves me a thin cow. Would I get as much butter and a fatter cow by feeding the same amount of corn meal, which I can buy at the same price as gluten?

ANS.—I cannot explain or account for E. P. O.'s trouble with corn stover. It is contrary to all of our results. We feed green corn stover from all varieties of sweet corn, in August and September with exeellent results; also ensilage in winter from sweet and dent corn. I would test the buttermilk to see whether the trouble is there. A little salt to cows occasionally, will help to bring butter more quickly. We believe that ensilage from corn well cured, with bran and cotton-seed meal, is the best and cheapest food for milk and butter. On this ration, our cows keep in fine condition, and give good results, both in the pail and at the churn. Our cows always lessen in production, and get in poorer condition, after the silo gives out, and we go back to good, early-cut hay. We are losing faith in some of the gluten feeds. Corn meal will make butter of excellent quality. H. G. M.

Fighting Canker Worms.

W. E., HECTOR, N. Y.—Another way of fighting Canker worms which may be used by those that do not have spraying machines, is to mix thoroughly one part of soft soap and three parts of soft water, and apply with a swab on a pole to the nests, before they spread over the trees.

An Imposition.

S. B. L., WINFIELD, KAN.—I desire to give a warning against a cunning cheat devised to impose upon farmers. It is called the Anchor Electric Belt, and is represented to cure all manner of complaints by means of the electric current that it generates. But it is worthless, because it does not generate any more electricity than a piece of sole leather will. It is made of two wheels consisting of two plates of zinc and one of copper riveted together, and sewed on a calico belt. These wheels seem to be magnetized, so that they will influence the needle of a little compass that the peddler uses to prove that they generate electricity.

Thrashed Corn Fodder.

H. S. K. B., MIDDLEBURY, IND.—THE R. N.-Y. for April 25, asks its readers to give their experience with shredded fodder, how it kept, and the result of feeding it. I have had no experience with shredded fodder, but last fall I thrashed my fodder, which for all practical purposes, amounts to the same thing. I husked my corn by hand, and then had the fodder run through an old wheat separator. It was very dry when run through, and was stored in the mow. It kept nice and bright, and horses, cattle and sheep ate it with an apparent relish. I am just now feeding the last of it to the horses, giving it to them only at night. It is a cheap and satisfactory feed. I do not think that I shall ever feed whole fodder another winter. The thrashed fodder can be stored in about one-third the space it would occupy if left whole, a much larger portion of it is eaten by the stock, and what is not eaten is in a condition to make excellent bedding. Those farmers who have not yet used it, can well afford to give it a trial.

The "Good Roads" Question.

W. D. J., AUSTINBURG, PA.—My attention was called to an article in which this statement is made: "At a meeting of the wheelmen in Baltimore a few weeks ago, the statement was made that 16,000,000 dumb and patient horses were standing in the farm stables of America, waiting for the drying of the mud left as a legacy by the February freshet."

Well, suppose that they are "patiently" waiting; haven't they earned a rest? Mine has, at least, and I know of others that have. Also the statement by "a well-known civil engineer." He asserted that a maximum load for two horses, on a sandy road, is 30 bushels of grain; on so-called pike roads, 50 bushels could be drawn; on macadam roads, 100 bushels, while on the telford roads, 200 bushels would not be an overload, and then adds, "Figures like these are suggestive in the extreme."

Well, they are very suggestive that he (the civil engineer) is not very well acquainted with the loads that can be drawn on "dirt" roads. Let me tell you what a little team (weight about 1,800 pounds) of my neighbor does: They have drawn on so-called "pike" roads, a little more than 4,200 pounds of hay, a distance of five miles. Mine has drawn 1¾ ton a number of times, while I have seen teams bring to market four cords of 18-inch wood at a load. That is marketing our produce fast enough to suit us, and if the "wheelmen" want us to have better roads so that we can draw larger loads, let them "come down" with the cash to build them, and we won't find any fault. But, so long as we have to foot the bills, we would like to have somewhat to say about it. Macadam roads are all very well; but by the time our horses have been driven on them a year or two, there will hardly be any but lame ones.

Some say, "Never go to town without a load, and on macadam roads, you could draw five tons." Yes, perhaps, but the "good woman of the house," wants to go to town to get a dress, bonnet, etc. What then? Take her on top of "five tons" of produce? Sometimes friends want us to take them to the station; take them on top of a load of hay? Hardly. Suppose that the State should build our roads; it would make a chance for "contractors," and they would "sublet" the "jobs," and there would be a great deal of money paid out and but a little road building. We have some specimens in our town road officers, that I would like to tell you about, but will forbear. But I meant to have said that the farmers would have it nearly all to pay. When city editors (I do not mean THE R. N.-Y.), "wheelmen," civil engineers and the like, want us to have better roads bad enough to help bring about the compelling of capital to bear its just share of taxation, then we will meet them half way; but until then, we would rather "jog" along on our "dirt" roads, than to have any more burdens in the line of taxation.

Currant Culture.

JOHN GOULD, OHIO.—For several years we have raised currants in a small way, and while making no pretensions to great merit in the matter, we think that we have pretty good luck at least. I am a strong believer in the mulch plan of growing them. Our currants, set nearly 10 years ago, have never since the first year been hoed or cultivated, simply mulched so as to keep a thick matting of straw upon the ground, and, as fast as it gets thin, more is added. This decaying straw is the only fertilizer they get, and more luxuriantly bearing bushes it would be hard to find. Once in a while a weed will show through the straw, but it is a brief life after that. The bushes are kept in shape so as not to become sprawling, and about all the labor that is involved is, now and then, a little hand work in pulling out a little Blue grass that will come up in close proximity to them. We have very little trouble in regard to insects, the Currant worms being about the sole depredators. As soon as they appear, the bushes showing their presence are well dusted with old and very fine airslaked lime, in which a trace of sulphur has been mixed, and in five minutes not a worm can be found on the bushes. This is, we find, quite as effective as hellebore, is not poisonous, costs little, and between the lime and the sulphur, the leaves are benefited, and about all of the other "enemies" take their departure. One of the new dry-air guns is valuable in distributing the lime, and puts it on very nicely; but, of course, it is not advisable to buy a

(*Continued on next page.*)

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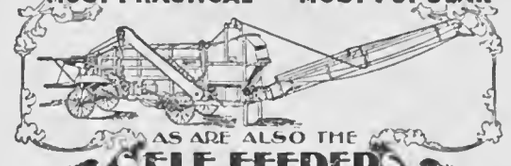

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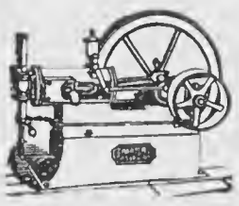

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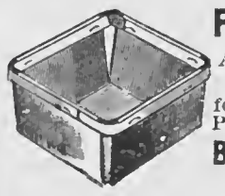

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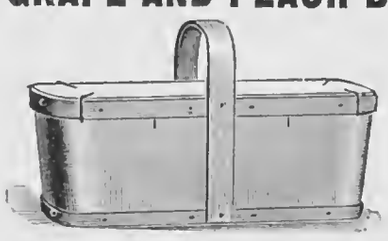

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on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 50c.; bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed limited. Our **Early Siberian Oats** are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address
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EARLY NORTHER SEED POTATOES.
All warranted true to name, and grown on our rugged slate land in Sullivan County, where the best quality of potatoes in the world are grown. Kept in ground pits all winter, they are in best possible vigor for seed. Orders may be sent to THE RURAL NEW-YORKER or to GROTTO FARM, Mongaup Valley, Sullivan County, N. Y.

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JOS. H. BLACK, SON & CO., Village Nurseries, HIGHTSTOWN, N. J.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

$5 gun to "blow up" a few bushes, when the lime ean be sifted on very well from an old, loose-meshed saek, giving quick movements of the hand, to make the smudge as great as possible, so that it will adhere to the under sides of the leaves.

Growing Seed Peas.

W. O. E., WHITBY, ONT.—I have just been reading "Growing Peas on a Large Seale." It may interest your readers to be told how the seed, whieh commands so liberal a priee when at last it reaches the hands of those who use it, is raised. Several large dealers have agents distributed through this section of Ontario, to whom they forward the peas that are to be sown to grow the seed peas. These agents eontraet with the best farmers of the neighborhood to grow the peas, supplying them with the seed, the usual eondition being that the farmer shall return the same quantity of peas as the amount of seed furnished him; or in the event of a failure of his erop, that he shall pay for them at a stated priee; while the agent, on his part, agrees to purehase the remainder of the crop over and above the quantity of seed furnished, at a stipulated price, which is a good deal less than Charles Parry says that the truckers must pay for what they get. The agent exercises needful supervision of the erop while it is growing, to see that the seed is kept pure, by having all the vines that do not come true to kind, pulled up.

WE regret that we cannot tell our readers, from personal experience, in time to enable them to aet upon it, as to the value of the new small fruits, the Gault raspberry, the Raspberry-strawberry and the Logan Raspberry-blackberry. The Gault has passed the winter in safety, though the plants were greatly harmed by anthraenose last year. The Logan plants are alive, though most of the eanes were badly killed. The herbaceous Strawberry-raspberry has started vigorously. It is a strange fruit, and will, no doubt, have a eertain value. It will be remembered that last year we reported that the new Japan Mayberry (Burbank) did not stand the winter. We procured other plants last spring and these were protected by a muleh over the roots. But they seem to be dead. We are fairly confident that this very distinct novelty will be a failure in this and similar elimates.....

THE past winter was one of exeeptional severity. We do not know how low the mereury fell, but we *do* know that it touehed 18 degrees below zero. It is a great pleasure to be able to state that Campbell's Early, which, we believe, though judging from too little knowledge, possibly, will prove to be the best blaek grape at present known, without any proteetion, has not been injured in the least.....

SAGHALIN, of our three kinds of Polygonum, was the first to start. It makes an early, vigorous growth.....

AND now for Crimson elover. Our readers will kindly bear in mind that the lowest temperaure was, at least, 18 degrees below zero. We sowed it in late August, and the exeeedingly dry weather thereafter prevented it from making much growth before frost. Again, it was sown upon poor land that, being more elayey than sandy, craeks and "heaves" somewhat during winter. Well, most of it is alive—that is more than half—and this seems to demonstrate its capaeity to stand eold alone. What kills it out in plaees we may not state. That is what we need to find out. Our guess would be, first, that it needs a better start in the fall, and, seeond, that it eannot stand the water and ice that aeeumulate in soil depressions. The land needs to be perfeetly surface drained. This, as our friends should know, is our fourth trial with Crimson clover. The first was on a garden plot, thoroughly well drained. Not a plant was killed apparently, and the growth in the spring was beautifully vigorous. The next year, on the same plot, it was badly killed. Then we sowed it as a spring crop, the result being that the weeds, starting earlier, and growing faster, smothered it. Evidently, we do not know just what conditions suit this plant. Certain it is that 18 degrees below zero will not kill it. But we want to know why portions were killed while other portions were not.....

We shall have more to say later as to our Crimson clover plots. Our winter oats seem to be killed, except a plant here and there. Why did a few plants survive while all the rest were killed? We had great faith in the Rural Winter oats, beeause they passed the winter in safety two years ago.....

EVERY one of our eollection of Japan plums is alive and, seemingly, unharmed.

WE would be glad to hear from our friends as to the hardiness of the new Columbian raspberry, and also the Loudon and Miller raspberries.....

ONE grows to care more and more for the Hardy catalpa—Catalpa speeiosa. It is valuable for timber, as an ornamental tree, as a quick-growing tree, and for its hardiness. In every way, except, perhaps, as to rapidity of growth, it excels the Common catalpa—Catalpa bignonioides or syringæfolia—but especially as to hardiness. It would pay our friends to plant a few of these trees every year, to be used simply for firewood. A little grove of this Hardy catalpa would give lots of shade in three or four years, while its big, tropieal leaves and immense trusses of orchid-like flowers, would render such a grove a thing of great beauty.....

THE Hardy catalpa is very easily raised from seeds, and one may buy them of seedsmen for 10 eents an ounce. The seedlings grow with wonderful rapidity, and may be transplanted to permanent places the seeond year. The seeds may be sown now, or even later, in boxes or pots, or in the garden.....

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SLUG SHOT saves the garden.

SLUG SHOT has a history.
SLUG SHOT is a cheap powder, remarkably fine, very diffusible, and clings in a fine dust upon any plant over which it is dusted. It kills Currant Worms.
SLUG SHOT kills insects as sure as sugar sweetens coffee.
SLUG SHOT is not a new or untried preparation. Kills Cabbage Worms.
SLUG SHOT as a compound general insecticide was put on the market in the year 1880. It kills Rose Slugs and Blight.
SLUG SHOT kills insects that prey on vegetation, and drives off or kills Cockroaches and Bed Bugs, too, besides fleas on dogs and cats.
SLUG SHOT primarily was used on the Potato Bug and then the Currant Worm. Then on Roses and flowers generally. Cabbage was saved by it. Beans, Tomatoes, Tobacco and Radishes were treated. Turnips by the acre were protected from the fly. Melons from the cut-worm and fly beetles. Saved the Plums from the curculio. The Quince covered with slugs was completely cleaned. The Apple was saved from the Canker worm. Saved the Elm trees from being destroyed by the Elm Tree beetle.
SLUG SHOT went into the Jersey Cranberry Bogs; acre after acre of Cranberry vines from grasshoppers were saved.
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SLUG SHOT went into the hands of commercial florists. first as a sample. lastly by the barrel.
SLUG SHOT does what Hellebore will: where tobacco is useful, it is more so; if sulphur drives and smothers vermin, so does this. If arsenical preparations kill insects, more safely can this be depended on. Try it carefully.
SLUG SHOT has been used with safety to man and beast and fowls for 16 years. Subject to exhaustive criticism, there has not appeared any known cause of harm in its use to either man or woman, girl or boy, horse or cow, dog or cat, calf or sheep, goose or turkey, hen or pigeon, hog or ox, or any other quadruped or biped; and it has been used freely to destroy lice on cattle, cats, dogs and fowls.
SLUG SHOT is put up in 5 and 10-pound bags; kegs, 125 pounds; barrels, 235 pounds in bulk; canisters with perforated top. Is cheap enough for everybody to use, and is

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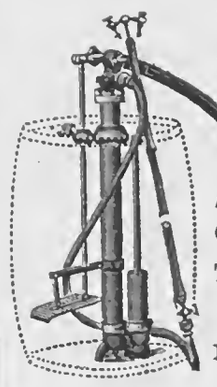

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A National Weekly Journal for Country and Suburban Homes.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MAY 16, 1896.

MR. AGRE makes a good point, when he says, page 335, that the past few very trying seasons have been much against Crimson clover or, in fact, any new or untried plant. Under similar circumstances, Red clover would not have made itself popular, for after several failures, most farmers would have turned against it. Stick to Crimson clover yet. THE R. N.-Y. still believes in it, and advises its use.

⊙

MARKET gardeners realize, more and more, the necessity of having a constant supply of water for irrigation. It would be a singular man, in these days, who would move to a new place for gardening without considering how he could secure water. A water privilege is sure to be valuable, and where a stream can be made to flow over land without the expense of pumping, it is likely to be as valuable for irrigating as it would be for turning a mill wheel.

⊙

A DAIRYMAN who wishes to purchase 10 or 12 pure-bred Guernsey cows or heifers, says that he can't find them anywhere in this vicinity. Those who have them seem loath to sell them, at any rate, for a price that any one can afford to pay. This in the face of the fact that dairy prices were never so low. This indicates the growing popularity of the Guernsey as a dairy breed, and it also indicates that dairymen are after the best cows that can be had. There is always more profit in a good animal than in a poor one.

⊙

HERE is an experiment some of our northern farmers may care to try this summer. When the corn is from six inches to knee high, go through a few rows and plant two or three southern cow peas in or near each hill. They will start and grow, slowly at first, but rapidly later, and when the corn is ready to lay by, they will spread and nearly cover the ground. After the corn is cut off, the hogs may be turned in to eat the peas, or the whole mass may be turned under for green manuring. In some ways, this will be better than trying to sow a row of peas between the rows of corn. As a green crop, this will be surer than Crimson clover, and more valuable than rye. Try it in a small way.

⊙

IN commenting on Gov. Morton's singular act in appointing the wrong man as Commissioner of Agriculture, our usually cautious friend, the Country Gentleman, has this to say about the new Commissioner:

> His chief distinction, however, is political. He was elected clerk of his town in 1883; was a delegate to the Republican State conventions of 1885 and of the present year; and is understood to have rendered important services to his party in the elections of 1894. It is said that the appointment is made largely on the earnest solicitation of Mr. Thomas C. Platt, who is reported to have promised Mr. Wieting the place, many months ago.

Now, then, how long is it since Mr. Thomas C. Platt was selected by the farmers of New York State to pick out a commissioner for them? What business has he to promise a place of this sort to anybody? If it be true that this position was bought and paid for by political "influence," then it must follow that Gov. Morton knew whom he expected to appoint from the first, and he merely listened, with his mind made up, to delegations and appeals against a man whose only qualification seems to have been that "he rendered important services to his party in the elections of 1894!" If that is true, it is a double insult to the farmers of the State. The whole thing seems to have been a case of low-down politics—a mere bargain and sale. THE R. N.-Y. has no personal feeling against Mr. Wieting. We hope most sincerely that he will surprise us all and prove a great success as Commissioner, though we are frank to say that the chances are against it. We wish him well, and promise to do all in our power to help him organize and build up his department. What we protest against is the manner in which this appointment was made. Such a political bargain is enough to curse any man however worthy he may be, and we regret that the Governor lacked the backbone necessary to do justice to our farmers.

⊙

DR. JENKINS, of the Connecticut Station, last year, received four samples of milk for analysis. They varied all the way from 9½ to 11½ per cent of solids, and 2.2 to 2.7 per cent of fat. This would indicate that the milk had been skimmed or watered, yet its specific gravity was that of normal milk—in other words, both fat and solids were lacking. Here was a singular case, for while a single cow might give such milk, there was no experience to show that the mixed milk of a whole herd had ever shown such an analysis. Accordingly, other samples were called for, and they were sent with the assurance that the man who took the samples saw the cows milked and, therefore, knew there was no water in the milk. These samples showed 2.6 per cent fat, and about 11 per cent total solids. The mystery was not explained until the witness chanced to mention that the cows were about half milked, and the calves were turned in to finish the milking. Now the question arises, Was that first half really "milk"? All who have ever investigated the matter, know that the "strippings" are always richer than the first milking. Analyses made in France with cows giving 20 quarts, show that the first quart averaged 1.12 per cent fat, and 10.30 per cent total solids, while the last quart averaged 6.88 per cent fat and 15.60 per cent total solids. Thus in the division indicated by these Connecticut samples, the human babies were cheated at the expense of the cow babies. The first half of a milking will not stand the test of legal milk.

ANDREW S. FULLER.

Andrew S. Fuller died from heart failure on Monday, May 4, at his home near Ridgewood, Bergen County, N. J., where he and his wife have lived for upwards of 30 years. Few horticulturists of our country are better known for their works. His Small Fruit Culture, Grape Culture, Forestry and other books have had a wide circulation, and are still regarded as standard works. Mr. Fuller was, for many years, an associate editor of MOORE'S RURAL NEW-YORKER. About 22 years ago, he bought an interest in the paper, and became the editor-in-chief, Mr. E. S. Carman, who also bought an interest, being an associate. This connection continued for only a year or so, when Mr. Carman bought the entire paper, and changed the name to THE RURAL NEW-YORKER. Mr. Fuller was, for many years, the agricultural editor of the New York Sun, and a frequent contributor to the New York Tribune. He was born in Utica, N. Y., 68 years ago. His parents were poor, and he was a so-called self-educated man.

THE French have invented a bicycle fire engine. It is made like a double tandem with hose and a powerful pump placed between. The whole thing weighs about 140 pounds. Four men wheel it to the fire. When once on the scene, they raise the wheels from the ground, put the pump in order, unreel the hose, and them jump on to the saddles and work the pump just as they would if they were trying to make a record mile. It is said that four men, working together in this way, can pump 4,500 gallons an hour, and force it 75 or 100 feet into the air! There is a hint for some of our bicycle riding farm boys. Make the wheel useful for spraying trees or for pumping water for irrigation!

⊙

As most of our readers know the people of the South are making a strong effort just now to induce Northern men to come and settle among them. A convention of Northern settlers was held at Southern Pines, N. C., last week, for the purpose of organizing this effort, so that the claims of the South might be presented in the most striking and effective manner. The writer attended this convention and had an opportunity of talking with representative men from several Southern States. In subsequent issues we hope to tell our readers something of what we saw and heard. For many years the immigration movement from the North to the South has been slow and unsteady. Now that the Northern settlers themselves are to take hold of the matter, more definite results may be looked for. These men will be liable to deal less with general statements about the undeveloped mines and forests of the South, which demand large capital for their development, and more with the opportunities for *individuals* on small farms or less elaborate enterprises. A large immigration of skilled mechanics and farmers to the South will have a marked effect upon the future of this country. Such a movement of population is more probable now than it ever has been before, and THE R. N.-Y. hopes to give its readers a fair and conservative view of the South and its prospects.

⊙

IN the Southern States, cattle are greatly troubled by ticks (Ixodes bovis) a minute insect that inflicts great torture and damage upon cattle. Southern cattlemen have long hunted for a satisfactory way of destroying this pest. At the Texas Experiment Station, very satisfactory results have been obtained from dipping cattle. A tank seven feet deep, four feet wide at the bottom, and 24 feet long, is filled with water and 100 gallons or more of cotton-seed oil are poured on top. This makes a layer of oil about one inch thick on the surface of the water. Suitable fences and gates are arranged, so that cattle are driven into this tank one at a time. They swim through and, as they climb out and drain, are completely covered with oil, and this kills the great majority of the ticks. By dipping two or three times during the tick season, the cattle are kept reasonably free. This is but an illustration of the different methods necessary in different parts of the country. Our Northern cattlemen have seldom considered such a thing as dipping their stock to protect them from insects. Possibly they will, in time, find it necessary to do something of the sort.

⊙

BREVITIES.

There is a time in the affairs of men
When goodly patience ceases to become
A virtue. He who wisely calculates
And finds when that important time arrives
And then gets mad and spurs his madness up,
And strikes out right and left—in other words,
"Kicks like a steer" with little aim or style,
May not perhaps be called a Chesterfield
Or be held up before his fellowmen
As some pink pattern of politeness—yet
He stirs his little world to cleaner acts
And punches up the laggard sense of right
And duty in his fellows. So go forth,
Get mad for once, when patience doth go wrong,
And, in the boiling that you give your blood
Drive off the scum of laziness and fear.

Now for spraying.

AGITATE the road question.

STEER clear of scrub cows.

PUT plenty of potash on potatoes.

BAD practice does not make perfect.

CUT some of the oats for hay this year.

TRY a few cow peas for green manuring.

READ the "stove shark" note on page 335.

WHAT'S the difference between woman kind and woman cross?

PUT a little molasses in the Paris-green water, for a "sticker."

FOUR-INCH green grass is a "balanced" ration—cut or grazed.

OHIO has followed New York with a bill compelling railroads to carry bicycles as baggage.

IF a scrub cow or hog be desired, we expect that the creature will always be sired by neglect.

WHO can tell us about evaporated tomatoes? A reader wishes to know whether they will sell as well as the canned.

HOW many farmers in New York State think that the State Department of Agriculture has paid its way thus far?

THE fraud who has a powder that will "increase the amount of butter in 100 pounds of milk," is once more abroad in the land.

WE are surprised to see how many farmers there are who claim to have received benefit from the use of kainit in destroying cutworms and grubs.

HARROWING or cultivating in the dust is harrowing to the lungs. Keep the nostrils well smeared with vaseline. It will save you lots of discomfort.

TO fill the farmers up with wealth, and fill the cities up with health, let every citizen in the United States eat the equivalent of six good apples every day.

RAISING cane with the expectation of enjoying the sweets of life in consequence, is a somewhat singular thing; yet Mr. Benedict tells us how it may be done, on page 333.

THE latest dodge is to try to get seedsmen to put seed up in papers similar to those used by the government, and thus obtain the benefit of free postage. Hunt the rascals out.

ON page 303, we had a picture of the "Vineless" strawberry. Mr. M. Crawford now writes that he has a two-year-old plant of this variety that weighs 14½ ounces, and has roots 25½ inches long! Whew!

NO one likes the taste of the mucilage on a postage stamp, yet how many think to moisten the envelope instead of the stamp? The effect is the same exactly. Some one has now invented an envelope with the mucilage on the body. You may moisten the flap without smearing your tongue.

EXPERIMENTS at the Connecticut Station indicate that the nitrogen in cotton-seed meal is more readily available than that in dried blood, fish or tankage, though dried blood and fish rank close to it. The low price of cotton-seed meal of late years, has made it one of the cheapest sources of organic nitrogen. To obtain the best results, a quantity of nitrate of soda should be used with it, thus giving two forms of nitrogen.

AN English stableman who took boarding horses, got in the habit of giving them antimony and arsenic to make their coats sleek, and thus save currying. He gave an overdose, and one horse died. The defense was that there was no intention of injuring the animals, but the judge fined the man $5. In England, it appears, the practice of giving small doses of these drugs to improve the coat, is quite prevalent among grooms. The law now declares it unlawful to give even the smallest dose of any poison without the owner's consent.

MEAT FOOD FOR NEW YORK.

FISH, FLESH AND FOWL IN OUR MARKETS.

It is interesting to note the changes in the demand for meats as the seasons change. Supplies also change, and prices vary widely. Pork is essentially a cold-weather meat, and few butchers cut any during the hot weather. The trade in it is very light, and the demand, such as it is, requires light, lean hogs, very unlike the pork killed and packed by many hog-raisers in the country. Although, in many farm homes, pork furnishes the principal meat supply the year around, those who buy their meat from the butcher as they use it, prefer other kinds for summer use. Hams are sold to a considerable extent, many of them being of the "boneless" persuasion, and having very little fat in their make-up. Some markets, too, sell boiled ham by the pound, a very convenient arrangement for the housewife, as any desired amount may be purchased all ready for the table. There is also considerable trade during the summer in Bologna sausages, but, unlike the savory and satisfying sausages usually made on the farm, these are supposed to be made of beef, though charity might suggest that the least said about their ingredients, the better.

The roasting pig, too, the miniature porkers weighing from 10 to 25 pounds each, are also rarely in evidence now. They have their season in the frosty months, and are of so little importance in the markets of the warmer months, that they are seldom quoted.

The veal trade is at its height as winter merges into spring. There is a considerable supply of calves during the winter, much larger than formerly, on account of the greater prevalence of winter dairying. Through the winter, they come mostly hog-dressed, and good calves bring high prices. But as the supply increases with the advent of spring, the price decreases, and from being a luxury, veal becomes an every-day article of diet. This, of course, greatly increases the consumption, and enables the larger supply to be taken care of comfortably so long as it arrives in good condition. But when hot weather arrives, especially if unlooked for, as was the case with the April hot wave, great care is necessary, or loss is sure to result. More care must be taken in dressing and cooling, and if shipped any distance, ice must be used. A single large piece is sewed up inside the calf, and the whole shipped by express. But the safer way is to send alive, as marketmen prefer to go to the city slaughterhouses and buy freshly-killed veal, to buying that about which there is any doubt as to freshness. The authorities are very watchful—by spells—for "bob" veals, and many are seized during the year. More escape their vigilance, however, and are sold to a cheap trade.

The trade in beef and mutton is an all-the-year-'round one, though lighter in summer, when fruits and vegetables are plentiful and cheap. The desire for meat-food seems to decrease in warm weather, and this is, perhaps, a good thing for the gardeners and fruit growers.

The hothouse lamb trade flourishes from the Christmas market until warm spring weather. Prices are highest at first, declining as the supply increases. Like calves, these are best sent alive after the weather becomes warm. Unlike calves, however, they cannot be iced and arrive in good condition, as their appearance is injured. They are best sent alive, as dealers prefer them freshly dressed from the slaughterhouses. Only a few commissionmen, however, have facilities for handling them alive.

Game cuts a small figure in the market during spring and summer. The game laws interfere with the sale of that from this State, and with few exceptions, this trade is confined to the fall and winter months. Foreign game of various kinds, however, is sold here the year around.

Poultry is always in season. The highest prices are paid at this time of year for broilers. They are in demand for the swell hotels, clubs and restaurants the year around. They don't bring so high prices this year as formerly. The season of greater demand usually opens in April. Those weighing from 1 to 1¼ to 1½ pound apiece are in demand, although larger sizes up to 2 or 2½ pounds are wanted. These come from a wide extent of territory, New Jersey and Long Island, perhaps, furnishing the larger part. They bring better prices if dry picked, that is, if the operation be properly done. This is a trade in itself, and unless one understand it, he would do better to scald. Certain localities always send the stock scalded. Capons should be dry picked, and have the feathers left on the wings, tail and neck. These are sold to a certain extent the year around. In fact, since the advent of cold storage, any kind of poultry will be found somewhere at any time of year. This process of keeping has been a good thing all around, for while it has reduced somewhat, the extreme high prices for some items at some seasons, it has done away with the disastrous gluts which formerly occurred, and equalized prices to a considerable extent.

An important part of the meat supply of New York is found in the fish which are here in great variety the year around. Sea food—as this class of meats is called—comes from everywhere. The shad is a special spring product, the first coming from North Carolina and, perhaps, still farther south, then further up the coast, until now the North River—as the Hudson is called here—furnishes a tremendous supply. Magnificent specimens of roe shad are sold for as low as 25 cents each. Each of these different meats, is worthy an article by itself, as there is much in their handling and sale that is not only interesting, but instructive as well to the farmer.

POTTED APPLE TREES.

I have just come from my greenhouse, where I watered a lot of one-year apple trees planted in large flower pots. It occurred to me that some of the readers of THE R. N.-Y. might like to know what object I could possibly have in such a procedure. As regards future health and thrifty growth, one-year-old trees have always given me the best satisfaction. Many defer placing their orders until spring. At that time, however, nurserymen are very busy, and, having the money in their pockets, they let the purchaser wait for weeks, and when the trees at length arrive, they are likely to be in an advanced stage of growth, admitting of no delay in planting, regardless of the weather or condition of the soil. For this reason, I prefer to order in the fall.

When the trees arrive, they are unpacked, laid on the floor of a cellar, and are completely covered with damp potting earth. The days are then short, and the nights long. The trees, being dormant, when thus treated, are safe for quite a time, and may be potted at leisure, when the day's work is over, or on a rainy day. By keeping the pots in the cellar during the early months of winter, they will require little attention while, at the same time, root formation will progress far more rapidly than if they had been planted in the open field subject to freezing and thawing, not to mention injury from other sources.

Another important consideration is that everybody wishes his young trees to make haste in attaining size. An extra growth of six to twelve inches on each branch, is no small item. This may be gained before dame Nature rouses her sleeping vegetation without, by bringing the potted trees out of the cellar and placing them in the greenhouse. The middle of February is plenty early to do this. I now occasionally moisten the stems with tepid water, and the warmth and light of the greenhouse soon cause the buds to swell, unfold, and then growth rapidly progresses. I don't have to worry myself about getting them out at the "proper" time. The ground may be plowed and fitted as though no trees were ever to shade it, or pelt its face with fruit during a storm. Should occasion require, a crop that matures by midsummer, may even be first removed. Some dwarf apple trees (Yellow Transparent, Red Astrachan and Oldenburg) that I set out about the first of August, last year, if affected at all, were affected for the better by the change. About the middle of April, this year, they dropped their bloom, and to-day (April 27) clusters of small, green apples give promise of a fair taste of their first fruits.

By planting at once, where trees are to remain permanently, one not only loses the foregoing advantages, but runs the risk of having a certain percentage of dead trees scattered here and there. By my potting method, such risk is reduced to a minimum; it is no greater than with trees that have been planted several years. You can pretty safely rely on having your annual plantings of uniform age, with little likelihood of having to "fill in" or else have a vacant space.

Ore Banks, Va. J. C. S.

ALL SORTS.

TRUE WINESAP APPLES.—Mr. W. M. E., Amherst, Va., is very much mistaken if he thinks that I am not familiar with the Winesap of that county. I claim that there is but one true Winesap in the United States, and it is very easily distinguished from any other variety in fruit, and also in tree, with the one exception of Paragon or Mammoth Black Twig. I have been growing the Winesap here for 45 years, and have, in that time, grown 200,000 to 300,000 of the trees which have been shipped to several different States, and in large numbers to the three counties he mentions. I have furnished 2,000 or more trees of that one variety for single orchards in those counties. To be perfect, the Winesap requires a deep, rich soil. I have known them in this section, when grown in such soil, to average as large as the largest Baldwins, and to bring in the Washington, D. C., market $6 per barrel when Baldwins brought only $5 per barrel. But as usually grown, they are below medium in size, and wherever I have seen them growing beside the Johnson's Fine Winter, the latter apple has always been the larger. And I have known the two varieties to be put into the cellar at the same time, treated just alike, and in March, the Winesap would have to be used first because they were not keeping as well as the Johnson's Fine Winter. I have never seen any of the hybrid Winesaps, of which he speaks, with white flesh, red skin with dark spots, and one-sided in shape, and believe those to be of another variety.

Falls Church, Va. D. O. M.

RIFLE PRACTICE FOR WOMEN.—I want to give the poor, tired woman, who wants fruit, and is sick of fighting for her own (page 278), a remedy sure to cure. Let her get a target, arrange it in such a way that it covers that path, and with a rifle commence practice; keep it up at all hours and at unexpected times, in fact, make it a fad. She will be called a crank, but no tramp will venture to cross. Sneak men will let strawberries alone, and boys have more respect for rights not theirs; in fact, the "path" will be uncomfortable, and no longer used. CORA M.

Royalton, Vt.

FURTHER THOUGHTS ON ROADS.—In THE R. N.-Y., page 307, T. D. J., has enlarged on my remarks on the same subject. I trust that the matter will continue to be agitated until the best possible ideas are drawn out and then put into practice at once. No doubt, with the best plans that can be devised, there will be sufficient retrogressive spirit to keep in check the best progressive for a time; but this should not discourage progress, since the most important advances in all ages, met with the strongest opposition, but public sentiment finally concurred as it will in this case. It must be admitted that, if all public roads should be well built 18 feet wide with stone, the first cost seems too great, to attempt such an enterprise. But it will also be admitted that, in densely populated districts, where wealth is not lacking, it would not prove burdensome to improve the most important roads first, and continue as public sentiment advances. There is no better education than positive demonstration. The most intelligent, if they have the means, will almost invariably settle down where they can secure the easiest access to towns and cities, and there is nothing that will tend more to distribute the population as it should be throughout the rural sections, than good roads. In my former article, my estimate of first cost may have been too low; but I know also from experience that, in many districts, it will not cost much above $3.000 per mile for 18 feet wide of stone. What is most emphatically claimed, is that half stone and half earth will cost little over half the full stone road, and little over half the expenses for repairs. Keep the ball moving. H. M. ENGLE.

Pennsylvania.

BUSINESS BITS.

THOSE who want good, reliable berry or grape baskets or boxes will get on the right track by addressing Wells-Higman & Co., St. Joseph, Mich., for catalogue.

IN THE R. N.-Y. of May 2, the price of peach trees in the ad of Rogers, of Dansville, N. Y., was given as $4 per 1,000. It should have been $14. We regret the error, and so does Mr. Rogers; but he is convinced that people read his ads, from the number of responses he is receiving.

A PENNSYLVANIA farmer writes that he used Ingersoll's mixed paints 19 years ago on a building, and that it looks well yet. There are some good points about paint in Mr. Ingersoll's little book, "Every Man His Own Painter." It is sent free by O. W. Ingersoll, 246 Plymouth Street, Brooklyn, N. Y

IF you are going to use a mowing machine this season, it will pay you to address a postal card to Ross Bros., Worcester, Mass., and ask for particulars about their Perfection mower knife grinder. One of these grinders will save the cost in horse feed the first season, if you use it when the knives become dull.

THE Louden Machine Co., Fairfield, Ia., have done much to lighten the burdens of harvesting hay, grain and sorghum. Their arrangement for stacking appears to be extremely simple and effective. Their fully illustrated and descriptive catalogue will be sent free to any one having any of the above products to handle.

No one will dispute that 18 to 25 cents per rod is cheap for a farm fence. The manufacturers claim that the Standard Wire Fence can be built for this price. It is a good fence, too. Send for pamphlet giving full information on fence building and fence machines. Address Standard Wire Fence Co., 6 Main Street, Canandalgua, N. Y.

CRIMSON clover is still in the ring. Don't be afraid of a few bad reports. The good ones are now rolling in. The seed crop promises to be short this year, for even in Delaware, the stand was poor in consequence of the dry season. Get good seed. H. W. Doughten, of Moorestown, N. J., will sell the seed this year. You need have no doubt that Doughten will serve you well.

A NEWSPAPER and magazine directory just published by Wm. F. Simpson, 32 Park Row, New York, will be found very useful by advertisers generally. It contains a complete list of the leading magazines, monthly publications, literary, comic and religious weeklies, German papers, agricultural publications, New York newspapers, with their advertising rates, besides many useful hints on advertising.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

WHAT do you think about the economy of the woman who got enough grease from skimming her dishwater to make soap? Would it not have been better for her family's health (and made better soap) if she had saved the grease before it went into the frying pan?

*

IN a recent case where a woman had a man arrested for making uncomplimentary remarks about the height to which she lifted her skirts on a rainy day, the judge fined him $25, and delivered this opinion: "A woman is justified in lifting her skirts as much as she thinks necessary on a muddy day. If a man objects to the exposure, he should go to court and get a summons, but not express his opinion to the woman's damage about her reputation." It will take a good many such cases to teach a certain class of men that a woman's dress and her manner of wearing it, are her own business, so long as she doesn't interfere with any one's rights.

*

MRS. RORER says that she has nothing in her kitchen that will break if dropped. She thinks that this prevents a great deal of wear on the nerves. The worry of housekeeping could be greatly reduced if we arranged everything, and chose our furnishings with that purpose in view. Let us not have anything around that is too fine to use, and let us unfasten the affections that are twined 'round some household god. If a pretty bit of china come to an untimely end, do not mourn, but take into your heart the careless child who broke it, and let your gentleness be shown to something that has feelings. There are women who will wash their own china, and leave their children to the care of hirelings. They who have no fine china and can't afford servants, may make a slightly different mistake; but the average woman is a slave to self-imposed tasks, while she is half-indifferent to the duties which God has imposed on her, to the discharge of which both time and eternity must testify.

HOW TO CAN VEGETABLES.

A NUMBER OF NOTES.

On page 256, F. H. P. made the following note:

It will be a great boon to the health and well-being of my family, also to the lessening of our store bill, if I can learn some practical way of canning asparagus, peas, string beans and corn. We have an overabundance of all of the above in the growing season, and have tried various recipes in reputable cook books without success. I appreciate the fact that the canning of these articles, as done in a business way, is a science not generally understood. Yet, among all the intelligent subscribers to THE R. N.-Y., it seems as though some one could put us on the right road.

Later, F. H. P. gives this account of his method of canning tomatoes, and other readers of THE R. N.-Y. have contributed the other notes:

How to Can Tomatoes.

Tomatoes should be canned in August, when the fruit is in the best condition. It is highly important that the fruit should be perfectly sound and not too ripe; for a single spot of decay will contain a sufficient number of ferment germs to spoil the entire mass. This is the most reliable method:

Have a large kettle of rapidly boiling water on the stove. Wipe the tomatoes, fill a wire basket with them, and plunge it into the boiling water until the skins begin to crack. Then plunge into cold water and remove the skins and the hard part under the stems. Slice them and let them boil quickly until perfectly soft, but not enough to evaporate all the liquid. Then season as for the table. To every quart, allow one teaspoonful of salt, one saltspoonful of pepper and one-half cupful of sugar if desired; if not, the sugar may be omitted. Cook five minutes longer, then fill the jars almost full.

Have ready some butter melted, strained and boiling hot, in the proportion of one tablespoonful to every jar. Fill to the brim with the hot butter, and seal at once. Wrap the jars in paper, and keep in a dark place. If these directions are carefully followed, your tomatoes will keep nicely, and when opened, will be almost as nice as the fresh vegetable.

F. H. P.

Corn, Peas and Beans.

I send "our way," which is reliable and excellent for peas and corn. Other vegetables we have not tried, but the same methods would, undoubtedly, prove equally successful with them. Fill the common glass cans with green shelled peas, screw on the covers tight, place them in a kettle of cold water, and boil three hours. Can corn the same way, except to slice off the corn as for the table, and press it in the cans well; then screw on the covers and boil three hours. To use, warm up the contents and season for the table. These will be better than store stuff, and equal to fresh-picked vegetables. H. W. H.

Peas, sweet corn and string beans can be canned in the following way, if used when just right for table use: Use one-quart or two-quart cans. Shave the corn from the cob, and with a small, wooden masher, crowd the cans as full as possible without breaking them. When full, put two tablespoonfuls of cold water in each can, put on the tops, but don't screw them tight, only enough to keep them in place. Put an old towel in the bottom of the wash boiler, place the cans in, and if there are not enough to fill the boiler, put in cloths so the cans will stand straight up and down. Put in cold water till it comes half way up the cans. Set on a slow fire at first, till the cans begin to sweat, then increase the heat, and let boil till the water inside of the cans begins to boil. Boil 10 minutes longer, take from the stove, finish filling the cans full of boiling water, seal tight, wrap in paper, put in a cold room, and they will keep till the next summer. Asparagus I have never canned, but think that it could be done by cutting in small pieces first. J. S.

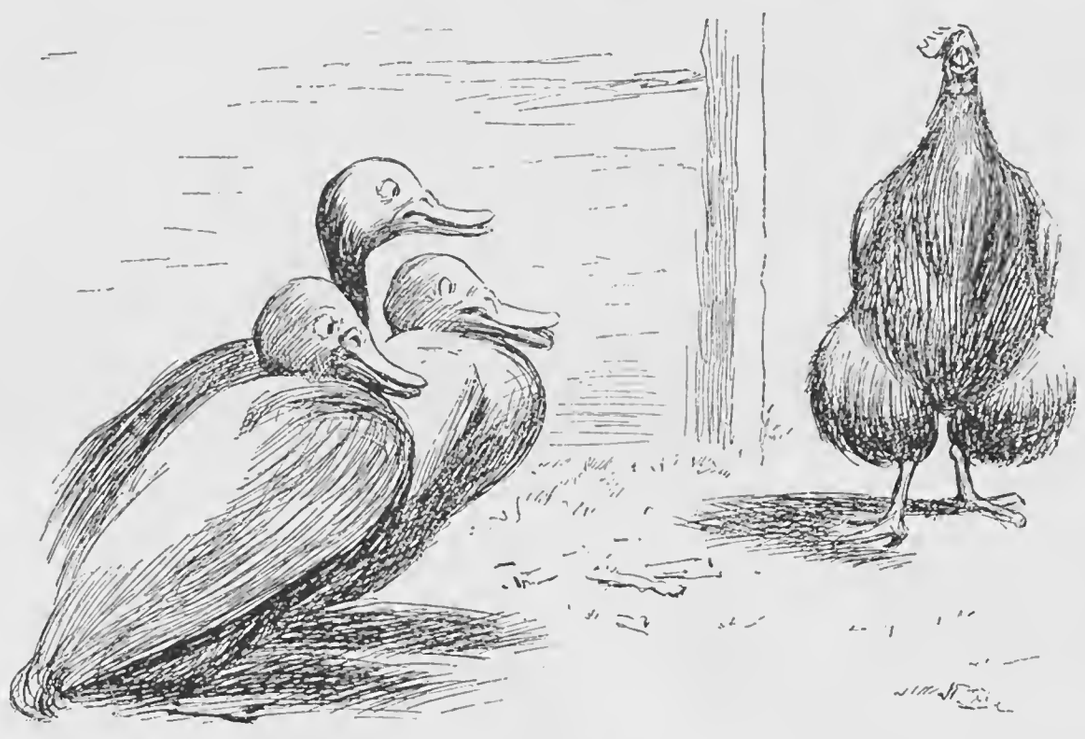
My wife can can corn so that we consider it fully as good as corn from the field. She says, "First, be sure that it is not too old, but just at its best when it will shave off easily. Use corn fresh from the field. Shave very fine. Pack in new glass cans with new rubbers, as closely as possible. Put on the covers and screw them down to the last notch possible. Put them in a wash boiler, and cover with cold water. They must not touch each other, for they will break. They will bob around in the water, and it's almost impossible to keep them apart."

I made her a frame of squares that would just fit into the boiler. A can is set in each square. It is rather a slat box, as it has a bottom to it to keep the cans from touching the bottom of the boiler. Bring the water to a boil, and boil briskly five to six hours. Remove from the fire, and while still very hot, tighten the covers all they will stand. Keep in a dark cool place. C. E. C.

Let F. H. P. prepare his peas and beans as for cooking. Fill the jars as full as possible, then fill with cold water; put on the rubbers and put the wire over the tops. Now put as many as possible in a boiler with hay or straw between them so as to keep them from coming in contact with each other. Fill with cold water nearly to the top of the jars. Boil for 3½ hours, remove and tighten. Corn is treated in the same way, except that no water should be put into the jars. When taken from the boiler, be sure not to remove the covers; if you do, they will not keep. We have never lost a single can put up in this way. I find them much better than those we get at the stores. F. H. J.

I use glass jars, cut the corn from the cob, put in the jars a little at a time, and press in with a round stick made for this purpose. Add more corn, and press until the jar is full; wipe off the can, put on a new rubber, then put on the cover, and seal tight. I have the boiler ready, or if only a few cans are prepared at once, a large kettle will do; put straw in the bottom of the boiler to prevent the cans breaking, put in the cans, fill the boiler with cold water up to the rims of the cans. Something must be put around them to keep them solid; put on the boiler cover, boil three hours, and more if possible. When partly cool, I remove from the boiler and try to tighten covers, but on no account loosen them. When needed for use, I open a can, put the corn in a kettle, season to suit, let cook a few minutes, and I think any one will be pleased with the result. Peas are canned the same. Beans are prepared the same as for cooking, put in cans and cooked the same as corn. If cans and rubbers are perfect, I think any one will be successful. MRS. R. L. D.

LOUIS LOMBARD: "Court with your eyes open; after the wedding, it is worse than useless to have eyes. You cannot look too carefully before, or overlook too persistently after."



PROGRESS IN THE CHICKEN-YARD. FIG. 110.

THE DUCK: "At last, girls, here it is, the new woman—bloomers and all."—Harper's Bazar.

TRAINING A CHILD.

WHEN does the training of a child begin? Dr. Holmes answers, "One hundred years before its birth." Most agree as to the wisdom of his reply, at the same time believing that heredity often means less than many suppose, since an individual life is given to every one; and God is just, as well as merciful, says Elizabeth Lord Condit in the Home Magazine. The thoughtful woman does not wait until the birth of her child to consider this matter. It influences her choice in marriage and her habits of life afterward. She endeavors to secure through herself what she most desires in her child, the best of physical, mental and spiritual health. As far as possible, she makes her work, her reading, her recreations and social duties subservient to this. Knowing that a sound mind is closely related to a sound body, she pays careful attention to the matter of healthful dressing, nourishing foods and physical exercises.

The nearer the expectant mother and the mother and child live to Nature's heart, the better for present and future good. A lady replied to a friend who commented on her daughter's sunny, helpful and strong character: "She should possess great capabilities of happiness and usefulness. I lived the year before her birth among the mountains, and spent my time in the woods with the birds and other shy folk. I studied the flowers and learned a little of woodcraft. I followed the little brooks through bright and shady places. I was filled with the beauty and wonder of the days and nights. God talked to me. It was a happy, blessed time. It should live in my daughter, and I think it has." Its effect was manifest in the second generation.

It is well to consider ante-natal formation of habits through unconscious as well as conscious agency. Mrs. Prentiss says something to this effect in "Step-

Sisyphus was the ancient hero condemned by the gods to push a big boulder up-hill forever, lest it should roll down and crush him. When the myth-makers got up that story they must have been thinking of dyspepsia; for there is certainly no other trouble on earth that keeps you so everlastingly struggling against being crushed into utter despair. Anything that cures dyspepsia lifts about half the weight of misery that crushes mankind,—and womankind.

The trouble with most of the so-called dyspepsia-cures, is that they don't cure. They give only temporary relief. Indigestion usually extends all through the digestive tract, from the stomach clear down to the large intestine; the liver too is frequently involved in the trouble being torpid and inactive. For a thorough, radical, permanent cure you must have the whole digestive organism set right.—Not violently stirred up, but *regulated*. Doctor Pierce's Pleasant Pellets will do it. They stimulate the digestive juices of the stomach; invigorate the liver and help it to actively secrete the bile; and act gently on the bowels to promote a regular healthy movement. This means a complete and lasting cure of digestive troubles.

The "Pellets" are not a severe cathartic. They act on the bowels naturally and comfortably though surely. The dose can be regulated to your needs, and when the "Pellets" have done their work they can be discontinued. You don't become a slave to their use, as with other pills. If the druggist suggest some griping pill that gives him more profit, think *what will profit you most.*

ping Heavenward," that a disciplined mother makes a disciplined child. It is difficult to separate physical, moral and spiritual forces at times. They are woven together in the secret places of life. A self-controlled mother bequeaths some power of self-control to her child.

A nervous woman can do much toward giving her child an improved nervous condition. If she will conscientiously take a daily rest of 15 minutes before noon, she will finally learn to sleep that time, and if she has regular hours for retiring, for rising, and for other daily functions, she will find habits of sleep and system begotten in her child with more equable nerves. How valuable the power of such habits can be, she may learn in time of sickness.

The mother who insists kindly, but firmly, upon regular hours for the child's sleeping, bathing, eating, etc., secures her own with his good. She need not mind being thought "fussy" or obstinate. A child may suffer from unwise care, but not from too much mothering. The physical welfare of the child, especially during its first years, requires the mother's close thought and much of her time. This is part of the training, as well as the sight of her loving face, and the sound of her sweet voice. Make them loving and sweet.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6765. Ladies' Shirt Waist.

Persian lawn is chosen for this stylish shirt waist, which is one of the most becoming of the new styles introduced this summer. The collar, cuffs and front plait are of fine white lawn. A belt of

6765—LADIES' SHIRT WAIST

white suede, with metal buckle, is worn around the waist. Gathers at the neck dispose the fullness on each side of the box plait, through which buttonholes are worked. The back fits smoothly across the shoulders, a pointed yoke facing being applied to the top. This yoke may be cut with or without a center seam, the seam being desirable when striped material is used, as the yoke can then be shaped with bias back edges, as shown. Pattern No. 6765 is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

WHEN TO ASK MEDICAL ADVICE.

SHALL we wait till the disease is firmly fastened on the system? No, it is a mistake verging on a crime, after the first appearance of failing health, to delay consulting the best medical authority within our reach. Parents and those having the young in charge, should be on the watch, and when they begin to fade and droop, at once see that they have a change in their manner of living, and a proper course of treatment. The middle aged and those advanced in years have a duty to themselves and others, on whom in sickness they must depend, to keep as well as possible so that their lives may go out in autumnal beauty rather than in pitiable decay. "We do fade as the leaf," may be truly said of some who have tried to conform their lives to the laws of hygiene that God made.

In many cases, the intelligent physician grieves as he pronounces the patient incurable, knowing that with medical care in an earlier stage, there would have been all chances of recovery. How much of the present sickness is necessary, is a problem that the deepest minds are attempting to solve. Pasteur said, "It is within the power of man to cause all parasitic maladies to disappear from the world," and each one has the power to aid in reaching this condition.

And, oh! the limitations and bitterness of the chronic invalid's life, God only knows. Shut out from the free life that was his birthright, shut in with sensitive nerves, aching body and clouded intellect. For though, through the quiet acceptation of this cross, many lives have become a help and blessing to others, having been taught by the angel of pain, love, charity, humility; yet sickness is a state all should strive to avoid, for "neither shall there be any more pain," is one of the joys of heaven, and let us attempt in our lives here to have heaven begin on earth by being well.

EVANGEL.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

ODDS AND ENDS.

FOOD VALUE OF WATER.—Mrs. Ellen H. Richards discusses water as a food in the American Kitchen Magazine, and shows how necessary it is to the system. She says:

It is generally acknowledged by physicians that too little fluid is taken rather than too much, and the great benefit derived from treatment at mineral springs is often quite as much due to the amount as to the kind of water; that is, so far as the cure is due to water at all, and not to regular habits, exercise in the air, better mental condition, faith in the cure, etc. Many diseases are directly due to too great concentration of the fluids of the body, and are to be counteracted by the imbibition of larger quantities, for a time, at least. To have sufficient water present, is the rationale of water cures, especially that form which prescribes the drinking of a cupful of hot or cold water half an hour before meals. This not only washes out the stomach, it furnishes the medium for the active secretions, ptyalin, gastric juice, etc., in quantity. On the other hand, excess lies in the path of this as well as other things, and what is a rule for one is not a rule for another. However, if one find that the taking of a pint of water will relieve that sense of oppression and indigestion which sometimes occurs an hour or two after a meal, and that only favorable effects follow, the inference is that too little was taken with the food. There is not much danger of taking too much clear water.

STUDY NATURE.—Have you heard the bluebirds singing? And did you not feel the thrill of pleasure pulsate through your inmost soul at the thought that spring is come? We have enjoyed the winter, certainly, with its long, quiet evenings. We have read many a good book, and in this way, while quietly at home, we have really been "on the go" during most of the winter. We feel that we have grown mentally, for we have associated with the first people of the land. We have thought their thoughts, and seen the sights that they have witnessed, and even though everything has come to us in this second-hand way, we feel as though it were almost as good as new, and our enjoyment has been in proportion to our zest and earnestness in reading.

But now that spring has come, let us put away books to some extent, and study things. Let us, if necessary, do the darning, mending, or even make the new garment, by lamplight, in order to gain time which we may spend in studying something out-of-doors. Nature is not an intangible something so far removed from us that we may not strive to come near to her. Is not growth one of the grandest phenomena in Nature? May we not, then, even in our dooryards, study something of the laws of growth? The bursting buds, the unfolding flowers, look very tempting. How much they would tell us if we would but ply them with questions!

Would we be extravagant if we planned to spend a little time, say, but an hour each week, in trying to learn our A B C's in Nature? "An hour with Nature!" How it would rest us! How much we could learn, and then, how many more questions we would be able to answer, which the little folk will never have done asking!

MRS. W. A. KELLERMAN.

INDIAN WOMEN.—Chief Simon Pokagon tells in the Chautauquan of the Indian women's good qualities. He says: "I am convinced that our girls do not love conquest in a general way along the border-land of men's hearts as do the white girls. Hence they appear far less coquettish in their manner. I am well settled in the belief that the attachment so sacred and holy which is planted in the heart of every true lover, is of divine origin, being born of the Great Spirit, and that it is purer in the hearts of our native girls than in those of the civilized races. Our girls make confidants of their mothers in their love affairs. They are not laughed at, plagued, and tormented about the young men as though it were a crime to "fall in love" (as white people call it), but on the contrary their love affairs are seriously considered and thoughtfully talked over between mother and daughter. As wives, our women are queens of the wigwam, and cases are rare where they do not have the full confidence of their husbands. To their care and keeping the men give all their money and goods, which the women use as they think best to provide for the household."

PEN POTPOURRI.

It is not a dream of fancy proud
With a fool for its dull begetter;
There's a voice at the heart which proclaims aloud,
"We are born for something better!"
And that voice of the heart, oh, ye may believe,
Will never the hope of the soul deceive!

—*Schiller.*

....DR. PARKHURST IN LADIES' HOME JOURNAL: "Broad-mindedness cannot be counted upon to yoke up easily with monetary shrewdness."

....HARYOT HOLT CAHOON: "The spirit of the disagreeable person in the house, is a strong and penetrating spirit. It permeates everything. It obtrudes itself into every nook and corner, and every square inch of atmosphere is surcharged with it."

....REV. JOHN L. SCUDDER: "Riding a bicycle is the least objectionable of all forms of transportation on Sunday, for no one is compelled to work but the man in the saddle. The wheel requires no conductors, drivers, engineers, firemen, or any other individual to work on Sunday."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

AYER'S
THE PILL THAT WILL
PILLS
CURE
HEADACHE
INDIGESTION
BILIOUSNESS
CONSTIPATION

Trees live sometimes when girdled nearly around. Nature ever labors to repair damage, and after a time, the wounded surfaces are nicely healed. Some persons live and fully recover, even after consumption has made cavities in the lungs. In this struggle we can greatly aid nature by giving **Scott's Emulsion** of Cod-liver Oil with Hypophosphites. The oil supplies needed fat, and the hypophosphites tone up the nerves. The decline in weight ceases. A positive gain begins, and once again there is promise of life and health. *It is never too late to try.*

Scott's Emulsion *has been endorsed by the medical profession for twenty years. (Ask your doctor.) This is because it is always palatable—always uniform—always contains the purest Norwegian Cod-liver Oil and Hypophosphites.*

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

One of the health-giving elements of HIRES Rootbeer is sarsaparilla. It contains more sarsaparilla than many of the preparations called by that name. HIRES—the *best by any test.*

Made only by The Charles E. Hires Co., Philadelphia. A 25c. package makes 5 gallons. Sold everywhere.

Ten Farmers' Wives WANTED

You can assist us by sending us the names and addresses of ten reliable farmers' wives likely to be interested in our revised tea and coffee club order circular for **Farmers' Grange and Alliance Buyers.** By complying with the above we will send you a beautiful panel picture, large size, 14 x 28 inches, suitable to frame. Old Reliable House. Highest reference. **EMPIRE CITY TEA CO., 28 De Peyster Street, New York City, U. S. A.**

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address **S.S. Ware Co. Box 5308,** Boston, Mass.

FOR SALE CHEAP—One very fine Farm, in sight of the beautiful town of Dover. Good, large, roomy buildings. Land in first-class condition. Address FARMER, P. O. Box 383, Dover, Del.

DIRECT-UM BIT.

Best Combination Bit made.
Severe or Easy.
as you want it.
Sample mailed, XC $1.00.
Nickel $1.50.
RACINE MALLEABLE IRON CO., Racine, Wis.

Why Pay Retail Price

When you can buy a custom handmade oak leather Harness direct from the mfrs. at wholesale price. Send 2c. stamp for Illustrated Catalogue, giving full description.
KING HARNESS CO., Mfrs.,
10 Church Street, Owego, N. Y.

TO THE TRADE.
WHAT ARE YOU LOOKING FOR?

A FIRST-CLASS
Buggy, Carriage Phaeton or Trap
at a reasonable low price. OH, IS THAT ALL, then write to
AMBROSE & HARRIS CARRIAGE CO.,
Perin Building, Cincinnati, Ohio.
Don't Buy until you get their catalogue and prices

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $41. Style, Finish.
"A" Grade, $60. Durability.

RHEUMATISM

Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The latest, surest an best. Sample sent free on mention of this Magazine. **The Dr. Whitehall Mcgrimine Co., South Bend, Ind.**

"PRIZES."

On May 1, our big subscription contest ended, and we are now ready to give results. As you remember, it began on February 10. The first prize was an elegant piano, and there were also two fine organs, a wagon, a buggy, weeder, harness and land roller. Our agents went tramping and riding about, and on May 1, the eight with the largest clubs, stood in the following order:

1. S. S. Chandler, Jr., Waupaca Co., Wis.
2. W. S. Moore, Chenango Co., N. Y.
3. Ronson German, Macomb Co., Mich.
4. Walter Johnson, Middlesex Co., Conn.
5. W. J. Bills, Wayne Co., N. Y.
6. R. R. Gage, Hamilton Co., Can.
7. Wm. H. Fry, Johnson Co., Ind.
8. Theo. Bond, Monroe Co., N. Y.

Mr. Chandler worked hard for the piano last year, but lost it by a narrow margin; so, this year, he girded up his loins and started out to play a tune on that piano or be forever played out. The piano is his. He has well earned it, for he sent 418 subscriptions in all. Good for him! We hope that his wife or daughter will play, "Hail to the Chief!" as soon as it is unpacked. The other seven clubs grade down to 26, which was the size of Mr. Bond's club. There are, also, five persons who secured over 20 subscriptions each, and thus earn prizes of $5.

The total number of subscriptions received during the entire contest was about 1,900. Most of these were in clubs of three or five. There was an immense number of these little clubs, and they came from everywhere. These contests all seem to indicate that THE R. N.-Y.'s great strength lies in the fact that its readers are all willing to try to induce a neighbor or friend to subscribe. It is simply astonishing how many people there are in this country who desire to give THE R. N.-Y. a lift. Agents tell us that they sometimes meet men who, for one cause or another, no longer take THE R. N.-Y., but never do they find one with a word of ill feeling. All *speak* well of the paper, and wish it well. We feel, therefore, that our thanks are due to the readers who have not won pianos, organs or land rollers, but who have, with good heart and good feeling, rolled up THE R. N.-Y. subscription list till it stands nearly 2,000 notches higher than it did last year. In the words of the orator, "We thank you, ladies and gentlemen, one and all, for your kindness, and we hope to be worthy of a continued display of it!"

And now a word about other prizes which some of our friends have drawn. Here is a man from Massachusetts for example:

Dr. Hoskins's statement that THE R. N.-Y. had saved him a good many dollars, has proved true in my case. Mr. Johnson's method of combining hen manure with bone black and potash salts, has saved me over $100 this year. Mr. Hale's idea of setting raspberry plants 4½ feet each way, I have followed with pleasing results. Crimson clover is my sheet anchor; I sow it between the rows, and I use an Acme cultivator to cover the seed. I would have known nothing of these things if I had not taken THE R. N.-Y. G. E. D.

See that? If he had not read THE R. N.-Y., he would not have known anything about these things that have saved him money!

And here is another candid friend, also from Massachusetts:

I consider THE R. N.-Y. easily in the lead of the agricultural press of the United States, at the present time. There are other excellent papers that have their specialties in which they are superior, but for an all-'round, first-class agricultural publication, none can touch THE R. N.-Y. To a student of agriculture, many of your recent articles on Primer Science, have been worth the price of the paper for a whole year. G. D. H.

And here is still another, from Canada:

Yes, indeed, I value THE R. N.-Y. Seven years ago, before entering the ministry, I took it, and, after testing most of the other agricultural and horticultural papers in the States, I concluded that THE R. N.-Y. was more valuable than all the others put together. The price was then $2. After losing sight of it for six years, I have now renewed my fellowship in a 12-months' trip, and conclude that, while you have reduced the price, you are putting up a better paper than before. Now I am back at my old business of fruit growing, for the summer, at least, and I feel as though it would be better for me to lose three or four dinners a week than to do without THE R. N.-Y.

T. C. R.

That is the way it goes! These men win prizes week after week, and come back with good words to pay for them. You need not be afraid for THE R. N.-Y.'s future while we have such friends at our back. We are all right, thank you!

CONDENSED CORRESPONDENCE.

WORCESTER COUNTY, MASS.—The Virginia winter oats, drilled in alone in September, are all dead. Not a single live peach bud in any of our three orchards having different exposures, and we have always had peaches here when there were none, or but few, others in town. Our location is very high. F. H. J.

WASHINGTON COUNTY, IND.—Wheat 10 inches high, looking finely; Medium clover, ditto. Crimson clover and winter oats sowed together, September 2 in a field that has all kinds of soil, seem to flourish equally on the best ground, and perish together on gravelly, clay points where nothing could grow anyhow. Crimson is now in bloom, about a foot high. I think both will do well with us if sown earlier. We had less than one-half inch of rain in April, or Crimson would be taller; it is thick enough. A heavy rain is in sight. G. E. H

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Tobacco.

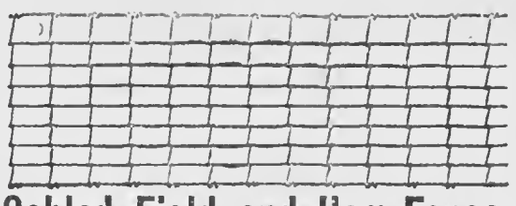
No crop varies more in quality according to grade of fertilizers used than tobacco. Potash is its most important requirement, producing a large yield of finest grade leaf. Use only fertilizers containing at least 10% actual

Potash (K_2O)

in form of **sulphate.** To insure a clean burning leaf, avoid fertilizers containing chlorine.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

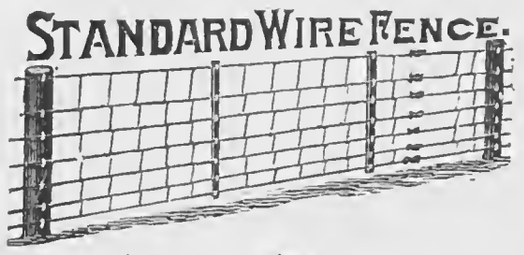
GERMAN KALI WORKS,
93 Nassau St., New York.



Cabled Field and Hog Fence,

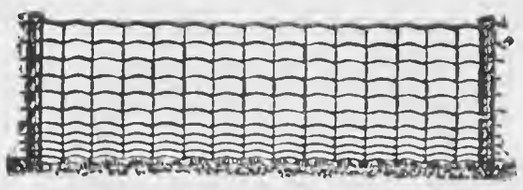
24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates. Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.

STANDARD WIRE FENCE.



$5 to $8.50

For machines to weave your fence at 18 to 25 cents per rod; strongest indorsements; send for illustrated pamphlet giving valuable information on fence building. Unparalleled chance for agents to sell fences and machines. STANDARD WIRE FENCE CO., 6 Main Street, Canandaigua, N. Y.



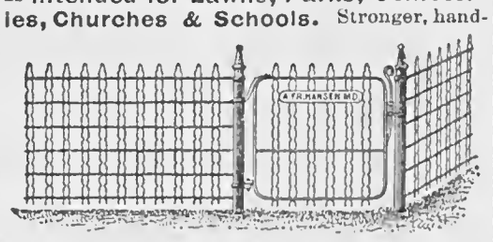
Great Freshet in N. Y. State.

When the papers reported "N. Y. Central tracks under water, miles of fences swept away," we sent two trusty men to look after the 170 miles of Page on that line. Report was true, but the Page didn't "sweep" and an order is just in for 30 miles more. See April Hustler.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

The "HARTMAN" Steel Picket FENCE

Is intended for Lawns, Parks, Cemeteries, Churches & Schools. Stronger, handsomer and **CHEAPER** than either wood or iron. Does not mar but rather adds beauty to the lawn or garden. When set with our Self Anchoring Steel Posts it's a thing of beauty. Several heights, several widths of pickets. Write for circulars & prices.



HARTMAN MFG. CO., Ellwood City, Pa.
277 Broadway, New York. 1315 Manhattan Bldg, Chicago.

STOCKBRIDGE

SPECIAL COMPLETE

MANURES

FOR DIFFERENT CROPS, ARE MADE

DOUBLE STRENGTH.

IN MANY OF THESE WELL-KNOWN FERTILIZERS, THE

POTASH HAS BEEN INCREASED

FOR 1896, IN ONE CASE OVER 40 PER CENT., BUT NO ADVANCE HAS BEEN MADE IN THE PRICE.

SEE LOCAL AGENTS, OR ADDRESS

BOWKER FERTILIZER COMPANY, 43 Chatham St, Boston; 27 Beaver St, New York

DARLING'S Fertilizer represents the highest nutritive value. Practical experiments prove it to be the most economical in use and productive in results. Analysis shows it to contain for a basis

HIGH GRADE PURE FINE BONE

combined with the most efficacious properties. An infallible life renewer for dead ground. Made for all kinds of crops. Sold by all agricultural and seed stores in the Middle States and New England. Send for 1896 Catalogue.

L. B. DARLING FERTILIZER CO., PAWTUCKET, R. I.

FERTILIZERS

Peruvian Guano,

Containing 10 per cent of Ammonia at greatly reduced prices.

Also, Six Per Cent **Peruvian Guano.**

Fine Ground Dried Fish.

Prices on Application BAUGH & SONS COMPANY, 412 Exchange Place, Baltimore, Md.

HOME TREATMENT FOR HAY FEVER.

8 Years Cured: W. L. WEDGER, Roslindale, Boston, Mass.

7 Years Cured: J. L. TREVILLYAN, 24 Fifth St., N. E., Minneapolis, Minn.

8 Years Cured: MRS. A. P. FOSTER, Chelsea, Mass.

5 Years Cured: J. W. GILLESPIE, Black River, N. Y.

5 Years Cured: WM. E. WELLER, 161 Cherry St., Burlington, Vt.

WE OFFER

A CURE THAT STAYS.

Our constitutional treatment not only gives *relief*, but eradicates the cause of the disease and *cures to stay cured*. *OUR NEW BOOK—Thesis for 1896*—with 2,000 other references whom you can consult, *now ready*. Sent on application with blank for free examination. *GET IT.* Read it. Think it over. Talk with these people or write them. Get ready to meet the season's attack, and *do it now*. Address Dr. HAYES, Buffalo, N. Y.

Do Not Build

A FENCE with wooden posts. They will rot down in a few years. Buy the ANCHOR POSTS, as they are made of Steel, and can be used with any kind of wire or wire-netting on the market.

Write for Circular.
ANCHOR POST CO.,
13 Cortlandt St., New York City

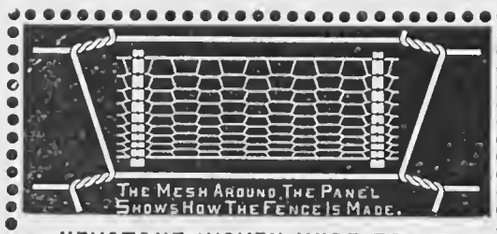
WOVEN WIRE FENCE

Over 50 Styles

Best on earth. Horse-high, Bull-strong, Pig and Chicken tight. You can make 40 to 60 rods a day for **12 to 20c. a Rod.** Illustrated Catalogue Free.
KITSELMAN BROS., Ridgeville, - Indiana.

BILLHEADS, LETTERHEADS, ENVELOPES, CIRCULARS, ETC.

Printed Promptly. Reasonable Prices.
FERRIS PUBLISHING COMPANY, ALBANY, N. Y



KEYSTONE WOVEN WIRE FENCE

Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.

WRITE FOR CATALOGUE.

KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.

CROP AND MARKET NOTES.

Trials and convictions of oleomargarine dealers go merrily on.

American cattle are reported to be flooding the London market.

Competition in the London wool sales is reported to be spirited.

New cheese is arriving, and old cheese is working out freely under a strong export demand.

There seems likely to be a large accumulation of storage eggs in different parts of the country.

The lilac trade is now at its height, and the street peddlers are fairly loaded down with the fragrant blooms.

Strawberries are not only very plentiful in this market just now, but many of them are of good size and fine appearance. They are retailing now for as low as 15 cents per basket, the baskets being supposed to hold a quart each.

Egg prices are extremely low, receipts unusually large, and the outlook for much higher prices in the immediate future, decidedly uncertain. The quality of the bulk of the receipts is not high, many of them being ungraded, and many more decidedly poor. Eggs were sold "loss off" after May 11.

The butter market has been steadily advancing, and is in excellent shape. The lower prices have increased consumption, and as retailers had before been buying in small quantities, there was little surplus. But little butter has been put into storage, as the keeping qualities so far do not warrant it; but as grass butter is now in sight, this will furnish an added outlet.

Shipments of butter and cheese to Great Britain and the continent of Europe, for the week ending May 2, 1896, were as follows:

	Butter, pkgs.	Cheese, boxes.
Liverpool	467	8,804
London	1,014	807
Glasgow	100	1,250
Bristol	....	628
Baltic ports	250	....
Totals	1,831	11,489
Totals for year ending May 1, '96	199,339	566,284
Totals for year previous	23,762	972,601

MARKETS

BUTTER—NEW.

Creamery, Western, extras	16 @—
Western, firsts	14½@15
Western, seconds	13 @14
Western, thirds	11 @12
State, fancy	15½@16
Common to prime	11 @15
State dairy, half-firkin tubs, fancy	15 @15½
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14½@15
Welsh tubs, firsts	13 @14
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @—
Western imitation creamery, firsts	11 @12
Seconds	9½@10
Western dairy, firsts	10 @11
Seconds	9 @ 9½
Thirds	8 @ 8½
Factory, fancy	— @—
Factory, firsts	10 @—
Factory, seconds	9 @ 9½
Factory, thirds	8 @ 8½

CHEESE—NEW.

State full cream, large, white, choice	8¾@—
Good to prime	7½@ 8
Colored, choice	7½@—
Colored, good to prime	7 @ 7¼
Small, colored, choice	8 @ 8½
Small, white, choice	8 @ 8½
Light skims, choice	5½@ 6
Part skims, good to prime	4 @ 5
Part skims, common to fair	2 @ 3
Full skims	2 @ 2½

EGGS.

New-laid, fancy (nearby)	11 @ 11½
State, fresh gathered	11 @ —
Pennsylvania & Md., country marks	10½@ —
Western, fresh collections, fancy	10½@ —
Southern, fresh collections, choice	8½@ —
Common to good	7 @ 8
Duck, per doz	15 @ 17

FRUITS—GREEN

Apples, extra, fancy, per bbl	3 00@4 00
Baldwin, per bbl	2 50@4 00
Greening, per bbl	3 00@4 50
Ben Davis, per bbl	2 50@4 50
Russet, Roxbury, per bbl	2 50@3 25
Russet, Golden, per bbl	2 00@2 75
Strawberries, Fla., extra, fancy, per quart	—@ —
Poor to good, per quart	10@ 12
Charleston, good to choice, per quart	14@ 15
N. C., good to choice, per quart	6@ 12
Norfolk, fair to choice, per quart	9@ 14

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

MEATS—DRESSED.

Veals, country dressed, prime, per lb	5½@ 6
Fair to good, per lb	4½@ 5
Com. to med., per lb	3½@ 4
Small, per lb	3 @ 4
Spring lambs, country dressed, each	2 50 @5 00
Pork, country dressed, light, per lb	6 @ —
Medium, per lb	5 @ 5½

POTATOES.

California, per bbl	4 00@5 50
Bermuda, prime, per bbl	6 00@8 00
Seconds, per bbl	4 00@5 00
Florida, prime, per bbl	5 00@6 50
Seconds, per bbl	3 50@4 50
Havana, prime	4 00@5 00
Maine Rose, per d. h. bbl	1 00@1 25
New Orleans, per bbl	4 00@5 50
State Rose, per d. h. bbl	75@1 00
Maine Hebron, per sack	75@ 85
Long Island, in bulk, per bbl	50@ 75
State Rose and Hebron, per 180 lbs	75@ 90
Burbank, etc., per 180 lbs	50@ 75
Jersey, in bulk, per 180 bbl	50@ 75
State and Jersey, per sack	50@ 75
Common, per sack	25@ 50
Sweets, Vineland, fancy, per bbl	3 50@5 00
South Jersey, per double-head bbl	2 25@2 75
South Jersey, cloth top, per barrel	2 50@3 00
Jersey common, per barrel	1 00@2 00
Southern yams, per bbl	1 00@2 00

DRY-PACKED POULTRY.

Turkeys, average best, mixed hens and toms	11 @ 12
Capons, Phila., large, per lb	20 @ —
Medium sizes, per lb	17 @ 19
Small and slips, per lb	13 @ 16
Western, large, per lb	15 @ 18
Western, small and slips, per lb	12 @ 14
Chickens, Phil., under 3 lbs. per pr., per lb	30 @ 32
Phila., broilers, 3-4 lbs. per pr., per lb	25 @ 28
Phila., broilers, 4-5 lbs. per pr., per lb	22 @ 25
L. I., broilers scalded, per lb	23 @ 25
Phila., yearlings, choice, per lb	15 @ 17
Phila., fair to good, per lb	12 @ 14
Western, average best, dry-picked	10 @ 10½
Western, fair to good, per lb	8½@ 9¼
Western stags	7 @ 8
Fowls, Western, choice, dry-p'k'd, per lb	10½@ 11
Western, fair to good	9 @ 10
Old cocks, per lb	5½@ 6
Spring ducks, L. I., per lb	22 @ 23
Squabs, tame, white, per doz	2 50 @—
Mixed lots, per doz	2 00 @2 25
Dark and poor, per doz	1 50 @1 75

FROZEN.

Broilers, dry packed, good to choice	14 @ 16
Scalded, good to choice	12 @ 14
Turkeys, mixed, hens and toms, No. 1	15 @ 15½
Young toms, No. 1	14½@ 15
Old toms	12 @ 12½
No. 2	9 @ 11
Chickens, soft meated, No 1	11 @ 12
Average, No. 1	9 @ 10
Capons, western, per lb	15 @ 18
Fowls, No. 1	9½@ 10
Fowls and chickens, No. 2	8 @ 9
Old cocks	6 @ 6½
Ducks, No. 1	15 @ 17
Geese, No. 1	9 @ 11

VEGETABLES.

Asparagus, extra, per doz bunches	1 50@1 75
Prime, per doz bunches	75@1 25
Culls, per doz bunches	40@ 50
Beets, New Orleans, per 100 bunches	2 00@4 00
Florida and Charleston, per 100 bunches	4 00@8 00
Florida, per crate	1 00@1 50
Cabbage, Florida, per barrel-crate	1 00@1 75
Charleston, per bbl-crate	1 50@2 50
N. C., per bbl-crate	1 50@2 00
Norfolk, per bbl-crate	1 50@ —
Carrots, washed, per bbl	75@1 00
Unwashed, per bbl	50@ 75
Southern, new, per 100 bunches	2 50@5 00
Cauliflower, Fla., per half bbl	—@ —
California, per case	—@ —
Celery, fancy, large, per doz	75@1 00
Average, prime, per doz	40@ 65
Small, per doz	15@ 30
Cucumbers, hothouse, per doz	75@1 25
Florida, per crate	1 50@3 50
Egg plant, Florida, per box	2 00@4 00
Green peas, Baltimore, per basket	1 00@—
Norfolk, per half bbl	1 00@1 50
Edenton, N. C., per half bbl box	75@1 25
Edenton, N. C., per one-third basket	50@1 00
Other N. C., per one-third basket	75@1 25
Savannah, per basket	25@ 75
Charleston, marrow-fat, per basket	1 00@—
Charleston, small, per basket	50@ 75
Horseradish, per lb	3@ 5
Kale, per bbl	50@1 00
Lettuce, Charleston, per bushel basket	50@1 00
Norfolk, per basket	50@ 75
North Carolina, per bbl	—@ —
Onions, Eastern, white, per bbl	50@1 00
Eastern, red, per bbl	25@ 75
Eastern, yellow, per bbl	25@ 75
Bermuda, per crate	90@1 00
Egyptian, per bag	2 00@—
Parsley, Bermuda, per crate	1 00@1 25
Peppers, green, Fla., per crate	1 00@2 00
Radishes, Norfolk, per bbl	75@1 25
Rhubarb, Jersey and Balt., per 100 bunches	1 25@1 50
Spinach, per bbl	2 00@2 50
Squash, Marrow, per bbl	75@1 00
Hubbard, per bbl	50@ 75
Florida, per crate	1 00@1 25
String beans, Savanah, wax, per crate	2 50@3 00
Savanah, round, per basket	2 50@3 00
Savanah, flat, per crate	2 00@2 50
Florida, per crate	75@2 00
New Orleans, per box	75@1 00
Tomatoes, Fla., per carrier	1 75@2 00
Per crate	75@1 50
Turnips, Jersey, Russia, per bbl	50@ 75
New, white, per 100 bunches	2 00@3 00
Watercresses, per 100 bunches	1 50@2 00

MILK AND CREAM.

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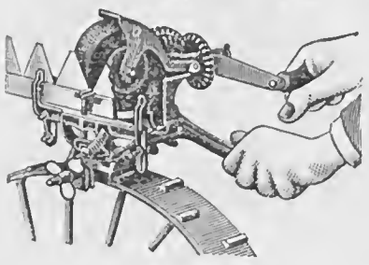

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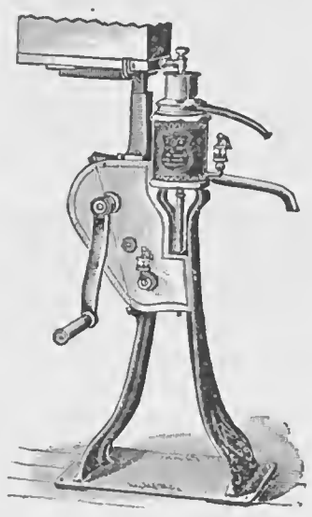

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One says:
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"And there are others," hundreds of them, in our special catalogue. Have you one? If not, ask for it and we will gladly send one.

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Live Stock Matters

ANTHRAX AND BLACK LEG.

VACCINATION TO PREVENT THEM.

Several times last summer, the papers contained accounts of serious outbreaks of anthrax among cattle in various parts of the country. Some years ago, Pasteur advocated the treatment of this disease by vaccination on about the principle that humans are treated to prevent smallpox. So far has this been carried in Europe, that we are informed that European live stock insurance companies will not insure against these diseases until the animal has been vaccinated. In order to learn what is claimed for this remedy, THE R. N.-Y. interviewed Mr. Harold Sorby, who has charge of the Pasteur remedies in this country. This was not done with a view of advertising or recommending this treatment, but merely to let our readers know what it is.

What sort of a disease is anthrax? was first asked.

Anthrax and black leg are diseases of the blood.

To what disease may they be compared?

In general, to Texas fever; but, Texas fever is communicated externally, while anthrax and black leg are usually communicated internally; that is, with food, etc.

What is the cause?

Anthrax and blaek leg are caused by the introduction into the system, usually through the food, of germs, which readily find their way into the blood, and there they multiply at a fabulous rate. Deaths from anthrax are sometimes attributed to the eating of poisonous weeds, as the ante-mortem symptoms often give rise to a supposition of poisoning.

At what age are the diseases most likely to affect cattle?

Full-grown cattle are most susceptible to anthrax, while black leg is principally confined to calves—about 90 per cent of the cases being among the latter. Horses, mules, sheep and goats are also susceptible to anthrax.

What proportion of American stock may be said to have been afflicted with anthrax during the past 20 years?

The records of cattle diseases in the States are very imperfect, and it is only during the past few years that attempts have been made to collect reliable statistics. Anthrax is an imported disease, but black leg is indigenous to the soil. Outbreaks of anthrax are spasmodic. When they do occur, the animals in the whole section where it appears, may be carried off, as was the case in the Genesee Valley a few years ago, and which threatened to occur in the southern counties of New Jersey last summer. Black leg recurs pretty regularly every year, and carries off from 10 to 50 per cent of the calves in the large breeding States.

Are anthrax and black leg always fatal?

Ninety per cent of the cases terminate fatally. The first symptom is often death, but the animal may survive for from six hours to three days after the sickness has been first noted.

What climate or condition of soil is conducive to the spreading of the diseases?

Anthrax and black leg are found all over the world, but alluvial soil is most conducive to the spread of the diseases. Anthrax is more generally found along river bottoms, marshy land and dried-up ponds. A long, dry summer, followed by rain, favors the development of the germ, and outbreaks of anthrax may then be expected. Black leg may occur anywhere—generally in the fall.

How are they usually communicated from one animal to another?

The ante and post-mortem discharges of the diseased animal contaminate the pasture, and so communicate the disease to the other animals. The germs also readily enter scratches or abrasions on the body. Flies and other insects are also supposed to carry the disease.

Can anthrax and black leg be said to be as general or likely to be encountered, or as dangerous to the average farmer, as tuberculosis?

Anthrax and black leg are much more dangerous than tuberculosis, in that they run their course much more rapidly, and terminate fatally. On the other hand, however, a farmer is not likely to purchase an animal suffering from anthrax or black leg, while, if not previously tested, he may purchase a tuberculous cow. The danger with anthrax and black leg is always present, as anything coming on to the farm may introduce the disease. Anthrax and black leg are of a most treacherous nature, and no amount of quarantining will stop the disease or prevent its introduction.

What sections of the country are most liable to infection?

I have authentic reports as to outbreaks of anthrax more or less serious in the following States: Maine, Vermont, New York, Pennsylvania, Delaware, New Jersey, Virginia, Florida, Tennessee, Alabama, Mississippi, Louisiana, Kansas, Missouri, Illinois, Wisconsin, Texas, North Dakota and California. Black leg prevails in all the breeding States, notably in North Dakota and South Dakota, Wyoming, Colorado, Nebraska, Kansas; Texas, Indian Territory and Iowa. Also in Illinois, Pennsylvania and New York. Probably, also, in every other State where cattle are raised.

How can these diseases be cured or prevented?

The treatment of anthrax and black leg is most unsatisfactory, and practically impossible, as the disease runs its course too rapidly. The removal of all the apparently healthy animals from the valley to the mountains, will sometimes stop the disease. This, of course, is seldom practicable, especially on small farms. Moreover, it entails a heavy loss, as the low-lying pasture, generally very rich, cannot be used. There are vast tracts of land in different parts of the country that are well known as infected pasture. The old-fashioned way of setoning for black leg is sometimes resorted to with varying results. Anthrax and black leg can both be prevented by vaccination, in the same way that protection against smallpox in the human being is obtained.

What is the result of vaccination? How is the operation performed?

Vaccination consists in the injection of a few drops of liquid known as anthrax or black-leg vaccine, respectively. The anthrax vaccine is supplied in liquid

(Continued on next page.)

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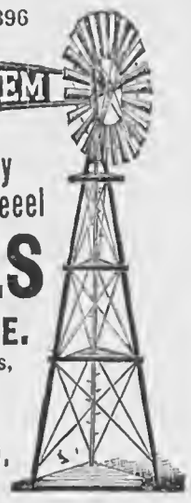

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Twenty cows and one SAFETY HAND CREAM SEPARATOR will make more butter than twenty-five cows and no separator. Sell five cows; the money will buy a separator and you save cost of their keep, while the butter you make sells for two cents more per pound. Send for circulars. Please mention this paper.

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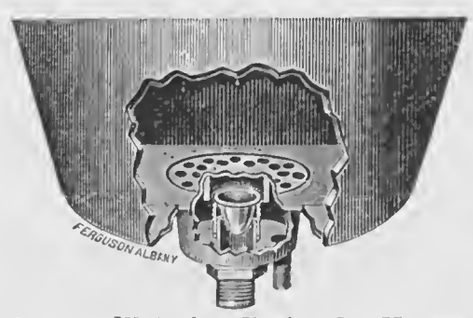

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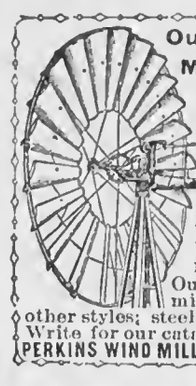

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LIVE STOCK MATTERS.

(CONTINUED.)

form. It is injected into the necks or shoulders of cattle, horses and mules, and into the inside of the thighs of sheep and goats. The black-leg vaccine is supplied in the form of a powder, and is to be mixed with water previous to use. This vaccine can be injected at the tail, in the ear, or in the shoulder. Inoculations at the tail are to be preferred. Both vaccines are supplied in two strengths, known as first and second lymph, respectively, the second being stronger than the first, the weaker (first lymph) being used before the stronger (second lymph). Vaccination causes no perceptible constitutional disturbance. Horses and mules need not be withheld from their usual work. The quality of the milk from cows is not affected, though it may decrease in quantity for a couple of days after the inoculation. The vaccinated animals are rendered immune to the respective diseases.

At what age should vaccination be performed?

Young cattle can be vaccinated against black leg at from six months to two years of age. Cattle, horses, mules, sheep and goats can be vaccinated against anthrax at any time, or rather, age. The spring is the best season to vaccinate.

What is the duration of immunity of the vaccinated animals?

The immunity against anthrax varies according to climatic conditions, nature of the pasture, and the general risk of contagion. If the summers are usually hot and dry, and the pastures on alluvial soil, it would be advisable to vaccinate against anthrax every year. If the conditions were less favorable to the development of the anthrax germ, vaccination should be practiced every two or three years. The older the calf, the less liable it is to contract black leg. If inoculated when six months of age, it might be advisable to vaccinate again when two years old. If vaccinated at from 12 to 18 months, one vaccination would, probably, be sufficient. If, however, black leg broke out in a herd, it would be advisable to vaccinate all cattle that had not been vaccinated within 18 months. A great deal depends upon whether an animal is acclimated.

Should vaccination always be practiced whether the disease has appeared or not? Or, would it be necessary to vaccinate only when the scourge appears in the neighborhood?

Owing to the treacherous, dangerous and fatal character of anthrax, and the impossibility of stamping it out where it has once appeared, it is desirable that all animals susceptible to the disease should be vaccinated. The disease has a constant tendency to spread, and if not checked by effective preventive means, it will, undoubtedly, become as widespread as was the case in France, Germany, Hungary, Italy, Russia, Australia and other countries before vaccination was practiced. The indifference shown to vaccination by English farmers resulted in a great increase of the disease; in four years, the deaths had quintupled. Vaccination has been resorted to during the past two years with highly satisfactory results. It is, however, with the present slight acquaintance by the farmers with preventive veterinary medicines, difficult to persuade them to vaccinate until they are actually experiencing a loss. Vaccination, in order to be thoroughly effective, should be practiced upon the healthy herd. Herds already decimated by the disease have been vaccinated, and mortality promptly stopped. This was the case during the past year, notably in Vermont, New Jersey, Virginia, Louisiana, Iowa, Missouri, Texas, California, Colorado, etc. In the New Jersey outbreak nearly 200 animals died before vaccination was resorted to, while only 20 died after the first or second lymph was inoculated. As a matter of fact, anthrax and black leg prevail quite extensively throughout the western part of the State of New York. If we should have a hot, dry summer, we shall see a repetition of the New Jersey experience, unless all the animals in the localities where anthrax did appear last year, are vaccinated in the spring.

Can the ordinary farmer perform the operation himself?

Yes, undoubtedly. A practical cattleman of ordinary intelligence could, in a few minutes, understand the workings of the hypodermic syringe, while the insertion of the needle under the skin is simplicity itself. Naturally, care is required in filling the syringe, regulating the dose and injecting the vaccine. But the instructions that have to be followed are perfectly clear. If a competent veterinarian be available, and the farmer be able to afford to pay his fee, it would be advisable, of course, to have the work done by him. But the operation is so simple that any man of ordinary intelligence can safely perform it.

What would it cost, per head, to vaccinate a herd of 25 animals?

Since cost depends upon quantity ordered, the expense attached to vaccinating 25 animals would be greater in proportion than in vaccinating 1,000. Vaccine for 25 animals would cost $6.25, while the cost of the vaccine for 1,000 would amount only to $150.

What argument do you advance to the ordinary farmer to show that the vaccination of his herd is desirable?

If anthrax or black leg had appeared in the neighborhood in the past 10 years. the farmer would, probably, have sufficient recollections of the losses his neighbor sustained, to listen at all events to a preventive measure. I would point out to him, however, the ever-present danger of an outbreak. A water course will bring the germs of the disease 50 miles. Flies, as said above, will carry the disease, and everything coming on the farm, is liable to introduce it.

The question of vaccination really resolves itself into one of dollars and cents. The owner of, say, 100 animals, constantly runs the risk of losing from 20 to 50 per cent of them, assuming that a serious outbreak in a given section occurs only once in three years, and that the loss at that time is only 50 per cent. Allowing for changes of stock, we will assume that he vaccinates 100 every two years. The vaccine would cost him $25, or at the rate of $12.50 per annum, or $37.50 (on the average) for three years. This represents, say, the value of one animal, or one per cent of his total holding. Is it not better to pay one per cent for three years, than to run the risk of losing 50 per cent?

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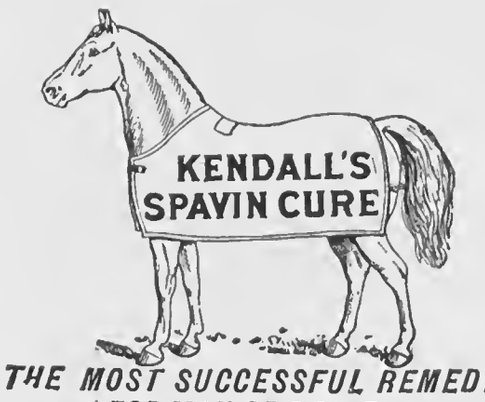

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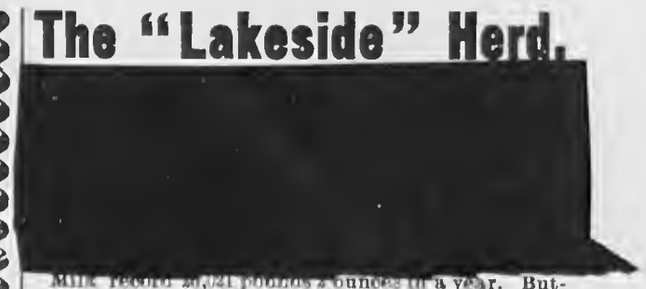

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A LITTLE girl went with her mother to see a lady who was an assiduous collector of china, and in whose parlor were cabinets filled with her trophies, besides odd plates and dishes bearing indisputable marks of age which hung in conspicuous places on the walls. The child sat quietly during the long call, and while her mother and the china collector talked of matters of mutual interest, she looked about her with big, wondering eyes. "Mamma," she said thoughtfully, as she was getting ready for bed that night, "don't you feel sorry for poor Mrs. Haskell, without any kitchen?" "Without any kitchen, child, what do you mean?" asked her mother. "Why, didn't you see?" asked the little girl, in a tone of great surprise. "She has to keep all her dishes in the parlor."—*Philadelphia Record.*

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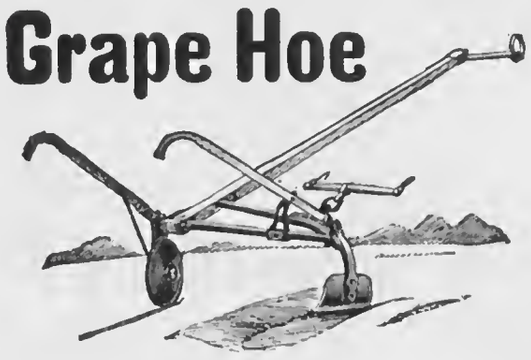
THE SYRACUSE Grape Hoe



Made formerly by D. S. Morgan & Co., Brockport, N. Y. and recently purchased by us, is one of the greatest labor-saving tools ever invented for use in culture of grapes and berries, and especially adapted for vineyard work. After cultivating between the rows, the grape hoe will take out all grass and weeds that remain under the wires and around vines and posts, and will thoroughly stir the soil close to the vines. The Hoe is guided in and out around post and vine by the Disc Castor Wheel, to which the handle is attached. The horse is hitched to one side of the pole, with plenty of room for hoe to work under the vines or bushes, and without injury to them from horse or whiffletree. The saving in time and labor will soon pay the cost of this tool. We can refer to some of the most successful grape and berry growers in the country.

Write for further information, and Catalogue R, of all our implements.

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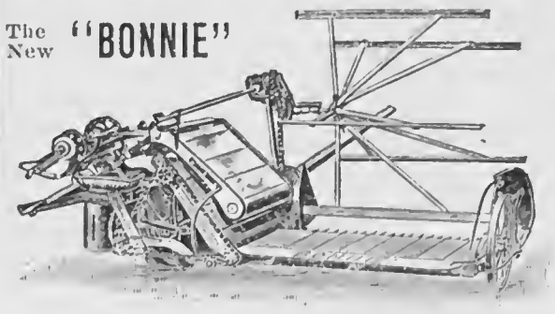

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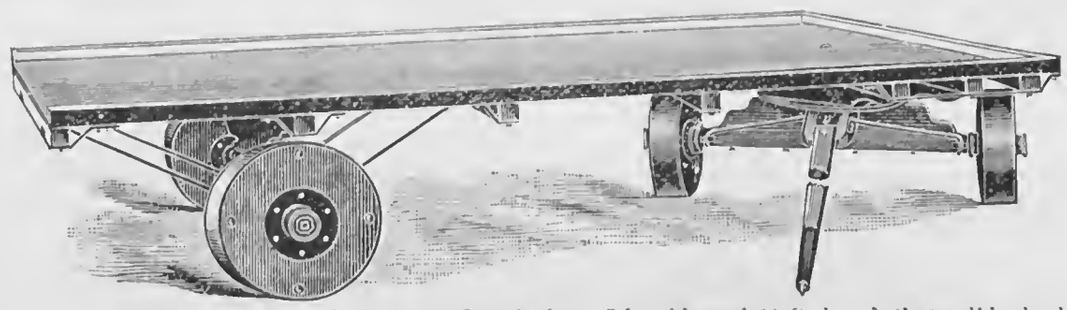

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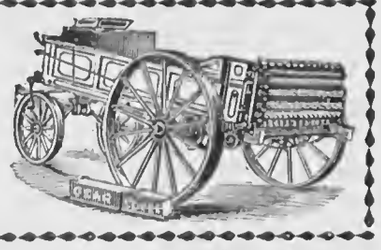

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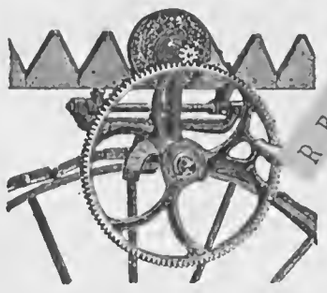

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Hay, Grain, Wood, Stumps, Stones, Apples from the orchard, Silage corn from the field—Oh! anything?
Then you need a **"HANDY" FARM TRUCK**

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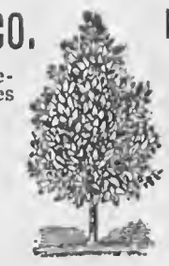

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Class in History—
Stand Up!

QUESTION—Who invented the first successful Reaper?
ANSWER—Cyrus Hall McCormick, in the year 1831.
Q.—Who builds the best grain and grass-cutting machinery at the present time?
A.—The McCormick Harvesting Machine Co.
Q.—Were their machines operated in the World's Fair field tests?
A.—They were.
Q.—Were the machines of their competitors so operated?
A.—They were not.
Q.—Why?
A.—Because they were afraid of the McCormick.
Q.—What proportion of the world's annual supply of harvesting machines is made by McCormick?
A.—About one-third.
Q.—Why did the farmers of the world buy 60,000 McCormick Mowers in 1895?
A.—Because the McCormick No. 4 Steel Mower is the best grass cutter ever built—that's why.

The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower, and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2417. NEW YORK, MAY 23, 1896. $1.00 PER YEAR.

SUMMER FORAGE FOR SHEEP.

A TON OF LAMB ON FOUR ACRES.

Great Value of Sorghum for Sheep Pasture.

On one acre of land at the Minnesota Experiment Station, last season, we pastured six sheep and ten lambs for nearly 5½ months. On three acres of the same, or a little less than that amount, we pastured 65 sheep and lambs for about three months, and on poor land at that. But the season was favorable. From the one acre of land, more than 550 pounds of lamb were obtained, to say nothing of the gains made by the old sheep, their dams, between the opening and the close of the pasturing season. The mutton thus grown was good in quality, and while it was being grown, the land was improving on the surface, at least, rather than deteriorating.

All the plots referred to below, contained one-quarter of an acre. From the plot sown to Winter rye in the autumn, followed by corn and rape sown together, pasture was obtained sufficient to last one sheep for 409¾ days. That sown to peas and oats followed by rape, pastured one sheep for 407¾ days. That sown to corn and rape furnished food for one sheep for 523¼ days. Another plot sown to Winter rye followed by corn and rape, furnished food for one sheep for 487¾ days. The plot sown to Winter rye in the autumn, followed by sorghum, furnished food for one sheep for 641½ days. A plot with rape only sown early in the season, brought food for one sheep for 376¼ days. Some of these results may seem incredible. To me they would have appeared so one year ago. But one cannot doubt the correctness of what he has seen, and when it is borne in mind that the land which produced this pasture, was not half so fertile as much of the land of the western prairies, the vision of immense flocks of sheep rises up before us as we look on into the coming days of the near future.

Of course the pasturing of the plots was by the system of alternation. The sheep were put upon one plot until it was eaten down, and they were then changed to another. When one plot was eaten down, it was then harrowed in nearly all instances, to free it from weeds, and to conserve the moisture in the soil, and in some instances, it was reseeded with another crop. On two or three occasions, it was disked before sowing another crop, and in the case of the rye, followed by the corn and sorghum, it was plowed before sowing the sorghum.

The crops that gave the best returns relatively, were rye followed by corn and rape, and by sorghum; but the plots which grew peas and oats in the one instance, followed by rape, and rape only in the other instance, gave excellent results. Corn and rape, also, furnished a large amount of food; but the weak point about corn is that it does not grow up again when eaten off. Of all the plants grown, there is, perhaps, none that will produce so much summer pasture as sorghum. When eaten off, it will grow up again and again, and to say that the sheep are fond of it, is to put it mildly.

The plots were photographed from time to time, and the sketches thus taken will appear in the bulletin which is now almost ready. This bulletin will give all the particulars relating to the experiment. The photograph, Fig. 111, represents sheep pasturing on sorghum of the second growth. It will be readily apparent that, where the pasture is abundant, as represented in the sketch, the sheep are not likely to fare badly on a food of which they are very fond. It will be noticed that some of the sorghum is shooting into the head; but it was all eaten by the sheep right down to the ground.

SHEEP PASTURING ON SECOND-GROWTH SORGHUM AT THE MINNESOTA EXPERIMENT STATION. FIG. 111.

Of all the plants tried, those possessed of most promise are Winter rye, rape, peas and oats followed by rape and sorghum. Corn is also good, but as stated before, it does not grow up a second time. In the West, and perhaps, indeed, everywhere, rape and sorghum will prove of inestimable service in providing summer forage for sheep; one of these is the complement of the other. I had not been long out West before I noticed that rape would not fulfill quite the same mission as it did in Ontario, and for the reason that turnips do not flourish with us as they do in Ontario, although in all parts of Minnesota they can be profitably grown. The hot and dry weather of midsummer is not so favorable to the growth of rape at that season as is the moister and somewhat cooler weather of Ontario. But sorghum is at its best just at that particular season. It revels in hot weather, and it stands drought well. These two, then, alone would carry the flocks through the whole season without the aid of other plants.

It was with fear and trembling that I sowed a piece of sorghum for sheep pasture in the spring of 1895. Those who thought they knew, said that, if put in the grain drill, the weeds would choke it. And so they will when put in by those who don't know how to prepare the land. And reports were rife in the agricultural papers as to the dangers attending the pasturing of second-growth sorghum with cattle. If it killed cattle sometimes, why not sheep also? And so it may. I do not regard this point as conclusively settled. We have grown it only for pasture for a single season. This point once conclusively settled, I have no hesitation in saying that sorghum will yet prove the greatest gift that a kind Providence ever gave to the American flockmaster.

The system of thus growing summer forage for sheep, is applicable to every section of this great country, from the Atlantic to the Pacific, and from the Gulf of Mexico to Canada, men can adopt it in one form or another. The plants that will be found the most suitable in one section, will not always prove the most suitable in another. But the principle which underlies the system will be the same. In every place, some plants will be found eminently adapted to the growth of summer forage, and those engaged in sheep husbandry cannot find out at too early a date, which plants will best suit the purpose.

Of course, it is not intended that these crops shall entirely supersede pasture; they should rather be made to supplement it. We ought to have grass pasture, and in nearly all instances it should be our mainstay, but we ought, also, to have other pastures, green, succulent and abundant, to supplement the grass pastures.

Sheep may be carried over such seasons on the soiling system; but think of the labor involved! Why undertake so much labor when there is another and a better way? Sheep waste very little of the food while they are on pasture, unless allowed on it when it is wet; and it is also better for them to go out and gather food for themselves than to have it brought to them.

Every farmer who keeps sheep in any considerable numbers, should grow more or less of summer forage for them, and those who have large flocks, should grow it in ample supply. One, two or three kinds should suffice any season, and any surplus could be utilized in improving the fertility of the land.

Minnesota Exp. Station. [PROF.] THOMAS SHAW.

THE BUTTERMAKER'S SHARE.

A Virginia Dairyman's Problem.

THE QUESTION.

A party expects to make butter for two neighbors, furnishing all the tools, separator, etc., and also packages, if return packages be used. There will be about 20 cows. The owners of the cows are to have all the milk returned, and to pay the expense of marketing, such as freight, ice, packages, if not returned, and commission, if any. The aim is to make a fancy article bringing not less than 25 cents per pound. What per cent of the net returns should the buttermaker have? It will not take nearly all his time, but the best part of it, and he will have to confine himself to the milk of the two neighbors. A. F. A.

Claremont, Va.

THE ANSWERS.

From 15 to 20 Per Cent.

If the maker take the milk by the Babcock test, and make the butter as a part of his routine of dairying, he could do the work for 10 per cent, possibly a little less. If he must make a separate and special job of the milk of the 20 cows, and lose odds and ends of time in consequence, he would hardly get fair pay at less than 15 to 20 per cent, depending on conditions not stated in the query. E. H. BANCROFT.

Delaware.

Is It Not Too Small Business?

I have been solicited to do the same thing, but could never figure it out to be profitable to both parties, as the amount was so small that too much time was occupied for the amount of butter. We will assume that the cows make, on the average, 20 pounds per day; it would, undoubtedly, take A. F. A. about three hours to do the work. He must decide what his time is worth, also the wear on machinery, etc., and then, if he have nothing further to occupy his time the rest of the day, and depend upon the making of the 20 pounds of butter to maintain himself, it would leave a small share for the owners of the cows. But if, like myself, he have plenty to do aside from the dairy work, he then could afford to make the butter cheaper; or, in other words, make the butter for from five to six cents per pound. However, I do not think that he would make money very fast, neither do I see how the neighbors can afford to give any more. But should he confine himself to just the two neighbors? I do not see how he can make it profitable to both parties. Could A. F. A. get more milk so as to occupy all of the time, he then could do the work cheaper. However, I prefer to let my machinery stand idle when not at work for myself, rather than run it on so small a margin. If A. F. A. set out on the venture, I hope that he will report to THE R. N.-Y. later, that we may all know how he is satisfied, also how his patrons are pleased, as such questions and answers are the most valuable part of the paper, for they show actual experience.

New York. A. D. BAKER.

Should be Paid by the Pound.

It would be a far better way to have no shares about it, but pay a certain rate per pound for all butter made. If this man do all the work and pack the butter, he should have three cents a pound for all butter made, and made ready to ship. While butter goes up in price, or down as the case may be, the man who makes the butter has to put in an average amount of work from first to last, and it is as much work to make a pound of 10-cent as of 25-cent butter. Most men would as soon make 40 pounds of butter as 10 when they go at it. I would advise these farmers and others to add to the cow population of that neighborhood, so that there will be, at least, 100 cows to contribute to this man's creamery, and not only be more profitable to him, but to themselves as well, and make of it a business that has size enough to it to make it worth the while for this man to do a full day's work, and not take the best part of his time.

Ohio. JOHN GOULD.

The Cost Figured Out.

Of course, the buttermaker's share will have to be very largely determined by circumstances. If the buttermaker is an expert and has all the business qualifications necessary to make butter bring 25 cents per pound in these times, his time ought to be worth $50 to $60 per month, the wages of a first-class creameryman. The separators, engine, churn and tools should be charged a rent of 20 per cent annually to pay first cost and wear. Return packages are, as I know to my sorrow, so liable to breakage, loss and, I am afraid, deliberate theft, that they will not, on the average, last more than two or three years, and if the distance be long, not that; so they should pay a rental of 50 per cent annually. The most difficult part of the problem is that we are employing an expensive man to do a little work. One important point is, How valuable can his time be made when not at buttermaking? The milk of 20 cows should be separated, and everything cleaned up at eight o'clock in the morning, and at 10 o'clock on the days when churning is done, and then he should be done as a buttermaker until five o'clock in the afternoon, with, of course, time for the delivery of the product to the express. The great trouble is that we can hardly afford to pay an expert to make butter from 20 cows. The cost per pound will decrease almost in proportion as the number of pounds made increases. The question of fuel ought not to exceed 10 cents per day, unless when the room requires to be heated. After a rather careful calculation, I estimate the probable fair cost of making 5,000 pounds of butter per year to be:

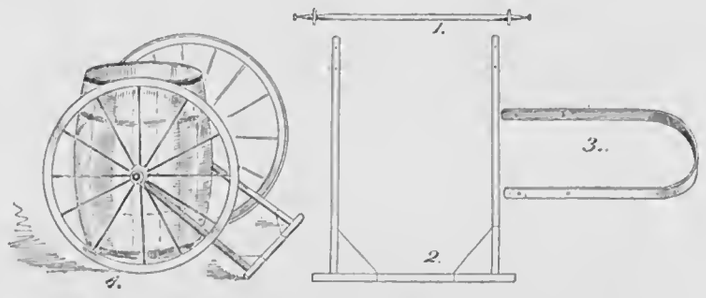
Dairy house, cost $200, rental 10 per cent	$20.00
Engine $125, separator $150, tools $50, at 20 per cent	65.00
One-half time of man at $30 per month	180 00
Butter carriers $20, at 50 per cent	10.00
Fuel	40.00
Parchment paper	5.00
Color	2.50
Salt	3.00
Total cost	$325.50

To make 10,000 pounds would not cost $50 additional.

New York. JARED VAN WAGENEN, JR.

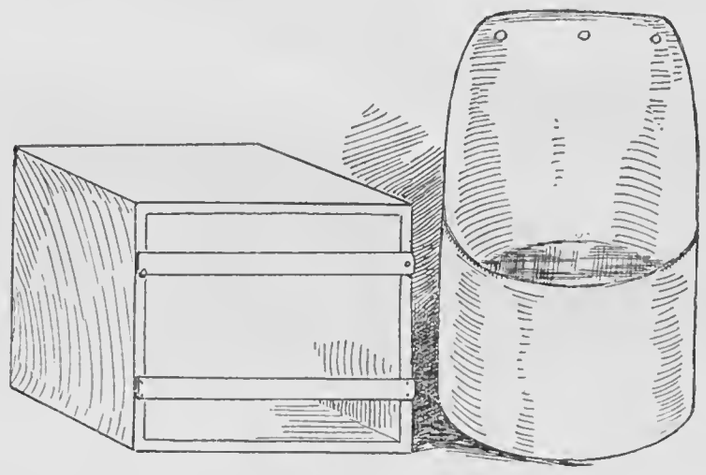
WHAT THEY SAY.

HOMEMADE SWILL TRUCK.—I have a homemade swill truck which I like better than the one illustrated some time ago. I bought an oil barrel, knocked



HOMEMADE SWILL TRUCK AND FRAME. FIG. 112.

out one head and bored a hole opposite the bung hole and of the same size. Then, at a blacksmith's, I got two old buggy wheels with boxes in, and the iron part of a buggy axle, and had the blacksmith take a piece out of the axle and shorten it so that it measured two feet nine inches between the hubs. I had the axle for two inches back of each shoulder, rounded, it being square, and shoved it through the holes in the barrel, until the ends were at equal distances from the barrel; then I wedged all around the axle with some soft wood, such as pine. Then I made a frame, see 2, Fig. 112, two feet eight inches from outside to outside, in width, and which may be of any length desired. Two irons, 3, Fig. 112, of the right length to bend around the axle, were bolted to the frame. I next put on the wheels, and the thing was done. I can put in 11 pailfuls of swill, and if pains be taken to wedge water-tight, I can fill it three-



TWO DRINKING VESSELS FOR POULTRY. FIG. 113.

fourths full or more. To empty, tip the barrel and pour out, as the axle turns in the wheels and frame.

Here is the cost:

1 barrel at store	$0 70
2 wheels at 50 cents	1 00
1 axle and work	50
2 axle irons and 2 braces	50
Bolts, etc	30
Total cost	$3 00

I throw in the labor for a good cause. From our dooryard to the hogpen, is 200 feet. For eight months of the year, my wife was carrying out the swill, if we men folks were away. There was an average of 12 pails a day for somebody. Walking the 200 feet 12 times over, or 2,400 feet a day, in eight months, counting 26 days to a month, gives us 208 days, and 499,200 feet in a year. In 25 years, this amounts to 12,481,000 feet or 2,364 miles walking; at 30 miles a day, this would occupy nearly 79 days.

In 25 years, one might have to expend $15 for trucks and repairs. Any one who carried the swill would earn about 20 cents a day. Young married man, do you wish your wife to work for 20 cents a day and board herself, when if you have a truck standing by the door, you can take it right along on your way to the barn without extra steps? A. M. A.

Bedminster, N. J.

TWO DRINKING VESSELS.—The most satisfactory drinking vessels which I have ever used for poultry are shown at Fig. 113, and were made as follows: One was made from a six-pound starch box and a baking tin. The cover was removed from the box, and a lath nailed on the side of the opening which was to be the bottom. Far enough above this so that the fowls could drink from, but not get into, the pan inside, a second lath was fastened by a nail through one end to act as a hinge, and a nail on the other side for the lath to rest on. An ordinary bread pan supplied the drinking vessel. The box is nailed securely to a beam a foot or more from the ground, and an upturned box supplies a platform on which the birds stand while drinking.

The other arrangement is made by cutting away two inches or more in depth and about three-quarters the circumference, of a tomato or other tin can. The part which is not cut is perforated with two or three nail holes so that it will hang on the wall securely. Flatten the cut edges so that they will not injure the birds. For chicks, a tall salmon can, cut to within two inches of the bottom, answers nicely. These drinking cups should be hung high enough so that the birds cannot scratch dirt into them, and platforms should be arranged under them so that they are easy of access. S. A. LITTLE.

THE FOOD FOR DUCKS.

HOW SHOULD IT COMPARE WITH HEN FOOD?

On page 282 of THE R. N.-Y., Mr. W. H. Truslow asked some pertinent questions about feeding ducks. On page 330, Mr. Samuel Cushman made some comments on this article, and we now have notes from other well-known poultrymen which follow:

Doesn't Believe Much in Cut Bone.

I agree with Mr. Truslow, on page 282, and I consider that the droppings question needs attention. I prefer dry ground scrap to green bone for my breeding ducks, but unless one can get good quality, with the fat well pressed out, it is loosening, and, although necessary to feed large quantities of it, I always reduce the allowance when the droppings are too soft. It is hard to get men to be thorough enough in mixing the feed in that way; some ducks get too much, and, occasionally, a loss of a duck is the result. I have never been much of an enthusiast on green cut bone. In the first place, it is rarely fresh enough to suit my ideas; and, second, life is too short to spend one's valuable time cutting bone. Third, there is altogether too much fat in it. I certainly do not believe in a narrow feeding ration, if you mean scanting the feed. I think that ducks should have all they will eat up clean at a feed. I have raised a good many ducks for market, but of late, have been raising more for fancy. But I think that I can get them up to as heavy weight in as short a time as any one. I have killed many that averaged 10 pounds per pair, at 10 weeks, and first selected 25 or thereabouts of the best and heaviest out of each 100, thus, you see, killing the culls, as it were. D. A. MOUNT.

Wants to Try a Narrow Ration.

The feed that has given me the best results in ducklings, is one part wheat bran, one part oat feed (from the oat meal mills), one part corn meal, with about 10 per cent green cut bone or beef scrap, gradually increasing the corn meal and meat, after the ducks are six weeks old, to one-half corn meal and 15 to 20 per cent of meat at nine to ten weeks old. I prefer the green bone when practicable; but in warm weather, it spoils so quickly that I am compelled to use scrap almost exclusively. I buy the scrap in cakes direct from the press of the fat renderer, and cut them in the Mann bone cutter; thus I have a good, fresh article. I do not think that the earliness of the Long Island ducks is due so much to the feed as to the influence of the climate. And as to size, I am sure that we can raise as large ducks with the bone or scrap, as with fish. I have fed herring to my ducks repeatedly, and have never found any increase of eggs over the scrap feed. I have never found anything cheaper than cut bone, although I have understood that it contained too large a per cent of fat; it surely gives the results in eggs, as I have frequently noticed when beginning to feed it.

I would like to try a much narrower ration than is usually fed, to both ducks and hens; but it is not an easy matter to get the feeds that suit the tastes of the fowls, and at the same time, make up a very narrow ration. I would like to have skim-milk to mix all the feed with, which I think is a great help towards an ideal ration; but it is impossible to get it here, as there are no creameries in this vicinity. The condition of the droppings, as described by Mr. Truslow, is surely an ideal condition, and denotes a good, healthy condition of all fowls; but it is a difficult matter to keep them all in that condition at all times. I have tried a ration consisting largely of cut bone and meat, but the fowls soon get tired of it, and it is rather too loosening on the bowels. While they greatly relish a portion of bone and meat, they must have a larger amount of grain than meat. If we had a grain with a very narrow ratio, it would be all

right; but of all the tables I have seen, I find too much fat-formers in all grains and by-products for an ideal egg-producing food. J. E. STEVENSON.

Messrs. Seely and Rankin Talk.

My experience with ducks is that they will stand a good deal of forcing, and for that reason, I do not feed as narrow a ration as I do to chickens. The droppings are a good indicator of the feed for any kind of animal or fowl. I find green cut bone the dearest, and the best kind of meat, except that, when I am ready to fatten them, I have had better success with dry ground meat. JAMES H. SEELY.

I have read Mr. Truslow's article, and I think that he is, in the main, right, that the droppings of a fowl are the true indicator of its condition. I have not the faith in green bone for poultry that others have. It is very easy to feed too much. I think that ducks require more animal food than hens. Fish stands first, then fine beef scrap comes next. I like food rich in muscle-makers for egg-production and good fertility, though there is more in the quantity fed, and the manner of feeding it, than most people think. Ducks will not stand as highly concentrated food as hens, while both should be fed differently for egg-production than for market. JAMES RANKIN.

THE CAUSE OF SOFT-SHELLED EGGS.

A LAME HEN THEORY.—M. B. S., on page 272, inquires about soft-shelled eggs and lame hens. I agree with P. H. Jacobs, that soft-shelled eggs are caused by the hens being overfat. Hens should be fed only twice a day, a mash in the morning, consisting of three-quarters bran and one-quarter provender mixed with boiled potatoes and turnips enough to make it crumbly; do not make it into a mush. At night, feed oats or wheat, and in the winter, corn should be fed with judgment. Use very little corn in summer for laying hens. Green food may be fed at any time during the day. One great fault is over-feeding, letting the hens gorge themselves. I would rather keep them a little hungry, for then they will be more active looking for more.

The lameness, Mr. Jacobs says, is caused by the heavy fat males causing an injury to the spine. I cannot agree with him, for I have seen hens in the same condition described by M. B. S. that had not been with the males all winter. But the trouble is right here; having all they can eat all day, they become fat and lazy. They stuff themselves full, and then huddle together in a corner, waiting for the next meal. They do not get the required exercise, become sluggish, the blood does not circulate as it should, and, in fact, all the organs of the body do not work as they should. The fat crowds the ovaries and oviduct, so that, taking all these together, when they first begin to lay, there is such a strain on them, that it uses up all their strength and they become more or less paralyzed until the egg is laid. I have seen hens lie on their sides with their legs stretched out straight, and panting for breath, until the egg was laid, when they would be all right again.

If M. B. S. will cut down on his feeding, feed the mash and oats, and make his hens work and scratch more, they will be all right. A. J. L.

Auburn, N. Y.

WORK CURES THEM.—M. B. S. complains of soft-shelled eggs and lame hens. I could not better describe the condition that my hens (one pen) were in. I do not agree with P. H. Jacobs as to the cause, for my hens were not fed three times a day, they did not lay double-yolked eggs, neither was there any male with them. When they were in that condition, 12 were confined in an 8x10-foot house with a scratching pen, 8x12, with shredded stalks to scratch in, which is much better, I think, than straw or chaff, as they will stay dry longer. By the way, that is the way to handle stalks if handled right. As soon as I could build a fence for a yard, I turned them out; before this, they would not eat. After they had been out three or four days, they would make the stalks fly when I fed them. Then I got a Buff P. Rock male and put with them; they were Buff Leghorns. I feed mostly wheat and buckwheat, and corn two or three times a week. O. P. H.

STRAWBERRY AND CABBAGE PARTNERS.

One of the most important things to be considered, is the selection of the soil. From my experience, I would say that, to get the best results, one must have a soil that has been enriched by manuring for several successive years. I do not believe that one can take a poor soil, however heavily he may manure it with stable manure, and get, the first year, the large growth of plants necessary for a large crop the next year. I would plow in a good coat of manure, plowing and re-plowing until the ground is as mellow as an ash heap. Then I would lay it out in shallow furrows, 3½ feet apart, and set the plants about 18 inches apart in the row. I would begin cultivation before the weeds appear, if possible, using a light, one-horse, cultivator, running it close to the plants. A wheel hoe may be used to finish up with, leaving but little hand weeding. This plan may be followed until about the first of July, when the runners are allowed to grow.

About this time, after the last cultivation with a horse, I make a shallow furrow half way between the plants, and in this I set Early Winnigstadt cabbage plants. I plant this variety because of its earliness, and because it has less outside leaves than some other kinds. After this, all cultivation must be by hand, and the best implement is a double-bladed hoe with one blade made narrow so as to work in the small spaces between the plants after the runners have set. The runners, as they grow, should be thrown around the plant something like the spokes in a wheel, allowing them to set about six inches apart, leaving spaces large enough to work in with a narrow hoe. I remove the late runners, as they produce only small fruit.

Frequent and shallow cultivation is now the plan to be followed. About September 1, I remove the outside leaves of the cabbages, to prevent their shading the strawberries; the runners will set very close to the cabbage plants. The cabbages are removed by the first of November, and the strawberry plants are then mulched with coarse manure. I find that it pays me to mulch heavily with manure, as it prevents the weeds from growing, retains the moisture, and keeps the plants back in the spring, so that there is less danger from early frosts. One should not make the mistake of planting too many early varieties, unless sure of the market. In many places, the later varieties coming in after the rush in the market is over, bring better prices. The Warfield No. 2 is the best early variety I have yet tested. For later varieties I use Downing, Bubach and Gandy. W. H. JENKINS.

Delaware County, N. Y.

TYPICAL EARLY SETTLER'S HOME, WALLKILL VALLEY, ORANGE COUNTY, N. Y. FIG. 114. SEE PAGE 356.

ON WHAT DO 17-YEAR CICADAS LIVE?

In response to my answer to the question, "Why does an enormous apple crop always come the year after the 17-year cicada?" (THE R. N.-Y., page 53), A. W. H. evolves an exceedingly interesting theory (on page 115), to support his conclusion set forth in the question. So far as "the belief that the cicada exercises a beneficial influence on vegetation" is concerned, the theory may apply in many cases where the cicadas are exceedingly numerous. But the theory does not prove that there always is or ever is the connection between the apple crop and the cicada intimated in the question as first propounded. The well-known angleworms are much more efficient aids than the cicadas in draining, mulching, cultivating and fertilizing the land, as these operations are understood in A. W. H.'s theory. In certain soils, angleworms have long been recognized as efficient aids of the farmer; but no one, so far as we are aware, has ever thought of attributing a very noticeable increase in the apple crop to their meanderings through the soil beneath the trees.

M. J. G. gives, page 115, what I believe to be the only possible connection between the apple crop and the cicadas; and there is yet no definite proof that the insects have increased, or ever will greatly increase the crop in the way suggested M. J G. asks what the young cicadas or nymphs feed upon and at what depth they feed. The mouth-parts of the cicadas, either as nymphs or adults, are built only for sucking the juices of plants. Their mouth organs are formed into a beak with which the nymphs pierce the tissues of living roots of all sorts of vegetation, and suck out the juices. They are often found on the roots of fruit trees, but more often in the forest; hickory or the oaks are favorite foods. The injuries caused by the nymphs are hardly appreciable, for their growth is so very slow, and is extended over so long a term of years, that it is not often that the vitality of the vegetation attacked can be materially impaired. There are few, if any, cases on record where the injury can be directly traced to the work of the nymphs.

I cannot explain the occurrence of the nymphs in such large numbers near the decayed Red oak stump mentioned by M. J. G., unless they found sufficient subsistence (which is quite probable) on the roots of surrounding grasses, etc. They have not been recorded as feeding upon decaying vegetation. As to what depth they work, it may be stated that they have been found from six inches to 10 feet below the surface. Usually, they, probably, work at a depth of from one to two feet; they will be found the thickest where there are the most succulent roots.

M. V. SLINGERLAND.

A CHANCE FOR AN ARGUMENT.—I would like to read an article in THE R. N.-Y. from some one who went from the East to the West and farmed there, and has come back to the East and is farming here. Why did he go? Why did he come back? Can he make a living by farming here as easily on the hilly, stony land, as he can on the more level, fertile soil of the West? Are not prices in the West as good in proportion to cost of growing, as in the East? Cannot a man grow four bushels of corn in the West to one here?

New Jersey. C. R. W.

R. N.-Y.—Here is a chance to compare notes.

VINES FOR GARDEN AND LAWN.

Clematis vitalba, Virginiana and paniculata are valuable for planting where rapid growing vines with feathery, white flowers are desired. Flamula, the sweet-scented one, is not so rapid a grower. As a rule, English ivy does not cling well to plastered walls. It prefers brick or stone, probably finding some roothold in the mortar spaces which usually exist in such structures. Let a trumpet vine or a honeysuckle wander up a decayed tree, or over a fallen one, and you will have a beautiful picture the whole summer long, especially when the vines flower in the summer time.

It is a mistake to set grape vines in advance of some support, as many do. All sorts of vines grow faster when supports are at hand for them to cling to; without them, their energies seem spent in trying to find something of the kind. The old Boursault answers admirably for a crimson, climbing, hardy rose, and it is almost thornless. The tea, Gloire de Dijon, with flesh-colored flowers, is quite hardy in this State, and blooms all summer long. For porches, no vine is more useful than the Akebia quinata. It is rapid growing, has beautiful leaves, and bears plum-colored, sweet-scented flowers soon after its leaves unfold. It seems perfectly hardy, even in cold Chicago. The Japanese ivy, Ampelopsis Veitchii, is the vine for positions where a close growing one is required; but for many—such as low walls, rockeries, and the like—the Virginia creeper should be planted. Both are noted for their handsome foliage in the fall. The Dutchman's Pipe, Aristolochia sipho, once a favorite here, is less popular nowadays, for the reason that its foliage is eaten by a huge, black beetle, which seems to rejoice when it meets with this and clematis vines.

The bitter-sweet, Celastrus scandens, is famed for its scarlet-colored fruit in the fall. It does not produce its fruit until the vine is quite strong. A foreign species, articulata, fruits abundantly when quite small Dolichos Japonicus, about which a great deal has been written lately, bears leaves almost like the Lima bean. It is a rapid, strong grower, but it takes many years before it makes wood that will live above ground over winter. It bears rosy purple flowers. Many in the North have tried to raise the Carolina jasmine, Gelsimium sempervirens, of which they become enamored after seeing it festooning the trees of the South. But even no further north than Philadelphia, the tops get partly winterkilled, which prevents it getting strong enough to flower. The Chinese Wistaria forms an interesting small tree when desired, as well as being a useful vine. Tie it to a stake for two or three years, at the end of which time it will support itself. Cut the top off at whatever height is desired, say, at five feet from the ground.

Pennsylvania. JOSEPH MEEHAN.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

A GROUP OF INSECT DEPREDATORS.

ANSWERS BY M. V. SLINGERLAND.

A Case of Rusted Wheat.

C. J. R., Chetopa, Kan.—What causes the wheat to die at the roots and rust at the top at this time of the year? Can the fly affect it and make it look like this? The field smells just as though it was getting ripe. Damaged seed was sown about September 1. Two and a half bushels were sown per acre, and made only an average stand.

I could find no indications of the work of insects on the stalks of wheat sent. I think that the presence of a large amount of the fungus known as Wheat rust, which the samples showed, and the fact that damaged seed was sown, are enough to account for the unhealthy and dying condition of the shoots, even early in the season. One stage of the rust fungus is able to survive the winter on the plants, and to reproduce itself indefinitely, thus accounting for its presence at almost any season of the year. No successful method of checking this Wheat rust has yet been found.

Printers' Ink on Trees.

J. B. P., Providence, R. I.—Will it injure the bark of trees, or in anyway injure the trees, to apply printers' ink in the same manner and for the same purpose that you note in the article on Dendrolene, page 258?

I do not know. Printers' ink has been used to band trees for canker worms, but I know of no experiments to test its effect upon the bark when applied directly to the bark in varying amounts. I doubt whether the ink could be used so freely as the Dendrolene. Could it be procured as cheaply?

The Oyster-shell Bark Louse.

C. N. R., Canton, Pa.—I send a piece of bark taken from one of my apple trees. It is covered with these insects which are literally killing it. I have several trees affected this way; they are about 30 years old. I have a young orchard of 300 trees set 10 years, that I am afraid will be troubled in the same way.

The piece of bark bore an alarming collection of the scale insect most common here in the East. It is known as the Oyster-shell Bark louse (Mytilaspis pomorum). Although it attacks some other fruit and several forest trees, thus far, the apple tree has suffered the most During the winter, the only life to be found in the scales is contained in the numerous white eggs with which the scales are packed full underneath. The mother scales laid the eggs last fall, and their lifeless scales really serve as protecting homes for the eggs during the winter. The eggs hatch in May into active little creatures which move about the tree until they find a suitable place, when they establish themselves and begin sucking the sap from the tissues and, also, begin the secretion of the scale that is to protect their soft bodies. There is but one brood in a year; those which hatch in May, get full grown by fall, and lay the eggs which hibernate. After the scale has formed, it is difficult to kill these creatures without injuring the tree. But in May and early June, the young, tender insects are not so well protected, and will succumb to a thorough drenching with kerosene emulsion diluted with about eight or nine parts of water. It is a good plan to scrape off all of the scales possible during the winter, and before May in the spring. After June 15, it will be difficult to check the pest with the spray.

To Drive Flies Out of Stables.

G. K., Bradshaw, Neb.—I have seen in THE R. N.-Y., various ways for keeping flies out of the stable. I give my method which I find very effectual: Take one ounce of camphor gum, one ounce of corrosive sublimate, one pint of oil of turpentine; grind the sublimate thoroughly, put into a strong bottle, and add the camphor gum. Pour on the turpentine, and shake occasionally. It should be fit for use in 36 hours. Heat a piece of iron and drop a few drops on it in the stable. Flies may be driven out of the house in the same manner by dropping a few drops on a hot stove lid. By following these directions every other day, I think, any one will soon be rid of the flies. I would like to try it this coming season on cattle for the horn flies. Can THE R. N.-Y. tell me what would be the best to mix with it to keep it from blistering? Would tallow be good?

G. K.'s combination is a strong one chemically, and might work in the stables against the Horn fly. I would not care to advise its use in any mixture directly on the cattle. Kerosene emulsion is much easier to make, is safe to use, and is proving a good thing for the purpose desired. Some spray it on the cattle, diluting it with 10 to 15 parts of water, when they are in the stables. It kills the flies then on the stock, and its odor serves to keep the flies off during the day. It takes but a moment to spray a cow on the parts most frequented by the flies. A knapsack sprayer is a very handy tool for this purpose. Those who begin this treatment early in the season, claim that after a week or so, the flies are very much lessened in numbers, and are rarely troublesome during the rest of the season.

What Will Kill Root Lice?

B. B., Farmingdale, Ill.—What is the up-to-date method of fighting the root aphides? I think that they cause as much trouble in the orchard as any insect I can name. I have used ashes around small trees, with, apparently, beneficial effect, but would like more light on the subject.

I do not know that anything new has recently been suggested in the way of fighting the root aphides. B. B., doubtless, has reference to the Wooly aphis, which is a very serious pest in some western localities. Curiously enough, although the insect is common here in the East, we rarely hear of its doing noticeable injury. I can suggest no practicable method of destroying the lice on the roots of large trees. Where very badly infested, I believe that it will be cheaper to destroy the trees and set the field to other kinds of fruit trees or devote it to other crops. If great care be taken when the trees are set, I believe that much of the trouble may be averted. If there are any suspicious, knotty swellings on the roots, dip the whole tree in strong soapsuds, tobacco decoction, or kerosene emulsion. Perhaps carbon bisulphide can be injected into the ground in such practicable quantities as to be effective. The Peach-root aphis here in the sandy regions of the East, is said to succumb to tobacco dust applied freely around the base of the tree, and then dug in around the roots.

Use of Bordeaux Mixture on Apples.

E. H. W., Mendon Centre, N. Y.—When and how shall I apply the Bordeaux Mixture to apple trees?

There are few apple orchards that will not well repay, at least three applications of Bordeaux Mixture; and it is always advisable to use Paris-green with the fungicide at each application. One application should be made a few days before the flowers open, then wait until the petals of the blossoms fall—never spray a tree while it is in blossom—and make the second application. The third spraying should be applied about a week or ten days after the second. The Bordeaux Mixture is to check the Apple-scab fungus, and the Paris-green kills the Bud-eating caterpillars, Tent caterpillars Codling moth worms and others. Unless the spraying be done very thoroughly, so that every bud is well coated, it is, usually, a waste of energy and money. Use about one pound of the Paris-green to 150 gallons of the Bordeaux Mixture. The question of how to apply the spray depends upon the size and number of the trees. In any case, I believe that it will pay in the end, to get one of the best and strongest pumps now on the market, and make a business of spraying, the same as one cultivates garden crops. Let E. H. W. hold the nozzle himself until he can train a man to understand what is wanted.

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Vertigo or Megrims in a Horse.

J. W. W., Brookfield, Conn.—What is the trouble with my horse? Every time I have started to go to the field with a load of manure, the horse, after going two or three rods, begins to stagger, and, several times, has fallen, once breaking the wagon pole. He recovers in about one minute, and is all right until I start with another load. He is between eight and ten years old, perfectly healthy, in good condition, and sound with the exception of being blind for the past five years, from periodic opthalmia. Until the past week, he has never shown any of the above symptoms. His feed has been four quarts of a mixture, one-half bran and one-half corn-and-cob meal, twice a day, and every other day, four quarts of potatoes. The team has not been used much the past winter, and it is possible that the horse has been fed heavier than before.

The symptoms indicate vertigo or megrims, resulting from cerebral congestion. This congestion of the brain is most commonly due to an ill or tight-fitting collar, that prevents the free return of the venous blood from the head. The congestion may also be due to reflex irritation, disease of the heart, severe exertion, or to overheating. Fat animals are especially liable to the attacks. In the present case, I suspect that the trouble is due to a collar that is too small, or fits too closely under the neck, together, perhaps, with the fact that the horse may be too fat. Make sure that the collar fits properly, and is large enough so as not to compress the jugular veins of the neck. If the attacks continue, stop the horse as soon as the first symptoms are shown, raise or remove the collar, and dash cold water over the head. If the horse do not recover at once, rub the legs vigorously, either dry or with mustard water. Walking is desirable, as soon as the horse is able to move about. In severe cases, bleeding from the jugular vein is resorted to with advantage.

Glander Heaves in a Horse.

W. E. E., Peru, N. Y.—My seven-year-old mare, has a thick, whitish discharge from both nostrils, especially after being driven; also, a slight, hacking cough. She has been bothered in this way about 15 months. Her appetite is not very good. In other ways, she seems to be in good health. What can I give to relieve her?

The horse is suffering from chronic bronchitis, a condition commonly called "glander heaves" by horsemen. There is nothing glanderous about the affection, but the condition is often a precursor of heaves. Steam the head at evening, two or three times a week, by feeding a hot bran mash from a bucket. If the horse refuse to work over or eat the mash while sufficiently hot to steam the head, suspend the mash in a bag hung over the nose for a few minutes. Also feed one of the following powders in the feed night and morning: Powdered nux vomica and sulphate of copper, of each three ounces; arsenic, 70 grains; mix and make into 30 powders. If the horse is inclined to costiveness, give one pint of raw linseed oil every two or three days until the bowels are relaxed. Care must be taken that the horse is not exposed so as to be chilled and take cold during the treatment. The diet should be much the same as for heaves. Only bright, clean food should be given, and hay or other coarse fodder fed only in moderate quantity. If possible, substitute grass or other green food for the hay.

Two Homemade Veterinary Methods.

J. H. M., New Baltimore, Mich.—1. On page 266, E. J. R. inquires what food or medicine will best induce a cow to clean after calving. I have had success, so far, with my method. Cook eight or ten good-sized onions in lard, and feed warm. Roll in cabbage leaf or tissue paper, and put down the throat. 2. Many times it is convenient to care for a cow in the daytime, and I send my method that has been tried for three generations, and never failed with us. When drying a cow, milk the last milking on Sunday, and she will calve in the daytime. I would like to hear from Dr. Kilborne upon this subject.

1. Onions are slightly stimulant and diuretic. I am of the opinion that they have little, if any, effect on the expulsion of the afterbirth. Even if they had in larger doses, the quantity given is too small to have any appreciable effect upon a cow. It is probable that J. H. M. has had no case of obstinate retention, so that any of his cows would have expelled the afterbirth naturally, and just as well if the onions had not been given. 2. It is ridiculous to suppose that milking a cow the last time on Sunday will exert any influence in the time of her calving. This whim is on a par with an old whim of some horsemen, that if

you desire a horse colt, you should breed the mare while standing with her head to the west. I suppose, therefore, if the head is either to the east, north or south, a filly would be the result.

Scab on Hogs.

W. S. D., Paulding, O.—What is the matter with my hogs? They have a scab all over them, with considerable itching. Is it what is called the mange? Is it contagious? What will cure it?

Scab on hogs may be due to mud and filth, swine-plague, or to lousiness and mange. It is not contagious except in the case of swine-plague and lousiness. In general, we can only advise that you give the hogs clean, dry quarters. Then scrub them with strong soapsuds to break up and remove all the scab possible, and finally, rub with sulphur or iodine ointment.

FRUIT STOLEN IN TRANSIT.

C. L. B., New York.—Can THE R. N.-Y. tell of any way to protect shippers of cherries from people who will take the covers off from the baskets of fruit, and help themselves to from 10 to 20 pounds of fruit no matter how well the covers are fastened on? We ship several lots by express and freight, and commissionmen and private customers complain alike. The transportation companies do not protect us.

I have never been troubled in that way, but little; at least, I don't hear anything about it, only when somebody takes the whole package. Then the transportation company has to pay for it. If the commissionmen would not receive any package that had been opened, and put in a claim for the same, the companies would soon get tired of paying for them. If C. L. B. would get a receipt from the transportation company, and the commissionmen look after it at the other end, I think that there will not be much trouble.

J. F. WYGANT.

In shipping fruit, we have never met with loss as complained of by C. L. B. It appears to me that the transportation companies are liable for all loss of fruit while in their care, and it is in their care until delivered to the consignee. Without being a lawyer, it is my opinion that full damages proved could be recovered by an action at law. W. D. BARNS.

I have had no trouble of this kind. I would make the express companies pay for them. As I understand it, common carriers are responsible for goods in transit, and I would hold them responsible. Transportation companies should have no use for thieves. They are responsible for their employees, and if in C. L. B.'s place, I would make them pay all losses.

WALTER F. TABER.

I have never experienced any of the trouble to which you refer. I assume that the party interested ships his fruit by express; but no matter how this may be, if he deliver his fruit in good condition, properly packed, to the railroad or express company, he has just ground for complaint if they fail to deliver it in like good order to the consignee, whoever he may be. If it were myself, I would ask the consignee to report to me all instances where packages were broken, with a statement showing probable loss in connection with such work. This I would present at once to the agent here, of the railroad or express company, and demand just dues. I have never found these transportation people at all unwilling to do what is right with a claim properly presented. I know of no other way to put a check upon such depredations. S. D. WILLARD.

CURCULIOS AND ROSE BEETLES DISLIKE NEIGHBORS.

Have you ever observed that plums growing on trees next to dwellings or out-buildings, are less injured by the curculio, or that grape vines growing up arbors close to houses are less infested with the Rose beetle than vines growing in the open? This seems true as we have observed it, and we desire to know whether it is the general belief.

I have often seen examples of the greater fruitfulness and exemption from curculio cuts, of plum trees in backyards, near paths and doors, and in the little gardens of crowded towns. I suppose that the shyness which is very apparent in these insects, leads them to avoid causes of disturbance. They are active chiefly at night, and would, probably, make as many of their punctures among the haunts of men as elsewhere, if they were not induced to leave the place altogether. We have had, as yet, fortunately, no experience with the Rose beetles about here. W.

Pennsylvania.

I think that, generally, the Rose beetle and curculio do much less injury to trees and vines near or on the house; that is, within a short distance of buildings.

Massachusetts. S. T. MAYNARD.

It occurs to me that plums growing on trees next to, or near, dwellings, are less injured by the ravages of the curculio than trees grown in the open. I have noticed a plum tree (German prune) growing near my neighbor's kitchen door, loaded with the finest specimens of plums I ever saw; very few of the plums showed the crescent marks, while the plums on a tree of the same variety and age growing in a four-acre field in a fence row in the open, were all badly stung and showed no less than eight to ten crescent marks to each plum. Grape vines growing close to a house are less infested by the Rose beetle than those grown in the open field. My experience is that a grape vine growing on an arbor near a dwelling is less infested by the Rose beetle on account of the smoke which oftentimes comes through the doors and windows, which has a tendency to draw towards the foliage.

New Jersey. TICE C. KEVITT.

Yes; plums growing on trees next to buildings, are less injured by the curculio than those growing in the open, and the buds being better protected, they bear fuller and oftener. I have had no experience with the Rose beetle depredating upon grape vines, but grape vines growing upon, or near, the walls of buildings, do not usually bear so well as those in the open. This is explained by the fact that the plum is a better self-fertilizer than the grape vine; the latter being a higher or more specialized plant, refuses self-pollenization to a greater degree, and depends more upon open air where the wind may carry pollen from plant to plant more freely.

New York. D. S. MARVIN.

Cause and Cure of Sun Scald.

J. M. H., Sycamore, Ind.—What peculiar conditions are responsible for sun scald? What will prevent it in cases where the trunks of trees are entirely exposed? Is there any wash that will do it?

ANS.—Various ailments of the trunks of apple and other trees, are commonly called sun scald. It is doubted by some scientists whether there is any such thing as genuine scalding of the bark of tree trunks by the action of the sun; but observations in my own and other orchards, cause me to believe there is resultant injury from high temperature where the rays of the sun have full power on bare trunks and large branches, especially those which have been suddenly made so by severe pruning or top-grafting. Severe cold followed by clear, warm weather in winter, which causes inequality in the temperature of the north and south sides of the trees, is thought sometimes to cause the tender parts of the bark to die. In either case, the damage, when once it is done, can be repaired only by the healing process of Nature. But where there is apparent danger, it may be prevented, in large measure, by tacking a board on the south side of the trunk, which will not injure the tree except a little where the nail enters. A covering made of narrow, wooden strips such as plastering laths, woven together by wire and fastened about the whole trunk, will act in the same way. It will also effectually protect the trees from rabbits, which, in the western regions, are very destructive. In the annual report for 1892, of the United States Department of Agriculture, are illustrations and full directions for making these protectors. H. E. VAN DEMAN

Rust In the Blackberry.

W. C. H., Ernst, Ill.—What is the matter with my blackberries? I bought 50 Erie blackberry plants last spring, from an Eastern nursery. They all grew thriftily, but about the middle of August, I noticed that a part of the leaves on some bushes were covered on the under side with patches of orange-colored, rusty spots, that would rub off easily. A few days ago, when pruning the bushes, I found three or four dead ones; the bark at the top of the ground was gone, and the edges of the bark had a rough, warty appearance. A number of bushes were affected only on one side, and are yet alive. I do not believe that the damage was caused by an insect.

ANS.—The orange-colored, rusty spots found on the leaves, are a sure indication that the plants were attacked by the fungous disease known as yellows, red rust, or orange rust. The disease is generally known by the very thick, orange-red covering of spores on the under surfaces of the leaves in early summer. When badly affected, these leaves curl and make the diseased plant conspicuous at a considerable distance. This malady permeates the entire plant, and as the mycelium or thread-like growth of the fungus is perennial, when a plant is once infested, it cannot be cured. The orange-discolored leaves fall in early summer, and the plant may appear to recover later in the season: but the following year, the plant will be found to be weaker and, probably, wholly worthless, and the orange coating will return.

It has recently been shown that another disorder which makes different, inconspicuous spots on the under surfaces of the leaves, in the latter part of summer, is really a form of this red rust fungus. The spores of this form mature in the fall or early spring, and these, falling on the ground, are, probably, the means of inoculating the plant with the rust through young underground shoots. It is, evidently, useless to endeavor to cure or to treat this yellows or red rust. The first moment the disease is detected, the affected plant should be pulled out, root and branch, and burned. If one be alert, it is generally an easy matter to keep a patch free from the disease. The diseased plants will be a constant menace to neighboring plants, and unless eradicated at once, the malady will spread through the whole plantation.

The "warty appearance" found on some of the canes, probably, has come to be known as the cane-knot, a comparatively new disease, the cause of which is unknown. The knot reminds one strongly of the black knot of the plum, but there are numerous small, whitish eruptions of the disease surrounding the knot. It may be of fungous origin. It, probably, attacks the growing shoots, although it is not apparent until the following year, when the grower, noticing that the leaves are yellow, and the fruit not filling, examines the canes and finds these knots upon them The disease is not very common, but is widespread Probably the most efficient treatment will be to cut out and burn the old canes just as soon as the fruit is off, and continue to examine the bushes frequently for the disease and to cut out the diseased shoots. M. V. S.

Why Scald or Dilute Milk?

W. J. B., LaGrange, N. Y.—When I was a boy, often have I seen my mother put a pan of milk on the stove to scald before setting it away for the cream to rise. In later years, I have seen the dairy mistress put warm water in the milk. What benefit is scalding or putting warm water in milk before setting? Is it necessary in deep as well as shallow?

ANS.—I would refer W. J. B. to Bulletin No. 39 of the Cornell Experiment Station, which treats in full of the subject of dilution of milk in cream raising, both by deep and shallow setting. It is occasionally of benefit to dilute milk that is very viscous (from cows far advanced in lactation) before setting it to raise cream. The warmer the milk when set, and the faster it cools, the more complete the creaming in a gravity process of separation. H. H. WING.

To Build a Small Silo.

A. H. R., Troy, N. Y.—I wish to build a small silo. How should it be made to make good, sweet ensilage? What size would you recommend for three or four cows?

ANS.—My silo is somewhat of the octagonal shape, and is built in the corner of a basement barn. The sills are 8 by 8 chestnut sticks. The frame consists of horizontal 2 by 8 planks. These were spiked to posts in the barn, 12 feet distant each way, and the corners were cut off with pieces of 2 by 8 plank, four feet long. These planks or squares of horizontal planks, are spaced from the floor the following distances: 2½, 2½, 3, 3, 3½, 3½ and 4 feet. Building paper was put under the barn covering, and the inside was lined with 6-inch spruce flooring; on this should be put some one-ply tarred paper and the best of pine boards. This gives a silo with an 8-inch air chamber. Doors are put in to suit anybody's convenience. I have some in the basement, some in the upper parts. I used to keep only four cows before I had a silo, but keep more than double the stock now. I consider a silo the best paying thing on the farm. G. K.

Georgetown, Conn.

How to Raise Large Potatoes.

V. N. S., Trumbull, O.—How can we raise large, fine potatoes to exhibit at the fairs the coming fall?

ANS.—We would use the Rural Trench system, placing the seed pieces further apart—say, two feet. We would use not less than 1,500 pounds to the acre of high-grade potato fertilizer, and, in addition, apply at the rate of 200 pounds per acre of nitrate of soda, after the vines are well up. The nitrate of soda will scald the leaves unless carefully sown.

Hulled Oats for Seed, Etc.

C. E. S., Chicago City, Minn.—1. Will oat grains with the hulls removed, grow as well and bring as good a crop as when entire? 2. Does the growing together of wheat and oats affect the quality of either of the grains? 3. How should eveners be arranged so as to break swamp land with two or three horses abreast on the unplowed land? The furrow is too soft to bear up a horse. 4. By what methods can the weed called "horsetail" (Equisetum) be eradicated?

ANSWERED BY PROF. I. P. ROBERTS.

1. Oats will not grow so well with the hulls removed as with them adhering; the germ is almost certain to be injured by the removal of the hull. Some years since, the farmers of Iowa had spring wheat passed through smut mills, in order to get clear of the "bunted" kernels. It was found that the process reduced the per cent of good kernels which germinated, more than one-half. 2. Wheat and oats may be grown together without injury to either except in so far as the oats may rob the wheat of some nourishment and moisture, since it is, by far, the hardier plant, and is more able to secure moisture and food, where they are scarce, than the wheat. It would likely reduce somewhat the quality of the wheat, but not of the oats unless the seeding were over-abundant. If there were plant food and moisture sufficient for both wheat and oats, neither grain would suffer from being sowed with the other. 3. It would be impossible to fix eveners so that all the horses composing the team could walk on the unplowed land. The best that could be done would be to make a three-horse evener longer than usual, and place one horse on the plowed ground and the other two on the unplowed. The land may support a horse on the plowed ground, though it would not in the furrow. 4. No method is known by which horsetail may be eradicated except by means of a long, thoroughly conducted summer fallow. This method may not eradicate all of it, but it will assist materially. Most weeds are easily destroyed by frequent plowing, thorough cultivation, short rotation and thick seeding.

CRIMSON CLOVER REPORTS.

IT LIVES HERE AND DIES THERE.

I sowed 65 acres of Crimson clover last August 20 to 30, on freshly-plowed old meadow land, some with buckwheat, some on rye stubble plowed, some rye stubble disked, and some on oat stubble disked. It all came up nicely in a few days and grew reasonably well till winter. If all that is alive now was on one acre, it would be about thick enough. I think, however, that if I had got it in 20 days earlier, it would have been much better. The past winter has been exceptionally severe on it, as the stakes and posts in most vineyards were badly heaved out. A. I. L.

North East, Pa.

Crimson clover has wintered safely with us the past two seasons. American-grown seed was sown about September 1, in an apple orchard protected by a forest on the north and west sides. The soil is a clay loam with a clay subsoil. Fine ground bone, 200 pounds, and muriate of potash, 100 pounds, were sown the spring previous. I think that Crimson clover is more valuable for orchards than Red, owing to its early and rapid spring growth. We turned under a heavy crop June 1 last, and the trees appeared to break easier under a heavy crop of fruit the following autumn, than those where no clover was grown.

Forest Lawn, N. Y. G. W. D.

Last year's drought extended from May to December, consequently we have very little Crimson clover in this State. Seed will be very scarce, so will clover hay, soiling and ensilage, but the greatest sufferer will be our fields—untouched by the magic of this great conservator of fertility. We pray to be hereafter delivered from such a dessication as we suffered in 1895. The winter rainfall has been insufficient, also, and the springs are yet low, a condition not favorable for withstanding drought in 1896. A party in Kentucky who sowed largely of my seed last year, writes me that his prospect seems good for 1,000 to 1,500 bushels of seed. He must have some streaks of moisture such as we failed to get.

Delaware. E. H. BANCROFT.

I purchased one pound of Crimson clover seed early in 1895, and sowed it without a nurse crop on sandy soil, July 2. About July 20, it was growing. The weeds were cut two or three times during the summer and autumn. It grew well during autumn. Snow came before the ground froze much, about the middle of November, and remained until about Christmas, when we had heavy rains. The clover was waving in the wind. Snow came again, and was on the ground most of the time until the last part of the winter months. Some appeared dead during early spring, but most of it is alive now, and looking well. If I succeed in saving seed, I may sow again. L. J. S.

Eaton Rapids, Mich.

On August 19, 1895, I sowed 22 pounds of Crimson clover seed on 1¾ acre of light, loamy land, freshly broken up from mowing, and put 500 pounds of muriate of potash on at the same time. The seed came up finely, and grew well all through the fall into December, but was entirely killed by the cold weather in January, there being no snow on the ground at the time, and the thermometer registering 10 to 15 degrees below zero. I do not think that Crimson clover can stand the winter here, but if it could, it would be of great value in the orchard as well as for keeping something growing on the land during the fall after an early crop has been taken off. I have not seen a live Crimson clover plant this spring. J. E. G.

Spencer, Mass.

To get early feed for my cows, I sowed on July 24, 1895, Crimson clover in the chaff on my tomato patch, then cultivated the tomatoes both ways for the last time, as the vines covered the ground so that I could not cultivate longer. I think that not a seed came up till we had a rain, September 1, then every seed seemed to spring up at once, and I think it has not stopped growing since. I commenced mowing it April 23; it was then 12 inches high, and as thick as it could stand. September 13 last, I sowed one-half acre of rye; on March 15, I commenced cutting it. It was then 18 inches high, and before the month was out, it was 2½ feet high. I sowed another piece of rye October 20; it is now three feet high, and I am cutting it. D. F.

Salem, Oregon.

I had tried Crimson clover once before, several years ago, in a small way, but it mostly heaved and what was left, made a very feeble growth in the spring. I thought that, perhaps, it might have been foreign seed; so last summer, I sent for Delaware seed. Five pounds of clover seed were sown August 16, on one-half acre among the corn and cultivated in very lightly. Some was also sown in the orchard at the same time, and harrowed in; it came nicely, as it rained immediately after. The seed lying on the ground was sprouted in 24 hours, and in 48 hours, it began to appear above ground. In my orchard, the soil was very thin, and a dry spell last fall killed most of the clover. Among the corn, it was a good catch, and it went through the winter all right; the soil is fairly good for this section. The clover is now in full bloom; the average height is 12 inches. The ground was covered with coarse stalks, manure and cane stalks, all that the plow would turn under last spring, for the corn. The cane stalks appeared to be a damage to the corn. I do not consider Crimson clover as valuable as Red clover here. My only use for it would be to sow among corn, at the last cultivation, and after early potatoes, to have something growing on the soil while it otherwise would be idle and wasting its fertility.

I sowed four pounds of winter oats on 17 square rods September 11 after the corn had been cut. Part of this plot had a good coat of stable manure last spring, the higher and drier part. It slopes toward a pond that has been drained. The whole plot is nearly level. On the lower corner, where the ground inclines to the west, the oats practically all froze out. On the drier corner, there is a very good stand left, They have stooled wonderfully, and the ground is now well covered. They promise well now. I have spring oats sown alongside, and after harvest, shall be able to tell which is the more profitable. C. E. B.

Crossville, Tenn.

I have sowed Crimson clover in corn twice, and have lost seed and labor because of drought. I have raised winter oats 24 years, with only two failures, while spring oats do not make a fair crop oftener than one-fifth of the time. My winter oats were sown very late last fall, because of the long, dry spell, consequently they did not get root enough to stand a snowless winter. My 600 acres were not covered with snow except a few hours in March. Winter oats sown in the spring will do better than spring-raised seed; but the seed raised from it will not be as safe to sow again for winter. I can make any oat a winter oat, simply by going through one winter. The same can be done for spring wheat. There is much humbug and fraud, practiced, not only in the sale of winter oat seed, but also in all kinds of seeds. I think that there is more in seed potatoes than in any other one kind. W. M. E.

Amherst, Va.

On June 29, 1895, I sowed Crimson clover in the corn at the last working, part behind the harrow, but most was sown just before harrowing. When nearly done, a heavy dash of rain fell, and delayed finishing until July 2, when the former sowing was coming up. No difference was perceptible between what was covered, and that sown on top. The soil is light, sandy, bottom land. I do not entirely condemn Crimson clover, but think that, for our purpose, Red clover has proved itself more reliable. I shall use it this year on stock ground intended for wheat the following year, and try Crimson clover again on ground intended for planting to corn. I am contemplating planting a field, which missed Crimson clover, to cow peas. Is it advisable? If so, what variety would you recommend? R. K. W.

Kirk's Mills, Pa.

R. N.-Y.—A variety known as the Early Black cow pea is considered best for green manuring. We would secure seed that was grown as far North as possible.

In a recent R. N.-Y., I find discouraging reports about Crimson clover. I have been growing it with good results. Last July, I turned under an old strawberry bed, fitted it as thoroughly as though preparing it for wheat, and sowed about one acre to Crimson clover the last of July. I rolled the ground so as to make a firm seed bed, and sowed about 20 bushels of ashes. Notwithstanding the drought, the clover came up well and made a fair growth. It wintered well, and to-day (May 8), it is about one foot high, and blossoms begin to show so that I have just picked a fine bouquet. It completely covers the ground, and I expect a fine lot of seed. On ground that heaves badly, neither Crimson nor any other clover will prove a success if sown late in the season. If you treat Crimson clover as you would any other crop where you expect success, you will be well rewarded. After other crops have taken up all the available food for the season, one must not expect any crop to prove a success. An animal going into winter quarters nearly starved to death, will not winter well. When we learn to treat Crimson clover decently, we shall be able to give good reports about it. My soil is a sandy loam, and underdrained where necessary to prevent heaving. S. S. BAILEY.

Kent County, Mich.

I sowed one peck of Crimson clover seed August 20, 1894, in the midst of the drought, and we had no rain for a month later. Not more than one-half of the seed germinated, and, owing to the dry weather, it made but little growth in the fall. The following March, it froze out some; being on a level piece of ground, the water stood on it during every thaw through March, and on April 1, I thought that it would be a failure, and had a mind to plow it under. But, taking the advice of THE R. N.-Y., I did not disturb it, and to my surprise, by May 25, it was in bloom, and had stooled out so that it covered nearly all the ground. It measured 26 inches in length, and on June 21, the seed was ripe. I cut it with a mower, raked it with a hay rake, the same as hay, and hauled it to the barn. I tramped the seed off the straw with the horses; it shells very easily, and I had to handle it while damp, or I would have lost half of the seed.

July 4, 1895, I sowed some of the seed in the chaff just as it came off of the straw, in a cantaloupe patch, some in corn, and the rest I had hulled. I got 5½ bushels of clean seed after sowing eight acres, chaff and all. I sowed all the seed I had, and bought two bushels besides. I made sowings almost every week, from July 4 until September 11. The best piece of clover that I have, was sown about July 12, and the next best August 11. The piece sowed about July 12 is as beautiful a patch of clover at this writing (May 4) as I ever saw. It is 6 to 10 inches tall, and so thick that I can't see the ground. It did not freeze out a bit. It was sown on a watermelon patch. The soil is a sandy loam. I have some on sharp sand, and it stood the drought last summer remarkably well. Our Red clover all froze out last winter; it never froze out so badly within my recollection as it did in this section last winter, and my Crimson clover stood the winter, so that convinces me beyond a doubt that Crimson clover will stand the winter in eastern Pennsylvania.

I sowed by hand at the rate of 15 pounds to the acre. Crimson clover, with me, will never take the place of Red clover, but it fills a place that Red clover cannot fill, that is, to sow among truck and corn for early pasture, and for plowing under for spring crops I think that it is one of the grandest things that ever has been introduced into this country. I first saw the description of Crimson clover in THE R. N.-Y., and was induced to try it by reading accounts of it there. I thank you a thousand times for bringing it to my notice. This season alone it will be worth to me a hundred times the subscription price of THE R. N.-Y. You can count on me as a life subscriber. Talk Crimson clover, preach Crimson clover until every farmer in the country tries it, and if the farmers once try it, it will ever be a moneymaker for them! If they get the hardy variety, it will stand the winter as well as the Red, the drought much better, and it will grow on land too poor to grow Red clover. J. W. C.

Halifax, Pa.

On August 3, I sowed one-half acre of heavy loam to Crimson clover, where water often stands in wet weather, and where ice lies in the hollows most of the winter. I finished sowing at 3 o'clock in the afternoon, being driven from the field by a severe shower, and at 10 o'clock on the morning of August 5, the young plants of clover could be seen all over the field. How much sooner the first plants appeared, I do not know; but I know that the most of the crop was above ground in less than 45 hours! When severe cold weather set in, the clover had made a growth of some eight inches, and was a beautiful sight. The ground remained clear of snow all winter, and the mercury went below zero several times, once as low as 16 degrees. When the frost had left the ground in March, the clover was still green, but most of it showed about one-half inch of root exposed. On the nights of April 1 and 2, the ground froze to the depth of an inch, and in a few days, one-half of the clover was dead, having been frozen off at the exposed portion of the roots. I dug up several of the roots and found them as sound as ever below the surface line. In the hollows, nearly all escaped injury. I am convinced that a roller run over the field when the frost first came out, would have saved nearly all. What remains is now about eight inches high, and growing vigorously, though everything else is suffering from lack of rain.

I sowed an acre with Hungarian grass seed

(*Continued on next page.*)

Miscellaneous Advertising.

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Is the cleansing season, and it is the time to see that your blood is pure, rich and full of vitality. To purify, vitalize and enrich your blood, take

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Be sure to get Hood's and only HOOD'S.

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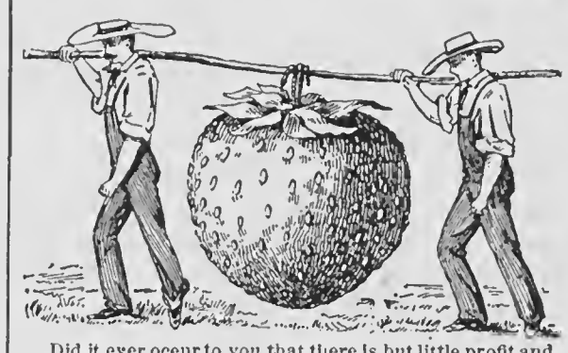

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EGG PLANT, PEPPER PLANTS. All good varieties.
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Send 10c. for catalog describing the wonderful Mercer Cherry and receive

TRIUMPH The only Yellow Freestone **PEACH** Ripening with Amsden.
Col'd plates of 3 new fruits and one Emperor Peach June bud, postpaid.
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including every standard variety and every novelty of established merit.

For Nearly a Century the Leading Seed House of America.

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CRIMSON CLOVER REPORTS.

(CONTINUED.)

August 15, and sowed with it six pounds of Crimson and seven pounds of Red clover seed. This field made a good growth after the Hungarian was harvested, and one end of the plot has now a fine stand of both clovers; but both kinds were wholly killed out on the other end; why, I do not know, as there is no perceptible difference in the soil. If anything, the lower end, where the plants died, is the drier. I sowed an acre the last week in August, with white turnips, mixing Crimson and Red clover seed as before. On one end of the field, I spread a barrel of lime and, adjoining it, a wagon-load of wood ashes. The weather was very dry during the fall, and neither turnips nor clover made much growth. As far as the lime and ashes went, I have a good stand of both clovers, but none on the rest of the field.

I sowed Red clover August 17, in two acres of corn. It made a good growth while the corn stood, but late in the fall, it began to look feeble, and, except where a heap of brush was burned, there is none left now. This seemed dead in January, and I think that it was too young to stand the severe freezing. I intend to save my Crimson clover for seed, and try again. Though it will probably heave out less on light soils, I feel sure that it will carry through all right if it get a good start in the fall, and is looked after when the frost comes out in the spring. A plot of Alsike clover sown August 3, came through finely, and now covers the ground with a beautiful, light-green growth. C. P. AUGUR.

Connecticut.

THERE is no prettier flowering shrub blooming in early May than Hall's apple, as we call it, because it was introduced about 10 or 12 years ago under the name of Malus Halleana. It was later offered as Pyrus Parkmanni. Ellwanger & Barry catalogue it as Pyrus malus Halleana, syn. Parkmanni. The leaves are of a deep green resembling, in shape, small, glossy pear leaves, which are retained late in the fall. The shrub is dwarf—our own specimens are about seven feet high—compact and erect growing. The fuchsia-like flowers, upon slender stems two inches long, droop as gracefully as one can imagine. They are of two colors rose and crimson, crimson in the beautiful buds. The petals, which are nearly as large as those of apple blossoms, are 10 in number, and the flowers are fully an inch in diameter. They are borne in great profusion, lasting for several days, and the little trees, when laden with these drooping, dainty flowers, must be seen to be appreciated. This shrub is perfectly hardy at the Rural Grounds, having endured over 20 degrees below zero unharmed. The fruit (apple) that forms is about one-fourth inch in diameter.....

MANY years ago, we received what was then a novelty in this country, the Pendulous Pea shrub Desmodium (Lespedeza) penduliflora. It is herbaceous, growing every season to the height of about four feet, the branches becoming pendulous late in the season when loaded with wreaths of rose-colored pea blossoms. It is of special value because there are few other flowers so late in the season.....

WE do not understand the cause of "hollow heart" in potatoes, evidently. Our own theory has been that, when potatoes grew rapidly to a very large size, they would, of necessity, become hollow-hearted. It is plain that the center of a potato is its least firm part, and that, as the tuber acquires age, that would be the part to shrivel and break, so to say. This season, we have planted, exclusive of our own seedlings, 60 different kinds. Several of these were very large tubers, weighing one pound each or over. They are perfectly solid. A number of Carman No. 3 potatoes weighing about the same, were hollow-hearted, and badly so. Now what causes hollow heart, and what is the remedy? We have discussed this question before, it is true; but we need to discuss it more. The stations ought to be able to discover the cause. Are some varieties more liable to the defect than others, or is it a matter of nutrition, soil, season or other conditions?.....

A LATE number of the Experiment Station Record (Washington) says that recent visits to a considerable number of our experiment stations, have confirmed the impression that, in too many cases, they are scattering their efforts on a variety of comparatively unimportant investigations. There is need of much greater concentration of work, and of more efficient coöperation among the different workers in the planning and carrying out of important lines of work. Each department is so far independent, that it not only determines its own line of work, but even considers that it is doing a favor to other departments if it aids in their investigations. The Station Record pays a very just tribute to the persistent, well-planned work of our respected friend, Sir J. B. Lawes, of Rothamsted, England. Except at the very first, it says, is there any evidence of a vacillating policy. The belief was in the final effectiveness of continued effort along a given line. Once organized and entered upon, the investigation was continued without interruption until definite, well-established results were attained. The spirit of thoroughness and the perseverance which led Dr. Lawes to the continuation of a single experiment through 40 or 50 years, are well worthy of emulation. And so it is, as the Record states, that the results secured have become a part of our agricultural science, and have been incorporated into text-books the world over.....

WELL, we need scarcely hope for anything of the kind in this country until thoroughly capable men are appointed to fill the station positions; until they are adequately paid, and their tenure of office made to depend upon merit instead of political influence.....

THE past winter at the Rural Grounds, has been a typical test-winter, and we shall soon tell our friends its effect upon the many new ornamental plants and fruits which we are trying.....

Miscellaneous Advertising.

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is a vigorous feeder and responds well to liberal fertilization. On corn lands the yield increases and the soil improves if properly treated with fertilizers containing not under **7% actual**

Potash.

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Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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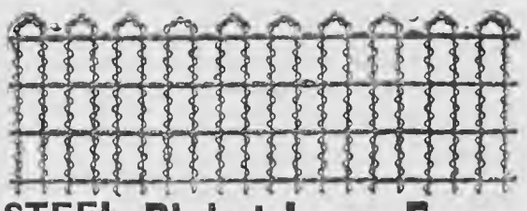

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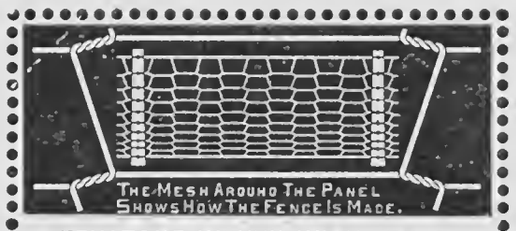

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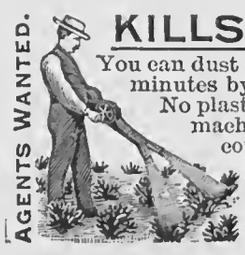

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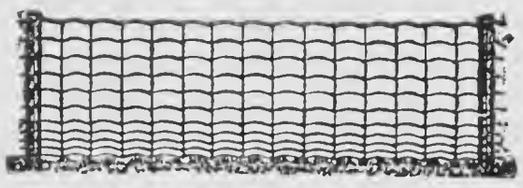

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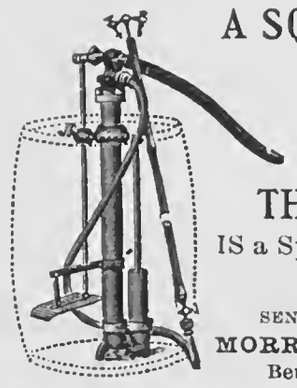

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MAY 23, 1896.

MR. STEVENSON, page 362, wants to try a narrower ration for poultry, but finds it difficult to make such a ration that will be acceptable to the hens. We would like to have suggestions from our readers as to the possibility of making such a ration out of ordinary foods. How would you make it up?

⊙

IT is reported that experiments show that the normal temperature of the negro is lower than that of the white man. The explanation given is that a dark skin radiates heat more freely than a lighter one, and that, therefore, a brown or black man can the more readily get rid of surplus bodily heat. According to this, a well-tanned skin is cooler than one that is "lily white," and we believe that there is truth in the theory.

⊙

WHY not simplify the directions for making the stock solutions for the Bordeaux Mixture, by using one pound of sulphate of copper or one pound of lime for each gallon of water used in making the respective stock solutions. Then each gallon of the solution will represent one pound of the material used. Then by taking six gallons of each solution, and adding sufficient water to make 50 gallons of the compound, the proper proportions of the Bordeaux Mixture are readily secured.

⊙

THE R. N.-Y. believes in keeping up old records and monuments that tell us how people lived years ago when this country was new. We like to see old houses preserved when it is possible to keep them, for by presenting a contrast to our more modern dwellings they show us how times have changed, and how society is constantly making itself over. The old house pictured on page 351, well illustrates the sort of dwelling that was "home" to the early settlers in Orange County, N. Y. This illustration is taken from the programme of the Wallkill Valley Farmers' Association, which is a highly successful organization of farmers. Such old houses stand as monuments to the memory of the sturdy men and women who cleared the land and left it as a "goodly heritage" for this generation.

⊙

MANY of the western experiment stations are issuing bulletins on the Chinch bug. This insect has proved a terror in many Western grain fields, and, naturally, scientific men have studied hard to devise ways and means of fighting this active little enemy. THE R. N.-Y. has told its readers about the plan of killing off these bugs by scattering among them the bodies of insects that had died of a contagious disease. This disease was thus spread, and when the conditions were right, millions of the bugs were destroyed. At one time, high hopes were entertained that this method would enable a farmer to protect his crops; but careful experiments have shown that, unless the conditions are just right, the plan will not succeed. In wet weather, and where the bugs are massed together, the disease spreads rapidly; but in time of drought, where the bugs are scattered, this method is not effective. Probably, the best method is to keep the bugs out of a field, or poison them and kill them before they move on to destroy new crops. To do this, deep furrows are plowed completely around the field. If possible, along the top of the furrow is smeared a strip of coal tar or salt and kerosene. The bugs can climb a perpendicular wall, but cannot get up a sloping side of fine dust, and thus they congregate in the furrow, where they are killed by dragging a log of wood back and forth over them, or getting them into holes, where they are killed with kerosene. The development of these methods of destroying insects and other pests is a good illustration of the possibilities of our experiment stations. The individual farmer could not work out these problems by himself. There must be men who will make it their business, with every necessary appliance, to study these things out, and learn the scientific principles or truths that underlie them. With these in mind, the inventor and the farmer will quickly learn *how* to do the work.

⊙

THE New York Sun, in an effort to be funny, gives vent to the following bit of wisdom concerning the New York State Department of Agriculture:

> The purpose of the office held by Mr. Wieting is to give a salary to a Republican or a Democrat, and to persuade the farmers that the State Government smiles upon their labors. The Commissioner benefits himself and, perhaps, his party, but he is as unnecessary to the farming interests of New York as a dentist in a henhouse. In fact, he might just as well, and with a better sense of the fit and fitness of things, be taken from Wall Street or Fifth Avenue. The leaders and champions of agriculture are the farmers themselves.

In part of that statement, the Sun came nearer the truth than it meant to. When the office can be sold by Mr. Thomas C. Platt before the Governor is elected, it certainly looks as though the office *was* created simply to provide a salary for some politician. It is a shameful thing that the charge that this office was thus bought and paid for, should stand without denial for a single day.

⊙

THE Ohio Experiment Station people have made several experiments with Crimson clover, and have also received a number of reports from different parts of Ohio. The conclusion is that the crop is, at best, a doubtful one, especially north of the 40th degree of latitude, when sown later than August 1. Some successes are reported south of 40 degrees, even in last year's dry season; but on the whole, the Ohio reports are to the effect that the Crimson is not so hardy as Red clover. Spring sowing is not advised, as it usually results in a very short growth and early heading. The Ohio report states that plants were found bearing 30 to 37 stems, and with one-third more blossoms than stems. This indicates the wonderful "stooling" and flowering capacity of the plant, and shows, as THE R. N.-Y. has pointed out, that a "stand," which may look like a perfect failure early in the spring, may grow and spread so as nearly to cover the ground later on. In the face of all the adverse reports that may be piled on top of it, THE R. N.-Y. still stands by Crimson clover. Our advice to farmers who can grow, even a few plants this year, is to save the seed from them, and sow it in the chaff as did our friend in Pennsylvania, who gives his experience on page 354.

⊙

PROF. THOMAS SHAW, in his notes on our first page, makes some remarkable statements about the amount of sheep food that may be grown on an acre. Prof. Shaw is right in saying that this question of securing plenty of green summer food is an important one for farmers. In the majority of cases, pastures are as dry as a chip for weeks in the summer, and unless the sheep are fed grain, or given green fodder of some sort, they are sure to suffer. Prof. Shaw's plan is to have a succession of crops growing on small but well cultivated fields. By means of portable fences, the sheep are kept on these growing crops until they are eaten down. Then the flock is moved to another part of the field, and the crop they have eaten either makes a second growth, or the land is worked up and planted to a new and different crop. Thus, by moving them from one point to another, the sheep are kept constantly on good pasture. It will be seen that Prof. Shaw is enthusiastic over sorghum as a summer crop for sheep. It is better than corn, because it grows up rapidly when eaten to the ground. There have been many complaints about the damage done by feeding this second growth to stock, and we would prefer further experiments before advising the extensive use of sorghum as pasture.

⊙

ONE of the hard social problems of American life is the best way to care for the insane. One who has ever been through the painful experience of caring for an insane person must have realized how poor are the chances for recovery in the ordinary asylum. Where these unfortunates are crowded together in great buildings, it is well nigh impossible to give them the quiet and personal attention that their malady demands. We are not speaking of wealthy patients who can afford to pay for extras, but of the poor people who must take what the State gives them. At Gheel, in Belgium, 1,800 insane patients are treated on the colony plan. This part of Belgium is a country of small farms. There is a central station or infirmary to which patients are first taken. Here they are kept for a few days, where the cases are carefully studied, and then they are put out to board in nearby farmhouses. Never more than two patients are placed in one family. Five doctors and six overseers make regular visits among the patients, and careful watch is kept to see that they are well treated. The cost of board runs from 12 to 19 cents a day. Under this quiet and homelike treatment, the insane patients are happy, and we can readily believe that the per cent of cures is higher than in the public institutions of this country. Possibly a similar colony plan could not be carried out in this country, as it might be difficult to find farmers who would take such boarders. We believe, however, that the chances of recovery would be greater if the insane could be kept in smaller companies and given more liberty and more outdoor exercise.

⊙

A PATCH of 1,200 potted Parker Earle strawberry plants affords an interesting study just now. The plants were set the first week in September, while the ground was very dry. The first 1,000 plants were well soaked before setting, by pouring water over the crates which contained the pots. A workman neglected to soak the remaining 200, which were planted on another day. Ninety of the 200 failed to live, while less than 30 of the 1 000 have died. Three kinds of mulch were used—fine manure, whole corn stalks, and leaves. For some reasons, we prefer the stalks, though some of the best plants are those that have grown up through the mulch of fine manure. Every plant left without a mulch of some sort, has been thrown out of the ground. The largest and most vigorous plants are those set in frames. They stand in rows one foot apart, and six inches apart in the row. They have been heavily fed with fertilizers, and watered whenever necessary. They are now immense in size, and are loading themselves down with berries. It is a characteristic of the Parker Earle to set more fruit than it can mature with ordinary culture. This method of growing the plants close together in frames, enables one to supply all the food and water needed, and we shall endeavor to see just what the Parker Earle is capable of doing at its best.

⊙

BREVITIES.

Let women who fight for female right
  On farm or in the town,
Remember still that their measures will
  Turn things all upside down.
For this good old world has bravely whirled
  For ages on through space,
With a settled plan that Mr. Man
  Was lord of all his race.
You've lost the toss—the man is boss—
  It's woman's place to serve.
He's got things straight—it's quite too late
  To pick up this new curve.
Your women's rights will bring funny sights.
  Oh! How the world will look
When women and cows shall run the plows,
  And men stay home and cook.

THE best tool is a cool head.

A GOLD bug seems to be a "chink" bug.

STOP spraying when the trees begin to drip.

DON'T forget that the good man loves goodies.

HOLD the nozzle yourself, says Mr. Slingerland—correct.

WE have no use for bush Lima beans while we can obtain poles.

LADY THOMPSON and Gandy strawberries are largely set by southern growers.

ALL you can say for millet is that it is a *substitute* for hay. It is never the real article.

MR. BAILEY (page 356) says, feed the Crimson clover and give it a fair start. He's right.

WHERE we want "long wind"—in the horse. Give us rapid walkers in place of fast talkers.

THE Pennsylvania Department of Agriculture has already begun to arrange for the next year's institutes. Good!

READ those figures of swill carrying, on page 350. How does this compare with the sum total of your wife's visits to the hog pen?

THREE parts sweet oil and one part standard carbolic acid, well mixed—we have never found a better dressing for cuts or sores on horses.

SINGULAR but true—the fact that you can travel three months in Europe for less money than you can in this country—with equally good accommodations.

THE oat "gets there." Wheat has to be carried, page 353. The same distinctions are found in the human race. Oat eaters will beat white bread eaters!

THE cow pea will be likely to do better on light than on heavy soils. Like rye, it will start on soils too poor to grow clover. Lime and potash will help it.

LOTS of American cows have suffered for lack of sunshine this past winter. Now they will get an overdose of it because there is no shade in the pasture. Better have it distributed.

THE Pennsylvania Railroad is said to have offered a prize of an annual pass over its lines to the farmer who, within a given time, will do most to beautify his grounds along the line. That's a good thing.

A SOUTHERN reader is a little stirred up over the claim that crows live largely on worms. His question is: "Why did they bore holes in thousands of melons in this county, last year, looking for worms?"

ONE of our plots of Crimson clover looked, in early April, as though it had all been killed out. We left it just to see what it would do. To-day, the few plants left have grown so large that they cover two-thirds of the ground! They will now be turned under for sweet corn.

ELECTRICITY IN THE INDUSTRIAL WORLD.

NEW YORK'S LATEST AND GRANDEST EXHIBITION.

The application of steam power to practical mechanics, marked a great advance in the industrial world. Although the power of steam had been known for more than 2,000 years, it is only within the present century that it has been so used as to make itself felt as a potent force in manufactures and transportation. The opposition encountered by its early advocates is a matter of history, and had they not, by their indomitable perseverance, shown their great faith in its ultimate success, it is likely that the world would be much poorer to-day in all that the wonderful powers of machinery have rendered possible. It was predicted by a learned professor that a steamship could never cross the ocean, and his labored argument to prove his position, after being published, was brought over in the first vessel to cross. Now steamships costing, with their outfit, millions of dollars, carrying thousands of passengers and hundreds of thousands of dollars' worth of merchandise, are plowing every sea. Great railroad trains, weighing hundreds of tons, are flying through the country with the speed of the wind. Millions of factory wheels are turning in every land, all the result of the wise direction and proper handling of this once little understood and less appreciated force.

But a new force is coming rapidly to the fore, and its ultimate development is destined to create a greater revolution in the industrial world than has steam. Electricity has made great strides in the past score of years, and is likely to be the magic power for moving and feeding, heating and lighting future generations. Its rapid development has been most marvelous. Several men have been prominent in this development, the best known of whom is Thomas A. Edison. During the past 25 years, he has taken out in this country no less than 711 patents, the most, if not all of them, having to do with some form or other of electrical apparatus.

At the Grand Central Palace in this city, during this month, is an exhibition of electrical appliances that may well open the eyes of any one who has not kept pace with the wonderful advance in the science and application of electricity. It is said to be the most extensive ever held. One of the first uses of electricity was the conveying of messages over wires, first by telegraph, for short distances, then, in comparatively recent years, by telephone. Now the globe is belted by telegraph, over the land and under the sea, and New York and Chicago may talk to each other over the wire as easily as neighbors over a back fence. All the newest and most striking appliances of this kind are here shown. Perhaps the most striking exhibition in this line is the model of Niagara Falls and surroundings, an exact reproduction of that great natural wonder. In connection with it, is a telephone in which one may hear the roar of the falls —when the instrument is in working order, which isn't always.

A later application of electricity was for lighting. A quarter of a century since, an electric light was a great curiosity. Now, in one form or another, these lights are seen everywhere. At this exhibition, they are shown in great variety, and the possibilities of this form of lighting both for purposes of illumination and for decorative effects, are thoroughly illustrated. Great advances have been made in this direction, and the end is not yet. The new X rays are on exhibition, and by their means one may see the bones of his own hand, a revelation that is rather startling to some.

Closely allied to lighting are heating and cooking, and the last is exemplified daily. Electric cooking is not a new thing to the New York public, but its practical application always draws a crowd, and interest in the subject is ever fresh. The same current that supplies light, is used. The greatest drawback to its general use, is, probably, its cost, which is somewhat greater than that of coal. With this same force, a man may heat and light his house, cool and ventilate it by means of fans in summer, fit it with burglar and fire alarms, harness it and run any desired machinery, in short, apply it to any purpose for which power is required. All these different appliances are illustrated by means of working models.

As a motive power, both for running machinery and for propelling vehicles, electricity is destined to have its most general and most valuable use. It is used for running the most delicate dental apparatus, and for the most ponderous mechanism. One beauty of its work is that it is practically noiseless. It is easy to operate. It is clean, the current being capable of conveyance anywhere after being generated. The chief engineer at this exhibition is a woman. Some of the machinery at the exhibition in this city was propelled by a current generated by the plant at Niagara Falls, and cooking was done by the same current. One difficulty in this is that much of the force is lost in transmission to such a distance; but it is likely that this loss will be, at least partially, overcome in time.

One of the most serious objections to the general use of electricity, has been its cost. A Boston electrician has recently applied for a patent on a method for deriving the electrical energy directly from the coal. This, if successful and practicable, will do away with the expensive and cumbersome dynamos and engines heretofore used, and reduce immensely the cost. It is claimed, too, that the new method will yield fully 10 times as much electricity from the same amount of coal, as the old, roundabout one. This is, certainly, a wonderful advance, if it will do what is claimed for it.

The different practical uses to which electricity may be put, especially on a farm, are almost innumerable. Of some of these, as well as some of the most noticeable special features at this exhibition, we shall speak later.

DESTROYING THE CODLING MOTH WITHOUT SPRAYING.

The following note has been received from Nova Scotia:

Last year the Codling moth destroyed the fruit on our young apple trees. How can I fight it without using a sprayer?

Beyond a doubt, the cheapest, and by far the most successful method of fighting the Codling moth (the cause of most wormy apples), is by spraying the trees twice, a week or 10 days apart, soon after the blossoms have fallen; Paris-green, alone or in combination with Bordeaux Mixture, at the rate of one pound to about 150 gallons of water, is giving the best results. The methods in use before the advent of spraying, were the destruction of all windfalls, soon after they fell, either by hogs or otherwise, thus destroying the worms they usually contained; and the banding of the trunks of the trees with strips of hay twisted together, or old, coarse burlap. These bands were put on when the fruit was half grown, and served to attract many of the worms which, when they leave the apples, often crawl on to the trunk of the tree, and spin cocoons in the crevices. The worms stay in these cocoons as worms all winter, so that, by examining these bands late in the fall, many of the worms could be crushed, thus destroying the prospective moths which would lay eggs for the next season's crop of worms. Either of the above methods, however, is only partially effective, and really involves more labor and expense, if thoroughly carried out, than the much simpler and more effective spraying method. Spray by all means! Have no fear of poisoning the fruit or crops beneath the trees, for it has been demonstrated several times by chemical examinations, that it is perfectly safe to pasture stock continually in sprayed orchards, and not the faintest trace of arsenic remains on or in the fruit when it comes time to pick it. M. V. S.

THE NEW YORK COMMISSIONER OF AGRICULTURE.

The editorial declarations of THE R. N.-Y. are generally, and invariably so far as I am aware, based upon truth and dictated by a spirit of fairness. On several occasions during the past five years, I have been led to change my opinion and my attitude with reference to current matters, upon sight of THE R. N.-Y.'s editorial pages. I am not now intending to challenge the editor, or to amend my general good opinion of his treatment of matters, but will simply ask the privilege of suggesting that the writer of the article relating to the new Commissioner of Agriculture, must have been uninformed of certain facts preliminary to the appointment.

I do not know much regarding the appointment itself, or regarding the requests for other candidates; but I do know that a very large number of farmers had petitioned for Mr. Wieting's appointment. He was early in the field as the candidate of the Grange, and thousands of members of that order not only signed a petition for his appointment, but also wrote letters to the Governor repeating the request. The Governor, very early in the campaign for the appointment, gave a promise that the appointment, when made, should go to a member of the order of Patrons of Husbandry. I know exactly what I am saying on this point. I will not say that I *know* that several other candidates, knowing of that pledge, obtained election to the order; but there are some good reasons for suspecting this to be true. Inasmuch as the appointee was to be a member of the Grange, and Mr. Wieting was the leading candidate of the order, measured by the number of petitioners, it is easy to account for the appointment without going farther.

Personally, I have the highest respect for all the gentlemen named in the editorial article. Two of them are better known to me than Mr. Wieting. I fail to see the justice of an accusation to the effect that Mr. Wieting's appointment was dictated by politicians, so long as the other candidates named were backed by politicians in all parts of the State, some of whom made almost threatening demands for their friends.

As for the proposition that farmers must unite and act independently of the parties, if their true interests are to be served, that may be all right; but the present instance is not illustrative of that necessity. It *was* by reason of united action independent of the parties, that the recent appointment was made. In other words, the largest farmers' organization in the State asked that one of its members be appointed. The request has been complied with after abundance of time given to the order to unite upon its chosen candidate. In the end, the one was selected who had the largest support in the organization. If I am wrong in my reasoning, or in error in any of my statements, I am willing to accept correction; but I think that I know the facts pretty well. JOHN T. ROBERTS.

Syracuse, N. Y.

R. N.-Y.—It will be noticed that Mr. Roberts carefully avoids saying that he thinks Mr. Wieting's appointment a wise or desirable one. The best that he can say is that Gov. Morton promised to appoint a member of the Grange, and then appointed, not the one best qualified for the office, but the one who was the best agent for soliciting signatures for his petition. Why should Gov. Morton promise to make a membership in the Grange the first qualification of the new commissioner? The Grange is a worthy institution, but there are politicians in it as well as elsewhere. A great majority of the farmers of New York State do not belong to the Grange at all. Why did Gov. Morton make such a promise, and to whom was it made? The Breeders' Gazette makes this statement concerning the matter:

Gov. Morton expressed his personal preference for Mr. James Wood, of Mount Kisco, and announced privately that he intended to make this one appointment purely personal, without interference from the politicians; but men who make governors are not without power. The appointment of Mr. Wieting is due to the demand of Mr. Platt, the ruler of his party in that State, and other politicians. We regret that Gov. Morton did not find himself able to resist this pressure, and follow out his preference in this appointment.

As stated last week, THE R. N.-Y. has no personal feeling against Mr. Wieting, though we are frank to say that we do not consider him as desirable a man for the place as others who were suggested. We object to the manner of his appointment. In our opinion, Gov. Morton had no business to tie himself up with promises and pledges in this way, for by so doing, he was forced into an act which his own common sense must tell him was a mistake.

THE HARDINESS OF JAPAN PLUMS.

The past winter has effectually settled the question of the hardiness of the Japan plums, and the ability of their buds to endure cold. Here, in western New York, the thermometer, in February, showed for a few hours —16 degrees; every peach bud not covered by the snow banks, is dead, and some of the tips of the branches of last year's growth, are also killed.

I was in the Japan plum orchard to-day, May 1, and noticed the different kinds which I have and how they endured the winter. The Abundance was the worst affected; there is not a live blossom bud on the lot, and many of the branch tips, for six or more inches, are killed, and I conclude that it is no more hardy than the peach.

Burbank is not injured in branch, but not five per cent of the buds are alive and in bloom, showing the tree more hardy than the peach, and the blossom buds, also.

Chabot is in about the same condition as the Burbank.

Satsuma is also uninjured in branch, but has not more than one per cent of live blossom buds.

Red June is not injured in tree, but has no live buds, and Willard and Hotankio No. 1 are in the same condition.

Ogontz is as white as a sheet; not a bud seems to have been injured, and with no drawbacks from now on, the trees will be loaded.

In another orchard, a little protected, the Satsumas are also in full bloom. From my observations to-day, I am satisfied that of the above named varieties, Burbank is quite hardy in bud, but that Ogontz is as hardy as any of the varieties of Prunus domestica now in cultivation. Of the latter kinds, I find many which have more or less of their buds destroyed, some entirely so. Among those most injured, is the Niagara or Bradshaw, and the ones least affected are the Fellenberg or Italian Prune, and the Richland; in fact, the Richland doesn't seem to have lost a single bud.

J. S. WOODWARD.

BUSINESS BITS.

SHIPPERS to New York markets will note that E. H. Peck of 193 Duane Street, has sold his business to M. N. Edwards & Co.

THE subscription agent who won the Wilcox & White organ, writes that he has another instrument of the kind, and would like to find a customer for this one. This is a chance for some one to get a good organ cheap.

MR. WAYNE GALLUP of Macedon, N. Y., writes Lawrence-Williams Co., inclosing remittance for a bottle of Gombault's caustic balsam, that he had used it before, and found it most satisfactory. It is, certainly, a good liniment to have in the house or stable.

YOUNG MEN wishing to prepare themselves for any line of mechanical work, will find great advantage in the International Correspondence School, Box 916, Scranton, Pa. Electricity, probably, offers one of the best fields just now, and the subject is taught through the mails by this school.

THE warmest and snuggest henhouse possible, is one covered with a good paper. The toughest and best is the Neponset Red Rope Waterproof Fabric. It is much cheaper than shingles. If kept painted, it will last indefinitely. It's good for all kinds of buildings You can get samples and full particulars free of F. W. Bird & Son, East Walpole, Mass.

THE Wilmington Wheel Company, 401 Union Street, Wilmington, Del., observing that wagon wheels usually give out before other parts of the wagon, have conceived the idea of supplying new wheels at a low price. They furnish any size wheel for any kind of wagon. It would seem that this plan would be better than attempting to repair old wheels, when the old ones are much damaged.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

HERE AND NOW.

Here in the heart of this world,
  Here in the noise of the din,
Here where our spirits were hurled
  To battle with sorrow and sin.
This is the place and the spot
  For knowledge of infinite things;
This is the kingdom where Thought
  Can conquer the prowess of kings.

Wait for no heavenly life,
  Seek for no temple alone;
Here in the midst of the strife
  Know what the sages have known.
See what the Perfect One saw,
  God in the depths of each soul;
God as the Light and the Law,
  God as beginning and goal.

Earth is one chamber of heaven.
  Death is no grander than birth.
Joy in the life that is given,
  Strive for perfection on earth.
Here in the turmoil and roar,
  Show what it is to be calm;
Show how the spirit can soar,
  And bring back its healing and balm.

Stand not aloof or apart,
  Plunge in the thick of the fight;
There in the street and the mart,
  That is the place to do right.
Not in some cloister or cave,
  Not in some kingdom above;
Here on this side of the grave,
  Here should we labor and love.

—*Ella Wheeler Wilcox in Youth's Companion.*

ONE of the hardest parts of business life for women is to acquire the habit of looking at things from a business standpoint. It may be the fact that we are unreasonable creatures, which makes the explanation, "Oh that's business" seem a rather unsatisfactory one. For it is strictly by reasoning that men have made business laws. They were not evolved from the Ten Commandments, or implanted in the human heart by instinct.

*

WRITERS wish to make reputations, and regard editors as their helpers so long as their manuscripts are published. They should bear in mind that the editor has a better knowledge of the tastes of his readers than the contributor can have, for he has the advantage of reading the criticisms which the readers make. The rejection of a manuscript, in some cases, may be as effective in helping the writer's popularity, as the publication of an approved article. Yet an editor gets no thanks when he refuses to place a contribution before an unappreciative audience. Though it may be the writer's best, that matters little, if it be not suited to the paper which rejects it. This age of specialist work has had its effect on papers, and each paper is intended to please its own particular audience. The daily papers of a large city well illustrate this fact.

OUR NEIGHBORS.

HOW TO MAINTAIN PLEASANT RELATIONS WITH THEM

ALTHOUGH there is an apparent similarity in the peas in the pod, there is always a slight difference, sometimes in the color, size, shape, or smoothness. Precisely so, is the human race; while the great fundamental principles apply to all, there are never two people exactly alike, in stature or characteristics. So we have as neighbors, the inquisitive, close, gossipy, melancholy, always-borrowing-but-never-returning, as well as the sensible, accommodating, jovial and trusty. Go where we will, there is always more or less contention among neighbors, and especially true is this in our rural districts.

What is the cause, and how can it be remedied? A careful consideration of the subject has led me to conclude that it all arises from a mistaken sense of individual superiority, when we attempt to cast the mote from our brother's eye, while the beam in our own obstructs the view. In the daily contact with our neighbors, innumerable bones of contention arise if we are on the lookout for them. Therefore, certain concessions must be made by contracting parties. Frequently, very trifling affairs will lead to a veritable feud, when a few well-chosen, judicious words at the right time, would have saved many hard feelings.

An excellent illustration of this recently came to my notice, and although the incident happened several years ago, its relative value is as good now as then. Two farmers, A and B, owned adjoining land, a common rail fence dividing the lots. A devoted his time and energy to hay, while B invariably planted potatoes. In order to utilize every available inch of ground, B thought it necessary to remove the fence until after the crop was in. A readily agreed to this, but with the proviso that the fence be replaced exactly as before. After a few years, however, A observed that it required less sweeps of his scythe to cover the ground than of yore, and so positive was he that the fence had not always been accurately replaced, that he offered to pay the expense of surveying if B would give him the profits, if any, from the land that was found to be unjustly utilized by him. This, of course, was only fair, and when the line was placed almost two rods in A's favor, B good-naturedly passed over the profits on the same amount.

Now, how easy it would have been for A to call B anything but a gentleman! And what might have been the result? "But," you say, "of course, the fence was moved intentionally, and did not A have the law on his side, and ought not B to have been punished for such meanness?" Perhaps it was done purposely, perhaps not. Is it not always wisest to "judge not that ye be not judged"?

Another little incident comes to mind where a neighbor let his team, and the parties hiring it entertained their company, a city cousin, by taking her to ride. The cousin in question happened to be a rather ponderous individual, and when the team was returned, the farmer charged 50 cents more than was his custom, "Because," as he explained, "Miss Letty is quite heavy, and Bess isn't very large, so she will need extra feed tonight." Now, do you suppose that neighbor enjoyed his 50 cents, or Bess her increase of oats, half so much as the parties who hired the team enjoyed the hearty laugh in which they indulged as soon as they were out of hearing?

It very often happens that one gets caught in a thunder shower, and seeks shelter in the nearest barn. If that barn happen to belong to one of his own neighbors, he wouldn't expect to pay the regulation fee for stabling, would he? "Oh, no," you say, "I have no patience with such people," and this is exactly where the trouble begins.

You detect some little act in your neighbor which you call stingy, or small, and forthwith, you are constantly watching for all such little acts. You may rest assured that you can always find them, for it really is surprising how everything appears to bend toward the one point, once you are convinced of the fact. If on the contrary, you keep your eyes resolutely shut against such trifles, you will soon cease to recognize them.

No one is so utterly bad that there is not, at least, one good characteristic in him, and why not seek to find it, and arouse it from its dormancy? In so doing, the other disagreeable qualities will appear less multitudinous. If your neighbor has his peculiarities, bear in mind that, in his estimation, you are not perfect. Never be familiar with your neighbors, for familiarity breeds contempt, and contempt is the basis for innumerable wrangles.

If you imagine that you have been slighted or injured, try to bear and forbear, and never foster a revengeful feeling. Cast it away as soon as a suspicion of it appears, and you will find that you will be much happier. Oftentimes the author of an injury expects revenge, and is disappointed if it does not come. He will soon learn to let you live in peace when he understands that you intend to remain on neutral ground. When we cease to criticise and enumerate our neighbor's failings, but try to overlook them, be patient, sympathetic and courteous, then, and not till then, shall we have peaceful, happy neighborhoods.

ELSIE LAURILLA.

FROM COUNTRY TO CITY.

UP here in the "cold Northeast," as one of the potato men puts it, lives on a farm, a 13-year-old boy, whose mind seemed so full of shot guns and fishing tackle, that there appeared room for nothing else. He had no idea of a city, or whether it took five days or fifty to go to California. So this spring, between two terms of the country school, his father planned a "personally conducted" expedition of two to Boston, with other cities in the background, if the boy proved able to "stand it."

After they had seen Bunker Hill, the navy yard, some of the big ships, the top of the Ames building, a theatre or two, and had trudged over 100 miles or so of sidewalks, there wasn't the slightest doubt that the boy could stand it, while very grave ones existed as to his father. However, they joined one of those excursions which promise so much for a small outlay, and soon found themselves upon one of the magnificent steamers running to New York, on their way to Washington. The narrow East, and the busy North rivers attracted much attention, but the first stop of consequence was at Philadelphia, where the mint was visited, where the boy noticed that money seemed no easier to get, where they made it, than it was at home.

Summer now seemed to be coming all at once, and the latter part of the journey, between Philadelphia and Washington, was hot and dusty. The heat in Washington was terrific—not a breath of air day or night—and that too, though quite a heavy snow had fallen 10 days before. The natives seemed to be completely overcome. The hotel rooms were furnaces. Kennebec ice clogged the river, and lined its banks when they left home; yet here it was the only thing that made life endurable. All day and nearly all night, the bell boys thronged the corridors with pitchers of ice water, and when guests did not call for it often, they would knock at one's door and innocently ask, "Did you ring, sir?"

These three days were days of hard work, but the small boy stood it bravely, and slept like a top. The magnificent buildings, the beautiful parks, the graceful statues, the broad, white streets, the cable cars in place of electrics, and the magnificent drives, opened up a new world to both our travelers. While most of the party labored day and night in the effort to see it all, this particular section of it took things easy, and obtained rather a general idea of it. The Capitol, the Washington Monument, and the Navy Yard received especial attention, and of these, the monument, a splendid shaft of white American marble, seemed the most beautiful and impressive of all. Of the numerous tablets wrought into its inner walls, the gifts of States, nations, corporate bodies, etc., and noticed as we slowly ascended, one in particular attracted my attention. It was "From the Governor and Commune of the Islands of Naxos and Pharos in the Grecian Archipelago." The government conveys free all visitors to the top of the monument, and an elevation of 555 feet affords a fine bird's eye view of the city. This is one of the few places in Washington where tips are neither "expected nor accepted."

The building which impressed me deeply was within a stone's throw of the monument, the Bureau of Engraving and Printing. The possibilities of this plain building, from the standpoint of our Populist friends, are literally beyond our comprehension, for only let Congress pass the necessary laws, and from its doors would flow rivers of wealth, without money and without price. The mint would be a poorhouse compared with it.

In the navy yard, the small boy lingered lovingly about the big cannon which Commodore Decatur captured from the Tripoli pirates; and I fancy that history and geography will henceforth be, to him, not dead terms, but instinct with life. The city is one for all Americans to visit, and to be proud of; yet, as our colored driver remarked as we returned from Arlington, "The war made it." With minds filled with beautiful images and pleasant recollections, the party turned again northward, half fearing that summer had preceded them. But this was entirely unnecessary, for April in the Northeast doesn't bring many July days.

G. S. PAINE.

What is bicycle tubing made of ?

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In words, as fashions, the same rule will hold,
Alike fantastic if too new or old;
Be not the first by whom the new are tried,
Nor yet the last to lay the old aside. —*Pope.*

....PHILLIPS BROOKS: "Truth is too eager to wait for any one soul to appropriate it perfectly before it presses on through it to other souls."

....MRS. M. D. MORTON: "Woman's moral action is more like a special providence, acting without fixed rules, but caring for each particular case, and the influence of woman is wanted wherever it possibly can be utilized."

....LILLIE HAMILTON FRENCH IN HARPER'S BAZAR: "Don't let your children scowl, or wrinkle their noses, or screw up their eyes and mouths! Don't let them do so so many ugly things, or think so many ugly things, and their faces won't grow ugly!"

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6727—LADIES' WRAPPER WITH WATTEAN PLAIT.

6727. Ladies' Wrapper with Watteau Plait.

The full fronts are gathered at the top and arranged on the lining, under the lower edge of the yoke. Under-arm gores give a smooth effect over the hips, the back being fitted with curved side and center back seams. The Watteau falls in graceful fullness to the lower edge of the skirt, all seams being sprung below the waist to give the ripple effect. Pointed belt sections are inserted at the under-arm seams, holding in the front fullness at the waist line. A Byron collar finishes the neck. Pattern No. 6727 is cut in sizes for 32, 34, 36, 38, 40, 42 and 44 inches bust measure.

TO MAKE POT CHEESE.

I SEND you my method of making cottage cheese or schmierkäse. The milk should not be over 24 hours old and must be curdled quickly. If the weather is cool, do not attempt making. The cream should be removed immediately before setting the milk to heat. Place the earthen vessel in a pan of hot water upon the stove, or if the jar has feet, put a stove lid between the jar and the stove, so that the heat does not come in direct contact with the vessel containing the milk. Subject to quick heat, or moderately hot, until the curd forms. By cutting in squares with a case knife, the warm whey aids coagulation. When the curds appear crumbling, and when taken between the fingers, can be crushed—they are sufficiently cooked. If desired to serve soft, pour into a colander, and do not drain very dry. Pour out into an earthen dish, and allow the curds to stand unsalted until desired for serving; then salt very little and mix very carefully, adding to one pint of curds, one-half cupful of sweet cream beaten to a foam and stirred in gently. Always use the day made.

If desired to serve in cakes or balls, pour the curds into a bag and submit to pressure, or into any molds or shapes desired, and then pour the cream around when served, one mold to each person. Some people rinse the curds after straining, but I think that it renders the cheese indigestible, as it is the whey which is nutritious. E. K. BEEBE.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

IS IT ANY DISGRACE?

"WELL, Maggie, I would not disgrace myself by getting into that drain along with that old darkey. And the idea of you sawing the ends off from the planks and poles, and driving the nails yourself!"

"Well, Helen, I did not consider that I was disgracing myself, although I know that it is a terrible thing in the South, if a woman does any kind of work that savors of man's work. John is not able to attend to it, and some one must, who has head enough to do it right. This is the third time it has been opened in the last eight years, and the cellar has been flooded every time a big rain came. In that time, we have had no end of sickness, and I consider that is half, if not all, the cause. So I concluded to come out myself, and help, and if it do this time, tile must be got, but as we could not afford it now, we must try this. Had John stayed with the two men he hired last year, he might have had it all right; but he showed, and told them how he wanted it done, and went on to other work. And did they do it as he told them? No; and I have been provoked with myself ever since, that I did not go out then and boss the job."

Is it a disgrace to do as I am doing? The negro is not capable of doing so particular a piece of work, and it would be hard to find one that is. So I undertake myself to do the head work, and the most particular part of the work, while the negro does the lifting and holding that is needed. I would like to have the opinion of THE RURAL NEW-YORKER readers. R. W.

ODDS AND ENDS.

A GOOD SOUP.—The cook recently invented this soup, which was much praised by the family: Cook till tender, one pint celery cut in bits, and three tablespoonfuls of pearl tapioca. Add about one-half cupful of canned salmon, and the thin crust of a biscuit, both broken fine, butter, pepper and salt to taste, and water to make the desired consistency. The celery used is what would otherwise be thrown away as unfit for table use, merely the outside stalks and the roots. The salmon was left from a previous meal. SWEET FERN.

JEALOUSY IN CHILDREN.—A writer in the Household gives some much-needed advice:

"How does Alice like the advent of the new baby?" was recently asked of a devoted aunt of some little ones.

Alice was a sweet, winning child of four or thereabouts, and was the admiration of her family and all their friends.

"Oh, she doesn't seem to mind at all," was the answer. "I don't think that children have a thought of jealousy or neglect in any way, if the idea isn't put into their small heads," the youthful aunt went on, with conviction.

The young woman had struck the root of the matter. If one would only avoid alluding to the dethronement of little people in like instances, how the sensitive feelings of children would be spared! It might considerably affect their dispositions and temperaments. Do not give too much time or affection to the new little life at the sacrifice of the older child. The latter needs it more, and the former will not miss any love for many months to come. Moreover, it is not improbable that it may turn the affection of the older child toward the younger.

FOR THE DINING TABLE.—Every housekeeper nowadays has, or should have, a silence cloth for everyday use as well as for special occasions, says the American Kitchen Magazine. Table padding, felting or double-faced Canton flannel, may be found at all the large dry goods houses, especially for this purpose. An old blanket will answer if new material cannot be obtained. This silence cloth protects the polished table from scratches, or discolorations from hot dishes or the spilling of liquids, saves the wear of the linen cloth along the edge of the table, and gives it a richer, heavier appearance; and most important of all its merits, it prevents any noise in the serving. It is desirable to have the silence cloth long enough to allow for the extra leaf needed on special occasions, and if too long, at other times, it can be pinned at the corners around the table legs, or you may put several loops on the cloth and some tacks to correspond on the inside of the table frame, and hook the cloth up out of the way.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Drs. Maybe and..... Mustbe.

You choose the old doctor before the young one. Why? Because you don't want to entrust your life in inexperienced hands. True, the young doctor *may* be experienced. But the old doctor *must* be. You take no chances with Dr. Maybe, when Dr. Mustbe is in reach. Same with medicines as with medicine makers — the long-tried remedy has your confidence. You prefer experience to experiment—when you are concerned. The new remedy *may* be good — but let somebody else prove it. The old remedy *must* be good — judged on its record of cures. Just one more reason for choosing *AYER'S* Sarsaparilla in preference to any other. It has been the standard household Sarsaparilla for half a century. Its record inspires confidence — ***fifty years of cures.*** If others *may* be good, Ayer's Sarsaparilla *must* be. You take no chances when you take *AYER'S* Sarsaparilla.

ask your doctor. The doctors approve of **Scott's Emulsion.** For whom? For men and women who are weak, when they should be strong; for babies and children who are thin, when they should be fat; for all who get no nourishment from their food. Poor blood is starved blood. Consumption and Scrofula never come without this starvation. And nothing is better for starved blood than cod-liver oil. **Scott's Emulsion** is cod-liver oil with the fish-fat taste taken out.

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (Ask your doctor.) This is because it is always palatable—always uniform—always contains the purest Norwegian Cod-liver Oil and Hypophosphites.

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

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You can assist us by sending us the names and addresses of ten reliable farmers' wives likely to be interested in our revised tea and coffee club order circular for Farmers' Grange and Alliance Buyers. By complying with the above we will send you a beautiful panel picture, large size, 14 x 28 inches, suitable to frame. Old Reliable House. Highest reference. EMPIRE CITY TEA CO., 28 De Peyster Street, New York City, U. S. A.

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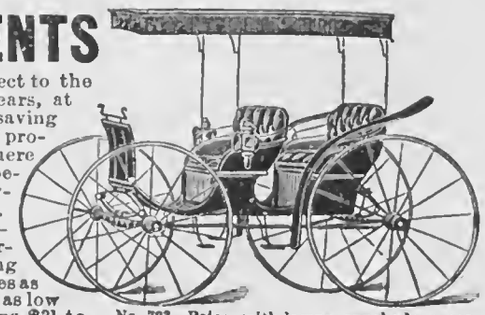

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ELKHART CARRIAGE & HARNESS MFG. CO., W. B. Pratt, Sec'y, ELKHART, IND.

A FAIR TALE.

Now in the days when Grover the Great was sitting down upon the Presidential chair, it came to pass that a certain farmer girded up his Sunday-go-to-meeting coat and betook himself to the county fair. And lo! as he tarried over his dinner, a stranger buttonholed him, and poured into his ear a fair tale of the beauties of THE R. N.-Y., a paper printed in the interest of those who are led by the plow. And so stoutly and heartily did this stranger argue his case, that the farmer, at last, said unto him:

"Verily, thou art worse than a lecch. I do not want thy paper—I know too much about farming already; but I clearly see that thou wilt talk my ear deaf if I do not get rid of thee. So take this silver dollar, and hie thee away, I care not where, so long as thou lettest up on thy story."

And so, taking the silver and noting down the farmer's name, the stranger withdrew, while the farmer sadly said within himself, that he had purchased immunity at the price of 10 bushels of potatoes, and with a bitter heart did he deny himself the pleasure of investigating the merits of the fat woman and the double-headed calf.

Well, the days came and went, and with each week, there appeared upon the scene a new issue of THE R. N.-Y.; but Friend Farmer read them not, though his wife and children perused them oft, and pondered over what was printed therein. And the youngest boy took a copy and tacked it over a crack in the barn, through which the wind blew coldly over the old cow; and through the long watches of the night when the moonlight lay soft on the printed sheet, the old cow read the paper aloud to the other occupants of the barn. And it came to pass that, one day while he was milking, the old cow suddenly faced Friend Farmer and spake these words:

"I have noticed with deep regret, how my milk floweth short and thin, and waxeth not at the churn. I have pondered long desiring to find the reason; but at last, it has been revealed unto me. You have not fed me a 'balanced ration.' Fat-formers galore have passed through my teeth, but for a lack of needed musele-makers to balance them, my milk has been weighed and found wanting."

And she went on and said more to the same effect, and when, at last, Farmer recovered his breath, he made bold to ask,

"Whence got ye that idea?"

The cow answered and said, "I got it from THE RURAL NEW-YORKER, which hath made the point as plain as thy face."

As Farmer started towards the house, robed in deep thought, a small voice from the hay mow piped in with these words:

"My name is Timothy Hay. I have served you faithfully all these many years. I wish now to marry me a wife, and I desire that you introduce me to Miss Clover, a young woman well endowed with organic matter, and able to pick nitrogen out of the air!"

And Farmer asked in surprise,

"Whence got ye that idea?"

And Timothy Hay answered and said, "I got it from THE RURAL NEW-YORKER, which hath made the point as sharp as thou art dull."

Now these things sat heavily upon the soul of Friend Farmer, and he bethought himself of a supply of Dutch courage he had hidden in a barrel of hard cider in his cellar. So with pitcher and candle he descended the stairs, but as he passed the potato bin, a deep, bass voice reached his ear:

"I am Tuberous Potato, and it is a shameful thing that I am forced to remain in the dark sending out these long, slim shoots. I have good blood in my veins, but you have taken out all the red matter, and left it pale and thin. Give me new blood, and a chance to sprout as I should, and I will show you a prize crop."

And Farmer said in amazement,

"Whence got ye that idea?"

"From THE RURAL NEW-YORKER," said Potato, stoutly. "That paper is down on scrubs and 'fakes' of every degree, while you are holding a lot of them up on your back."

And even the cider as he drew it out, frothed up and hissed at him, "Thou art a foolish man to be ruled by a worm. It was a foul worm that made thy apples fit only for cider. If thou hadst sprayed and fed them, they would have been as large as pumpkins, and as fair as the cheek of a maiden, bringing thee gold in the markets of the town, instead of making thee as sour as vinegar."

And Farmer forgot to drink his cider as he asked,

"Whence got ye that idea?"

And Cider answered and said, "It came from THE RURAL NEW-YORKER, which strives constantly to make its readers so labor that their work shall bear the best fruits."

And so Farmer betook himself to bed, but there came to him many strange visions as he slumbered. All the members of his household marched before him, and each one pointed out some way in which life could be made happier and better, or some old-time notion that had grown on to him like a parasite. And when, in wonder at their wisdom, he asked,

"Whence got ye that idea?"

—the answer came rolling back,

"We got it from THE RURAL NEW-YORKER, which produces more new ideas for $1 than there are days in the year—of a certainty doth the paper guarantee five new ideas for one cent!"

And Farmer awoke from his troubled sleep a changed man. While yet the night was far spent, and the day was at hand, he read the current issue of THE R. N.-Y., and growled like a bear because his wife had lent other copies to the neighbors. And he went forth to his daily toil with the memory of half a dozen sins of omission pricking him like pins. And so well have they pricked him, that his name is now on our books as a 10-years' subscriber, and in his will is a clause stating that the paper must continue to come to his children, even after he shall pass away. And THE R. N.-Y. will say without the least hesitation, that it will be pleased to have a similar monument erected in your household—or even in your neighbor's house—for it believes that there is no time like the present for subscription work.

"BIG FOUR" to ST. LOUIS.

"NO TUNNEL ROUTE."

The National Republican Convention will be held in St. Louis, June 10, 1896. There will be many thousand people in that city on that occasion. The "Big Four" offer to the public the most comfortable and luxurious line to St. Louis with elegant Through Wagner Sleeping Car service and unexcelled Dining Car service from New York, Boston, Buffalo, Cleveland, Columbus, Cincinnati, Indianapolis, Washington and all Eastern and Southeastern cities.—*Adv.*

CROP AND MARKET NOTES.

And now there is a combination of all the bolt manufacturers of the country.

There is some opposition before the Senate Committee, to the Filled Cheese bill, mainly, it is thought from those interested in the manufacture of the fraud.

The first Bahama pineapples of the season came in during the week. The crop is reported unusually large, and the most of it will come to the New York and Baltimore markets.

The last Catawba grapes were noted the first week in May, and they were exceedingly well preserved. We may yet have domestic grapes in our markets the year 'round.

Bids to supply the French government with tobacco, were recently opened at Paris, and contracts were awarded for about 13,000 hogsheads of Kentucky and Virginia, and about 12,000 hogsheads of Maryland. The price was not stated.

As now arranged, the California fruit is all to come over the Erie Railroad and be sold in one auction room on the Erie dock. There will be two auctioneers who will rotate in conducting the sales, and the different receivers will also rotate in beginning the sales. If this arrangement doesn't lead to friction before the season is far advanced, it will be a wonder.

And now some of the New York wholesale dealers are endeavoring to do away with the daily market reports to shippers, and make them weekly instead. If this isn't taking a step backward, we don't know what is. Evidently some people are interested in doing business in the dark. So long as market reports of prices are correct, the oftener they are rendered the better. Weekly reports are of little value in these modern days of doing business with a rush. We would suspect the dealer who favored doing away with the fullest reports.

The crop bulletin of the Illinois State Board of Agriculture says that growing wheat in the northern section is 96 per cent of a seasonable average; central 90 per cent; southern 83. Old Chinch bugs are doing much damage in many sections. The Hessian fly has done no damage yet. Army worms are doing damage in Alexander County. Of 18,093,000 bushels of crop of 1895, 10 per cent was in the producers' hands May 1, 1896. Spring wheat in the northern section is 90 per cent of an average; central, 94 per cent; southern, 90 per cent. The condition of oats May 1 in the northern section was three points above the average, central three points below and southern 14 below. The amount of old corn on hand May 1, was 164,808,000 bushels, the largest ever known, twice the amount of 1895. Corn is held by producers for better prices.

Miscellaneous Advertising.

A man's life may be saved in many ways. A man may commit suicide in a great many ways. Shooting himself through the head is quicker, but it is no more certain than neglecting his health. If a woman saw her husband with a pistol to his head, she would take prompt and vigorous measures to save him; but the same woman might see her husband on the down-grade to disease and death without seeing the seriousness of it. One-sixth of all the people who die, die of consumption. Consumption doesn't come all at once. It is insidious. The seeds of it are seemingly insignificant. Most people do not know how it starts. Thousands of people are on the road to consumption and don't know it. Whenever there is loss of flesh—paleness—wasting away—look out. Consumption easily finds a foot-hold in a weakened body. Low vitality, impure or poor blood, imperfect digestion, nervousness, sleeplessness—all these lead to consumption.

Taken in time, Dr. Pierce's Golden Medical Discovery will prevent the development of the disease. Taken according to directions, it will positively and perfectly cure ninety-eight per cent. of all cases of consumption, whether incipient or fully developed. Consumption is a disease of the blood. The "Golden Medical Discovery" is a cure for all blood diseases, no matter in what part or how they manifest themselves.

If you want to know all about it, and what it has done for other people, send twenty-one (21) one-cent stamps to cover the cost of mailing *only* for a FREE COPY of Dr. Pierce's great 1008 page work, "Common Sense Medical Adviser." Every family should have a copy of this book for ready reference. World's Dispensary Medical Association, Buffalo, N. Y.

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Medal and Highest Award at the World's Columbian Exposition.

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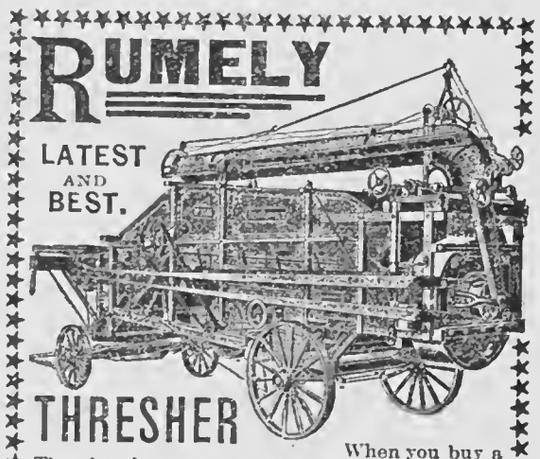
RUMELY



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THRESHER

When you buy a Thresher be sure to get the one that will thresh cleanest, fastest; simplest, best built; will last the longest, and needs least repairs. The new Rumely Separator, with Uncle Tom's Wind Stacker and New Rumely Engine, satisfies all users and has all of these points and more that are explained in new Catalogue.—Sent for the asking.

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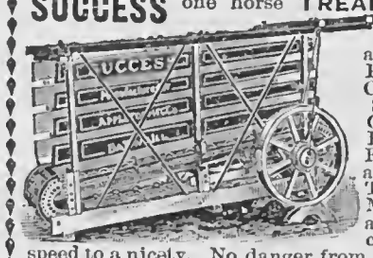
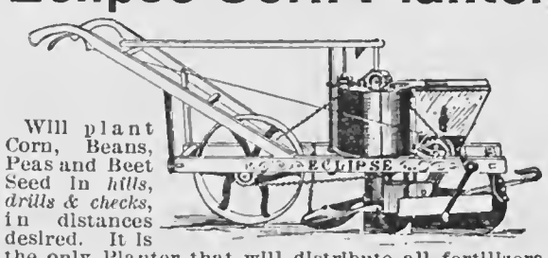
OF A POWER that is at once cheap, strong, durable, lasting and effectual is successfully answered in our SUCCESS one horse TREAD POWER.



Will operate Cream Separator, Churn, Pump, Feed Cutter, Corn Sheller, small Grinding Mills, Emery Wheel, Fanning Mill and even a light Threshing Machine. Has a governor that controlls the speed to a nicety. No danger from fire, and man and beast are both indoors, out of inclement weather. In addition to the above power, we make 2 to 8 horse Sweep Powers and 2 and 3 horse Tread Powers. HERO and AMERICAN Grinding Mills Fodder Cutters, Shellers, Wood Saws, Etc. Also the famous COODHUE WIND MILLS for power and pumping. Galvanized Steel and Wood, from 5 to 18 ft. Write to-day for our new 150 page catalogue, it will be sent to you FREE.

APPLETON MFG. CO, 27 Fargo St., BATAVIA, ILLS.

Eclipse Corn Planter



Will plant Corn, Beans, Peas and Beet Seed in *hills, drills & checks*, in distances desired. It is the only Planter that will distribute all fertilizers, wet or dry, with a certainty, in different amounts, each side of seed. Send for circulars.

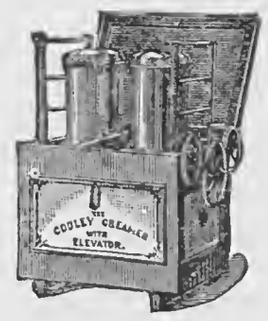
ECLIPSE CORN PLANTER CO., ENFIELD, Grafton, Co., NEW HAMPSHIRE.

WANTED—First-class Vegetable Gardener, single man, capable of taking charge of small Greenhouse. Employment by the year; can board on the place. Good wages to the right man. Must have good references and thoroughly understand his business. Address LITTLE BRITAIN STOCK FARM, Little Britain, Orange County, N. Y

LAND ROLLER.

Having no use for the Land Roller won in the recent Subscription Contest, the winner will sell it cheap. Brand new from the factory. Address WINNER, care THE RURAL NEW-YORKER.

A SUGGESTION



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The efficient apparatus of the famous Maine test, where the skimmed milk of 240 dairies was tested by the Experiment Station, and **20 per cent.** of the number contained

Less than 0.1 of 1 per cent. of fat.

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Know the quality of your milk, the thoroughness of separation, and the results of every step, by using

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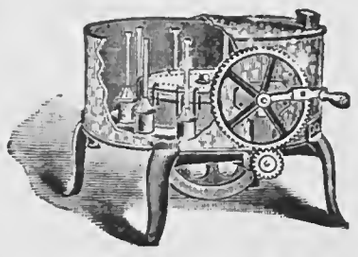

CONDENSED CORRESPONDENCE.

RED CLOVER IN CORN IN ONTARIO, CAN.—A short time since, THE R. N.-Y. requested any one who had tried the experiment of sowing Red clover seed in the growing corn, to report results. I did try it last season. The clover came up very well. When the corn was cut the clover looked weak and spindling, as might be expected. But a short time was allowed it to gain strength and vigor before frost; nevertheless it has come through the winter in very fair condition. Some of the corn was planted a little too close for its own good, and for the good of the clover. I would advise any one who has a mind to try the experiment, to plant the corn four feet apart, and not very tall-growing corn at that. I gave the corn level cultivation, and sowed the seed with a broadcast sower, covering it with a Breed's weeder, with the two outer sections removed. The corn was then three or four feet high, and it was just possible to get through it with a horse.

PROSPECTS FOR DELAWARE FRUIT.—In one of the agricultural papers, I notice that a Bridgeville, Del. correspondent, states that the peach crop has been cut short in that section by the frost. There certainly must be some mistake in this report, as I have just returned from a trip in that section of the State. There is a most excellent prospect, at the present time, for an excellent crop of peaches. There is no doubt that a large proportion of the fruit now set will drop from the trees, as there are several sizes of the fruit now on the trees, and peach growers claim that the smaller sets will drop off; but enough will remain to make a good crop of fruit. There was quite a frost throughout the State, on the morning of May 8, but I have been unable to find anything that was injured by it. The crop of apples and pears will, from the present indications, be rather light in the southern part of the State. There is a good showing for small fruits, and for grapes, but should the weather continue dry for any length of time, the yield will be greatly reduced. M. H. BECKWITH.

FRUIT NOTES FROM IOWA.—The past winter in northeastern Iowa was generally quite mild, but we had a few cold days when the mercury fell to 30 degrees below zero. There was but little snow and the ground, most of the winter, was bare. Apples went through the winter all right, and have bloomed full; but small fruits were badly injured. My blackberries and the most of my raspberries were laid down in the fall and covered with earth, and came out this spring all right. Blackberry canes, however, that were not covered, were killed to the ground. Raspberries that were not laid down, were all badly injured, and some entirely killed. The Ohio stands the winter the best of anything I have tried; but it was injured quite badly. Gregg and Nemaha show but a few live canes. Shaffer was entirely killed. Marlboro and Cuthbert were killed where not covered, and the latter was injured some where covered. Even the hardy Turner was nearly all killed. The Lucretia dewberry, even where covered out of sight with earth is dead. It is a failure here, anyway. Strawberries, mulched with straw, came through the winter all right, and at this writing, May 11, are blooming quite freely; but I notice that some varieties are rusting quite badly already. I shall try the effects of spraying with Bordeaux Mixture. We have had copious spring rains, the ground—or the upper two feet of it—is well filled with water, and crop prospects are, generally, very promising. The season is two weeks earlier than usual. J. B.

VERMONT NOTES ON ORNAMENTALS.—We are just getting out of the winter. Our plants are hardly yet in full leaf, and we are now, for the first time this spring, able to make some fair judgment of how our hardy plants have passed the winter. The following notes are collected from the grounds of the Vermont Experiment Station, and represent the condition of plants not covered or otherwise protected. They are located on top of an exposed rise of ground, where they have seen something rather more, than less, of their share of last winter's inclemencies: The Gingko tree is alive to the last bud, and seems to be sound and healthy. This is a tree worth planting anywhere by any tree lover. European linden is in good condition, as are also European Mountain ash, Cut-leaved birch, Wier's Cut-leaved maple, Horse chestnut, American chestnut and Prunus Pissardi. The strawberry tree is killed back to the ground, and so is Weigela (Diervilla) candida. Those shrubs which have a few tips killed are Loniceras, Purple Fringe, Golden syringa, Polish privet, and Symphoricarpus racemosus. The shrubs which are looking best are Elæagnus angustifolia, Purple barberry, Golden spiræa, Spiræa Van Houttei, Ribes alpina, Potentilla fruticosa, and Juneberry. Forsythias suffered much. Caragana flava (according to label), one of the Siberian Pea trees, is in fine condition, and is just opening a heavy dress of blossoms. It is a pretty, upright shrub for small lawns, and might, in many places, advantageously take the place of such deformities as Teas's Weeping mulberry, the grafted weeping willows, Weeping Mountain ash, and the like. F. A. WAUGH.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	16	@—
Western, firsts	14	@15
Western, seconds	13	@13½
Western, thirds	11	@12
State, fancy	15½	@16
Common to prime	11	@15
State dairy, half-firkin tubs, fancy	15	@15½
Firsts	13	@14
Seconds	11	@12
Welsh tubs, fancy	14½	@15
Welsh tubs, firsts	13	@14
Welsh tubs, seconds	11	@—
Tubs, thirds	10	@—
Western imitation creamery, firsts	11	@12
Seconds	9½	@10
Western dairy, firsts	10	@11
Seconds	9	@ 9½
Thirds	8	@ 8½
Factory, fancy	—	@—
Factory, firsts	10	@—
Factory, seconds	9	@—
Factory, thirds	8	@ 8½

CHEESE—NEW.

State full cream, large, white, choice	8½	@—
Good to prime	7½	@ 8
Colored, choice	6¾	@ 7
Colored, good to prime	6¼	@ 6½
Small, colored, choice	8	@ 8½
Small, white, choice	8	@ 8½
Light skims, choice	5½	@ 6
Part skims, good to prime	4	@ 5
Part skims, common to fair	2	@ 3
Full skims	2	@ 2½

EGGS.

Near-by, new laid, fancy, per doz	11	@ 11½
State, fresh gathered	11	@ —
Penna. and Md., country marks, fancy	10½	@ —
Western, closely graded, fancy	10	@ 10½
N. Ohio Ind., Ill. and Mich, prime	10	@ —
Other Western, northerly sections, prime	10	@ —
Western, fair quality	9	@ 9½
Southern, fresh collections, good to prime	8	@ 8½
Western and Southern, poor, per case	1 50	@2 10
Western culls, per case	1 25	@2 10

FRUITS—GREEN

Apples, extra, fancy, per bbl	3 00	@4 00
Baldwin, per bbl	2 50	@3 25
Greening, per bbl	3 00	@4 00
Ben Davis, per bbl	2 50	@4 25
Russet, Roxbury, per bbl	2 50	@3 00
Russet, Golden, per bbl	2 00	@2 50
Strawberries, Charleston, fancy, per quart	12	@ 13
Charleston, average prime	9	@ 10
Charleston, poor to fair	4	@ 8
N. C., fancy, per quart	11	@ 12
N. C., usual receipts, per quart	7	@ 10
N. C., inferior, per quart	3	@ 6
Norfolk, poor to choice, per quart	6	@ 10
Maryland, per quart	9	@ 12
Eastern Shore, Va., per quart	8	@ 12

POTATOES.

Florida, prime, per bbl	4 00	@5 50
Savannah and Charleston, prime, per bbl	4 00	@5 00
Southern, seconds, per bbl	3 00	@3 50
Culls, per bbl	2 00	@2 50
Bermuda, prime, per bbl	5	50@7 00
Seconds, per bbl	4 00	@5 00
Havana, prime, per bbl	4 00	@5 00
Maine Rose, per d. h. bbl	1 00	@ —
State Rose, per d. h. bbl	75	@1 00
Maine Hebron, per d. h. bbl	75	@1 00
Maine Hebron, per sack	75	@ —
State Rose and Hebron, per 180 lbs	70	@ 90
State Burbank, etc., per 180 lbs	50	@ 70
Jersey, per bbl or sack	50	@ 65
State Burbank, per sack	60	@ 65

POULTRY—LIVE.

Spring chickens, per lb	17	@ 22
Fowls, local, per lb	10½	@ —
Western, per lb	10½	@ —
Southwestern, per lb	10	@ 10½
Southern, per lb	10	@ —
Chickens, yearlings, per lb	10	@ 10½
Roosters, old, per lb	6	@ 6½
Turkeys, mixed, per lb	9	@ 10
Ducks, local, per pair	70	@ 90
Western, per pair	65	@ 80
Southern, per pair	60	@ 65
Geese, local, per pair	1 00	@ —
Western, per pair	75	@1 00
Southern, per pair	75	@ —
Pigeons, old, per pair	35	@ —
Young, per pair	25	@ —

DRESSED POULTRY.

Turkeys, av'ge best, mixed hens and toms	11	@ —
Average toms	9	@ 10
Capons, Phila., large, per lb	20	@ —
Medium sizes, per lb	17	@ 19
Small and slips, per lb	13	@ 16
Western, large, per lb	15	@ 18
Western, small and slips, per lb	12	@ 14
Chickens, Phil., under 3 lbs. per pr., per lb	28	@—
Phila., broilers, 3-4 lbs. per pr., per lb	24	@ 26
Phila., broilers, 4-5 lbs. per pr., per lb	22	@ 24
L. I., broilers, scalded, per lb	22	@ 24
Phila., yearlings, choice, per lb	15	@ 17
Phila., fair to good, per lb	12	@ 14
Western, average best, dry-picked	10	@ 10½
Western, fair to good, per lb	8½	@ 9¼
Western stags	7	@ 8
Fowls, Western, choice, dry-p'k'd, per lb	10½	@ 11
Western, fair to good	9	@ 10
Old cocks, per lb	5	@ 6
Spring ducks, Eastern, per lb	20	@ 21
Spring ducks, L. I., per lb	20	@ —
Squabs, tame, white, per doz	2 50	@ —
Mixed lots, per doz	2 00	@2 25
Dark and poor, per doz	1 50	@1 75

FROZEN.

Broilers, dry packed, good to choice	14	@ 16
Scalded, good to choice	12	@ 14
Turkeys, mixed hens and toms, No. 1	15	@ 15½
Young toms, No. 1	14½	@ 15
Old toms	12	@ 12½
No. 2	9	@ 11
Chickens, soft meated, No 1	11	@ 12
Average, No. 1	9	@ 10
Capons, western, per lb	15	@ 18
Fowls, No. 1	9½	@ 10
Fowls and chickens, No. 2	8	@ 9
Old cocks	6	@ 6½
Ducks, No. 1	15	@ 17
Geese, No. 1	9	@ 11

VEGETABLES

Asparagus, extra, per doz bunches	1 50	@ —
Prime, per doz bunches	75	@1 25
Culls, per doz bunches	40	@ 60
Beets, New Orleans, per 100 bunches	2 00	@4 00
Florida and Charleston, per 100 bunches	4 00	@7 00
Florida, per crate	75	@1 25
Cabbage, Florida, per barrel-crate	1 00	@1 25
Charleston, per bbl-crate	1 50	@2 25
Savannah, per bbl-crate	1 50	@2 00
N. C., per bbl-crate	1 25	@1 75
Norfolk, per bbl-crate	1 25	@1 50
Carrots, washed, per bbl	75	@1 00
Unwashed, per bbl	50	@ 75
Southern, new, per 100 bunches	2 50	@5 00
Cauliflower, Fla., per half bbl	—	@ —
California, per case	—	@ —
Celery, fancy, large, per doz	75	@1 00
Average, prime, per doz	40	@ 65
Small, per doz	15	@ 30
Cucumbers, Charleston, per basket	2 50	@5 00
Florida, per crate	1 50	@3 50
Egg plant, Florida, per box	1 00	@2 00
Green peas, Baltimore, per basket	90	@1 00
Norfolk, per half bbl	1 00	@1 25
Edenton, N. C., per half bbl box	60	@ 90
Edenton, N. C., per one-third basket	50	@ 75
Other N. C., per one-third basket	50	@1 75
Charleston, Marrowfat, per basket	50	@ 75
Charleston, small, per basket	40	@ 75
Horseradish, per lb	3	@ 5
Kale, per bbl	50	@1 00
Lettuce, Charleston, per bushel basket	50	@1 00
Norfolk, per basket	50	@ 75
Onions, Eastern, white, per bbl	50	@1 00
Eastern, red, per bbl	25	@ 75
Eastern, yellow, per bbl	25	@ 75
Bermuda, per crate	1 00	@1 15
Egyptian, per bag	2 00	@ —
Radishes, Norfolk, per bbl	50	@1 25
Rhubarb, Jersey and Balt., per 100 bunches	1 25	@1 75
Spinach, per bbl	1 25	@1 75
Squash, Fla., white, per crate	50	@ 75
Florida, yellow, per crate	50	@ 75
String beans, Savannah, wax, per crate	1 50	@2 00
Savannah, green, per basket	1 25	@1 50
Savannah, green, per crate	1 00	@1 25
Florida, per crate	50	@1 25
Charleston, wax, per basket	1 50	@2 00
Tomatoes, Fla., per carrier	2 50	@3 50
Per crate	1 50	@2 00
Turnips, Jersey, Russia, per bbl	50	@ 75
New, white, per 100 bunches	2 00	@3 00
Watercresses, per 100 bunches	1 50	@2 00

WOOL.

XX and above, Ohio	18	@19
X, Ohio	15	@16
Other grades	20	@22
Washed combing and delaine	18	@23
Unwashed combing	17	@20
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California	9	@15
Oregon	12	@13½
Territory	7	@14

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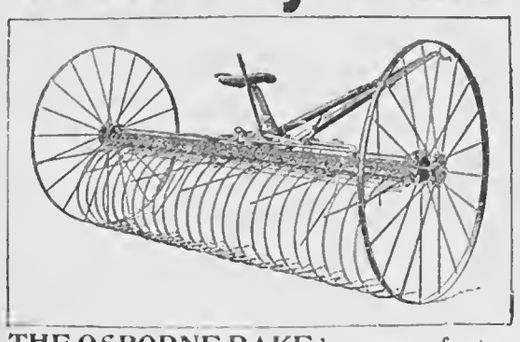

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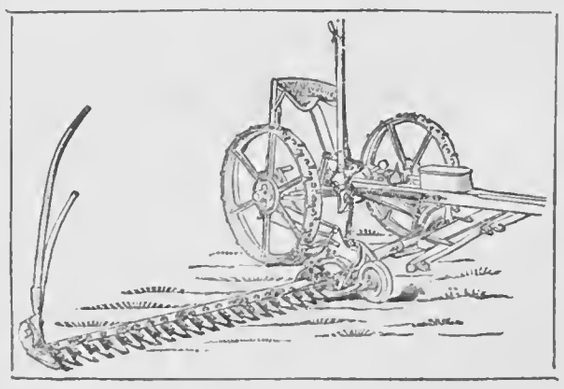

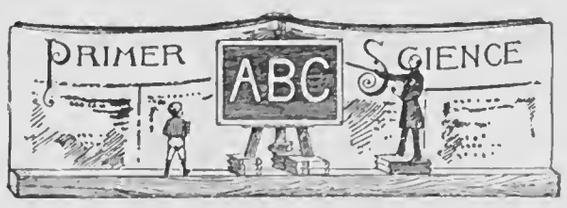

FEEDING A HEN.

PART XVII.

On page 350, you will find some more comments on Mr. Truslow's questions about duck feeding. We have now to take up another matter that has often caused poultrymen considerable thought. Let us take the following note for our text:

DRY BRAN FOR POULTRY.—The man who feeds dry bran and ground grain to his fowls, has made no report yet. Please tell us why it won't work. It is better for cows, dry than wet, and for poultry, it would be much easier to feed, would not sour in the summer, or freeze in the winter, and will keep the hens busy for a long time. Water must be kept handy, for they will drink large quantities. I have fed in this way some, but hardly enough to determine whether it is as good as a mash, or not. Bran is so much cheaper than wheat—it costs only about two-thirds as much, pound for pound—that if the dry bran and ship stuff will answer, it has many advantages.

Claremont, Va. A. F. A.

We also asked some of our poultrymen to explain why a mash is ever desirable, and why it is usually fed in the morning. Here is the first direct answer:

The only reason I have for feeding a mash, is that, in that way, I can feed to an advantage, animal meal that I cannot feed in any other way. In feeding dry bran, enough would likely be wasted to make the difference between it and higher-priced grains. The exercise hens get in working over a dough dish, is likely to be fattening. In five minutes, they should have their dishes all cleaned. I fed mash at night one winter, and the result was that the number of eggs did not come up to the average. V. E. HASERICK.

New Hampshire.

The chief arguments in favor of a mash seem to be that it is easier to feed *warm* food in this way. The mash is also the best form in which to feed meat or other strong materials, because they can be mixed all through it, so that individual fowls will not be likely to receive more than a fair share. The mash, too, gives a chance to utilize bulky foods like vegetables, stalks, etc., which may be softened and "balanced" by adding meat.

The following note from Mr. Seely gives the result of actual experience, and is, therefore, of considerable value.

Dry Bran Dried Up the Hens.

What do I think of dry bran for feed? I made an experiment in 1890. I had 100 early pullets that I had taken from the brooder house for fall laying; they were hatched in February, and in July, I was getting from 50 to 60 eggs from them. I did not care for the eggs at that time, but wanted them in September or October. In order to check the eggs, I filled up their trough with dry bran, and kept it filled. In a week from that time, I was not getting an egg, although the fowls kept in fine form, and filled up in size. When I was about ready to use the eggs, I commenced to feed them with a mash composed of corn meal, middlings and bran, scalded, in the morning, and wheat at night. In two weeks, I was getting eggs, and they soon got up to 80 eggs per day, and continued all winter.

I prefer the mash in the morning, because it does not take it so long to digest, and then they will hunt for something more. But in a cold climate like this, I think that I can get more eggs by giving dry feed all of the time, except about twice a week, when I prefer to give them some animal food. The hens will not be so likely to take colds as they are with the wet feed. I can make them work for their dry feed, while the mash must be put where they can get it without work. JAMES H. SEELY.

We may now add the following article by Mr. Cushman. The question has been asked why bran is laxative in its effect on the system, while wheat flour is constipating:

Dry Bran for Poultry.

As a matter of theory, I favor feeding dry bran as well as dry corn to poultry, for the reasons given in my last article. Hens cannot, however, eat a dry powder as readily as cows and horses. It takes hens a long time to eat much dry ground grain. They experience some difficulty in picking it up, and choke frequently. It is rather against their nature to take it in this shape. I have known of this practice being followed: Dry bran was mixed with corn meal and kept before the fowls during the forenoon. It is no uncommon thing for poultry keepers to feed dry ground beef scrap by itself, just as they would cracked corn. I have not followed the results closely. A mixture of middlings, corn meal, bran and beef scraps might be fed dry instead of wetting or soaking it, but I think it is best fed when just wet enough to be crumbly. A scalded mess is supposed to be more easily digested.

Messes, as usually mixed, whether scalded or not, contain an excessive amount of water. The same mess baked like a johnny cake would be less objectionable. Many feed such a johnny cake to their little chickens, but if this be given frequently without hard grain and an abundance of grass, they do not do so well as on raw, cracked corn. They become cloyed or surfeited, and lose their appetites. It is good for a hen to grind her own grist. It is natural that the gizzards of fowls should have plenty to do. If you feed ground stuff entirely, you deprive the gizzard of exercise, put the fowl out of condition, and it will lose its appetite. The noise made by the grinding in the gizzards of a flock of fowls on the roost, or a lot of growing chickens in their coop, is amusing to one unaccustomed to it. Hold a half-grown chicken to your ear, and you can hear the pebbles grind together.

This brings up the subject of grit for fowls. I believe that crushed flint is the best grit. Crushed granite is not hard, sharp or lasting enough. Crushed limestone is not much better. The hardest flint broken up to suitable size, ought to sell well and be in great demand. Some broiler raisers grind up window and bottle glass for grit for their chickens and we have tried it; they take it readily, and we saw no ill effect, but this seems like going to extremes. I have heard that a leaden bullet studded with needle points, has been swallowed by fowls without harm, and the needle points were ground smooth in a very short time. I would think, however, that certain kinds of glass would have splinters that might do harm. Sand instead of pebbles does much of the grinding in the gizzards of ducks and geese, and a pan of wet sand in the pen of little ducks and goslings is desirable. Some raisers mix a small amount of sand with the soft food given ducks and little chickens.

Many very sensible and successful poultry raisers soak the grain in cold water, and let it swell before feeding. Doubtless a greater amount of nutritive material may be assimilated by the fowl, if a cooked mess is fed once a day, as well as the grain rations, but it should not be mushy or sloppy. Food and drink should be kept separate as much as possible. Bran, ship stuff, or middlings and beef scraps cooked up with potatoes, make a cheap food and a fairly balanced ration. I do not know the effect of feeding middlings or ship stuff dry.

There are fads in poultry feeding as well as in other matters. Methods are recommended and very often quite generally adopted and looked upon as modern, and as a great improvement, before the several sides of the question have been considered or tested.

In regard to whether the mess should be fed in the morning or at night, I have always fed in the morning, and now think that a very light, cooked mess may be best in the morning; but a full feed makes the birds sluggish, dull and heavy,

(Continued on next page.)

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PRIMER SCIENCE.

(CONTINUED.)

and puts them in a worse condition than if all the dry grain they could eat were given them. There is a theory that a full feed of cooked mess would be best at night, but I have not tested it. One reason for feeding dry grain at night, is that it takes so much longer to digest; it gives the digestive apparatus of fowls plenty of exercise during the night. Soft feed at night would not stay by them as well. Dry grain through the day with lots of exercise with a full feed of cooked mess at night, would seem the proper thing, but might not work well in practice. I think that almost everybody gives it in the morning. The objections are that, if cooked before feeding in the morning, it is rather late before the fowls get it, or the feeder has to rise pretty early. If cooked the night before and fed in the morning, it may sour during the night and be objectionable. There is a great deal to learn in this direction, and those experiment stations that are now taking up poultry experiments, will find this a wide field in which to work. The question of whether a certain amount of souring of the feed is desirable, as well as a certain amount of souring of milk when fed to fowls, is one which I hope many will write about. I also hope that you will hear from those who soak their grain before feeding to fowls.

As to the reasons why bran is loosening, and white flour is constipating, I would say that starch, white bread, wheat flour, crackers, etc., are the opposite of loosening. Cooked flour and stiff paste are used as a food by breeders who, after overfattening their turkeys or fowls for show purposes, wish to prevent them from getting loose and growing thin rapidly. People eat cream toast and toasted crackers for a similar reason. They also eat oatmeal or whole wheat bread or mush to produce the opposite effect. Molasses is loosening, while sugar is the opposite and counteracts the effects of mush, stewed or baked beans, etc. Every one knows that most fresh fruits, as well as their juices, act as laxatives. Certain fruits like raspberries, blackberries, raisin grapes and certain kinds of sweet apples, have a tonic or binding effect.

We just apply the same principles to poultry feeding. Whole wheat if fed in any quantity, is rather laxative. I would say that, owing to its indigestible woody fiber as well as coarseness, the bran stimulates muscular action of the bowels, and also causes a more copious flow of their secretions. The mucilage-like qualities of the bran may also have something to do with its action. When combined with the starch and gluten in proper proportions, the latter counteracts the action of the bran. My impression is that wheat gluten entirely free from starch, is not constipating. Pure starch, we all know is, so the less carbon you give, the more loosening the food, even though you do not have the indigestible husks present. SAMUEL CUSHMAN.

Live Stock Matters

FORKFULS OF FACTS.

CURING TUBERCULOSIS.—The Tribune of April 22, quotes in part from a circular issued by the State Board of Health in regard to tuberculosis. Not one word is said in regard to the prevention of the disease by conforming to the conditions of health in well-ventilated stables, but it stupidly insists on the extermination of all diseased animals, while the process of generating it in hothouse stable fashion is going on at an appalling rate. This, in connection with the tuberculin test which it recommends, would result in the annihilation of the dairy interests of the State. It would be all right to kill hopelessly diseased animals; but we must prevent their ranks being filled again. The disease is, doubtless, propagated in badly-ventilated stables, and in my judgment, a commission to look after the stables, would do more to wipe out the disease, than all else put together. The conditions of health on our State dairy farms, are, in the summer, perfect. Grazing in rangy pastures with springs of pure water, and sleeping on the soft-green sward under the blue canopy, constitute an ideal condition. D. CARPENTER.

SKIM-MILK CALVES. — The following note, from the Iowa Homestead, has a good thought in it:

Riding with a friend the other day, he remarked in passing by farms on which he saw a lot of poor calves or steers: "Skim-milk calves." Coming to the farm of a man who I knew fed his calves upon skim-milk, he says, "There, now, there's some cattle that have been raised with the cow." Knowing the farmer's practice, I told my friend that he used skim-milk, but fed it intelligently. He fed it early in life, beginning at a week old, and to the skim-milk was added a gill of boiled flax seed, the ration being gradually increased to a pint a day, after which he added middlings or ground oats. This was supplying the oil that had been taken from the skim-milk, at about one-fifth the value of the butter fat.

The skim-milk is all right for the roughage, but, like hay, it needs some more concentrated food with it.

RAW POTATOES FOR COWS.—There seems to be a considerable diversity of opinion among the people living in this section, in regard to the value of potatoes as a food for milch cows, as well as in regard to their effect upon the milk and butter product. Some who have fed them this spring, say that they get an increased flow of milk, and also more butter because of feeding potatoes. Also, that the butter comes quickly, and is of good quality. Others have found much difficulty in churning the cream, often having to churn three or four hours, and when the butter comes, it is in small lumps like peas and marbles and is very difficult to gather into a compact mass. The quality is often poor. This having been the case, some two weeks ago, I discontinued entirely feeding my cows potatoes. I had been feeding about six quarts of potatoes, twice a day. I also fed them three quarts of corn and oat meal in the proportion of 1⅓ bushel of oats to one of corn, twice a day. I fed them good hay. I had been troubled as I mentioned in regard to the cream and butter. After several days, I tested the product as accurately as I could without weighing the milk or using a Babcock tester, and concluded that there was no noticeable diminution in the quantity of milk, or the amount of butter produced. The cream seemed to be thicker, was churned more quickly, and there was no trouble about gathering the butter.

Another person of whom I heard, discontinued feeding potatoes, and got more milk, cream and butter; he fed meal and some wheat bran. What is the experience of the readers of THE R. N.-Y. on this line? There is, undoubtedly, considerable nutriment in potatoes. What is there in their composition to affect butter differently from other vegetables? I suppose that all foods have an effect upon milk and butter products. What is the cause of this unfavorable effect of potatoes, or do we not judge correctly in regard to their effects?

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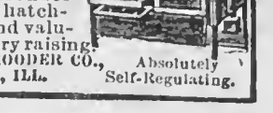

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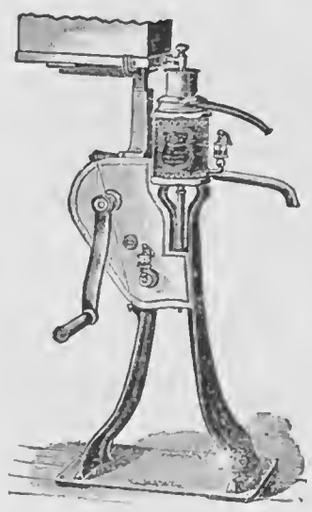
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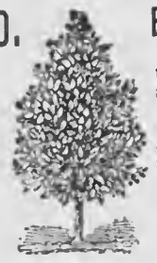
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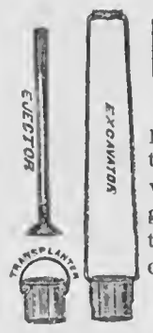

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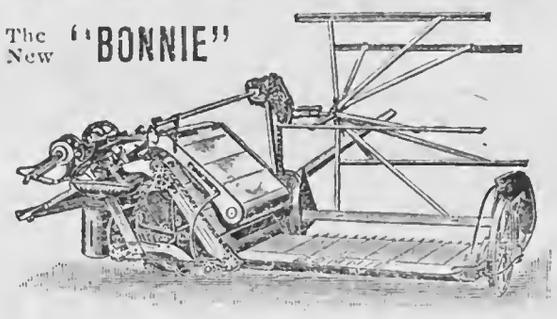
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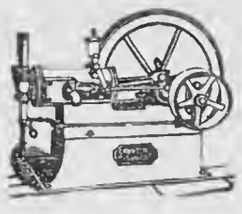
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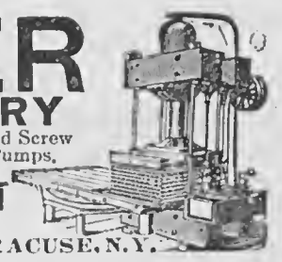
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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THE SIMMENTHAL COW.

WHAT SHE DOES FOR THE GERMAN FARMER.

Almost Everything But Talk.

Quite recently, a number of Ameriean agrieultural and dairy papers, have made eomments on this breed, its merits or defeets and, as is likely to be the ease where personal interests are at stake, the truth will be found somewhere in the middle between the extremes of reeommendation and eondemnation. The Simmenthals possess undoubted and undisputed merits for countries where, like Germany, special eonditions favor their use. They are of rapid growth, early development, very hardy, their Alpine pasturing producing heavy bone and a deep ehest, giving great freedom from tuberculosis. At the same time, they are excellent mileh cows, attaining 10,000 pounds of milk with up to 5.2 per eent of fat. Large dairies with well-balaneed generous rations, average 10 quarts per day the year 'round.

The eows readily put on flesh when their utility at the pail eeases, yet we have many good cows 15 years old and over in use. A great merit of the Simmenthal is its adaptability to work. The village in which I live, has, outside of my own farm, 29 farmers that do their work exelusively with eows; I am the only farmer to keep horses. None of these 29 farmers cultivates over 25 acres. It is true that they have no milk to sell, but they live on their eows, bring up their families, and some young stoek too. The oxen of this breed are famous for their working powers, doeility, endurance and rapid gait. At 18 months old, the steers are broken to work; at two years old, they are eapable of eontinued hard labor; at three years old, they are sold to be taken to the eastern provinces, where hundreds of thousands of them are employed in the cultivation of the sugar beet, afterwards to be fattened on the beet bagasse. The priee of a yoke of three-year-olds to weigh 3,500 pounds, is to-day, $225. The government takes pride in maintaining the renown of these oxen, and institutes yearly public trials with premiums for the highest power of draft, several yoke appearing at every trial, that will draw off on a macadamized road, 500 centals (50,000 pounds) of pig-iron, distributed on three wagons ehained to each other, the driver not being allowed to use the whip.

Will this breed find friends in the United States? This is a question to be deeided by the development of economic conditions. There can be no doubt that any breed will do the greatest good, when bred and improved exclusively on that line of utility to which it is preëminently adapted. Neither does Nature herself favor any of our exertions to blend several sueh utilities in the same animal, and those that deny the usefulness of the general-purpose eow, would, undoubtedly, be in the right if our eeonomie conditions were sueh that the faetors of produetion—land, labor and capital—existed in that relation to eaeh other, whieh is the only one to insure a eonstant prosperity to all members of our human society. That this is not the fact, nobody will eontest. Here in southern Germany, these eonditions have, in the eourse of time, become so far deranged that the bulk of farmers eannot think of breeding any other cow but one that will nourish the family, plow the field, produee a heavy ealf, and later on, sell to the butcher at a good priee.

Are you on the road towards these deranged eonditions? Why, eertainly, you are, and at a faster rate than any other people before you! The importation of the Simmenthal will, however, not very speedily take large dimensions, owing to the heavy home demand which is greatly in exeess of the supply at very high priees. The advisability of erossing this breed with the Jersey, is questionable, at least not one of us Simmenthal breeders would be willing to imitate Mr. Havemeyer's experiment. The favorite eolor is fawn or white, with reddish yellow, large blotches; head, feet and tail white, horns and hoofs yellow. Any blaek spot on the flesh of the nose, or any black hair on any part of the body, throws the animal out of the breed. The best opportunities to buy this breed are the animal markets in September at Thun in Switzerland, and Radolfyell in the adjoining Baden, both exelusively for Simmenthal cattle. Information on prices, etc., may be obtained through the government inspeetor of cattle breeding, Mr. Heitzmann, of Messkirch, Baden. Fig. 115 is taken from a photograph of a heifer two years old.

Hessenhof, Germany. F. SARG.

A TYPICAL SIMMENTHAL HEIFER. THE GENERAL-PURPOSE GERMAN COW. FIG. 115.

PUREBRED STOCK FOR FARMERS.

CAN HE SELL YOUNG STOCK AT BREEDERS' PRICES.

What Is the Best Breed?

On page 67, of THE R. N.-Y. of February 1, a reader in Tioga County, N. Y., made an interesting statement. He said that he had a dairy of 12 eows, and was selling milk at a factory. He wished to get some registered, thoroughbred eattle—of some herd not eommon to the country, so that he eould sell cows and calves at a good price. He wanted a breed that would insure a good flow of milk, and fatten easily, and had about deeided to try the Devon breed. His main question was, "Can a farmer of limited means make a sueeess of breeding purebreds—that is, make more at it, or ean only those who have plenty of money afford it?" The following replies have been sent by some of our readers, and we would like to have a further diseussion:

It Is a Risky Experiment! Why?

If T. O. have means enough to justify him in taking the ehanees of losing a few hundred dollars, he might try the experiment he purposes; but even then, I would not advise him to do so. From private information in my possession, I gather that, at least, some of the well-established dealers, spending thousands of dollars in advertising their business, are deeidedly more than overstoeked. I infer that his neighbors already have one or more kinds of purebred dairy stoek, and his innovation would have to be a deeided improvement over them, or his neighbors would not make a ehange, even though he were to sell his stock at a mueh reduced priee. Prejudiee in such matters is not easily eonquered. How many eulls would he have? With limited stoek to begin with, it would take him many years to get back the extra money this will eost. Owing to the perverseness of human nature, farmers are not given to patronizing their neighbors unless they ean get a bargain. T. O. might sueceed in establishing the superiority of his breed, and then one or more would straightway send their money to a distant dealer. Last year, a man and his wife eame here on a visit. They admired my poultry, said nothing about wanting to buy, but several weeks later, reeeived a setting of eggs for which they had sent to a dealer several hundreds of miles distant. Imagine their ehagrin, when they learned that the dealer got his supplies from me. They paid a fancy price for the eggs, the expressage was not small, but the hateh was—two or three cockerels and not a pullet.

When I first introduced thoroughbred Jerseys in this community, everybody wanted to "speak" first for their calves, thinking that I would be silly enough to sell them fine stock for the price of scrubs. They know better now. It takes all the magnetism of a $20 bill to draw away a live calf, and even then the magnet must be applied before the calf is more than two months old. At that age, unless it be sold, or I want to keep it myself, I veal it at an average return of about $10. This pays me better than increasing competition without getting adequate compensation myself. Human nature is pretty much the same the world over. If T. O. wish to make a margin over and above the price ordinarily paid, let him, by careful selection and management, produce a herd of enviable individuality, and if, at any time, he have more such cows than he cares to keep, he will find purchasers waiting for them. Breed may sometimes be at a discount, but individual merit always commands a premium. J. C. SENGER.

Virginia.

Short-horns or Devons Are Best.

I, for one, have experimented in that line for nearly 30 years. My circumstances were limited. I first brought Short-horns from Kentucky; I thought those not suitable, as the butter was lacking. Some years after, I invested $1,500 in purebred Devons; they filled the bill as to quality of milk, butter and beef, but they lacked quantity. Next I invested in Holsteins; they lacked everything but blue milk. The greatest drawback in buying purebred cattle, is the roguery practiced on buyers. There are some fine Devon cows, but three-quarters of the cows I bought were gross misrepresentations. I had Devon cows, while fresh, that would not make three pounds of butter per week on good pasture and a fair grain ration. If a farmer of limited means could buy good Devons, I believe that, from the amount of feed they take, and care they require, they are the most profitable breed. One objectionable feature in the Devon is that the calves are small, and they are slow to mature. As to selling purebred cattle at paying prices, that depends on many conditions. From my experience with four herds of purebred cattle, I would say to any man of limited means, "Short-horns all the time"—that is, for a combination. The calves are large, and mature quickly. The cows are fairly good milkers, and many are fairly good butter cows. But look out for the breeders; they are like tree peddlers; they will tell you all kinds of things. I don't say this of all of them; but I have learned some things after an experience of 30 years, and an investment of $3,000. No man can build up the all-purpose herd, conditions and circumstances are so different on ordinary hill farms, and if the farmer wish milk, butter and beef of superior quality, and can get the best Devons, he will not feel disappointed. I think that no other breed keeps on so little feed, but the quantity of the product is not large, be it milk, butter or beef. M. S. CRULL.

York County, Pa.

Success with Ayrshire Cattle.

I believe that a farmer of limited means can make a success of dairying, and will try to give some points to show this. We keep purebred Ayrshire cattle. Although some grades are as good for milk, they or their calves do not sell as well, neither are they as good for exhibition at fairs, which is a good place to advertise and sell stock, and is also quite profitable in this locality. When we started, we bought five calves, four heifers and one bull, paying $25 apiece for them. One of the cows we have yet in our dairy; she has raised nine heifer calves. These cattle have strong constitutions, and are free from disease, which is one of the first requirements of a dairy cow. They give good messes of milk, of good quality, testing from 4 to 5½ per cent with a Babcock tester. We have often had cows in our dairy that gave 50 pounds of milk a day. They are easy keepers, and pay well for the amount of food consumed. I usually milk cows to within four weeks of calving. I now have 50 head of purebreds. F. H. C.

Cherry Creek, N. Y..

A Plea for Dutch Belted Cattle.

In my opinion, T. O. can make no better selection of breeds than the Dutch Belted. A man with very limited means can make more money with purebreds than with scrubs; though, to be sure, in this line of business, as in all others, money helps to make money. I know less about the Devons than about any of the other older breeds, but my impression is that they are just what he doesn't want. In regard to the Dutch Belted cattle, I speak from the poor man's standpoint and from experience. I have a small dairy entirely of this breed, and have never had any difficulty in disposing of the calves at paying, though not fabulous, prices. These cattle are of good size, very hardy, easy keepers, persistent milkers. They will give as large a quantity as, and a better quality of milk than, the Holsteins. In addition to the foregoing characteristics, which make them the ideal moneymakers, their striking and attractive uniforms make them at once the pride of their owners and the envy of all who see them. G. G. GIBBS.

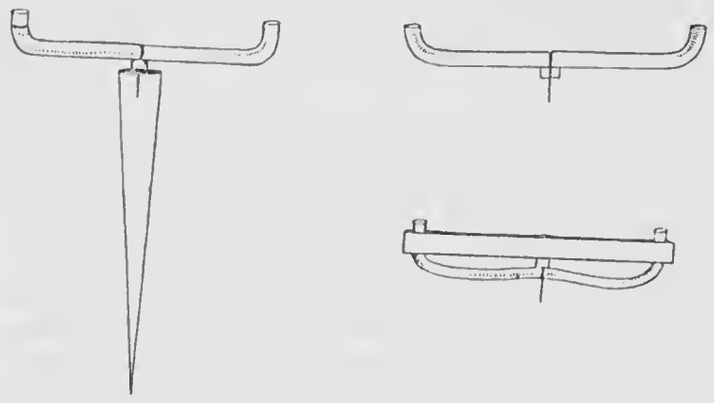
New Jersey.

CIVIL ENGINEERING FOR BOYS ON THE FARM

PART I.

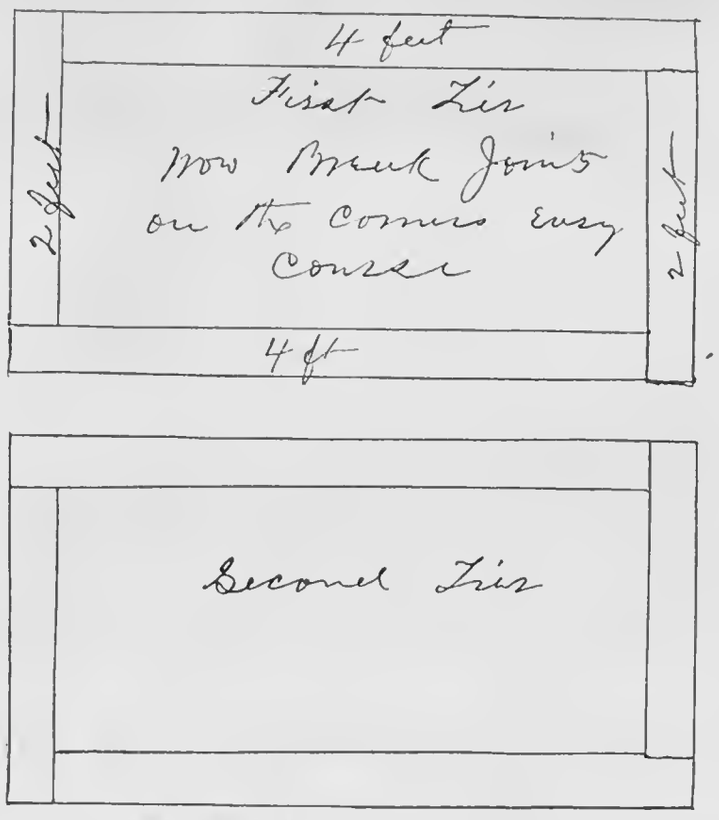
How to Make a Level.

There is one application of the civil engineer's work, that is so plain, simple and easy to learn, and of such frequent use on the farm, that I concluded to describe it in a few articles in THE R. N.-Y. Many farmers have some wet ground on the farm, that is of little value without draining. They would like to know whether or not it can be satisfactorily drained, and if it can, what is the best way to drain it. To determine that accurately, levels must be taken, which is the work of an engineer. But any one else can very easily learn to do it, and a boy who has been through decimal fractions in arithmetic, and has a little gumption in the use of a saw, plane, and bit, can make his own instruments, and in a short time learn to take levels accurately enough for laying out drains, or for any similar purpose.



A LEVELING TUBE AND HOW TO MOUNT IT. FIG. 116.

THE LEVELING INSTRUMENT OR LEVEL.—The surface of a body of water like a lake, when at rest, is a level surface, and any line along the surface of the water, or parallel to it, is a level line. Water when free to do so, always settles with its surface at a perfect level. Advantage is taken of this property of water and other fluids, to make a cheap level which, in principle, is perfectly accurate. The essential thing in such a level is a tube tight enough to hold water, and having the ends turned up something like a letter U. When such a tube is held horizontally, with the ends pointing upward, if filled nearly full of water, the water will rise to exactly the same height in both ends of the tube. If the ends of the tube are of clear glass, and the water is colored, so one can see it plainly, a sight along the two surfaces of the water will give a true level line. One can get some rough levels with such an instrument, without any other attachment to it. Simply stand up straight, and raise the level in the hand, to the height of the eye. Everything that can be seen in range with the water surfaces, is on exactly the same level as the eye. One can sometimes tell by that alone, whether he can drain a wet place or not; but generally he will want the tube to be mounted on a staff, or some kind of a stand, to hold it firm and steady in its place, when using it. A simple and effective way of mounting it is to have the main part of the tube made of tin, with a spindle of large wire attached to it in the middle, see Fig. 116. Then all that is needed is a plain, straight staff sharpened at the bottom to stick into the ground and a hole in the top for the spindle to set into, see Fig. 116. Any tinner will make such a tube for a few cents, and any one can putty in the glass ends. Pieces of glass tubing may be procured at the drug store, or one can use glass vials with a hole in the bottom, for that purpose.



MAKING A WATER TANK. FIG. 117.

If the tube be long enough so that the turned-up ends are about two feet apart, it will give better results than a shorter sight will. A still larger tube would be better to sight by, but it would make the instrument clumsy to handle. To attach the spindle to the tube, use a piece of No. 6 or 8 wire for the spindle, and bend one end of it around the middle of the tube, so that it will fit close, set it just right to hold the tube in its proper position, and solder it to the tube. If the side of the wire which is next to the tube, be filed down flat, it will fit and hold better. Another way to fix the tube which does not require the aid of the tinner, is to get a piece of rubber tube about two feet long, with two pieces of glass tubing about four inches long, and make one continuous tube of them by slipping a glass tube into each end of the rubber. They should fit close together so as to make a watertight joint. By taking such a tube, and holding it with the glass ends up, and filling it full enough of colored water, so that it can be seen plainly in both ends, one can use it to get levels with by taking one end in each hand and holding them far enough apart so that he can get a good sight along the water surfaces.

As one will not be likely to hold it steady enough in this way, he will need to have the tube attached to something to steady it. It may be attached to a cross bar made of a piece of board of the right length about an inch wide at each end, and a little wider in the middle. A hole just large enough to admit the tube, is bored edgewise through the board near each end. The ends of the tube are put through these holes so that the glass shall project two inches above the cross bar, and is fastened there. If the hole be just the right size, the rubber part of the tube where it slips over the glass, will fit close and hold it tight enough to place; otherwise some putty will be needed to fasten it. A large wire nail driven straight down through the middle of the cross bar, will serve for a spindle—see Fig. 116. A button or washer as thick as the rubber tube, should be slipped into the spindle for a buffer between the cross bar and staff. When moving about, the ends of the tube may be corked up to prevent the water from spilling, but when in use, both corks must be taken out, or the imprisoned air will prevent the water from settling to a true level. The water must have absolutely free passage from end to end of the tube, and then it will give an absolutely correct level. FRANK HODGMAN.

Michigan.

WHAT THEY SAY.

MAKING A WATER TANK.—I see in THE R. N.-Y. directions for making a water tank. Why not cut the pieces square, and each pair of the same length? That would save one third the time in making, and save fitting every end piece. I make them the same as one would make a penstock or flume for water to run to a water wheel. See Fig. 117. S. P. K.

Brushton, N. Y.

FEEDING POTATOES TO COWS.—I feed raw potatoes to cows with excellent results. Six quarts of good, clean potatoes is my ration for a large cow, twice a day, and four quarts of ground grain twice a day, consisting of two parts of wheat bran, one part of corn meal, and one-eighth of cotton-seed meal, all by measure; this gives a very rich and thick cream. With me, each cow has a small tub in the manger, and the potatoes and grain are fed in it, while the cow is tied. In 20 years of experience, I never had a cow choke. Of course, if they are fed with whole potatoes when loose in the yard, with cows chasing each other, one must expect trouble. I do not think that a cow in milk, if she be a good butter cow, will take on any extra flesh from feeding raw potatoes. I never had any experience in feeding boiled potatoes to cows.

South Manchester, Conn. H. F. G.

WALNUT LEAVES AND FLEAS.—When I made this my abode, I suggested that the public building be underpinned all around, and that green walnut leaves be liberally scattered over the floor. The fleas disappeared as if by magic. Many a building has since been freed of the pests by the use of walnut leaves for a few days. They are much cheaper than sticky fly paper, and apparently much more effective. What becomes of the fleas, I do not know, neither do I particularly care. The walnut leaves seem to dispose of them all, which is rather more than can, probably, be said of fly paper, unless this be used very lavishly, which would involve considerable expense. The rooms may be used with more satisfaction when using the walnut leaves, than with fly paper lying all about, and showing no more respect for your best clothes than for the fleas. VIRGINIAN.

OATS MIXED WITH CHARLOCK.

HOW TO KILL THIS BAD WEED.

I have this letter from one of your readers:

I have 10 acres sown to oats and peas, and seeded with clover which, on coming up, I find well seeded with a plant which looks like mustard. I bought the oats, and, as I got them of a good, honest seedsman, I did not look to see whether they were clean or not. Now, I am at a loss to know what to do with the field, whether to sacrifice the seeding and plow the whole thing down, and thus kill the weed, or sow on another peck of clover seed to the acre, and cut the oats and peas quite green before the mustard gets ripe, and then have the clover smother the weeds out.

The weed that looks like mustard is, in all probability, charlock, one of the most persistent and worst weeds to get out of land, in the whole weed list. A number of years ago I bought two bushels of Pringle's improved barley, and, thinking the seller perfectly reliable, I did not examine the seed. On coming up, the ground was nicely seeded to charlock, and it cost me over $200 in time before I was entirely clear of the pest.

The weak spot in the plan proposed of smothering out the charlock, is that even if he cut the oats and peas before a single seed gets ripe enough to grow, the stubble will sprout, and every plant, even if it get four inches high, will ripen a few seeds. I would advise allowing it to grow until about time to plow for buckwheat, and then turn all under, being careful that not a single plant be left. Fit the land and sow to buckwheat, and be sure to go over the field before the buckwheat gets large enough to hide any stray plant of charlock, and pull every last one. Next spring, again sow to oats and peas, and then watch, and carefully pull every plant that comes up. If he do this, and follow the field with close watching for several years, he will, most likely, eradicate the charlock; but if he allow a single crop to ripen its seed, he will have an almost endless job. Seedsmen, who sell any but clean seed, ought to be responsible and liable for damages. J. S. WOODWARD.

KEEP THE GROUND STIRRED.

One object of cultivation, is to kill the weeds. They draw nourishment from the soil, absorb the moisture, and thus rob the growing crop of both food and drink. It isn't best to let them get a start; cultivate early, don't let them get strong and defiant! They may be uprooted and killed by the thousand when they first show above ground, with the same labor that will be required to kill them by the dozen later on.

But destroying weeds is not the only object of cultivation, though some farmers seem to think so. The spring rains have filled the ground with water, but the hot sun and wind are rapidly drawing it up, and it is passing off into the atmosphere again. The growing plants need the moisture; don't let it escape. Shallow and frequent cultivation with a fine-tooth cultivator, will keep the soil fine and loose on top, and will prevent the evaporation of moisture. The past two summers here have been exceedingly dry. Springs and wells which had never been known to fail, have dried up. Where not cultivated, the earth has been as dry as it could possibly be, apparently, for many feet below the surface; but in my garden and strawberry patch, which I kept well cultivated with a 14-tooth cultivator, the ground was moist and in good tilth at any time during the season, and the crops did not suffer from the drought. The top soil stirred by the cultivator, was about as dry and loose as ashes; but when one brushed off that two inches of dry soil or dust, he found the soil moist and friable.

One of the hardest things I have had to do is to teach my hired help to hoe. Not one in fifty understands the first principles of proper hoeing. I set a man last week to hoeing a field of strawberries which had lately been set. They were set, unavoidably, when the ground was quite wet, and as a consequence, it was quite hard about the plants. I had cultivated as close to them as I could with the cultivator, and set the hired man to loosen the soil about the plants, and destroy the weeds that were just appearing above ground. Being busy at something else, I did not notice how he was doing his work; but when I examined it, I found that he had hoed the earth away from the plants, leaving the hard surface bare, with the marks made with the spade in setting the plants in the wet ground exposed. It would have been better not to have hoed them at all, for the cultivator had thrown some loose earth about the plants which he had removed. But that is the way, I find, that a great many hoe. The soil should be loosened and made fine about the plants, and what has been removed in hoeing out the weeds, should be replaced. We may almost defy the drought, if proper attention be given to cultivation. J. R.

Burr Oak, Iowa.

COMPLICATED CRIMSON CLOVER PROBLEM.

Varying Results in Virginia.

Last year, I sowed 10 acres of Crimson clover August 3 and 6, on wheat stubble land; the stubble was turned under, and 100 bushels or more of airslaked lime were harrowed in per acre. Then three pecks of buckwheat were drilled in per acre, and about 12 pounds of clover seed were sown and covered with a plank drag. I also sowed about one-half bushel of wheat with the buckwheat per acre. The wheat did not catch much, the buckwheat made a fair crop, and the clover got a fair stand on part of the plot, but not so well on the other. The clover is best and stands thickest where the buckwheat did not grow so tall. I left a few small spots entirely destitute of buckwheat and wheat, and on them the stand of clover is better than anywhere else; but I have a pretty fair stand on the entire field now, from 8 to 20 inches high. I counted 35 heads from one stool, or one seed.

I also sowed five acres on similar land (lime excepted) on August 19, with one-half bushel of buckwheat broadcasted, and harrowed. I did not use a plank drag, as the clover seed was sown before harrowing, and I was prevented by rain. The buckwheat did not mature before frost, and I let it fall down as a mulch or winter protection. The clover is a perfect success, and would turn off more hay than Red clover on similar land sown in the spring of 1895. The bees have been visiting the clover for three weeks. I shall cut it all for seed this year.

Now comes the other side: I sowed 15 acres on well prepared land the last of September, but it did not rain to make it come up until about November 1. The plants grew well until winter set in, but this spring there is but little left. I also sowed one acre in corn at the last cultivation, which perished during the dry spell. This is my first experience with Crimson clover, except that I sowed one pound in April, 1895, with oats, which also was a failure. The results are very gratifying to me, and I shall sow 40 or 50 acres this year, if the season permit. A. C. M.

Washington County, Va.

Ideal Treatment for Corn Ground.

Invariably, the farmers in this part of the country use, for their corn ground, a sod which had been mowed or pastured the previous year, and plow it just before planting in the spring. It occurred to me last summer, while I was mowing a piece of about 2½ acres on which the May frost had prevented the Timothy from heading, so that I did not get more than one load of hay from the whole piece, Why not plow it right away, and get it ready for this year's corn crop? Two things usually are in the way of plowing at such a time—hot, and dry weather. A soaking rain followed by an unusually cool spell, made the conditions for plowing with one's coat on, just right, and I had the piece ready and sown to Crimson clover on August 1. The clover quickly germinated, made a fine growth, and covered the ground.

It stood the winter well until in March, when upon the lowest spots, it began to heave out, and the whole plants and roots lay upon the ground. Upon the other parts, it was unhurt. Some parts of it were as thick as it could stand; taking it altogether, it was much more than half a crop. I commenced hauling manure upon it through the winter, got it about half covered. and finished the rest this spring. The part covered by manure in the winter, fared precisely the same as the part yet remaining uncovered. It is on creek bottom land, naturally good, but rather wet on some parts of it. May 12 and 13, I plowed it under; it was nearly all in bloom then, and I had a job of it. The clover and manure filled the furrows. May 15, I planted the corn with a hand planter, put it down to where the clover and manure are, and are supposed to "do the most good," then went over it with a heavy field roller. Now what do you think of it? If you can suggest a better way from start to finish, of preparing corn ground, let us hear it?

Let me suggest to John M. Jamison never to bother

A MODERN ORANGE COUNTY (N. Y.) FARM HOUSE. FIG. 118. SEE LAST WEEK'S ISSUE FOR COMPARISON.

any more with "plowing under rye as a green manure." There is nothing in it. I have had enough experience in the matter to say emphatically, There is nothing in it for your labor. T. S. S.

Cooperstown, Pa.

R. N.-Y.—We shall be glad to learn how that crop turns out. It is hard to imagine a better *start*.

Three Clovers Side by Side.

I sowed last year, July 5, a field then growing a crop of corn, to Crimson and Mammoth clover. They were covered lightly with a Breed's weeder, with the ends removed. Both came up alike, one growing equally as fast as the other. The only way one could tell the difference was by the color of the leaf. When frost came, the Crimson clover took the lead, continuing to grow all through the fall and early winter, covering the ground perfectly.

The last of December, plants of each variety were washed out; there was but little difference in root development, the Crimson being slightly ahead. The roots could be easily traced 16 inches deep. About the first of January, snow began falling, covering the ground. The field was a sheltered location; the snow remained evenly on it until the last of March, and all the clover had wintered perfectly. In a few days, the Crimson clover commenced dying, and continued to do so for a period of two weeks, until there was scarcely any left; it did not heave out. A few spots of a few feet square, have a fairly good stand.

The common clover was at home as soon as the weather was warm enough; it got right down to business, as much as to say to its new neighbor, "I am here to stay, and do not intend to be pushed aside by your gaudy show." Every plant made a strong and rapid growth at this date, almost covering the ground. So well pleased am I with the stand, that I shall leave it for hay. I shall also leave a small piece of Crimson clover to note the difference in growth.

I shall seed a large field of corn this summer, with Mammoth clover and Timothy, two parts of clover and one of Timothy, with a view to cutting a hay crop the next year. Some of my neighbors sowed Crimson clover; it has nearly all died, some fields not having enough left to stand guard or say who occupied the field last winter. Stand by the old clovers in this latitude! I believe that they will do as much for us as Crimson does for New Jersey and Delaware.

Chautauqua County, N. Y. L. D. GALE.

Crimson Clover Substitute for Red.

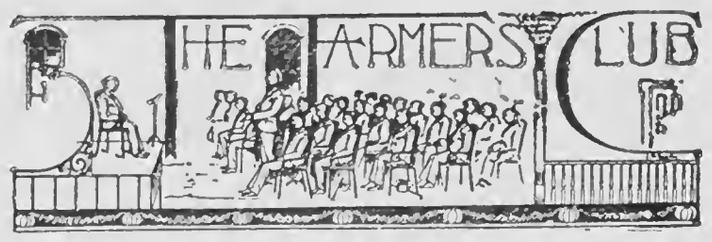
Last year, I made up my mind to experiment, in a small way, with Crimson clover. My Medium clover, sown on the wheat field in the spring, was all killed by the drought. I plowed about two acres of the wheat stubble, the second week in August. This was well harrowed, and on August 15, I sowed it to Crimson clover. The amount sown was one-third of a bushel, being at the rate of a bushel to six acres. The next day, Prof. Latta, of the Indiana Experiment Station, visited me, and I told him about my experiment. He jokingly remarked that I would, probably, be richer in experience by another year, if nothing more. We had very little rain until late in the fall, but the clover made a fairly good growth before winter, and along with it, there was a heavy growth of volunteer wheat. The clover came through the winter better than I expected it to do. Perhaps this was due, in part, to the protection afforded by the wheat. This clover is now in bloom, and is a pleasing sight. While there is a fair stand, I believe that it would be better if it had been sown thicker.

I do not really believe that it would be best to make Crimson clover one of the regular crops in a rotation in this latitude; but when the Red clover fails to make a stand, it may be profitable to sow it, as in this instance. Of course, this is only one trial, and I shall experiment further with it. This one trial has not given me sufficient data to reach any definite conclusion in regard to it. If I could be assured that it would do as well as this every time, I would not hesitate, when the other clover fails, to sow it just as I did last year. H. S. K. B.

Middlebury, Ind.

HARDINESS OF JAPAN WALNUTS.—Last fall, I set out a few Japan walnuts, three years old, on a hillside with a southern exposure. I got the trees from a well-known New Jersey nursery, exercised care in transplanting them, and as soon as the surface soil was frozen to the depth of an inch or two, thoroughly mulched them with horse manure, and kept the snow piled about them through the winter—which was unusually severe in this vicinity. All the trees were killed to within a foot or two of the ground, below which line they are now putting forth sprouts. Is my experience with these trees an unusual one? I would like to hear from others in this latitude, and, if possible, vicinity, who have had experience with the Japan walnut. Has any one proved it hardy in this latitude?

Jefferson County, N. Y. W. E. M.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR F. L. KILBORNE.

Bladder Trouble in a Horse.

H. H., Ware's Wharf, Va.—What is best to give a horse when the urine is scanty and thick?

Give a sloppy bran mash at night, once a week, in which is dissolved one ounce nitrate of potash. Rub the loins with ammonia liniment (equal parts sweet oil and strong aqua ammonia, well shaken together). Repeat the application in one week, if not well blistered by the first application.

Treatment for Lumpy Jaw.

F. W. S., East Emsburgh, Vt.—I am giving a cow the iodide of potassium treatment, as advised in THE R. N.-Y., for lumpy jaw. How long should the treatment be continued?

The iodide should be given in doses of one to two drams (in large animals two to three drams) once daily, and continued for six or eight days. Then omit for two or three days, and repeat as before, continuing until a cure is effected. The medicine is conveniently given dissolved in one pint of soft water, and administered as a drench. If symptoms of iodism occur, as shown by loss of appetite, catarrhal condition of the mucous membrane of the nose and throat, and weeping eyes, the iodide should be withheld for a few days. The bowels should be kept moving freely, by feeding green food or mashes, or an occasional dose of Glauber salts, if necessary.

A Mare "Out of Condition."

F. W., Whiting, Vt.—A mare, eight years old, is in poor condition; she eats well, and has been fed well—ground feed, oats and barley. Her skin is very dandruffy. What is the trouble, and what is a remedy?

The dandruff, or scaly condition of the skin, is usually due to some fault in digestion. It is also often due, wholly or in part, to the want of cleanliness and lack of proper grooming. First give the mare in drench or ball, one ounce each best aloes and ginger, as a physic, and follow by a bran mash diet until freely purged. If not purged by the first dose, repeat it in three days. Then give two tablespoonfuls once daily in the feed or drinking water of the "liquor arsenici et hydrargyri iodidi." Grass or other green food should be given, at least once daily, or in their absence, a bran mash at night two or three times a week, sufficient to keep the bowels moving naturally. Cleanliness, and a thorough daily grooming are quite essential in such cases.

Why Grubs Seek Black Hide.

G. E. P., Maryland, N. Y.—I desire a little more information concerning grubs in a cow's back, as discussed on page 303 of THE R. N.-Y., and will ask Dr. Kilborne to explain the following: In my experience of seven years, with Holstein cattle, I find that in cows marked with both black and white, the black portions of the back are sometimes badly infested by grubs, while the white parts of the back are, generally speaking, entirely free from them. In fact, I don't think that I have ever found more than a half dozen in that part of the back which was white in color, and those not more than one or two inches from the black color. Also, I notice that old cows are much more free from grubs than young cows, aged two and three years.

It is probable that the young grubs or larvæ have a natural preference or selective power, which causes them to locate under the dark skin. Why this is so, I cannot explain. The fact that the warbles are found mainly on the young cattle, is in keeping with the fact, that, with all the animal parasites, both external and internal, of the domestic animals, the young are the most susceptible and the most frequently and extensively infested.

Why Sheep Lose their Wool.

O. L. R., Monterey, Ohio.—What is the cause of sheeps' wool being fleece-grown? Why does the wool come off in spots in spring?

The loss or shedding of the wool, which occurs mainly during the spring, may be due to any one of several causes. The shedding occurs mainly in the springtime, this being the season of the year when nearly all animals shed their coats. While sheep do not shed their wool with the same regularity that horses or cattle shed their hair, many sheep, especially the fine wools, shed extensively during the spring, and, if not sheared, would shed nearly or quite all their fleece during the early summer. Cases are known, however, in which the wool has persisted for three or four years without being shed. There is a strong tendency to the natural shedding during the spring, so that the wool is then shed on the slightest provocation, or even with no apparent cause. Of the causes which favor the loss of the wool, the most common are, ticks or scab which cause the sheep to rub or tear out the wool with the teeth; confinement in buildings that are too close and hot; following a fever or severe disease, and occasionally, as the result of certain articles of diet, as when fed on mangels, the sheep sometimes shed nearly all of the wool.

A "Roaring" or "Whistling" Mare.

G. F. G., Clayton, Del.—About eight months ago, I came into possession of a mare eight years old, heavy with foal. She is what horsemen call a whistler, that is, after working a few minutes, she breathes very hard and loud, but after a minute's rest, she seems all right again. She is very healthy and sound in other ways, eats heartily, and is able and strong. After working some time, and while whistling, she has a twitching of the muscles or flesh just behind her shoulders, under her fore legs.

Whistling is only a variation of roaring, an unnatural loud sound produced in breathing, by a class of horses known as "roarers." The characteristic noise is most marked, or in many cases only observed, during excitement or active exertion. The whistling or roaring is due to some obstruction to the free passage of the air through the air passages. In the true "roarer," it is due to the paralysis and wasting of the muscles of the left side of the larynx; and the roaring sound is made (except in very advanced cases) only in inspiration or the drawing of the air into the lungs, while the expiration is quite free. Other occasional causes of whistling are, tumors in the nose or throat, false membranes or thickening of the membranes lining the air passages, deformed bones, enlarged glands, or paralysis of the wing of the nostril. In these cases, the whistling usually accompanies both inspiration and expiration. True roaring, depending on the paralysis and wasting of the laryngeal muscles, is usually incurable. Relief can be afforded only by the delicate operation of aryteneetomy. In the occasional forms, a cure can be effected when due to a removable cause. If the animal is valuable, I would advise having her examined by a competent veterinarian to ascertain the cause, and whether treatment is practicable. If the mare prove to be a true "roarer," it will not be desirable to continue breeding her. The offspring from either sire or dam that is a roarer, are very liable to inherit a predisposition to the affection.

A CROP OF SOJA BEANS.

W. Y. V., New York.—Would Soja beans be a good crop to sow on an old strawberry bed, turned under in July? If so, what is the best manner to put them in?

May Answer for Green Manuring.

Soja beans sown not later than July 10, will give a good crop for plowing under as green manure, or if frost do not occur before September 20, might be fed green. I would advise sowing in drills, 2½ feet apart, at the rate of one bushel per acre. The crop should be cultivated several times during the first month. If sown broadcast, the weeds would, probably, interfere badly with the growth of the crop.

Storrs Experiment Station. C. S. PHELPS.

What Soja Beans Are.

The name, Soja, as applied to beans, designates a class or species, Glycine hispida, and is not the name of a variety. There are many varieties in this class, and they vary widely as to the length of season required for growth. The earliest varieties mature in about the same length of time as our earliest varieties of garden beans, while the latest require a considerably longer season than we have here. There is, probably, no variety that would mature if planted in July that W. Y. V. would find of value as a grain crop, for the yield would be very small. The earliest variety that I look upon as of much value for a fodder crop, either to be fed green, or put into the silo with corn or millet, is one which I call "Medium Green." It requires about the same length of season as Longfellow corn. It would not ripen if planted in July, but in a specially favorable season, might produce considerable valuable fodder. We have, however, never planted any variety as late as July, and from what I have seen of the growth of these beans, I do not recommend it for the purpose suggested.

Massachusetts Ex. Station. WM. P. BROOKS.

Pretty Late for the Beans.

W. Y. V. does not say to what purpose he would put the crop when grown, whether it is to be turned under as green manure, or to be cut for feeding purposes. We have had no experience, whatever, with sowing Soja beans as late in the season as July. That class of plants is very susceptible to frosts, and would be destroyed by the first cold snap in the fall. I very much doubt whether sufficient growth could be secured between July and the first frosts of September, to prove remunerative as a feeding crop. Even as a green crop to plow under, I question whether it would not be better economy to sow Crimson clover which, as a nitrogen gatherer, would be equally efficient, and would have the merit of making considerable growth during the fall months, as it withstands light frosts perfectly. Soja beans, sown from May 20 to June 20, make a very desirable green fodder crop

for soiling purposes, or to supplement scanty pastures on dairy farms. They are also an excellent fodder to mix with other crops less rich in protein for the silo, but for curing as dry fodder, are not so desirable on account of the tendency of the leaves to fall from the stalks in drying. If sown, they may be drilled in two or three inches deep, and the drills 18 inches apart if sown in July; earlier sowings should not be less than two feet apart for the best results.

Rhode Island Ex. Station. CHAS. O. FLAGG.

Good to Follow Strawberries.

As to Soja beans, I find them a very good crop to follow strawberries on beds that I plow up directly after fruiting. I have the ground harrowed down well, and then the beans, about one bushel to the acre, are sown in rows three feet apart. They come up very quickly, and after running through them two or three times with the cultivator in the early stages of growth, they are allowed to grow at will and often make a growth of three to four feet before frost comes in the fall; a grand forage crop and fine for turning under. For very light, sandy land, I find that they do even better than cow peas. J. H. HALE.

MORE LIGHT TURNED ON WHITE GRUBS.

THE TRAIL OF THE "DUNG WORM."

W. G. S., Mathews, Va.—I read the article on Dung worms in THE R. N.-Y., and send you some of the large ones referred to. I was carting manure, and there were plenty of worms all through it. I noticed that each worm was in a hole that ran through the manure into the ground. I dug where the manure was, and found plenty of worms about one foot in the ground. These may not be the same as were in the manure, but I got them where the manure was. I could see the holes, so I dug down until I reached the worms.

S. G., Emmitsburg, Md.—I see by THE R. N.-Y. that the scientific men are trying to prove that the White grub is never hatched out, in or under manure. THE R. N.-Y. has never published anything to the contrary, except from Fred Grundy. Science is all right, and is what marks progress; but when science tells me one thing, and my own observation tells me another, science has either not covered the whole subject, or my experience has not gone deep enough. I have been cultivating strawberries for 20 years, and never planted in sod until last year, not having enough ground. M. Crawford, of Ohio, wrote me that he thought that I would not be troubled. I consider him one of the best, if not the best authority on strawberry culture in the United States. I could see no difference between those planted in clover sod, and those planted where the land was cultivated with corn and potatoes two years, using manure the first year on corn, and in starting clover, and using commercial fertilizers on the potatoes the second year. The hardest fight of my life was last year, perhaps, by reason of the drought, as the plants did not grow rapidly, and the grubs got in their work all the same. Can Mr. Slingerland, or any other scientist, tell me where the White grubs come from that destroy strawberries in a garden that is always in cultivation with the hoe, if the May beetle never deposits its eggs in cultivated land, and all white things in or under manure are harmless? I have never seen the small beetle which Mr. S. describes, but the larger Tumble bug, both green and black. I am also certain that white worms are generally found in piles of dung or manure lying in heaps for some time, that are harmless. Last spring, I removed the mulch, cultivated and returned it between the rows of strawberries, and hundreds of young White grubs were found under the mulch that had been trampled over in picking the berries. They were genuine White grubs or, at least, they destroyed some of the plants that were left to fruit next year, as so many of those set last spring were destroyed. I have come to the conclusion that the eggs that make White grubs, are deposited under anything that affords a hiding place. The mulch was only wheat straw, and the wheat that preceded the clover or the young clover furnished a hiding place, if they were not in the manure applied to the wheat.

ANSWERED BY M. V. SLINGERLAND.

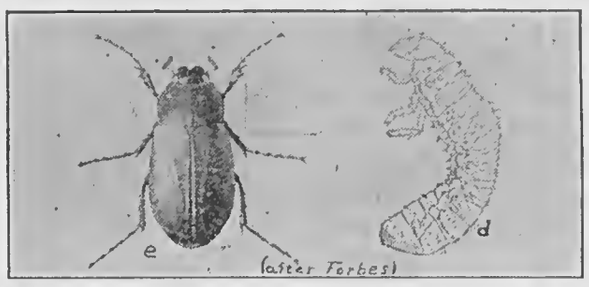
From the two large grubs received from W. G. S., I was enabled to determine just what insect both W. G. S. and S. G. have reference to in their queries. The grubs are, indeed, white grubs, but it appears that the White grub of the Southern States, is the grub stage of quite a different beetle from the true May beetles, the parents of the true White grubs, which occur all over the country, but are especially numerous in the Northern States. In short, there are White grubs and White grubs, The beetles that are the parents of the White grub of the South, are comparatively rare in the North. The true White grubs of writers on insects, are the young of May beetles, those well-known, large, brown beetles that buzz about in our dwellings, attracted in large numbers by the lights, in May and June. Thus, when I expressed a doubt that White grubs were ever found in (not under) manure, I referred only to the true May-beetle grubs; and I have yet to see any true White grubs taken from manure piles. Let us see how this Southern White grub differs from the true White grubs.

At *e* in Fig. 119, is shown, about natural size, a true May beetle. There are many different kinds of these beetles; we have over 20 in New York State. They are formed in little earthen cells in the ground in August and September, and they remain in these cells all winter, not appearing above ground until the next May or June. Soon after emerging, they lay their eggs from an inch to three inches below the surface of the ground, each egg being enclosed separately in a little cavity just large enough to hold it; sometimes several are placed near each other, but never in a common cell. The beetles live for a week or more, and as they feed at night on the foliage of trees, they sometimes occur in such great numbers as to do serious injury to fruit trees. They may be readily jarred into curculio-catchers from two to five o'clock in the morning. The eggs are usually laid in grass lands, where the grubs find abundant pasturage; but eggs have also been found in corn fields. They hatch in from 10 to 18 days, and the grubs feed on the roots of living vegetation during the growing season, usually retiring, in November, to a greater or less depth below the surface, depending upon the severity of the weather, and coming up again within reach of food some time in March or April.

It is not yet definitely known how long the insect lives as a grub. The indications are that a grub hatched in July, 1895, will attain full growth in June or July, 1897, and the beetles into which they transform, will appear in May or June, 1898, or this insect is three years in passing through its life cycle from the egg to the beetle. A genuine White grub, the young of a true May beetle, is shown, about natural size, at *d*, Fig. 119. They work on the roots of many different crops, and are often very destructive.

Now the Southern White grub referred to in the queries of W. G. S. and S. G., is the young of a beetle known as the Green June beetle, or, sometimes, as the Fig-eater (Allorhina nitida). It is very common in the South, but it differs in many respects in its life history and habits from the true May beetles. Thus, as S. G.'s observations have been confined to this Green June beetle, it is not to be wondered at that he thinks that "science is at fault," for in all that has been said in THE R. N.-Y. about White grubs, only the grubs of the true May beetles have been considered.

The Green June beetle, shown natural size, at *c*, Fig. 119, is of a green, velvety color, trimmed with a yellowish band. It is formed in a tough, hard cell of earth in June, and emerges a few days later. Nothing is definitely known of its egg-laying habits. The



WHITE GRUBS AND "DUNG WORMS." FIG. 119.

eggs are, probably, laid underground, and the indications are that the beetles are attracted to any soil that is heavily mulched, and where there is manure or decomposing vegetation. The beetles live for a week or more, and do not feed upon leaves as do the true May beetles, but upon over-ripe fruit and vegetables, like peaches or melons. They often swarm around the sap flowing from a bruise on a fruit or forest tree; however, they rarely do much damage. It is thought that, during most of their growth, the grubs are comparatively harmless, feeding largely on vegetable humus; but as they attain full growth, they often injure the roots of strawberries and grasses. The full-grown grubs (see *a*, Fig. 119) differ from true White grubs in being a little larger, more robust, more thickly covered with short, stiff hairs, and in their peculiar habit of crawling upon their backs. Sometimes they leave the ground in swarms, and crawl, strangely enough, upon their backs easily, making no use of their short legs. On one occasion, they were seen crawling over the pavements on the Capitol grounds at Washington, in such numbers that bushels of them were swept up and carted away. Their peculiar method of crawling, and very hairy bodies, will readily distinguish them from the grubs of true May beetles, which creep clumsily along by means of their legs.

How long the insect lives as a grub, is not known. It may undergo all its transformations from the egg to the beetle in one year; *b*, Fig. 119, represents the pupa stage of the insect, that is, the stage between the grub and the beetle. Thus, this Green June beetle, or Southern White grub has quite different habits from the true May beetles or their White grubs.

This brings us to the question, Does the Southern White grub breed in manure, or does it occur in manure piles so that it might be distributed with the manure? I doubt very much its breeding in piles of manure, as I know that it can and does breed in grass lands like the true White grubs. Doubtless it may breed more freely where the land is covered with a mulch, or manure containing much straw; but do the grubs feed upon manure piled or strewn upon the surface of the soil? In short, are they true "Dung worms"? It is true that the experience of W. G. S. and S. G. indicates that this Southern White grub may be introduced into a strawberry bed with manure, or the stronger presumption is that thickly mulched or manured beds attract the insects. Even the true White grubs are not confined to uncultivated lands, but will breed freely in cultivated crops as corn or strawberries.

The light is just beginning to dawn on the "Dung-worm" question. Let us keep our eyes open for anything in the form of a white grub that lives in or under manure. I will gladly lend my aid to determine the nature of any inhabitant of a manure pile you may find. If farmers are liable to introduce insect pests into their crops by the use of farm manures, we all want to know it. More "Dung-worms" wanted!

Some Apples for Maine.

W. M. H., Ellsworth, Me.—1. What varieties of apples shall I need here for a good orchard? 2. Will the American linden be good for shade and ornamental purposes? Is it of value for bee purposes?

ANS.—1. Probably Baldwin, if it will stand the winters, and I think that it will. As an alternative, or companion with Baldwin, I would add Yellow Bellflower, if high culture be given. Fine Bellflowers bring $4 and $5 per barrel in Boston, but it takes skill and high culture to produce these. 2. Basswood makes a fine shade tree. As to its value for honey bees, I am not sure; but my own impression is that it is a good tree for that. T. H. HOSKINS.

Selling Seed Peas Direct to Growers.

Pea Grower, Ontario.—We are in the seed-pea growing district of Canada, and it seems to me that we might be able to sell direct to growers in the trucking districts of your country. From the late articles on pea growing, I see that there is a great difference between the cost of seed to your growers, and what the dealers pay us.

ANS.—Vast quantities are used here, in southern New Jersey, but it would be best for seed growers to sell to the dealers, for this reason, among others: Peas should be shipped from Canada in car-load lots. If small lots of 20 to 50 bushels are shipped, they would have to change cars several times. In changing in this way, the bags get torn, the peas waste, and, with peas at $5 and $6 per bushel, this would be a serious loss. A car-load comes through without change, and, if a bag breaks, the peas all stay in the car and are not lost. Any of our country dealers could take a car-load and some of them several. CHARLES PARRY.

The Mammoth Clover Seed Crop.

D. H. S., Northport, Mich.—How shall I treat Mammoth clover for seed? In this latitude, the first crop ripens about the first of August. Although clover does well here, no seed is raised, on account of not being able to get it thrashed. There is not a clover thrasher in this county; in fact, I never saw one.

ANSWERED BY JOHN M. JAMISON.

The first crop being the seed, and growing during the most favorable season for plant growth, one great point is to manage the large amount of straw produced. If allowed uninterrupted growth during the whole season, it is almost sure to lodge, which will prevent, to some extent, perfect seeding, and the amount of straw will be so great that it will be costly handling. To prevent this, it should be closely pastured or clipped with the mower. One of the most successful growers I know, pastures it, and says that the part of the field most closely pastured, gives the best seed returns. The only way I can account for the fact that grazing is better than clipping, is that more of the insects that prey upon it are destroyed by pasturing, than by clipping.

In the latitude of southern Ohio, it should be pastured till June 10 to 15. If the field is not pastured evenly, run the mower over it, that it may all start together, otherwise it would ripen unevenly. In cutting, care should be exercised not to cut too green. Not only the bloom, but the burr should take on a brownish hue before being cut. The best way to cut, is with a self-raking reaper, which will deposit the bunches to the side of the swath cut, and with the heads exposed to the sun and air. Many use a mower with a platform attached to the cutting bar; this requires two men to do the raking, the first one riding the platform till he has raked off the bar a bunch sufficiently large, when he steps off the platform back to the power wheels, drawing the bunch after him. Then the second man takes his place and repeats the operation. Others use their harvesting machines, removing the binder and attaching a slatted box to catch the clover when elevated, and it is discharged from the box by the use of a lever.

Mammoth usually yields a larger amount of seed than Medium clover. It ripens at a time when the farmer is at comparative leisure, and when it is easy to get it hulled, because hullers are not crowded. If hulled from the bunch, the bunches should not be moved after cutting, till the huller is due in the field, when they should be lifted from the ground that they may dry out. The less handling before getting to the machine, the less seed will be wasted. Another advantage Mammoth has over Medium Red clover, lies in the fact that the midge has never been able to time its visits so as to damage it. As soon as growing clover for seed becomes an industry in a community, hullers will come in. In this section, there are four times as many hullers as there were 12 years ago.

A VARIEGATED cucumber has recently appeared in the grounds of Walters & Reuton, Cheshunt, England. One-half the fruit is green, the other half, yellow. The entire plant is parti-colored, also, the leaves and stems being yellow on one side, green on the other. From the white side, two entirely white cucumbers were produced.....

MANY years ago, we tried a number of varieties of the then so-called curculic-proof plums, only to find that they were not curculio-proof. The Abundance is the first of the Japans that has given us full crops of plums, a quality which, as much as any other, impressed us favorably with the Japan plums so far as tried. Many of the plums, as we have said before, bear the crescent marks. Prof. Meehan, in his Monthly, cites the case of a Japan plum, and a variety of the ordinary garden plum, growing side by side. Every plum on the latter rotted from the puncture of the plum weevil, while all of the fruit of the former ripened fully. There were the crescent marks on some, but there were no worms.....

COMMERCIAL fertilizers, as our respected friend, Prof. S. W. Johnson, remarks, do not fully restore what the crops remove, and as the land, by a long series of harvests, has once been reduced to a comparative infertility which the superphosphate or potash or nitrate has relieved, so it will, in time, if cropped by *their aid alone*, fail again because some substance or condition which they have not supplied has been exhausted. We know, for example, that when muriate of potash and sulphate of ammonia are given to growing crops, the potash and ammonia are appropriated by the plant, while the muriatic acid and sulphuric acid are left in the soil. That they may *not accumulate* in such quantity as to injure vegetation, it is essential that the soil contain some substance, itself harmless, which shall take up and neutralize the liberated acids. Carbonate of lime, Prof. Johnson says, is one of the best materials for this purpose, and on the soil of regions where lime is naturally deficient, as when the well water or spring water is "soft," we would lose no opportunity to add carbonate of lime to those of our fields upon which we have made or intend making, extensive use of potash or ammonia or of fertilizers containing them.....

EXPERIENCED growers reckon that three baskets per tree are an average yield for peach orchards five years planted. Four baskets per tree are deemed a maximum crop. When peach trees are set 18 feet apart each way, there are 130 trees to the acre. Prof. Johnson's analyses show that an annual return of 20 pounds of nitrogen, 22 of potash and five of phosphoric acid, will restore to land what the average peach crop requires, and that 27 pounds of nitrogen, 30 of potash and seven of phosphoric acid, will make good the deficit caused by a maximum crop, *provided* there are no other sources of loss besides the export of the fruit. But it is one thing to return to the soil what the crop has removed, and another to maintain the fertility of the soil so far as it relates to the suitable supply of plant food. "The active feeders of the tree in the soil," continues Prof. Johnson, "are the young rootlets and root-hairs that are put forth the current year. The roots of five and two years ago are, probably, themselves totally incapable of feeding the plant. Even last year's roots are of little use, except as they are a necessary basis of the new rootlets that develop this year. The young roots of each successive year of growth thus occupy different positions in the soil, and since most of the plant food in the soil is incapable of movement, much of it at any time is out of the reach of the rootlets, and to be fertile, the acre of soil must contain *many* pounds of plant-food in order to insure to the crop the *few* pounds which the crop needs."....

"Soluble and active, and, therefore, costly fertilizers, are best applied in small doses, at or near the surface of the ground, and at short intervals, while cheap, insoluble and slowly-acting manures may be used in large applications, and deeply mixed, in order to establish a more permanent state of fertility." Again, Prof. Johnson says: "Wood ashes or cheap lime should be broadcasted at the rate of some 500 pounds per acre yearly. If, as is becoming common, Crimson clover or other legume be sown to gather nitrogen, this dressing of lime and a liberal use of potash salts will, probably, be essential to the highest success.". .....

LOVETT'S blackberry is reported as unproductive and tender in Canada.....

THE Geneva grape was sent to the Rural Grounds about eight years ago, by Chase Brothers, of Geneva. It is an oblong, white grape, about the size of the Concord. It is not of the highest quality, but it is entirely free from foxiness. The vine is healthy, hardy and prolific .....

MR. N. T. PULSIFER, who resides near Manchester, Conn., has given Crimson clover a pretty fair trial during two seasons. He is now satisfied that it is not adapted to his climate unless it be covered with snow throughout the winter. Other farmers, he writes us, have had the same experience in his section .....

MR. CHARLES R. DUFF, the superintendent of Houghton Farm, near Mountainville, Orange County, N. Y., reports that he sowed Crimson clover September 18. It germinated and grew slowly on account of the dry weather. He sowed one bushel of oats per acre with it to act as a mulch in winter. Before winter set in, the ground was covered with clover six inches high; the oats were a little higher. Everything looked well until the freezing at night and the thawing in the daytime began. This lifted the clover out of the ground, breaking off the roots and, in some cases, lifting them out entirely. He says that there was clover left on top of the ground with roots a foot long. The past winter was one of unusual severity at Houghton Farm, but Mr. Duff is of the opinion that everything would have to be very favorable to make fall sown clover a success. He has saved a small plot where it did not entirely winterkill, and has sown the rest of the field again with Crimson clover, hoping to get a stand to turn under. We do not, however, believe that the sowing of Crimson clover in the spring will ever become popular .....

BULLETIN No. 56 of the Kansas Agricultural College, tells us about experiments with (1), corn and (2), Kaffir corn. As to time of planting, beginning April 18 and ending May 30, there being seven plantings in all, May 2 gave the largest yield, April 18 the next largest, April 25 the next, and May 23 the lowest. There is nothing to be learned by this experiment.

As to frequency of cultivation, the average being that of four years, two cultivations a week gave a yield of grain of 66½ bushels per acre, once a week 69½ bushels, once in two weeks, 73 bushels. The average for three years shows a yield from three cultivations a week, of 26½ bushels per acre, twice a week 28¼; once a week 27; once in two weeks 28¼; once in three weeks 27; once in four weeks 26 bushels per acre. How are we to explain this? In another series of trials, two cultivations during the entire season gave the largest yield, six times the lowest. In all the experiments, much cultivation seems to have been detrimental rather than helpful. Experiments for four seasons have been tried to show which seed will give the largest yields, that from the butt, middle or top of the ear. The results show that the butt kernels gave 66, the middle kernels 62½, and the tip kernels 61 bushels per acre.

The yields of Brazilian Flour corn, Dole 90 day, and Red Kaffir, are compared. The first gave 23 bushels of grain per acre, the second 18½, and Kaffir corn 43. The yield of fodder is practically the same.....

SAGHALIN, as our friends should know, is a close relative of Polygonum cuspidatum (there is no familiar name, except, it may be, the Pointed-leaved knotweed) and its way of spreading and taking possession of the land, is the same. We have told our readers that it

(*Continued on next page.*)

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COW PEAS—Catalogue free. Address T. B. PARKER, Goldsboro, N. C.

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on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 60c.; bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed Hulled. Our **Early Siberian Oats** are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address HOWARD LOUCKS SEED CO., Chittenango, N. Y.

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I will sell as long as they last at 50 cents per bushel, shipped in sacks, or $1.50 per barrel. C. A. SWEET, Buffalo, N. Y., care Third National Bank.

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Very fine. For table or ensilage. A limited quantity at 90 cents per bushel, f. o. b. Bags, 15 cents. Send money with order.
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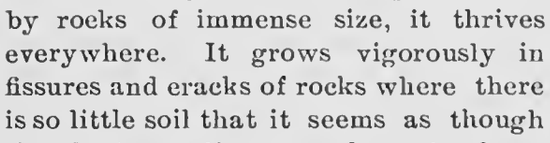
RURALISMS—Continued.

(P. enspidatum) has been growing in the Rural Grounds for 20 years, more or less. It sends out root-stocks in all directions. As we have said, shoots, like those of asparagus, grow 25 feet from the parent plant, the root-stocks foreing themselves through a compact lawn. Nowhere, perhaps, may we better study its monarchical ways, than in Central Park, New York. It was liberally planted there 25 years ago, and, although single plants were set in various places, we may now see how it has crowded out everything else about it over considerable areas. It matters not whether in low or high positions, near the lakes or in soil scarcely six inches deep underlaid by rocks of immense size, it thrives everywhere. It grows vigorously in fissures and cracks of rocks where there is so little soil that it seems as though the plant must live upon the rocks themselves, or alone upon the air. The writer (to-day, May 15) finds the average height of these plantations of Polygonum about seven feet .....

THE severity of the past winter which, as we shall show later, has killed many supposed-to-be-hardy grape vines, raspberries, etc., has not harmed, in the least, the hybrid Rugosa-Harison rose, Agnes Emily Carman. Permit us to say, once more, that this rose does not show its wealth of foliage until the third year, and it will stand any amount of high culture .....

WE are afraid that our Hypericum Moserianium has been killed by the past winter. This is to be deplored, since it is the showiest of the St. John's worts, and the most prolific of bloom.....



Water Gate of Wire.

J. C. S, ORE BANKS, VA.—The water gate plan with stone pillars as set forth by G. T., page 318, is open to a number of serious objections. The cost would be unnecessarily great. The pillars would act as a partial dam at high water, and cause the water to spread over more than the customary 100 feet. This spread would be still more augmented by the heavy gates, as a considerable pressure of water would be necessary to move gates 30 feet wide, and even then the flow of water would be retarded.

A better plan, I think, would be to get heavy posts, 10 or 12 feet long, set them, at least three feet deep on each bank of the stream, after first cutting a tenon on the upper end of the posts. Then cut a mortice in another piece of timber for a cross-piece on top, and also spike a piece of timber to the post in the bed of the stream. Now you have a substantial frame for a water gate. For about 75 feet on each side, I would run woven wire fencing, snugly fitting a stout pole or 3x4 scantling between each post near the top; or, if the posts be sawed off, they may be spiked on top from middle to middle of the posts. I would prefer fencing 50 inches high made of 12 No. 9 horizontal wires, and 11 No. 15 mesh wires. The breaking strain of such a fence is 22,658 pounds, or over 11 tons. As to the cost, I need only say that, if I were a near neighbor to G. T., I would gladly contract to furnish the material and do the work for $10. The wire fencing offers no material resistance to the flow of water. Any trash that may accumulate, should be removed to higher ground, or else burned after the water subsides.

Sorghum in Virginia.

J. I., CULPEPPER, VA. — The severe drought of the past few years, has caused much inquiry as to the best forage to bridge over a drought. After testing a couple of acres of sorghum myself in 1894, I communicated the benefits to some of my neighbors. The experience of one of them I herewith send as he gave it at my request:

"The land had been in clover, but all had died out. It was broken up the first of April, and harrowed twice. The seed was clean, and sowed with a drill at the rate of one bushel per acre, the first week of May. The land was poor and 500 pounds of homemade guano were used. Six acres were sown, and all were surprised at the growth. By August 1, it was from six to eight feet high, and as thick as it could stand on the ground. The drought had then set in, and I commenced to feed to 50 cows all they would eat. It took the place of grass, and the flow of milk was about the same as when they were turned on grass. I fed my cows about two months, and in that time, they consumed about two acres.

"When the heads began to turn brown in September, four acres of the sorghum were cut and put in the silo with corn, putting in one load of corn and one of sorghum. As well as we could estimate, the sorghum made over 20 tons of green feed to the acre. As a feed, I think it better than ensilage corn, as seeds and sugar more than equal the grain, the way ensilage corn is usually planted. If it always does as well as it did last year, it is, by far, the best forage crop that can be raised, at least I have never seen anything to equal it." C. H. WINE.

"Fighting Canker Worms."

M. V. SLINGERLAND.—On page 338, I find the following note:

Another way of fighting Canker worms which may be used by those that do not have spraying machines, is to mix thoroughly one part of soft water, and apply with a swab on a pole to the nests, before they spread over the trees. W. E.
Hector, N. Y.

W. E. evidently does not understand what Canker worms are. He is talking about Tent caterpillars. Canker worms never make any nests, but always feed and live openly from the moment they emerge from the egg on the bark. The method suggested is all right for the Tent caterpillars, but could not be employed against Canker worms. There are so many different kinds of insect pests, each working and living in its own peculiar manner, that one should always be very careful in making recommendations, and especially so when not sure which kind of insect is the depredator.

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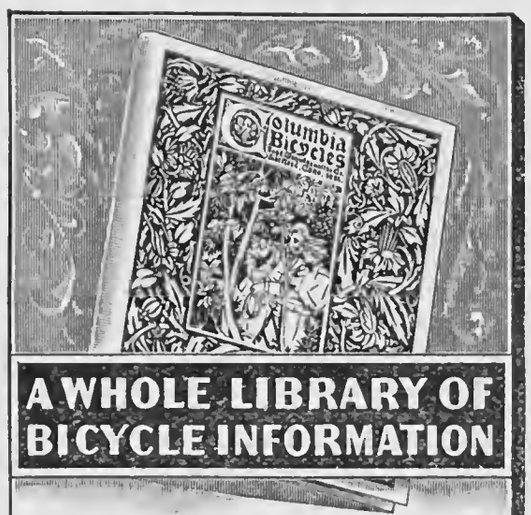

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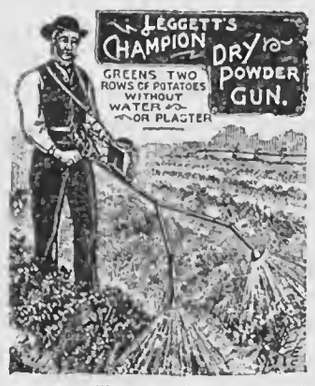

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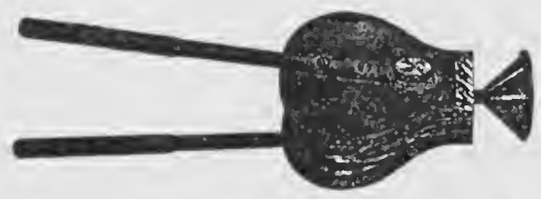

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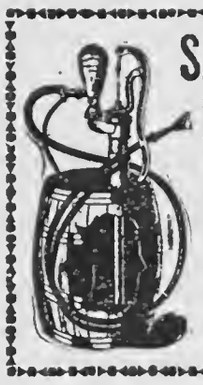

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THE RURAL NEW-YORKER.
Corner Chambers and Pearl Streets, New York

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SLUG SHOT has a history.

SLUG SHOT is a cheap powder, remarkably fine, very diffusible, and clings in a fine dust upon any plant over which it is dusted. It kills Currant Worms.

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SLUG SHOT is not a new or untried preparation. Kills Cabbage Worms.

SLUG SHOT as a compound general insecticide was put on the market in the year 1880. It kills Rose Slugs and Blight.

SLUG SHOT kills insects that prey on vegetation, and drives off or kills Cockroaches and Bed Bugs, too, besides fleas on dogs and cats.

SLUG SHOT primarily was used on the Potato Bug and then the Currant Worm. Then on Roses and flowers generally. Cabbage was saved by it. Beans, Tomatoes, Tobacco and Radishes were treated. Turnips by the acre were protected from the fly. Melons from the cut-worm and fly beetles. Saved the Plums from the curculio. The Quince covered with slugs was completely cleaned. The Apple was saved from the Canker worm. Saved the Elm trees from being destroyed by the Elm Tree beetle.

SLUG SHOT went into the Jersey Cranberry Bogs; acre after acre of Cranberry vines from grasshoppers were saved.

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SLUG SHOT does what Hellebore will: where tobacco is useful, it is more so; if sulphur drives and smothers vermin, so does this. If arsenical preparations kill insects, more safely can this be depended on. Try it carefully.

SLUG SHOT has been used with safety to man and beast and fowls for 16 years. Subject to exhaustive criticism, there has not appeared any known cause of harm in its use to either man or woman, girl or boy, horse or cow, dog or cat, calf or sheep, goose or turkey, hen or pigeon, hog or ox, or any other quadruped or biped: and it has been used freely to destroy lice on cattle, cats, dogs and fowls.

SLUG SHOT is put up in 5 and 10-pound bags; kegs, 125 pounds; barrels, 235 pounds in bulk; canisters with perforated top. Is cheap enough for everybody to use, and is

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, MAY 30, 1896.

CONSIDERABLE space is given this week to a discussion as to the probable value of cow peas in the North. THE R. N.-Y. grew many varieties of cow peas on its Long Island farm 16 years ago, and it was thus shown that several kinds may be grown to maturity in the latitude of New York City. J. H. Hale found the cow pea so valuable in his Georgia peach orchard, that he determined to try it in Connecticut. He has found it very valuable on his Northern farms. This is one of the plants that you ought to try. For many purposes at the South, it is more valuable than Crimson clover. Our information this week comes from Southern men who formerly lived at the North.

⊙

IN an accident to a ferry boat in New York harbor last week, two horses hitched to an express wagon, were thrown into the water. Their traces were cut and they swam away into the fog side by side. They kept afloat nearly two hours, when one sank, while the other was rescued, though so exhausted that he could hardly stand. A policeman who saw them swimming past the pier, says that when he called to them, one horse looked at him and then turned and apparently spoke to his companion, for both turned and swam wearily up to the pier. They displayed almost human intelligence in waiting for a chance to be taken out. Surely the horse is man's noblest brute friend.

⊙

LAST week, we gave a picture of an old-time settler's home. This week, by way of contrast, we show a modern farmhouse—the residence of Mr. R. Galaway of Orange County, N. Y. The plain, humble-looking building shown last week, without shade or natural ornament, was, doubtless, a satisfactory home for the farmer who built it; but it seems almost as bare as a prison by the side of the beautifully shaded home pictured this week. There are great possibilities for adornment in the average farmhouse front yard. With trees and shrubs, a few flowers grouped to the best advantage, and a brushful of paint applied in time, a farmer can, at small expense, add much to the appearance, if not to the value, of his farm.

⊙

THE Department of Agriculture has received a communication from the British Board of Agriculture, relating to samples of imported butter analyzed under direction of the Board from May, 1895, to February, 1896. The total number of samples analyzed was 995, coming from 12 different countries. Samples from seven of these, or more than one-half, were adulterated. Of these Belgium furnished 5 samples, 1 adulterated; Denmark, 182, of which 8 were adulterated; Germany 154, 43 adulterated; Holland 250, 66 adulterated; Norway and Sweden 109, 2 adulterated; Russia, 49, 5 adulterated. The countries contributing samples among which no adulteration was found, were, Argentina, 4 samples; Austria, 57; Canada, 39; France, 62; New Zealand, 21; United States, 63. The showing of our own country is certainly a very encouraging one. It is a notable fact that Germany had the highest percentage of adulteration of any country—about 28 per cent; this, too, from a country that has made the biggest howl of any foreign country over the alleged adulteration and unhealthfulness of imported food articles, especially those from the United States. Next to this came Holland, a country long noted for its dairy products, with over 26 per cent of its samples adulterated. And even Denmark, whose butter is supposed, in England, to equal the best, furnished several adulterated samples. The Britisher desires pure butter, and this test will show him that such a thing is made in this country. If this good record be continued, our butter trade may be largely extended in that direction, and the disastrous gluts of the past few months may be rendered less frequent in the future. Suppose there had been no legislation against "oleo" in this country! How many of these samples would have been "pure"?

⊙

"Oh, dear! What shall I do if this dry weather don't let up!"

"You might mulch your ground; that will keep in moisture."

"You don't think that I have straw enough to cover over five acres of potatoes, and ten acres of corn, do you?"

"Straw is good, but, perhaps, no better than forest leaves or bog hay. Any of them, if properly put on, will help wonderfully."

"Do you think that I am so big a fool as to cart stuff enough to mulch 15 acres?"

"I mulch my ground."

"What with?"

"I spread an inch of dry soil over it."

"From where do you cart it?"

"I don't cart it at all. I make it on the ground with a good harrow or cultivator."

"Oh!"

⊙

WE conclude that many gardeners are irrigating small fruits and vegetables for the first time this season. Particularly is this the case with strawberries, for the dry weather has threatened destruction to this crop. The tendency has been, perhaps, to pour on too much water, for there is such a thing as giving a plant too much drink. The Parker Earle strawberry, in suitable locations, is about the heaviest bearer known. The usual advice has been to give it all the food and water you can get hold of. Mr. James Nimon, who originated the berry, has this to say in regard to irrigation:

I would advise you to be very cautious about watering your Parker Earles after the fruit begins to ripen. A friend in western Texas writes me that he spoiled part of his crop by overwatering. One good watering a week will be found sufficient.

The present season has given us a good chance to observe the difference, if any, in the growth of the roots of mulched and unmulched strawberry plants. It is claimed that mulching induces a root growth nearer the surface. As the result of experiments in California, it is claimed that too much water not only makes the fruit soft, but injures the quality by increasing the acidity.

⊙

FOUR members of the United States Senate Finance Committee, oppose the passage of the "Filled Cheese" bill. It is the same old story that has been so often fought over with regard to "oleo" and other fraudulent goods. Such men undertake to prove that "filled" cheese is a cheap and healthful food, and that, by prohibiting its manufacture, Congress strikes a blow at the rights of poor men. A good deal of such opposition comes from those who claim that "filled" cheese creates a market for cotton-seed oil or tallow—though they are not usually honest enough to admit this. The absurdity of their argument is shown when we understand that the bill before Congress does not prohibit the manufacture of this bogus cheese, but simply prevents dealers from selling it for the real article. It saves the poor man from being swindled, for he may still buy his cheap cheese if he like, knowing just what he is getting. This bill is still in danger. Any bill held in the United States Congress, is in danger for no one can tell what evil influence will fall foul of it there. Every dairyman in the country should write to the Senators from his State, and urge them to support this measure, and bring it to a vote at once.

⊙

IN sending his report on Crimson clover, a Missouri subscriber makes this statement:

This spring, but two plants were alive, a cluster of about a dozen leaves not one-half inch high. I pulled one up, and never was so surprised; that little, runty bunch of half-dead leaves, about as big as a half dollar, had a tap root nearly eight inches long, and half the size of a lead pencil.

It certainly is surprising to see how this plant grows when it once gets a start. THE R. N.-Y. claims that when one can obtain a fair growth before winter sets in, he will obtain a profit over cost of labor and seed, even though every plant die before spring. Another point about this clover is brought out in this note from a Massachusetts man:

Mr. Agee is right about Crimson clover. Three years ago, one of my neighbors sowed a few pounds of seed on the most barren spot on his premises, saying that, if it grows there, it would grow anywhere. He was right; the plants made a feeble growth and, finally, succumbed. He never sowed any more. When people will recognize that plants need food as well as humans and animals, we shall not hear of so many failures.

Buckwheat has been called the goat among cultivated plants, because it seems to be able to live on the coarsest and hardest food. Rye or cow peas will also grow on very poor land. Clover, however, needs better care, and will richly repay it. The way to make a scrub is to turn the little calf out in the fly pasture to live on dead grass, air and poor water. Give both clover and calf a fair chance!

⊙

EVERY year, some one starts in to make money by offering a bait to the dairymen who want to make something out of nothing. It is usually in the line of a substance or process that will increase the amount of butter that may be made from 100 pounds of milk. Recently, an advertisement of such a process appeared in the New York papers. A friend of THE R. N.-Y. answered it, and received a letter from Philadelphia from which the following is a quotation:

The reason I am desirous of interesting an active person for a half interest in this business, is on account of my own business occupying really more time than I have to devote to it. Philadelphia is such a slow town, I decided to advertise in New York City, knowing that I would be apt to find some energetic person who would have the "get up" and "go" about him sufficient to push this business to a successful issue. The article that I have is very valuable, and is the accidental discovery of an amateur chemist. There is nothing harmful about the preparation whatever, and it will do all that I claim for it, namely, at a cost of less than 30 cents, it will increase the yield of butter at least 25 per cent, and sometimes more. I am willing to guarantee that from 100 pounds of butter as now made, by the use of my process I can enlarge it to 125 pounds, with only the cost of 30 cents additional. I would be pleased to show you the process if you can find it convenient to make a trip here, and if not satisfactory to you, I will refund you the amount of your expenses coming and going, including hotel.

Now, the only way in which 100 pounds of butter can be "enlarged" to 125 in churning, is to add some substance like alum or rennet that will coagulate a portion of the cheesy matter in the milk, so that it will collect with the particles of butter fat. The so-called "butter" will be 20 per cent cheese and in one sense as much of a fraud as is oleomargarine. Such "butter" would be quickly detected by those who buy it, and in the end, such a process would ruin any dairyman who employed it. It would serve him right, too, if he really tried to sell such stuff for real butter.

⊙

BREVITIES.

Mark this poor pumpkin seed—its start is small,
Just tiny leaflets breaking through the ground;
Yet see the vines before the frosts of fall,
Grow till they hide the field for rods around!
But if you'd feed the plant and give it drink,
Back to the little hill you still must go—
The vine is only a connecting link
To carry food out where the pumpkins grow.
With due respect for you, my worthy friend,
Your life is like a rampant pumpkin vine;
In babyhood, you start and feebly send
Small leaflets out—too weak to run or twine,
Until, well nurtured by a mother's care
And true home influence, you run at will,
And send your searching fingers everywhere!
Yet the headquarters of your life must still
Be at the starting point—the roots that cling
To the old home will influence each day,
And from the dust of memory, will bring
A balm or curse that ever more will stay!

WHAT do you curb impatience with?

GET ready for another short hay crop.

THE nostrils are the proper lung holes.

PINCH off every bud on spring-set strawberries.

MICHIGAN is about "done" as a lumbering State.

STOCKING the garden with a hose is in order just now.

JUST as it was last year! The latest Crimson clover reports are the best.

DON'T sing "Home, Sweet Home!" in a *beary*tone voice! Stop growling!

NOTHING so constant and exact in value the world over, as "human nature."

WE want 10 poles of Lima beans for each member of the family in the home garden.

MAYBE, if you make Saturday a half holiday, Sunday will come nearer being a whole holy day.

SEED that is planted in soil that is lumpy, will surely make plants that are laggard and grumpy.

A HEN has little or no saliva in her mouth. That is one reason why dry ground grain is not to her taste.

THE White grub is a horrid thing, he makes your feelings ache—and yet, for Mrs. Leghorn Hen, he beats a sirloin steak.

YOU build a house with saw and hammer, but if it be your best desire to build a dairy herd, you clamor, not for a saw, but purebred sire.

If we can't make laws to prevent people from making fools of themselves, let's, at least, have laws to stop them from making fools of others.

THE Lincoln sheep ought to be popular with Americans, but there are few of them outside of England. They thrive best on low or marshy land.

IT is generally supposed that a large tree is capable of finding a water supply, however dry the surface may be. Prof. Crozier has found Beech trees that have actually been killed by drought.

A "LAZY man's method" of growing strawberries is to bore a hole in a wide board, and let the plant grow up through the hole. The board shades the ground, conserves moisture and kills weeds.

THE drought extends everywhere. Even in Cuba, the "rainy season" seems to be late—to the disgust of the Cubans who find fever more dangerous than dynamite, and easier to import than cartridges.

MR. O. W. MAPES advances the theory that roup in poultry is not unlike whooping cough in the way that it affects poultry. It is worse among young fowls. Older birds, particularly those that have had the disease, are less susceptible to it.

COW PEAS AT THE NORTH.

HOW A MARYLANDER WOULD GROW THEM.

You ask: "What would you do if you were to move from 100 to 200 miles north, and were desirous of cultivating the cow pea, either for forage or for green manure?" If I were geographically and mentally situated as above, I would prepare the soil the same as for corn, and as early as danger from frosts was past, would sow with a grain drill, 2 or 2½ bushels of the cow peas to the acre. If the land were too poor to insure a fair growth of vine without it, I would drill in with the peas 200 or 300 pounds of commercial fertilizer to the acre, something containing a fair per cent of ammonia, so as to give vigor to the vines. When the first pods began to mature, the vines would be turned under and the ground rolled; this could all be accomplished in time to seed the land to wheat. If the vines were intended for forage, I would cut before the pods began to mature. I have used quite a good many peas for turning under, and turning under a week too soon draws the line between profit and no profit in the operation. I rate the pea third as to value for turning under here—first, Red clover; second, Crimson clover, and third, cow peas.

Maryland. J. W. KERR.

Why the Cow Pea is Valuable.

The southern cow pea, which is truly a bean, is worthy of trial in the latitude of the Middle States. Varieties are as numerous as of corn or potatoes, and only quick-growing varieties should be tried. Probably the Black pea is the best, as it will mature in 60 to 90 days, with hot weather and a warm soil. One bushel of seed per acre is sufficient, and may be put in with a wheat drill, all spouts open, or with any other drill in rows as close as can be worked with a narrow cultivator. One or two workings are sufficient. A little rock and potash are the correct fertilizer, though any honest goods will do. Planting must not be done till the weather is settled, and the ground thoroughly warm and not too wet, as they easily rot.

In the latitude named, the cow pea cannot be used as a catch crop in corn as at the South, and experiment only can determine whether it would mature sufficiently to be plowed under for wheat. Doubtless it would be better to take the crop off for hay or ensilage. It is very valuable to mix with corn in alternate loads for the silo, as this mixture gives nearly a balanced ration, and obviates the disagreeable necessity of purchasing much costly muscle-makers in bran, oil meal, etc. There is plenty of experience in support of this claim; my own feeders are very positive about it. On poor, thin soils, especially in orchards, it proves to be a good practice to allow the crop to die where grown, and lie there till spring, when it readily goes under with the plow. The improvement thus given to orchards is quite marked.

By all means, try the cow peas, but go slow. Many seedsmen handle this seed, but in winter and early spring, it may be bought in Norfolk and other places down to 65 cents per bushel. On a farm fertile and heavily stocked, corn will furnish more bulk and weight of ensilage and fodder than any other plant, fertilizers and the muscle-making foods will do the rest. If land is cheap, thin and plentiful, as is likely to be the case with such soils, we can afford to plant the cow pea, give it the entire growing season, harvesting less in quantity, perhaps, as much in value, and leaving the land much improved by the nitrogen trapped and the rock and potash added. We have summer this year without the intervening spring, so it grows already late for the northern farmer to try this crop this year, unless he know where to get seed quickly. E. H. BANCROFT.

Delaware.

Broadcasted and Fed to Swine.

Up to about 45 degrees, or even further north, wherever six weeks or two months of summer can boast of warm nights, I would expect successfully to grow some varieties of this valuable legume, the cow pea. Where soil improvement, or forage is desired, it is best to sow the seed rather thick in order to secure uniform distribution of roots in the soil, and to grow many fine stems rather than fewer coarse ones. The cow pea is a child of the sun and loves warmth, so it should be planted or sown only after the summer temperature has risen to a point which insures warm nights, and continuously favorable weather for growth. The further north or the later the planting, the earlier maturing variety will be desired, and this is undoubtedly the Whip-poor-will.

After preparing the ground moderately well, sow broadcast a quantity of beans according to the richness of the soil, from 1 to 2 bushels of seed per acre. Once sown no more care is needed until the crop is to be harvested. One of the ways it is cheaply done, is to turn the stock in on it here in the South, and this is the usual way to fatten swine. Pea pods are hand picked until seed enough for winter use and next year's sowing is secured. Then the crop is given over to the swine, and even the razorback takes on fat enough to look a pretty respectable porker when the crop is good and the area large.

The vines may be mown with a machine and fed green, or made into hay with more care given to this process. Broad-leaved plants are rather hard to cure as hay, and need time and special attention. In this section, it is common to stack the wilted vines in thin, small stacks, and let them stand until cured, then house when damp enough to be moved without breaking and losing the leaves.

For soil improvement, the vines are turned under as would be any other green crop in the locality where grown. Owing to so much heat, and very rapid changes, it is best not to plow in much green matter here in the South, but to wait until near the mature growth when there is little green matter, and also when the really valuable plant food has increased to the maximum amount in the crop. It may be well for the grower in higher latitudes to observe this for the latter season, even though the former has no influence.

It is common to apply potash and phosphoric acid with the cow pea to help it, as well as to furnish the next crop with these ash foods which the pea cannot manufacture. For heavy growth of green vines, the Wonderful or Unknown pea is recommended. There are a considerable number of varieties which are valuable, but all are well within the two named above. Whip-poor-will is the one requiring the shortest season for maturity, and the Wonderful will grow longest and produce most vines. FRANK E. EMERY.

North Carolina.

Get Acquainted With Mrs. Cow Pea.

I have had faith that Crimson clover would succeed as far north as central New York. I made some trials of it—through friends—still farther north, but can chronicle no successes. I think that the why is plain, and lies in the fact that it will grow beneath the snow covering, and is smothered by its own growth. It is found to be so here, if a dense crust forms on the snow. I am sorry that northern farmers lose the usefulness of this grand plant. Moral: Move to the kindly soil of Delaware, where the Crimson clover drinks in free nitrogen, and the farmer breathes balmy breezes from the great bays east and west of him.

More than one plant is known, however, capable of doing the same work as Crimson clover. None is known that could be called a stolen crop, or that has all its advantages; but for a forage crop, and for green manuring, the southern cow pea takes second rank only when compared with Crimson clover, even here. Some trials made with cow peas in northern New York were reported failures. Failures happen here, and sometimes, from the same reason, "did not come up." The cause, usually, is cold, or excessive wet. The cow pea is a bean, must be treated as carefully as a Lima, and planted not on top of cold, wet, lumpy earth, but at least two inches deep in warm, mellow soil, and not until reasonably sure of continued sunshine. If I lived in central New York, or even farther north, I would grow black cow peas; at least, I would plant them in drills 16 to 20 inches apart, and cultivate them once or twice (though I might have to send to Delaware for a mule and a darkey to do the cultivating). When the plants were large enough, I would cut and feed green to horses, cattle and hogs; doubtless, also, the festive goat would prefer them to tomato can wrappers, but that point I have not proved, as "we had our goat" before cow pea day. I would like to plant enough so that when the first formed pods were two-thirds yellow, I could cut some for hay and mainly cure in the windrow or cut into the silo, and perhaps, to balance the ration, mix with corn ensilage in the silo. The crop safely housed, I would rest sure that the horses and cattle would eat it greedily and thrive. The hogs root, and the chickens scratch for any seed thrown out where they can get it.

For green manuring, I would wait until the vines were ripe before turning under. If the land were not to be used until the following spring, I would wait until then before turning under; here I would turn them under in the fall, and sow rye, or if time enough, Crimson clover. I would keep a growing crop on the land, if possible; the next best would be a dead crop mulching the soil. I would fertilize cow peas with potash and phosphoric acid, one or both, as the soil needed. If I wanted nitrogen for the succeeding crop, I would fertilize the cow peas, as stated above, and they would furnish the nitrogen needed for almost any crop. Nature is at work for the farmer; he already knows how to utilize that work, in part, and will know more. When the northern farmer becomes acquainted with the ready, open-handed and genial manners of the southern cow peas, he will rejoice in the acquisition. S. H. DERBY.

Delaware.

ALL SORTS.

Questions About Apple Trees.

R. S. K., North Brookfield, N. Y.—1. Are the Wagener, Walbridge and Pewaukee apple trees desirable for central New York? 2. Will green cow manure hurt young trees? If so, what is the best thing to use? 3. What hardy and desirable varieties of sweet apples will keep until spring?

ANS.—1. The Wagener is a popular winter apple where it does well. I see no reason why it should not do well in western or central New York. The Walbridge and Pewaukee are newer apples, and I cannot say much about them. I do not think, however, that they are growing much in popularity, and would not advise planting them except to test them. 2. Fresh cow manure will not harm trees if spread over the surface of the ground, and plowed or harrowed in. If plowed in, be careful not to plow the roots. There is no better fertilizer for the orchard than a good mixture of muriate of potash, fine bone and nitrate of soda, say, for a ton, 800 pounds of bone, 800 of muriate of potash, and 400 of nitrate of soda, well mixed; use 1,500 pounds per acre. 3. Lady Sweet. The tree is not a strong grower, but is a good bearer, and a fine late winter apple. EDWIN HOYT.

Sunflowers as Stock Food.

A. M., Prince Edward Island.—Why may not crushed sunflower seeds be used with skim-milk to feed calves? Bran and oil meals are so expensive here that they are out of reach for extensive feeding. Peas and sunflowers can be grown profitably.

ANS.—I know of no cases of crushed sunflower seed being used in this country. Klein, in Milch Zeitung, 1892, pages 673 to 677, reports that sunflower-seed cake was at that time extensively used in Denmark. A comparative trial with linseed cake was made with four cows, lasting from February 22 to April 12. The sunflower-seed cake was found to contain: muscle-makers, 36.73; fat-formers, 20 60 and pure fat, 13.94. Comparing this with the average analysis of linseed cake, which it most resembles in its effects upon the animal and its products, we find it containing a little more protein and considerably more fat than does the latter product. A summary of results of the experiment showed that the addition of sunflower-seed cake to a basal ration with a nutritive ratio of 1 to 6.5, was accompanied by increased milk yield of each cow. The sunflower-seed cake was thought to be fully as effective as linseed cake, but had no effect upon the quality of milk or live weight of the animal; neither was there financial advantage from the addition of either sunflower-seed cake or linseed cake to the basal ration used. An additional quart of milk produced by one pound of the sunflower-seed cake cost about 3½ cents.

I presume that you are acquainted with the work of Prof. J. W. Robertson, of the Ottawa Experiment Station, in connection with the so-called "Robertson Mixture ensilage," composed of 10 parts corn, three parts horse beans (whole plant) and from 1 to 1½ part sunflower heads. We have fed this mixture for two years past, and found, on the whole, that similar weights of dry matter produced more milk and butter when the Robertson Mixture was fed than when corn ensilage was fed; yet, owing to the difficulties in this region of growing horse beans successfully, we have not felt like recommending it as a profitable ensilage to make. Shaw and Zavitz note in the Ontario Experiment Farm report for 1892, that the sunflowers fed a cow were eaten readily, but when fed in large quantities, caused purging. The milk was of good flavor and kept well. I would say that there might be some danger from the use of this material with milk in feeding calves on account of the purgative effect. I do not know, however, whether this would be greater or less than would be caused by a similar quantity of oil meal. JOSEPH L. HILLS.

Vermont Experiment Station.

BUSINESS BITS.

WHEN any of our fruit-growing friends visit Niagara Falls and have an hour to spare, they should visit the well-kept Niagara Falls Nurseries of E. Morden. They are situated on the Canada side, near the Lundy Lane battle ground.

THAT Fulcrum spading fork seems to be a valuable implement. The point about it seems to be that the fulcrum turns the ground over completely, and affords such a leverage that the work is comparatively easy. A short, pronged fork for cultivating and uprooting weeds, is built on the same principle. Both these implements are time and labor savers. The Fulcrum Mfg. Co., Paterson, N. J., will send full description on application.

THE practice of dipping is becoming very common among American shepherds, and deservedly so, for there is no longer any doubt as to the benefits to be derived. The Cooper sheep dip appears to be the favorite, and, certainly, the evidence produced from hundreds of patrons, is very convincing as to its merits. The makers claim, and they are supported by the evidence of practical experiment, that their dip, in addition to being a certain eradicator of all insect and parasitic life, acts as a stimulant to the fleece.

IT is claimed that the best farm in the world is at Longbeach, New Zealand, owned by Mr. John Grigg, and is known as the Longbeach estate. It has come into special prominence in the United States just now, because, as reported by a local paper, Mr. Grigg has recently had 70 McCormick reapers and mowers at work at one time, and the manufacturers, the McCormick Harvester Co., Chicago, Ill., have advertised the fact quite extensively in this country. While it is a good point in favor of a machine, that so large an operator as Mr. Grigg selects it for a foreign country, where satisfactory work and freedom from breakage are important factors, the McCormick machines need not go so far from home for indorsement. The machines have a wide reputation in this country, which has been justly earned by years of painstaking on the part of the manufacturers, and a disposition to produce the best, and nothing but the best.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

We wish to thank those who have responded to our request for directions for making pot cheese. The answers have been prompt, and careful attention has been given to details, which makes the information just what is desired.

*

Children will put their feet on the rounds of the chairs, scratching them and making them unsightly. There seems to be no way to avoid it with the ordinary chair, but chairs are now made without any rounds in front near the bottom. This solves the problem.

*

As soon as the weather is warm enough for the outdoor window garden, which is all that the tenement dweller can have, the flower peddler may be seen, his wagon, filled with an assortment of plants, slowly wending its way along the dusty streets. As it pauses, here and there, the bright array of blossoms makes a more eloquent appeal to the hearts of the buyers than any words of the peddler. The prices range from 5 to 25 cents, including pots, and the routes taken by some of the wagons indicate that purchasers are found in very poor districts.

*

A woman was burned to death the other day by pouring kerosene on a lighted gas stove. A family was burned out of house and home through an explosion of naphtha used in cleaning in a room where there was fire. Similar cases occur frequently. Ignorance must pay the penalty every time. We are living in an age of wonderful inventions, and handling things whose creation required great intelligence. We cannot afford to remain as ignorant as were the people of past generations who had much simpler conditions to deal with. The "good old times" were suited to the people. Nowadays, we must exert ourselves and suit ourselves to the times.

UNCLE SILAS'S OPINION OF THE NEW WOMAN.

"ALL this talk about new wimin, makes me tired," said Uncle Silas Perkins, dropping into an easy chair on our shady porch the other morning. May paused in her work of shelling beans for dinner, to pass him a big palm-leaf fan. "Thank ye, thank ye, May," he ejaculated, taking off his straw hat and wiping his forehead with a big, red bandanna. "Nice beans ye've got there. Gardin doin' well this hot weather?"

"Very well, thank you," I answered, steadfastly refusing to meet May's twinkling eyes. "I think we've never had a better garden."

"That's good," he rejoined, heartily. "Wall, I been up to the postoffice, and thought I'd git your mail; but there wa'n't none fur ye."

"I got ahead of you, Uncle Silas, for I went up early this morning and got ours."

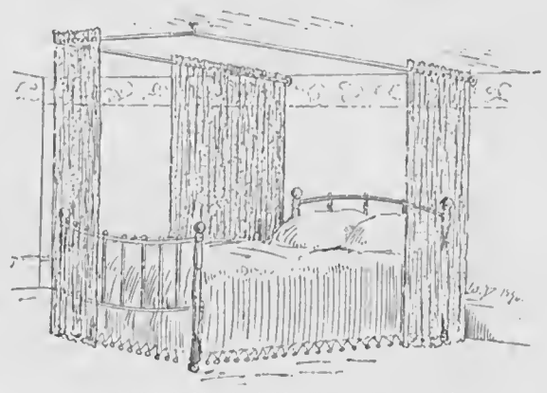
"Did ye? Wall, I gut a letter from Tom. All well down there. Ye knew I'd been down there visitin', didn't ye?" he asked, sharply, peering over his big spectacles at me, anxious lest an event of so much importance to him should seem of no account to the rest of the community.

"Oh, yes," I hastened to assure him; "and we hoped that you were having a delightful visit there."

"Wal, I was." He was mollified by my prompt assurance, and beamed again. "Ye know some folks think that Tom made a mistake when he married; but I tell you, his wife's smart. Ef she's what they call a new woman, I wish there's more of 'em, yes, I do!" he affirmed, settling back in his chair and fanning himself vigorously.

May glanced up with a satisfied smile. At last, Uncle Silas had got back to his starting point. He was just as good a neighbor as any one could have, but he was peculiar. Just now, he knew that we were anxious for his opinion of Tom's city-bred, college-educated, young second wife, and he took delight in prolonging our suspense. We were familiar with his ways, so we waited in silence.

"Why!" he went on, when he thought the pause had lasted long enough, "I sat there in her kitchen one mornin', and she was flyin' around there in great shape. Bakin' day, it was, and that four-year-old of Nancy's, was underfoot askin' questions stiddy at the rate of about four a minute. Marthy warn't flustered a mite. She answered that young one's questions, and washed dishes and baked cookies, and threw a chipper remark at me often enough so I didn't feel lonesome, and dashed down a lot o' pot-hooks on a bit o' paper, all at once. How she did it I do'no. She never forgot to turn them cookies jest at the right minit', either, and when she took 'em out o' the oven, they were browned jest as even, and, land sakes! they'd melt in yer mouth! I know, fer I sampled 'em. Aint a man in this township would a' kep' them things goin', and most wimin would a burnt up them cookies or got nervous or mad at the child or me for



A MOSQUITO GUARD. Fig. 120.

settin' around in the way; but Marthy didn't, and them pot-hooks o' hern—I forgit what she called 'em," scratching his head meditatively.

"Shorthand, may be," I suggested.

"P'raps. Guess 'twould be longhand enough for me before I'd make it out," chuckled the old man. "Anyway, she got $20 for 'em after she'd written 'em over on her typewriter. Twenty dollars! It's a pile o' money. I've worked many a month for less. Tom's mighty proud of her, and well he may be. She's only a mite of a thing, don't weigh over a hundred, and young, too! Why, I don't believe she's a day over 25! She's got yaller hair, and blue eyes, and she can fly around like all possessed. They've got hot and cold water fixed so all you have to do is to turn a spigot at the sink. It makes things real handy, but farmin' folks in my day didn't look to have no such arrangements. I was afraid Tom was spendin' his money too free; but when I kinder hinted suthin' o' the kind one day, he said Marthy paid for them fixin's. She believes in havin' things to make her work easy, so she needn't have a gal botherin' around all the time."

GILLETTE M. KIRKE.

(To be continued.)

A MOSQUITO GUARD.

In many country homes, it is almost impossible to keep mosquitoes out of the house in summer. They will find a way to get in despite screen doors and windows. Where screen doors must constantly be opened and shut, their protection against the insect pests of summer becomes slight. To get undisturbed sleep at night, therefore, requires a guard for the bed.

An easily arranged protection is shown at Fig. 120. A light rod, inclosing on three sides a rectangle as large as the bed, is fastened to the wall and ceiling as shown. It should be within two inches of the ceiling, is attached at the two ends of the wall by "collars" screwed to the wall, and to the ceiling it is attached at the two bends in the rod. It can be attached here by stout wire and a couple of stout screw eyes. Let the fastenings all be secure, so that the rod cannot pull out and fall upon the bed.

To this rod, on the sides and end of the bed, are gathered curtains of mosquito netting or other filmy material, the top being allowed to project above the rod to touch the ceiling. It may be stiffened a little with starch, if necessary. The curtains should not be so thick that air cannot readily pass through them.

W. D.

FROM THE KITCHEN WINDOWS.

We have eaten our spring lettuce and radishes, have inhaled the perfume of our spring violets—and they *were* sweet—and, so, in swift succession, the beauty passes by. It is gone, and we feel that we have hardly had time to appreciate it. A young girl once said to me, "I think housecleaning was sent so that we should not be too much carried away by the wonderful spring opening that Nature shows us; if one had not something to keep us in mind of earthly things, we might not be fit for our work."

Beyond the row of lilacs, I see from the kitchen window, a row of bottles and self-sealing jars and the lids and rubber rings, left in the strong sunshine for a day or two. This treatment sweetens and cleanses them thoroughly, and it is better to buy new rings than to trust to old ones, unless very perfect and free from taint. All must be carefully looked over, for many jars of fruit are wasted by an unnoticed flaw or crack in the glass. Rhubarb is very refreshing for pies or, stewed, for the table in winter, if cut up now and canned. Our method is not the cold-water plan, but a thin syrup. The first thing is to cut up the pieplant overnight, sprinkle sugar over it, and in the morning the juice will be extracted. This is put in the preserving kettle with a little water and sugar, according to quantity, and boiled a few minutes. The rhubarb is put in just long enough to scald, then skimmed out and put into the bottles and syrup poured over it. The tops are screwed on and, when cold, screwed down again. If the jars be turned upside down and no juice leak out, they are air-tight and safe. They should be at once put, and kept, in a dark place, as the light is likely to spoil some fruits.

And so the work of the housekeeper commences again; after the winter of hibernating, she must begin, like the bees, to store the honey in various ways.

The sprayers are quite a figure in the landscape. From the kitchen window, I see them with a low cart and barrel going up and down the rows of apple trees. They call out to me that my hyacinths and tulips will have a new variegation, but I know that they will not sprinkle them if they can help it. We have been four years now using the spray pump, and find it a necessity and a valuable help to perfect fruit. But nothing yet tried seems to cure the curculio on apple trees. Its ravages are very hard to control. The fine spray goes along the row of plum trees, sprinkles the gooseberry and currant bushes and newly-set cabbages. It is added work, and one wonders if atmospheric changes have caused this need, so that we cannot grow fair fruit as in the olden times. Or has the excess planted generated and spread disease and fungus?

What hard work lawn mowing is! I always wish that there was an easy, practical machine that would not make such hard manual labor of cutting the lawn. Many people must do it by hand; but the machines ought to be lighter than any I have yet seen. Grass grows so quickly just now, and there is nothing more inviting about a home than a well-kept lawn, be it ever so small, while a weedy, ill-kept piece of grass, seems a slur on the occupants of the house.

Hardy shrubs are in bloom. In this severe climate, we delight in the possession of a Magnolia stellata that gives us 30 to 40 blooms. It is a dwarf, and has a winter protection of a boarded shelter made for it. But we felt amply repaid when we could see its beauties from the kitchen window. ANNIE L. JACK.

THE HIRED MAN IN THE HOME.

The first of this present month, my husband attended the farmers' institute held in our pleasant little town, and while there subscribed for The R. N.-Y. We did not take it last year; times were hard, and we thought that we must do without some of our papers, but we had come to the conclusion that it was a mistaken idea; so when the dear old Rural came this week, it seemed like an old friend. Had I been a boy, I would have tossed up my cap and shouted; but being only a woman, I sat down and found the Woman and Home department and read it all. I was much pleased with Emma Fifield's views of the home, and the hired man in the home. She is a sound and sensible young woman, will make a success in life, and what is far better, will help all that come in contact with her.

I have had hired help all my married life, and can truly say that I have tried to use my influence for their good. They have sat at the same table with my family, have had pleasant rooms, and good reading furnished them, and after many years of experience, I can say that it has been a paying investment, for we have had good help, both men and girls. Sometimes we have city company, and at such times our help are both ready and willing to wait, and do not feel hurt or slighted. Patience Strong says that she would like to ask every woman and girl that reads The R. N.-Y., what they would like to be. I wish most of all to

changes

There are medicines which change the action of organs and tissues. When a part does not properly perform its work, they restore it to health. Such remedies are called "alteratives."

Scott's Emulsion of Cod-liver Oil, with Hypophosphites, is one of these remedies. This is largely because of certain drugs which naturally exist in the oil, as iodine and bromine. If you are neither hard sick nor real well; if you feel below your usual standard, these alteratives will change your condition and bring back your health and strength.

SCOTT'S EMULSION has been endorsed by the medical profession for twenty years. (Ask your doctor.) This is because it is always palatable—always uniform—always contains the purest Norwegian Cod-liver Oil and Hypophosphites.

Put up in 50 cent and $1.00 sizes. The small size may be enough to cure your cough or help your baby.

be a good, true wife and mother, and to do unto others as I would that others should do unto me. CAROLINE ELIZABETH.

THE NEW LADY.

THE misuse of the word "lady" has driven it into the background, and the abuse of the word "woman" has pushed it too far to the front, says Rebecca L. Leeke in the Century. The word "lady" has come to be regarded as a weakling, and the class of humanity which it represents, has shrunk into insignificance before the pretentious claims of the new woman. But the old-time lady has not gone away to stay; she has merely stepped aside to avoid being run over by the wheel of the new woman, and will reappear when the dust has settled. The word "lady" suggests nobility of origin, or, at least, nobility of character. Both the title and its possessor were once regarded with reverent respect. A renewal of the popularity of the title would awaken a revival of the sentiment which the title evoked, and the time for a reaction in its favor is at hand.

This is a time of wild agitation concerning the portion of power that belongs to woman, as well as of wild conjecture concerning the limits of the sphere within which her power is to be exerted. Her interpretation of her sphere and of her privileges distinguishes the woman of the new school from the lady of the old. The woman of the new school claims rights that are separate from the rights of man, and opposed to his; the lady of the old school claimed no rights that were in conflict with the rights of man, and in defense of her own rights she desired the protection that is due to her sex from men. She gratefully accepted the chivalrous courtesy that has been shown to her in all ages until now. That she does not receive it to the same extent now, is the fault of the advanced woman, who scorns it, who is ambitious to direct the affairs of state, and who, in order to gratify that ambition, is willing to forego, to some extent, the usual courtesies which women have hitherto expected and received.

As a result of her advancement, her more unassuming sisters are obliged to witness a marked decline in politeness to women as women. The lady deplores the dawn of such a day, and is looking for a better day, which she may reasonably hope is coming through the very education which the advanced woman is perverting to her own ends.

In times past, the lady has been able to influence the affairs of men because she has not attempted to direct their affairs; in the future she can maintain her power only by being as well educated as men are, "by knowing the things that men know as well as men know them," and by using her knowledge to supplement men's work in the world, not to usurp it. When the elements of the present agitation shape themselves into a new type of womanhood, the characteristics of the lady will be stamped upon the composite, which will differ in its essential features from the type anticipated by the present theories of the coming woman. If the new type is the lady of Ruskin's portrayal, "enduringly, incorruptibly good, instinctively wise," her education must make her so. "She must know sciences to be accurate, mathematics to be logical, history to be sympathetic, and languages to be hospitable." "She must have the same kind of education for social service that man has for business and for professional service," and then she must use it to accomplish her own purposes, not his. The new type will not be the mere housewife; the breadwinner she may be, but not the imitator of man, or the woman who is ambitions to usurp his rights. She will be loyal to her womanhood, and as proud to retain the title, "lady," as women once were to assume it.

Sculpture has realized the ideal in art—"to assemble into a whole the characteristics of different individuals, excluding the unseemly." Photography has interpreted the ideal in the composite picture. So the new education will produce the new lady, the type of everything that is strong and sensible and intellectual and noble and pure in womanhood. In her broader sphere, she will be the lady of the old school revised and improved.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6718. Ladies' Double Breasted Basque

Greenish gray vigoroux that matches the skirt made this stylish basque, the seams of the sleeves being piped with dark green satin, which also faces the lapping sides and rippled lower edges. Small, greenish shaded pearl buttons in groups of four are used to decorate the fronts and sleeves, the neck being finished with a smooth standing collar of green velvet. The basque is tight fitting with double bust darts, and the usual back seams to the waist line, below which the seams are sprung to give the modish ripple effect all around. The front laps widely,

6718—Ladies' Double Breasted Basque.

closing with the collar at the left shoulder and down the left front in double-breasted style, buttons and buttonholes or hooks and eyes being used to close, as preferred. The sleeves are shaped in four sections, the fullness at the top being laid in box plaits, with piped seams in the center of each, and side plaits turning towards the back and front. Pattern No. 6718 is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure.

ODDS AND ENDS.

EXACT RECIPES.—A woman visiting in Ireland was delighted with a certain hot cake served at breakfast, says the American Kitchen Magazine. From the native cook of her hostess, she duly got the recipe: "You must take more than you'd think of flour, ma'am, just what you'd know of butter, the slightest taste in life of baking powder, and the fill of the small jug of milk."

A new arrival as priestess of an uptown kitchen, was giving to her mistress the other day her formula for a certain sort of gingerbread:

"And then comes the molasses, mum, recited the cook. "Ye want about three gullups of molasses."

"Gullups, Ann?" interrupted her wondering listener. "What are they?"

"Oh! sure, don't ye know, mum?" replied Ann. "Whin molasses is running out of the jug, it comes in gullups like—them's what I mean."

POT CHEESE.—My pot cheese is said to be very nice, and, certainly, has never been a failure. This is the way I make it: A pan of milk, as soon as it has become elabber—the more quickly it sours, the better, I think—is put where it will heat thoroughly but not boil. I usually put it over a kettle of boiling water, or on an asbestos mat, cutting through the elabber to let the hot whey through, so that it will scald as quickly as possible. When the curd has separated from the whey, I pour it into a cheesecloth bag, previously scalded, and let it drip for four or five hours. I do not let it boil, and do not squeeze it. When I take the cheese from the bag, it is quite solid, and I chop it fine in an earthen bowl, putting in salt, pepper, and a little butter. Then I stir in enough sweet cream to make it soft enough to mold, but not too soft to keep its shape. Instead of making it into balls, I heap it into a large, decorated saucer, and press it down into a smooth pyramid with the back of a dessert spoon. I then make an impress upon it with the inside of the spoon, another overlapping that, and so on all around the pyramid, until it is prettily marked. That is how I make pot or cottage cheese, and mine has been highly commended. I have kept it in a cool place three or four days, but I think that it is best eaten within 24 hours after making.

MRS. HARRIET D. NEWCOMBE.

CRUMBS FROM DIFFERENT TABLES.

Knowing ourselves, our world—our task so great,
Our time so brief—'tis clear if we refuse
The means so limited, the tools so rude
To execute our purpose, life will fleet,
And we shall fade, and leave our task undone.
—*Robert Browning.*

....PHILLIPS BROOKS: "A child is not a block of marble, to be hewn out into what you will; each child is a separate and peculiar plant, different from every other."

....HARVOT HOLT CAHOON: "I somehow think that women are ahead when it comes to the time of old age. There are few of us but can darn the family stockings, and sew on the family buttons and wash the children's faces."

....COLTON: "When we are in the company of sensible men, we ought to be doubly cautious of talking too much, lest we lose two good things—their good opinion and our own improvement; for what we have to say we know, but what they have to say we know not."

DR. PARKHURST IN LADIES' HOME JOURNAL: "There are styles of education that disqualify the student for doing what he is competent to do, without qualifying him to do that which he might like to do, but for which he lacks, and always will lack, the prerequisites."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

You don't know

where you got that cold. Do you know where you can get the cure for it? Every drug store keeps Ayer's Cherry Pectoral.

It cures coughs and colds.

3 Points to remember in the selection of an

ESTEY ORGAN.

1.—TONE.

The tone of the Estey Organ has been one of the great features aiding its introduction. It *satisfies the most exacting critic,* being of a remarkably deep, pure, and rich quality, with that marvelous "carrying" power so essential in an instrument used as an accompaniment to congregational singing.

2.—QUALITY.

Especial praise may be given to the construction of an Estey Organ. Employing only the first selection of all materials, and using only the most skilled labor, employed by the day, the result is an instrument of the *very first order of excellence.*

3.—POPULARITY.

The Estey Organ enjoys the remarkable distinction of being the *most popular organ in the world.* This fact is clearly proved by its record of sales, which exceeds in number that of any other organ. Before making any purchase, will you not send for our latest Illustrated Catalogue showing the new designs and casings of these popular instruments.

ESTEY ORGAN COMPANY
Brattleboro, Vt.

You are bound to succeed in making HIRES Rootbeer if you follow the simple directions. Easy to make, delightful to take.

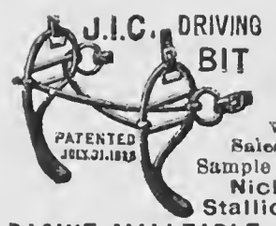
Made only by The Charles E. Hires Co., Philadelphia. A 25c. package makes 5 gallons. Sold everywhere.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Way's Co. Box 5308, Boston, Mass.

FOR SALE—At Sacrifice, fine Dairy, Stock or Market Garden Farm. Location accessible; healthful, pleasant. Running water. Extra good buildings. Abundant fruit.
C. J. SANFORD, Unionville, Conn.

BILLHEADS, LETTERHEADS, ENVELOPES, CIRCULARS, ETC.
Printed Promptly. Reasonable Prices.
FERRIS PUBLISHING COMPANY, ALBANY, N. Y

BEFORE BUYING A NEW HARNESS
Send your address, with 2 cent stamp, for Illustrated Catalogue, giving full description of Single and Double Custom Hand-Made Oak Leather Harness. Sold direct to the consumer, at wholesale prices.
KING HARNESS CO., No. 10 Church St., Owego, N. Y.



Still King
THE BIT OF BITS.
Will controll the most vicious horse.
Sales Greater Than Ever.
Sample mailed XC for Nickel, $1.50. $1.00
Stallion Bits 50 cts. extra.
RACINE MALLEABLE IRON CO., RACINE, WIS.

TO THE TRADE.
WHAT ARE YOU LOOKING FOR?

A FIRST-CLASS
Buggy, Carriage Phaeton or Trap
at a reasonable low price. OH, IS THAT ALL, then write to [ ]
AMBROSE & HARRIS CARRIAGE CO.,
Perin Building, Cincinnati, Ohio.
Don't Buy until you get their catalogue and prices

"A" Grade, $44. Style, Finish.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**

"A" Grade, $60. Durability.

RHEUMATISM
Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The latest, surest an best. Sample sent free on mention of this Magazine. The Dr. Whitehall Megrimine Co., South Bend, Ind,

"ADS."

We want to have a little plain talk with you this week, about advertising. Some folks have a very erude idea as to what an advertisement really is, and to what extent the newspaper publisher is responsible for it. Now I elaim to be an expert in a eertain line of work—I ean get the baby to sleep quieker than any one else at our house. Like all the rest of the family, the baby has her off spells, and at sueh times, the spirit of sleep is not *near*. Several times, when she has worn out the other members of the family, I have applied a seeret remedy of my own, and had her so soundly asleep in 10 minutes that nothing more was heard from her till morning. It was a great diseovery of my own, and of eourse, I praetieed it under lock and key—like any other inventor.

Now, having proved the value of this treatment on the spunkiest and strongest-lunged baby of my aequaintanee, I will ask you in all fairness, if I would not be justified in printing this advertisement:

DOMESTIC HAPPINESS ASSURED!

"Home Sweet Home" a Reality!

A Great Discovery, by Means of Which the Health of All Families May Be Preserved.

SO SIMPLE A CHILD CAN USE IT.

Costs but 50 eents! Apply at once!

Now, I am not going to advertise this seeret—I shall give it freely to the world—but the question is, would it be a fraud, if I did try to sell it at 50 eents? After studying the baby question, I became convineed that the change of position in laying her down was what upset her. You might roek her, or walk her about, and get her asleep; but when you put her down, she would wake up. My plan was to avoid this ehange of position. So I got a big pillow and put it on my knees, and laid the baby on top of that, and started the roeking ehair. She gave a few yells, and then slowly settled down and elosed her eyes. In a reasonable time, she was asleep, and then all that remained to do was eautiously to put pillow and all into the erib. There was no ehange in position, and she slept right along until she rolled off the pillow without even waking herself up.

Now, that is all there is to the great seeret that gave me sueh a wonderful reputation as a nurse. It will do all I elaim for it, yet some of you might pay your 50 cents, and then elaim that you had been cheated out of half a dollar. Of eourse, that is an exeeptional ease. No wise man would answer an advertisement of that eharaeter without knowing that he took his ehances, and that, while the information or artiele might not be dishonest, it still might not be of any value to him.

But every advertisement starts somewhat like the pillow plan of putting the baby to sleep. A man thinks out something new. It may be a part of a machine, it may be excellenee in a Jersey ealf, or superior "blood" in a potato. Whatever it is, he has faith in the belief that other people will buy it if they ean only be made to think about it. Acting on that belief, he advertises—that is, he tells the publie what he has to sell. The woman who talks over the fenee and tells her neighbor she has a eat to dispose of, and the business men who buy a whole page in a paper to tell about their wares, have the same objeet in view—viz., that of attracting attention to their goods. They don't attempt to say all they have to say—they want people to come and talk it over, either in person or by means of letter and eireular.

Not to make a long story longer, we would say that an advertisement in THE R. N.-Y. is an offer to talk or trade. We use the greatest care to keep frauds and "fakes" out of the paper. Sometimes responsible business firms advertise with us, and afterwards, have reverses of fortune, beeoming irresponsible. Then we refuse to run the advertising, even when they offer us pay in advanee. You have similar eases in your own town. A firm may stand well one year, and not be worthy of credit the next. If you ean't find a former advertiser's announeement in the paper, and have any suspieion of his eredit, ask us about him before sending him money or goods. Ninety-nine times in a hundred, he will be found all right. But the loss on the hundredth ease may pay for all. It will save you money to exereise the same care in loeal transaetions. When we know that a man or business firm is responsible and reliable, we permit him to advertise in his own way, using the language that seems to him most likely to attract attention. Our advice to readers has always been to make a business of writing to advertisers. We would, during the year, read the advertisements earefully, and answer all of them that offer goods that are desired. Get all the eireulars and eatalogues that are offered, and read them earefully. You will be surprised to learn how mueh of value they often contain. This eatalogue education is a good thing.

That is all we have to say this week. "Answer every ad"! That is our adviee. If you have need of the famous pillow plan of manufaeturing sleep, use it; it's yours. There is no patent on it. Maybe you have a neighbor who is as skittish about getting on our subseription list as the baby is about going to sleep.

Try the pillow plan on him! Work him on before he knows it! Do it now!

CONDENSED CORRESPONDENCE.

SOME CONNECTICUT NOTES.—In THE R. N.-Y. of April 25, M. V. S. gives the price of copper sulphate as six cents per pound in 600 pound lots; we bought 200 pounds last week at four cents per pound. Tent caterpillars and Canker worms are very prevalent in this seetion this year, and some orchards will be ruined if not sprayed. Farmers are slow to take hold of spraying, always waiting for a nearby example to follow. We make our Bordeaux Mixture in quantity, for three barrels at a time, using six gallons of water for the copper sulphate and the same for the lime. To prevent lime or anything that would clog strainer or nozzles, we have a strainer pail made by knocking the bottom out of a 10-cent wooden pail, and taking off the lower hoop; place a fine wire strainer on the bottom, drive on the hoop, and we have a good strainer in no time. Apples have bloomed very freely, and are setting well. Pears had but little bloom and promise but a light crop. No rain to settle dust here since April 21, and then only a light rain. More commercial fertilizers are used in this section than ever before, notwithstanding the hard times and low prices for everything.

West Winsted, Conn. H. G. M.

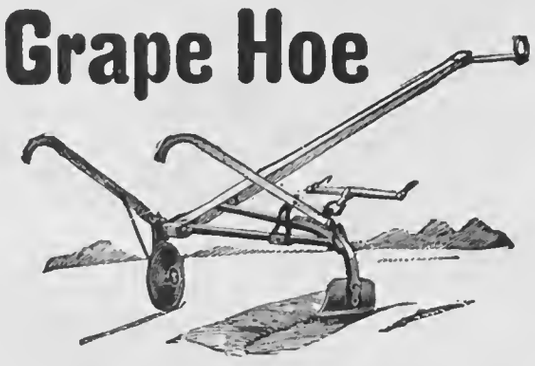
A TEST OF KAFFIR CORN.—April 30, 1895, I drilled three rows, 40 rods long and three feet apart, with Kaffir corn, sowing rather thickly, and using about one quart of seed. It was worked three times with a corn cultivator, and cut and shocked September 10, but might have been cut two or three weeks earlier. Part of the ground was a sand ridge, and part a black gumbo. In the sand, it grew to a height of four feet, and in the gumbo 5½ feet. The shocks were left till the middle of winter, when they were hauled to the barn, and the grain beaten off with flails. About three bushels of grain were secured, or at the rate of 24 bushels per acre. The blades of the fodder were still of a light green color, although rather too dry and brittle, as the shocks seemed to shed water much better than corn shocks. All animals like the grain, hogs and chickens particularly, chickens always eating the Kaffir first when it is fed mixed with wheat. My conclusions are as

(*Continued on next page.*)

Doctors are often handicapped by the mere fact that when treating the diseases of women, they suggest and insist on "examinations" and "local treatment." A great many of them do not know that this is absolutely unnecessary. Many a woman has been thrown into a dangerous state of nervous excitement by the mere suggestion of such treatment. Many women lie to the doctor. That sounds hard, but it is undoubtedly true. They know that if they admit certain symptoms that the doctor will inevitably insist on an "examination." They do not give him all the facts in the case, and so he works in the dark. Quite often the doctor is too busy and too hurried to make the necessary effort to obtain the facts. He frequently treats symptoms for what they appear to be on the surface, when the real cause and the real sickness is deeper and more dangerous. A derangement of the distinctly feminine organs will derange the whole body. The woman herself may not know exactly what is the matter with her, but whenever she is sick, there are two things she should look out for first. One is what is called "female weakness;" the other is constipation, for these two things frequently go together. Dr. Pierce's Favorite Prescription is designed for the cure of diseases and disorders of women, and it does cure them. It has been performing its healing mission for 30 years, and tens of thousands of women have been made happy by it. Dr. Pierce's Pleasant Pellets are for constipation, and contingent ills. Druggists sell them, but sometimes in well meaning ignorance, they will try to sell you something else. There is nothing "just the same" or "just as good." The druggist who tells you there is, is either mistaken or dishonest.

If you care to know more about your own body, send 21 one-cent stamps to cover cost of mailing *only*, and you will receive *absolutely free* a copy of Dr. Pierce's 1,008 page book, "Common Sense Medical Adviser." Address, World's Dispensary Medical Association, Buffalo, N. Y.

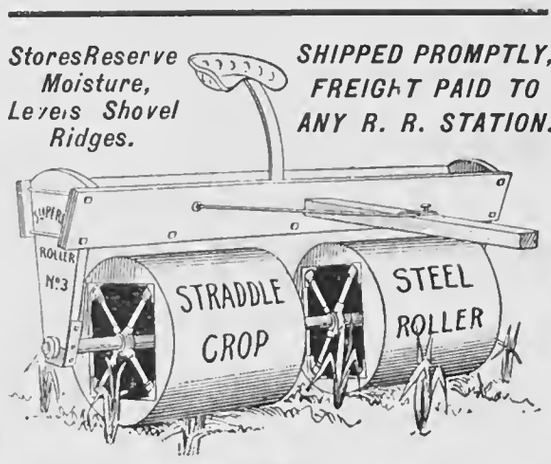
THE SYRACUSE Grape Hoe



Made formerly by D. S. Morgan & Co., Brockport, N. Y. and reeently purehased by us, is one of the greatest labor-saving tools ever invented for use in eulture of grapes and berries, and espeelaiiy adapted for vineyard work. After cultivating between the rows, the grape hoe will take out all grass and weeds that remain under the wires and around vines and posts, and will thoroughly stir the soil eiose to the vines. The Hoe is guided in and out around post and vine by the Disc Castor Wheel, to which the handle is attached. The horse is hitched to one side of the pole, with plenty of room for hoe to work under the vines or bushes, and without injury to them from horse or whiffletree. The saving in time and labor will soon pay the cost of this tool. We can refer to some of the most suceessful grape and berry growers in the country.

Write for further information, and Catalogue R, of all our implements.

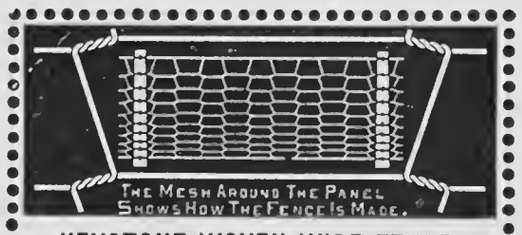
SYRACUSE CHILLED PLOW CO., Syracuse, N. Y.



FIELD AND HOG FENCE WIRE.

All horizontal lines are cables; not affected by heat and cold; adjusts itself to hilly ground without buckling. Built for service and durability. Write for full information.

UNION FENCE CO., DeKalb, Ill.



KEYSTONE WOVEN WIRE FENCE

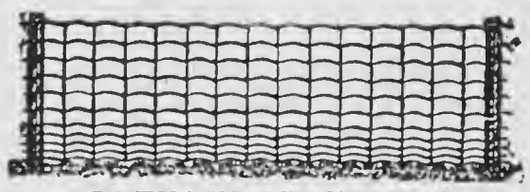
IS THE BEST FOR FARM USE.

25 and 28-inch for hog lots. 46, 55 and 58-inch for general use.

Send for illustrated catalogue.

KEYSTONE WOVEN WIRE FENCE CO.,

19 Rush St., Peoria, Ill.



ALEXANDER WEPT

For other worlds to conquer. Alex should have changed his name, got a new tin sword and taken another whack at this same old world. That's the way some fence men do, but the **PAGE** conquests cause no weeping on either side and a "return engagement" is always welcome.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

STANDARD WIRE FENCE.

$5 to $8.50

For machines to weave your fence at 15 to 25 cents per rod; strongest indorsements; send for illustrated pamphlet giving valuable information on fence building. Unparalleled chance for agents to sell fences and machines. STANDARD WIRE FENCE CO., 6 Main Street, Canandaigua, N. Y.

STOCKADE

Unequaled for all purposes. Stock, hog, sheep & poultry fence combination. Made in 8 heights of best Galvanized Steel Wire No. 13. Protects against rabbits. Meets all climatic changes.

No breaking in Winter.

ALL GOOD ROUND FENCE

No bagging in summer.

Send for catalogue, etc.

Hartman Mfg. Co., Ellwood City, Pa.

Manhattan Bldg., Chicago. 277 Broadway, N. Y.

WOVEN WIRE FENCE

Over 50 Styles

Best on earth. Horse-high, Bull-strong, Pig and Chicken tight. You can make 40 to 60 rods a day for 12 to 20c. a Rod.

Illustrated Catalogue Free.

KITSELMAN BROS., Ridgeville, - Indiana.

When You Want

to build a FENCE buy the ANCHOR POSTS. They can be used with any kind of wire or woven fencing on the market. They will not decay, and will last longer than the fencing material.

Write for Circular.

ANCHOR POST CO.,

13 Cortlandt St., New York City

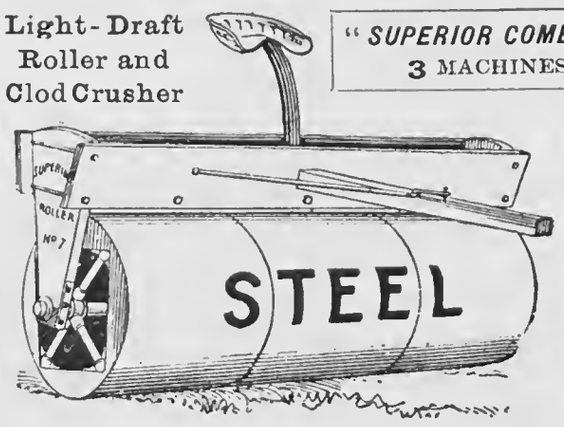
JOHN MOORE'S SON COMPANY,

RARITAN, NEW JERSEY.

Light-Draft Roller and Clod Crusher

"SUPERIOR COMBINATION" 3 MACHINES IN 1

Sows Grains, Grasses and Dry Fertilizers.



"BIG FOUR" to ST. LOUIS.

"NO TUNNEL ROUTE."

The National Republican Convention will be held in St. Louis, June 10, 1896. There will be many thousand people in that city on that occasion. The "Big Four" offer to the public the most comfortable and luxurious line to St. Louis with elegant Through Wagner Sleeping Car service and unexcelled Dining Car service from New York, Boston, Buffalo, Cleveland, Columbus, Cincinnati, Indianapolis, Washington and all Eastern and Southeastern cities.—*Adv.*

CONDENSED CORRESPONDENCE.

(CONTINUED.)

follows, as compared with corn. Against: Harder to cultivate while young, less yield of grain—in a good season, harder to remove the grain; less yield of fodder, by weight, in a good season—harder to haul the fodder, as it is short and slippery. For: Withstands drought much better; will produce a crop on poorer land; it can be cut at any time, as the leaves remain green after the grain is ripe; stands shocked in the field better; easier to stow away in shed or loft, as it is short and light; less waste in feeding dry, as there is more leaf and less stalk. G. H. J.

Missouri.

CRIMSON CLOVER AND FRUITS IN ONTARIO COUNTY, N. Y.—Three old strawberry patches were plowed under as soon as the berries were gone, and on July 31, were sown to Crimson clover, putting it on thick. It came up, made a good growth, went through the winter in perfect condition and was nearly as green in spring as in the fall. I have plowed it under, and set the land to strawberries again. It will pay to grow this clover for the hens. Late in the fall and in the winter, when it was not covered with snow, our hens would feed on it, and there was no other green food for them. The mercury fell to 22 degrees below zero—never was so cold here before. I have the Columbian raspberries growing; they came through the winter in good shape, and are alive to the tips of the branches. The Timbreli strawberry was badly killed, so much so that it will be nearly worthless for fruiting this season. The other strawberries, 21 varieties, came through in good condition. These berries were growing in a bleak, open place. The Crosby peach buds were killed; no peaches here of any kind. I have a piece that was sown to Crimson clover early in April. It looks well now; the weeds will not choke it out.

E. G. S.

CROP AND MARKET NOTES.

Butter has taken another slight tumble, but the market is slowly recovering.

Although the percentage is not fixed by law, it is generally conceded that high-grade butter should contain from 12 to 15 per cent of water.

As we go to press, the first car-loads of cherries for this year, are on their way east to this market. Small lots have been arriving for some time.

Colorado has a woman for dairy commissioner and it is said that she discharges the duties of her office to the entire satisfaction of those interested.

It is said that a considerable part of the butter in store in this city, is two years old, some of it, perhaps, three years old. Stocks in storage are not nearly so large as one year ago.

According to the report of the New York State Commissioner of Agriculture, the total number of creameries, cheese factories and combined establishments in the State is 1,658; production, 23,218,626 pounds of butter and 115,760,328 pounds of cheese.

The Department of Agriculture gives the following crop conditions in some of the leading European countries: Great Britain—The crop outlook everywhere is good and promises a harvest about two weeks earlier than usual. France—With normal weather until harvest, the wheat will more than suffice for home requirements. A surplus for export is confidently predicted by French agricultural journals and statisticians, some expecting that it will amount to 40,000,000 bushels. This quantity would affect prices, especially if the French government should pay a bounty on exports. Austria-Hungary — The weather has been favorable, and the crops promise well. Russia—Excellent prospects of a crop above the average in quantity and quality are generally reported.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 35	@	—
Medium, 1895, choice	1 15	@	—
Pea, 1895, choice	1 12	@	—
Medium or pea, common to good	90	@1	10
White Kidney, 1895, choice	1 25	@1	35
Red Kidney, 1895, choice	1 10	@	—
Red Kidney, common to good	80	@1	00
Black Turtle soup, 1895	1 25	@	—
Yellow Eye 1895, choice	1 20	@1	25
Lima, Cal., 1895 (60 lbs)	1 82	@1	85
Pea, foreign, 1894	85	@	90
Medium, foreign, 1894	75	@	85
Green peas, bbl., per bushel	77	@	—
Bags, per bushel	70	@	73
Scotch, bags	70	@	75

BUTTER—NEW.

Creamery, Western, extras	15	@	15½
Western, firsts	14	@	14½
Western, seconds	12½	@	13
Western, thirds	11	@	12
State, fancy	15	@	—
Common to prime	11	@	14½
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	13½
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	—
Western imitation creamery, firsts	11	@	12
Seconds	9½	@	10
Western dairy, firsts	10	@	11
Seconds	9	@	9½
Thirds	8	@	8½
Factory, fancy	—	@	—
Factory, firsts	9½	@	10
Factory, seconds	9	@	—
Factory, thirds	8	@	8½

OLD BUTTER.

Creamery, Western, summer make	9	@	11
State dairies, firkins and tubs, finest	11	@	—
Firsts	10½	@	—
Seconds	9	@	—
Tubs or firkins, thirds	8	@	8½
Western factory	7	@	9

CHEESE—NEW.

State full cream, large, white, choice	7½	@	—
Good to prime	6¾	@	7¼
Colored, choice	7	@	7¼
Colored, good to prime	6½	@	6¾
Small, colored, choice	8	@	8¼
Small, white, choice	7¾	@	8
Light skims, choice	5½	@	6
Part skims, good to prime	4	@	5
Part skims, common to fair	2	@	3
Full skims	2	@	2½

EGGS.

Near-by, new laid, fancy, per doz	12	@	—
State, fresh gathered	11	@	11½
Penna. and Md., country marks, fancy	11	@	11½
Western, closely graded, fancy	11	@	11½
N. Ohio, Ind., Ill. and Mich., prime	11	@	—
Other Western, northerly sections, prime	10½	@	11
Western, fair quality	9½	@	10
Southern, fresh collections, good to prime	8½	@	9
Western and Southern, poor, per case	1 50	@2	10
Western culls, per case	1 25	@2	10

FRUITS—GREEN

Apples, extra, fancy, per bbl	3 00	@4	00
Baldwin, per bbl	2 50	@3	50
Greening, per bbl	3 00	@4	00
Ben Davis, per bbl	2 50	@4	50
Russet, Roxbury, per bbl	2 50	@3	00
Russet, Golden, per bbl	2 00	@2	50
Strawberries, Md. & Del., ex. large varieties	16	@	20
Md. and Del., choice, per quart	13	@	14
Md. and Del., prime, per quart	11	@	12
Md. and Del., poor to good, per quart	8	@	11
Eastern Shore, Va., per quart	8	@	14
N. C., fancy, per quart	16	@	20
N. C., usual receipts, per quart	10	@	15
N. C., inferior, per quart	6	@	8
Norfolk, poor to choice, per quart	6	@	12
Huckleberries, N. C., per quart	15	@	16
Gooseberries, green, per quart	8	@	10

GRAIN.

Wheat	68	@	83
Rye	59	@	45
Barley	38	@	41
Buckwheat, silver	40	@	42
Buckwheat, Japan	—	@	—
Corn	33	@	38
Oats	23	@	28

HAY AND STRAW.

Hay, No. 1 Timothy	95	@1	00
No. 2	85	@	90
No. 3	70	@	80
Clover, mixed	70	@	75
Clover	55	@	65
Salt	45	@	50
Straw, long rye	85	@1	10
Short rye	60	@	70
Oat	50	@	60
Wheat	45	@	50

HONEY.

State, white clover, comb, fancy, per lb	—	@	—
Fair, per lb	—	@	—
Extracted, per lb	5	@	6
Buckwheat, comb, per lb	7	@	8
Extracted, per lb	4	@	4½
California, comb, fair to prime, per lb	10	@	12½
Extracted, per lb	5	@	6
Southern, in bulk, per gallon	45	@	55

MEATS—DRESSED.

Veals, country dressed, prime, per lb	5½	@	6
Fair to good, per lb	4½	@	5
Com. to med., per lb	3½	@	4
Small, per lb	3	@	4
Spring lambs, country dressed, each	1 00	@5	00
Pork, country dressed, light, per lb	5½	@	6
Medium, per lb	4½	@	5

NUTS.

Peanuts, Va., h. p., fancy, per lb	4¾	@	5
H. p., extra, per lb	3¾	@	4
Shelled, No. 1, per lb	5	@	—
No. 2, per lb	3¼	@	3½
Spanish, shelled, No. 1, per lb	6	@	6¼
No. 2, per lb	4¼	@	—
Pecans, ungraded, per lb	3	@	3½

POTATOES.

Florida, prime, per bbl	2 75	@4	00
Savannah and Charleston, prime, per bbl	2 75	@3	75
New Orleans prime, per bbl	2 50	@3	50
Southern, seconds, per bbl	1 75	@2	25
Culls, per bbl	1 00	@1	50
Bermuda, prime, per bbl	3 00	@4	50
Seconds, per bbl	2 00	@2	50
Maine Rose, per d. h. bbl	1 00	@	—
State Rose, per d. h. bbl	75	@1	00
Maine Hebron, per d. h. bbl	75	@1	00
Maine Hebron, per sack	75	@	—
State Rose and Hebron, per 180 lbs	70	@	90
State Burbank, etc., per 180 lbs	50	@	70
Jersey, per bbl or sack	50	@	65
State Burbank, per sack	60	@	65

POULTRY—LIVE.

Spring chickens, per lb	17	@	22
Fowls, local, per lb	10	@	—
Western, per lb	10	@	—
Southwestern, per lb	10	@	—
Southern, per lb	10	@	—
Chickens, yearlings, per lb	10	@	—
Roosters, old, per lb	6	@	—
Turkeys, mixed, per lb	8	@	9
Ducks, local, per pair	70	@	90
Western, per pair	65	@	80
Southern, per pair	60	@	65
Geese, local, per pair	1 00	@	—
Western, per pair	75	@1	00
Southern, per pair	75	@	—
Pigeons, old, per pair	35	@	—
Young, per pair	25	@	—

DRESSED POULTRY.

Turkeys, av'ge best, mixed hens and toms	10	@	—
Average toms	8	@	9
Chickens, Phil., under 3 lbs. per pr., per lb	26	@	28
Phila., broilers, 3-4 lbs. per pr., per lb	23	@	25
Phila., broilers, 4-5 lbs. per pr., per lb	21	@	23
L. I., broilers, scalded, per lb	22	@	24
Western, average best, scalded	18	@	20
Fowls, Western, light weights, per lb	9	@	—
Western, heavy, per lb	8	@	8½
Old cocks, per lb	4½	@	5
Spring ducks, Eastern, per lb	16	@	17
Spring ducks, L. I., per lb	16	@	17
Squabs, tame, white, per doz	2 25	@2	50
Mixed lots, per doz	1 75	@2	00
Dark and poor, per doz	1 50	@	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 25	@1	50
Prime, per doz bunches	75	@1	00
Culls, per doz bunches	40	@	60
Beets, New Orleans, per 100 bunches	2 00	@4	00
Florida and Charleston, per 100 bunches	4 00	@6	00
Florida, per crate	50	@1	00
Cabbage, Florida, per barrel-crate	75	@1	25
Charleston, per bbl-crate	1 25	@1	75
Savannah, per bbl-crate	1 25	@1	50
N. C., per bbl-crate	1 00	@1	50
Norfolk, per bbl-crate	75	@1	50
Carrots, washed, per bbl	75	@1	00
Unwashed, per bbl	50	@	75
Southern, new, per 100 bunches	2 50	@5	00
Cauliflower, Fla., per half bbl	—	@	—
California, per case	—	@	—
Celery, fancy, large, per doz	75	@1	00
Average, prime, per doz	40	@	65
Small, per doz	15	@	30
Cucumbers, Charleston, per basket	1 50	@2	50
Florida, per crate	1 00	@2	25
Egg plant, Florida, per bbl	2 00	@4	00
Green peas, Baltimore, per basket	90	@1	00
Norfolk, per half bbl	50	@1	25
Edenton, N. C., per half bbl box	30	@	90
Edenton, N. C., per one-third basket	25	@	75
Other N. C., per one-third basket	40	@1	00
Horseradish, per lb	3	@	5
Kale, per bbl	50	@	75
Lettuce, per bbl	1 00	@1	50
Onions, old, prime, per bbl	1 00	@1	25
Old, poor, per bbl	25	@	75
Bermuda, per crate	1 20	@1	25
Egyptian, per bag	1 75	@2	00
New Orleans, per bbl	2 00	@	—
New Orleans, per bag	85	@1	00
Radishes, per 100 bunches	50	@	75
Rhubarb, Jersey and Balt., per 100 bunches	1 00	@1	25
Spinach, per bbl	75	@	—
Squash, Fla., white, per crate	40	@	60
Florida, yellow, per crate	50	@	75
String beans, Savannah, wax, per crate	75	@1	00
Savannah, green, per basket	50	@	75
Savannah, green, per crate	1 00	@1	25
Charleston, wax, per basket	50	@1	00
Tomatoes, Fla., prime, per carrier	2 00	@2	50
Average, per carrier	1 00	@1	75
Turnips, Jersey, Russia, per bbl	50	@	75
New, white, per 100 bunches	1 50	@3	00
Watereresses, per 100 bunches	1 00	@1	50

WOOL.

XX and above, Ohio	18	@	19
X, Ohio	15	@	16
Other grades	20	@	22
Washed combing and delaine	18	@	23
Unwashed combing	17	@	20
Texas, medium to choice	10	@	13
Fine and medium, fall clipped, Texas	9	@	10
California	9	@	15
Oregon	12	@	13½
Territory	7	@	14

MILK AND CREAM.

The total daily supply has been 22,552 cans of milk, 208 cans of condensed milk and 1,116 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

The skeptic says: "If I really believed that letter I wouldn't hesitate a minute."

Thousands *do believe*, and are being cured of their Asthma, Bronchitis, Catarrh,

Hay Fever, Rose Colds,

etc., by **Booth's "Hyomei,"** the Australian "Dry-Air" treatment, which *cures by inhalation.*

87 Elm Street, LAWRENCE, MASS., May 6th, 1896.

DEAR SIR:—I have been troubled with Bronchitis for the last five years and never found any permanent relief until I commenced using "Hyomei." In January last I made application to one of our leading life insurance companies, but at the medical examination the examining physician said that he could not pass me as my lungs and bronchial passages were badly congested. Soon after, I commenced using "Hyomei," and improved so rapidly that in one month again went before the same medical examiner and this time passed without any further ceremony.

E. B. MOORE (with H. A. Buell & Co.).

Pocket Inhaler Outfit, Complete in Sealed Case (see cut), by Mail, $1.00, to any part of the United States; consisting of pocket inhaler, made of deodorized hard rubber (beautifully polished), a bottle of **Hyomei,** a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** does cure. Are you open to conviction?

Hyomei Balm cures all skin diseases—25 cents.

R. T. BOOTH, 23 East 20th Street, New York.

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LARGEST CAPACITY.
Most economical, lightest draught, wastes no grain. Cleans ready for market. Send for catalogues.

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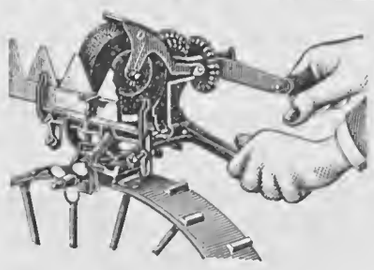
AGENTS WANTED IN EVERY COUNTY



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New Dutton Mower Knife Grinder.

Send for Special Circular.

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Horticulturist's Rule Book.

By Prof. L. H. Bailey. It contains, in handy and concise form, a great number of rules and receipes required by gardeners, fruit growers, truckers, florists, farmers, etc. Discusses injurious insects, fungicides, and gives tables for planting, etc. Cloth, 75 cents.

Third edition, revised.

THE RURAL NEW-YORKER, NEW YORK.

A FARM OF 360 ACRES—Good land, within one mile of railroad station, can be bought for $7.50 per acre, on easy terms. AMOS COLE & SON, Dover, Del.

Wanted—An Idea Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their $1,800 prize offer and list of two hundred inventions wanted.

GARNER & CO.,
Produce Commission Merchants,
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Reference: Gansevoort Bank.

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Mr. PECK having sold the business to M. N. EDWARDS & CO., of No. 193 DUANE STREET, NEW YORK CITY.

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Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.

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Inquiries and Correspondence Invited.

The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

VINELESS GOLD COIN

Sweet Potato Plants

AT A SACRIFICE.

Owing to the financial embarrassment of a well-known seed house and their inability to meet their contract that they had with me for my entire crop of this fine strain of the vineless yam, I have a very large number of these plants on hand unsold, that I propose to close out at a very little above express charges. You can't afford to miss this chance to obtain a start of the best table potato grown, as well as the earliest and most prolific. To give some idea of their earliness and productiveness, I will say that the past season I made 415 bushels on a single acre planted as late as June 27, on ground from which English peas had just been harvested. I pack so as to carry in good condition to any part of the United States and pay all express charges or postage, and deliver them to you at 50 cents per 100, $2 for 500, $3 for 1,000. Stamps taken for sums under $1. Plants shipped at once unless otherwise ordered. Address WILLIAM T. SIMPSON, Box 74, Pine Bluff, Ark.—*Adv.*

HOME TREATMENT FOR HAY FEVER.

8 Years Cured: W. L. WEDGER, Roslindale, Boston, Mass.

7 Years Cured: J. L. TREVILLYAN, 24 Fifth St., N. E., Minneapolis, Minn.

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WE OFFER
A CURE THAT STAYS.

Our constitutional treatment not only gives *relief*, but eradicates the cause of the disease and *cures to stay cured*. *OUR NEW BOOK—Thesis for 1896*—with 2,000 other references whom you can consult, *now ready*. Sent on application with blank for free examination. *GET IT.* Read it. Think it over. Talk with these people or write them. Get ready to meet the season's attack, and *do it now.* Address Dr. HAYES, Buffalo, N. Y.

Live Stock Matters

FORKFULS OF FACTS.

J. A. W. TALKS AGAIN.—Mr. Mapes says: "The elass of people who are willing to pay a big priee for eggs, expeet a supply the year 'round." That may be true, but the trouble with me is to find the elass of people who are willing to pay a big priee for eggs at any time. People in this vicinity, as a rule, place no more value on eggs direct from the nest, than they do from those of uncertain age. I have offered to supply retailers and consumers with warranted fresh eggs the year 'round at market priees for ordinary eggs, but with the exeeption of a very few, they would not engage a definite number for a year. The faet is that most of my eustomers are only too glad to have me leave them when eggs are scaree. When the price advances, they eonsume a mueh smaller number. Not only does the low priee inerease eonsumption, but also the great demand for eggs for making iee eream, and for other purposes at beach and mountain resorts. So while Mr. Mapes's criticism might be a good one in his loeality, it is utterly pointless here.

I will say, also, now that I am writing, that "a good ease of roup though——!" would be rather disagreeable no doubt, but elean quarters and clean food have, thus far, prevented anything of the kind, while Mr. Mapes, with mush and small flocks, had "roup by the aere." J. A. W.

SIZE OF EGGS.—I have never noticed any difference in the size of eggs laid by hens fed on any particular kind of grain, when they have been well fed. If as well eared for in other respeets, I think that the kind of grain does not affect the size of the eggs. Good feeding does affect the size. I have notieed that the eggs are larger in spring when the birds get plenty of insect food with the grain. I do not think that the size of the eggs affeets the number laid by any hen, unless a hen lay abnormally large eggs that have two yolks. Breeds of fowls are affeeted that way, that is, Brown Leghorns lay more eggs than White Leghorns, generally, but the eggs are smaller; yet I do not know that it affeets individual hens of any breed. That is to say, I do not think that any hen lays more or less eggs on aceount of the size of the eggs. HENRY HALES.

WHITE LANGSHAN POULTRY.

For the past 18 or 19 years, I have bred poultry of the various breeds, starting with B. P. Rocks. I have bred, besides these, S. and R. C. Brown Leghorns, S. C. White Leghorns, Black Javas, L. Brahmas, W. P. Roeks, Silver and W. Wyandottes and various breeds of bantams. All the above I bred pure and of the best strains I could obtain. Then eame the Blaek Langshan, a new breed for America. I tried these, and finding them the best fowl I had ever seen, I disposed of every other kind, and gave my whole attention to them.

Later eame the White Langshans. I bred them for years beside the Blaeks, compared them in every way with them, and finding them superior in every way, I disposed of all my Blaeks three years ago and have sinee bred only the Whites. I believe that no other breed of fowls will lay so many eggs in a year; that n other breed is so good for the table, being pure white, with large bodies, no eolored pinfeathers, and with little waste. They are very hardy, and good sitters and mothers. For the above reasons, I shall keep pure White Langshans.

As soon as my trees are a little larger, so that it is diffieult to raise other erops between them, I shall build small houses about 10x12 feet, with open sheds at one end for dusting and seratehing, placed at convenient distances about the orchard. The trees will afford ample shade and forage ground for the hens, and the hens will furnish fertilizer and cultivation for the trees; thus I shal get a double erop from my land, the hens destroying the inseets about the trees, and I have always been able to grow the finest plums where hens were allowed to run among the trees.

I would not dare try to keep more than 25 hens in a house 10x12 feet, through the winter; but in the summer, I eould keep 40. For laying hens, I would feed green eut bone and fine cut elover hay for a large per eent of the feed. A. A. HALLADAY.

Vermont.

GETTING RID OF RATS.

When I was a good-sized boy, living, at the time, in an adjoining State, my chum gave me a rat terrier puppy, and she proved to be a good ratter. I named her Brownie, and, of course, like any boy with a dog, thought that there was not another sueh a good, loving and intelligent dog in the country. I kept her till she died of old age, and many and many a frolic have we had together. When she had loeated a rat, I would help her get it, if it were possible. I remember once that we got over into the eorn erib when the eorn was low. It had been built for a wheat bin, and had tight sides. Brownie told me that there were rats there, so I moved the corn, and she went to work on them. When we got through, the dead rats nearly filled an ordinary wooden bucket.

But there eame a time when the rats got away ahead of us. It seemed as though they would take the place. I used Rough on Rats, but with poor suceess. I used traps, and with three, by setting them when I got through chores and then again at nine o'clock, would eatch from three to five every night. I kept the gun at the barn, and shot every one that showed itself, but found, in a short time, that they got very shy of the gun and kept out of sight. All this time, of course, Brownie kept up a eontinual warfare on them, but their numbers were, apparently, undiminished. One day, a neighbor who had a big farm, kept lots of stock, had numberless barns, sheds, eribs and pens, was at our place, and I said to him, "How in the world do you keep the rats from eating you up? With all those buildings, I would think that you would have thousands of them."

"No," he said, "we do not have many rats, and are not bothered by them at all."

"Well how do you manage it?"

"Simply keep eats."

"Will eats keep down the rats? I would think that some of those big, overgrown rats would whip a eat."

"Well, I don't know as a eat would taekle a big rat, but they will wateh around and piek up the little ones, and the first thing you know, the rats will be wonderfully thinned out."

While, as we all know, a man's advice

(Continued on next page.)

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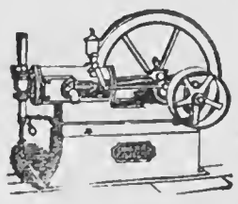

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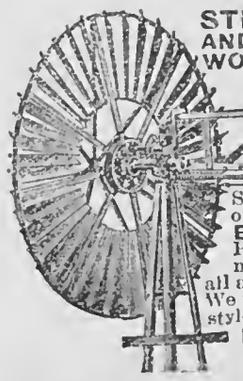

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LIVE STOCK MATTERS.

(CONTINUED.)

is worth no more than the man himself, still it does not always follow that his advice is worth as much as he is. But as this man was worth, probably, $50,000, I thought that his advice was, at least, worth taking, even though the plan seemed too simple to be of any use. So we got cats, and in a year or so, the place was practically free from rats, and, probably, it was owing to the cats.

Since we have been in Iowa, we have kept cats (Abraham Lincoln, the head of our drove, now weighs 12 pounds), and have no use for a dog. There are a few mice about the barn, but no rats. The cats should be made to live at the barn, though they may come to the house for meals. It will not destroy their usefulness in any way to feed them well. In fact, they seem to require some milk to keep them healthy. In addition, it is a good plan to have as few places as possible for rats to harbor; have this idea in view in putting up all buildings. I believe that it is a good plan to make all our improvements substantial and permanent. These will have good foundations, and are otherwise constructed so that rats find few hiding places around them. It is the straw sheds, and the cribs built on the ground, that tempt them to lodge with us. E. B. WATSON.

Iowa.

POLL EVIL IN A HORSE.

My horse had a running sore on the poll—just back of the ears. It was cut and healed before I got him. On the left side of the neck, about three inches from the crest, a swelling appeared which was opened when ready to break, and which showed something that looked like a tube. It was burnt out with potash, and is healing from the bottom. Now a similar swelling is forming on the other side of the neck. What can be done for it? E. A. C.

Denison, Tex.

ANS.—The horse has a fistula of the poll, commonly called poll evil. There is, evidently, old, diseased tissue, or possibly, dead bone, which will have to be sloughed out or removed before a cure can be effected. If there is a competent veterinarian near you, it would be much safer for you to employ him to open and treat the case, than for you to undertake it yourself. In a case of long standing of this kind, a difficult operation is often necessary. In the absence of a veterinarian, I can only advise general treatment for a fistula of this character. Make a small opening at the highest point of the recent swelling, and if an abscess or pipe be found, insert a piece of caustic potash (piece of one to two inches) and close the opening so as to prevent the potash working out. After 24 hours, re-open the wound, and with a blunt pointed probe, endeavor to find the bottom of the pipe or cavity; then cut down upon the end of the probe, so as to make a free opening at the bottom of the cavity. Having made the openings, the fistula is to be washed out daily for a week with a strong caustic wash, one ounce chloride of zinc to a pint of water, the wash being forced through from one opening to the other with a syringe. During the above treatment, the horse should have his head tied so that he cannot rub the poll. After the first week, reduce the strength of the wash to one-half or one-fourth, working the injection from below, and allowing the wound to heal from the upper opening downward. The lower opening *must be kept open* until it has entirely healed from within. The discharging pipe, or any others found, may be treated in the same way.

After recovery, in order to prevent a recurrence of the fistula, the horse should be fed from a high rack for several months, and should not be turned to pasture during the first season. The stable and doorway should have ample height, so that the horse cannot strike the poll. Care should also be taken that the halter or bridle fit properly, so as not to irritate unnecessarily the region affected. F. L. K.

A MICHIGAN MAN TALKS HEN.

In reading THE R. N.-Y., I see that some one claims to have received 27,257 eggs from 200 hens at a cost of $332.15. I thought that I would let you know how I am getting on with my hens, and that my success is due to reading THE R. N.-Y., which always aims to state the truth. For many years, I had kept fowls, always at a loss, and had made up my mind to get rid of them. I had reduced the number to about 10 hens, when, about four years since, I read an article in THE R. N.-Y. by Mr. Wyckoff stating what he had done with fowls. I believed it, because it was in THE R. N.-Y. If it had been in any other paper, I would not have believed it. I resolved to try what I could do, taking your advice to go slowly. Now I will give the results of three years' experience. In 1892:

Receipts for eggs, chickens and increase	$24.97
Cost of keep	6.57
Net gain	$18.40

In 1893, I began the year with 21 hens:

Returns for eggs, chickens and increase	$54.00
Cost of Keep	13.16
Net gain	$40.84

In 1894, I began with 43 hens. I hatched 250 chickens, and had 120 carried away by thieves, hawks and minks:

Returns from eggs, chickens and increase	$83.03
Cost of keep	22.59
Net gain	$60.41

In 1895, I began the year with 63 hens. In January, I lost five by disease and had 13 stolen. I hatched 280 chicks, lost 20 of them, and had a few carried away by hawks. My number of eggs was 5,827.

Eggs and chickens sold, and increase of stock	$143 57
Cost of keep	29 23
Net gain	$114 34

Previous to last year, I fed them a variety of feed, including soft feed and oyster shells; but last year, I fed nothing but wheat screenings, and a few cabbage and green cut bones. This year, I began with 110 hens. Next year, I hope to begin with 300 hens. Most of my flock are two-thirds Br. Leghorns, and some are purebred.

My hens have four houses to roost in, and full liberty to stay in or go out all winter, but are always shut in at night, both summer and winter. S. FOX.

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DEAR SIR: I want to add my testimonial to your list recommending Tuttle's Elixir for curbs, broken tendons, thrush, and nails in the feet. I have used it on all of these cases many times, and never failed to make a cure.
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If by any chance it can.

Not a single chance it misses; it is lurking in our
blisses; it is even in the kisses
That delight a leap year dream;
In the air are microbes floating; in the water they
are gloating, fiendish vigilance devoting
To the weird malicious scheme.

O, ye philosophic sages, we were happy all these
ages while these animals outrageous
Unsuspected flourished here;
And although, just for the present, we withstand
their sledge incessant, we run other risks
unpleasant,
For we're almost dead with fear.
—*Washington Star.*

LITTLE GIRL: "Does your mother talk much about woman's rights?" Little Boy: "No, she jus' has 'em without any talking."—*Credit Lost.*

IRISHMAN (at telephone): "Sind me up tree bales of hay and wan bag oats." Feed Dealer: "All right. Who for?" Irishman: "There now, don't get gay. For the horse, av corse."—*Kansas City Times.*

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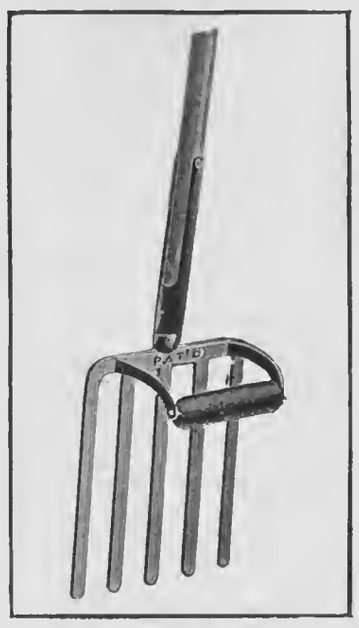

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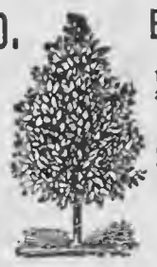

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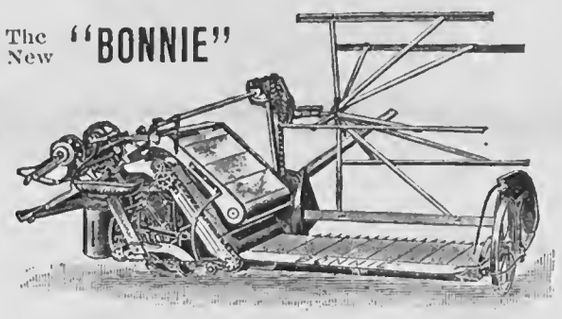

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO., N.Y.

VOL. LV. No. 2419. NEW YORK, JUNE 6, 1896. $1.00 PER YEAR.

STRAWBERRIES BY THE CAR-LOAD.

A GREAT INDUSTRY IN FLORIDA.

Varieties, Culture, Picking, Shipping, Etc.

THE R. N.-Y. has recently told its readers of Hens by the Acre, Peaches by the Thousand Acres, and of other farm products in equally large proportions. As I recently visited a section where they grow hundreds of acres of strawberries, and ship them by car-loads, I thought a brief description might be of interest. Bradford County is the center of the strawberry industry in Florida, and many farmers there make strawberries the chief money crop. Florida berries are the first to reach the Northern market, and naturally bring good prices, which fact has led many Florida farmers and gardeners to turn their attention largely to berry growing.

I was at Starke and Lawtey, two adjoining towns in the eastern part of the county, the last week in January, and saw hundreds of acres of strawberries in bloom. Wishing to know something of the details of the business, I sought Mr. John Rising, the president of the Bradford County Fruit Growers' Association, and learned from him the actual results obtained.

In reply to a question as to the quantity of berries shipped from Bradford County, Mr. Rising said:

"Nearly everybody here raises strawberries; some of our largest growers cultivate as many as six or seven acres of berries, and we find that, one year with another, our berries pay us better than any other crop we raise."

"I notice that you grow your berries on ridges; do you find that method better than flat cultivation?"

"Yes, we do, because our land is quite level, and needs a little ridging to keep the berries dry and clean after heavy rains. We plant in September or October, and cultivate till the plants are in bloom, which is usually in January; then we mulch with coarse hay or pine needles, working the mulch well up under the plant, which serves the double purpose of keeping the ground free from weeds, and the berries free from sand and dirt."

"What varieties do you consider best for your trade?"

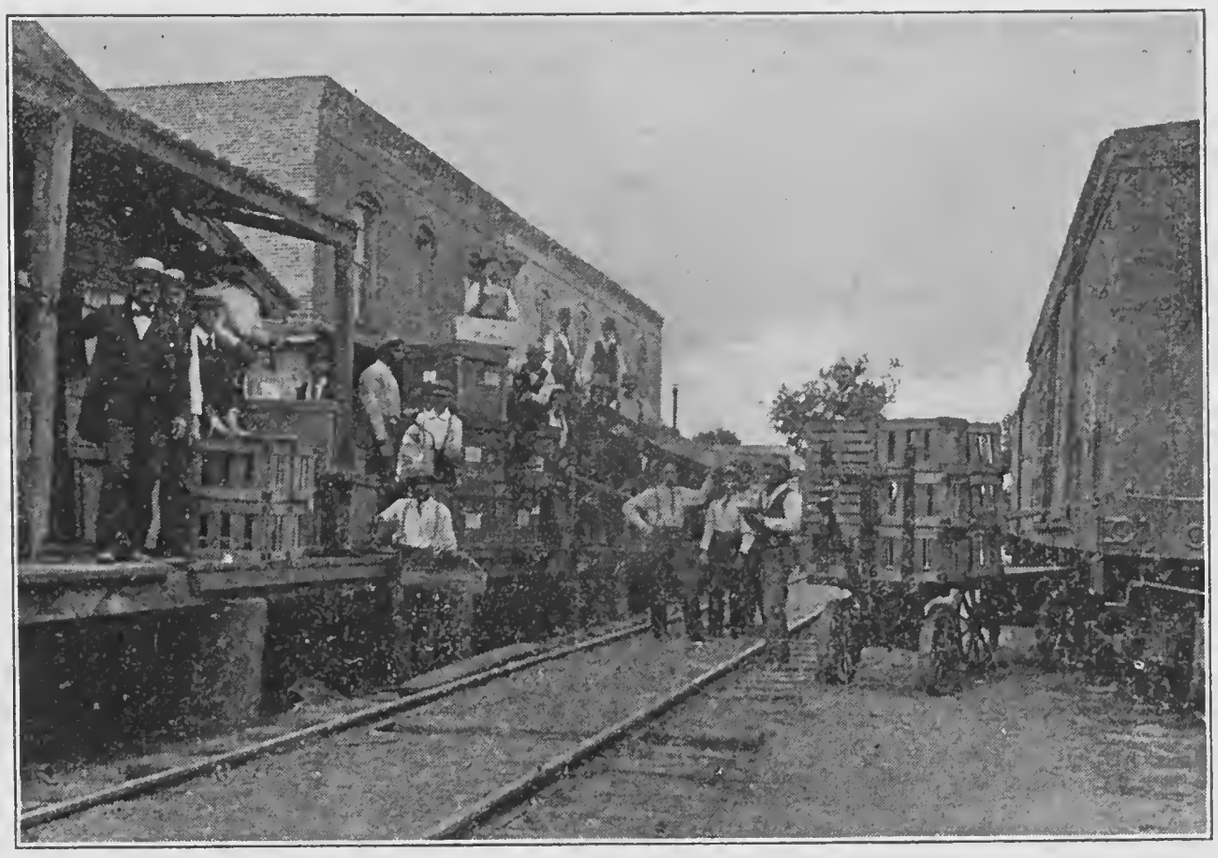
"We have always thought that the Neunan was the best berry we could grow for the Northern market, as it stands shipping well, and is a prolific bearer. I have also had very good success with the Lady Thompson. About one-third of my present stand is Lady Thompson, one-half Neunan, and the rest seedlings of my own propagation."

Mr. Rising showed me his patch of seedlings which were growing alongside the Lady Thompsons. The seedling is a vigorous, thrifty grower, a pistillate, a heavy bearer of large, very firm, dark red berries, resembling the Hoffman in shape and color. [It is being tried at the Rural Grounds.—EDS.]

"How much net profit do you ordinarily realize from an acre of berries?"

"That is variable, of course, for as much depends on the man as the acre; but an acre of strawberries, well cared for, will generally yield $300, and I can name several farmers in this vicinity who have sold their berries at the rate of $450 to $500 per acre. Of course the expenses of cultivation, fertilization, and marketing, will reduce these figures about one-third."

PICKING SCENE IN A FLORIDA STRAWBERRY FIELD. FIG. 121.



SHIPPING SCENE AT A FLORIDA RAILROAD. FIG. 122.

"How long does your berry season last?"

"We usually commence shipping lightly the first part of February, and continue till the first of May, at which time prices are too low to warrant further shipments."

"Does the same plant continue to fruit during the whole season spoken of?"

"Yes, in this climate, berry plants continue blooming and fruiting for three months, and thousands of bushels of fine berries rot in the fields after the shipping season closes. During the months of March and April, we ship from nine to twelve car-loads a day from this vicinity, putting from 75 to 100 bushels in a car."

The strawberry industry of Bradford County has assumed such large proportions that an association was formed a few years ago to transact the business, and protect the interests of its members. It is estimated that over 1,000 acres are in strawberries around Starke and Lawtey, which bring in a net revenue of about $225,000 per season. The great bulk of the crop is shipped to the large northern cities by express, in refrigerator boxes. These boxes are made in sizes holding 64, 96 and 128 quarts of berries, and a tray of ice which keeps the berries in prime condition till they reach their destination. The advantage of boxes over refrigerator cars is that they enable the shippers to distribute car-loads in the North without repacking. Prominent commission houses in northern cities keep representatives in Starke and Lawtey during the berry season, so that growers have the opportunity of selling their berries at home, or of taking the chances of a better market by shipping themselves. Each year adds to the acreage of berries in this vicinity, which is naturally adapted to the culture of small fruits, having a friable, sandy loam top soil, with a clay subsoil two to three feet below the surface. At Figs. 121 and 122, are shown representative Florida scenes—one in a strawberry field, and the other at a railroad shipping station. C. W. SCARFF.

Vermont.

R. N.-Y.—It will be noticed that there are some points of difference between this strawberry culture at the South, and that on our northern farms. These are due, mainly, to the differences in soil and climate. A crop is secured much sooner after planting than with us, even though we use potted plants. Then northern growers usually get better results by giving level culture instead of growing the plants on ridges. The best varieties there, are also those not prized by us. The fruiting season, too, is longer in Florida, and seems to last longer than it is profitable to pick and ship the fruit. The southern growers often suffer from late frosts, as do those at the North. But with the improved methods of shipping, and greater familiarity with the needs of the northern markets, the strawberry crop must not only continue to be a profitable one, but yield even greater profit to the intelligent and progressive grower.

TWO FRUIT NOTES FROM GRUNDY.

Consumptive Apple Trees.—A few days ago, an orchardist who has several thousand trees planted, asked me whether I had noticed among my apple trees any that failed to grow well—seemed scrubby and stunted, even though planted in as good soil as the most thrifty. I had, and often wondered thereat.

"In my apple orchards," said he, "I find from 5 to 15 trees of this kind in every thousand. The growth of a few trees in a thousand may be checked the first year or two by some accident, or discoverable cause, then they will start into growth, and do as well as any; but the trees of which I am speaking, never do start into thrifty growth, no matter what I feed them or do for them. When I find one, I dig it out and replace it with a thrifty, young tree. If I leave them in the orchard, they will put forth leaves, and make a feeble growth for a few years and then die, and I have an ugly break in the row. My theory is that such trees are grown from scions cut from consumptive trees, trees that have been starved and stunted all their lives, and have scarcely any vitality left in them. They grow fairly well in the nursery row, but when checked by transplanting, they never recover from the shock."

I thought his theory a very good one—ingenious even though not correct. I have dug two such trees out of my orchard, and replaced them with others that made a fine, thrifty growth right from the start. A careful examination of those dug up, roots and all, disclosed no reason why they should not have grown well. The wood was very hard, the branches short and scraggy, and the roots seemed spindling and weak. That the soil contained fertility enough to induce and support a strong, healthy growth, was fully proved by the rapid growth and thrifty appearance of the trees set in their places.

Another orchardist, to whom I mentioned this matter, accounted for the stunted growth on the theory that the sap of the trees was poisoned in some way, either when they were dug from the nursery row, or afterward. There may be something in this, but I cannot understand why these few trees should be thus injured when thousands of others, dug at the same time and handled in the same manner, are not hurt in the least, and grow right along when set out. I rather think that the orchardist first mentioned, is nearer correct. That the trees are grown from scions cut from consumptive trees, and cannot stand the shock of transplanting.

Success with Plums.—My Burbank plums, four years planted, bore such a heavy crop last season that I didn't expect any this year; but they are loaded again, every branch of one tree having a solid double row the entire length. I have removed fully three-fourths of them, and really should take off more. Satsumas, same age, bore none last year, but are well supplied this. They are planted in a group with Wild Goose, DeSoto and others, and not cultivated.

Several years ago, an old man who was passionately fond of, and very successful with plums, gave me a bit of advice that I never forgot. "When you plant plum trees," said he, "plant them in a group, not over 10 or 12 feet apart, and not less than half a dozen kinds together, and after they begin to bear, you will have plums every year that any one has." I profited by his advice, for this season I have plums on every tree, while I have seen several groups of a single variety, planted years before mine, that have not a plum on them. This old man declared, many a time, that he obtained his largest and sweetest plums from the branches that were "mingled together." "Plant your trees near together, even if you have to feed them," was his advice.

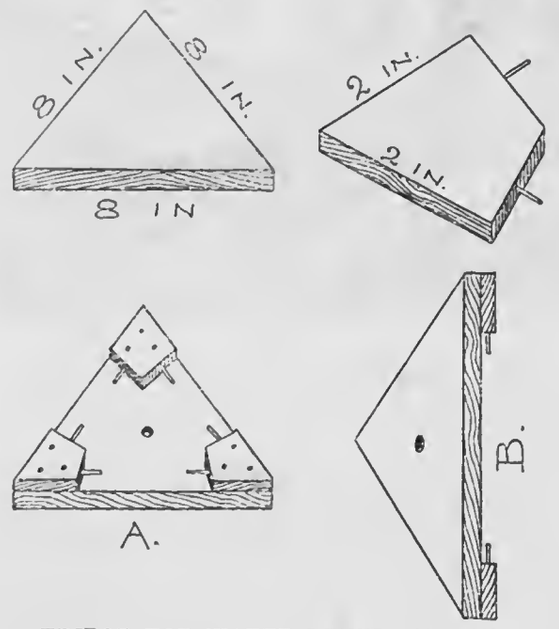
CIVIL ENGINEERING FOR BOYS ON THE FARM.

Part II.

Tripod for Water Level.

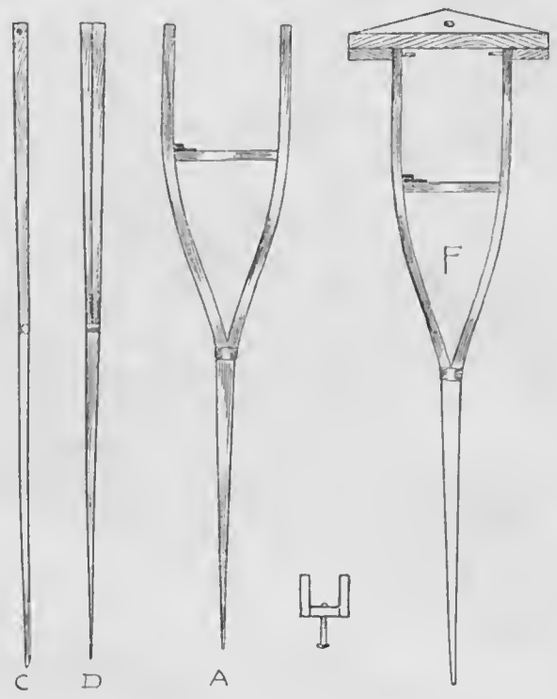
In Part I, a simple form of level was described, consisting of a bent tube to contain water, mounted on a plain staff to set up in the ground. If the tube be mounted on a tripod, it will stand firmer, and may readily be set up in places where the staff could not be stuck into the ground. A tripod such as is used with the photographer's camera, is easily made and answers the purpose. One way of making it is as follows: From a piece of hard-wood board that will not split easily, cut out a triangle about eight inches on a side, Fig. 123. Fasten a lug to each corner about two inches long and an inch thick. These should also be of hard wood, and each lug should have two iron pins set in it to receive and hold the legs of the tripod. Fig. 123 represents one of the lugs with the pins set in it. A piece of a 20penny wire nail is about the right thing for a pin. These lugs are fastened on the underside of the triangular piece of board, and together they make the tripod head. A represents the underside of the tripod head, and B is a side view of it. A hole is bored through the center of the tripod head to receive the spindle of the water tube.

The tripod legs require three pieces of tough, springy, hard wood. They should be about 1¼ inch square, and five feet long. One end should be tapered off to a point If the lower half of the leg be rounded, so as to slip a ferule on it, and drive it tight at about the middle, so much the better. If one have no ferule, the middle of the leg may be wound tightly with wire. Then with a saw split the upper half of



TRIPOD FOR WATER LEVEL. Fig. 123.

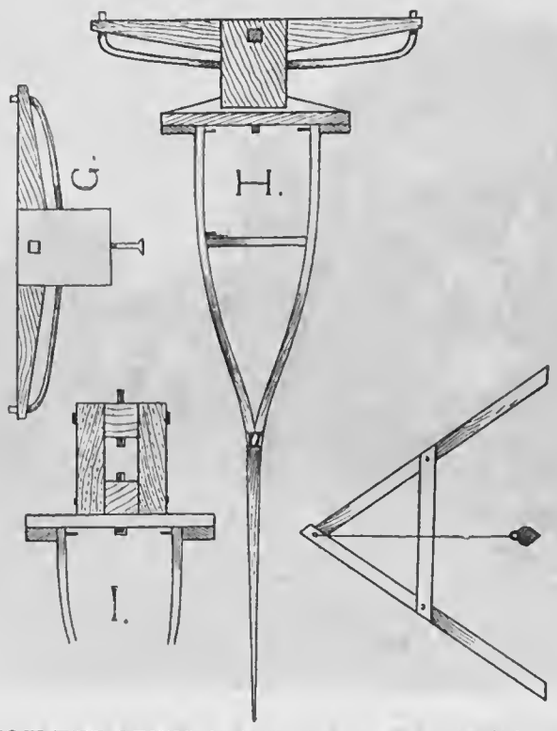
the leg down to the ferule, and bore holes through the upper part of the leg to slip on to the pins in the tripod head. Then spread the upper halves of the leg apart, and about half way up from the ferule, fasten a little block by a hinge on the inside of one branch of the leg for a spreader. This spreader should be about three inches long. It should spread the branches of the leg enough so that it is necessary to spring the



LEGS FOR THE TRIPOD. Fig. 124.

tops together before they will both slip on to the pins in the tripod head, and should hold them firmly against the lugs when in place. C, D and A, Fig. 124, show the tripod leg by itself, and F shows one leg attached to the tripod head.

When all three of the legs are thus attached, the tripod is done and ready to receive the leveling tube. If one have a tin tube with a spindle as described in



HOW THE LEVEL IS PUT TOGETHER. Fig. 125.

Part I, the tripod may be smaller and lighter than the one described. When the tube is set on the tripod with the spindle fitting into the hole in the tripod head, the instrument is finished. If, however, one have a rubber tube attached to a piece of board, he will need something between the tube and the tripod for an attachment. This may be made of three little blocks of hard wood put together like a letter U, with a spike, wire nail or small bolt put down through the middle one by which to attach it to the tripod. See Fig. 124. The sides of the U should be just far enough apart to let the piece of board carrying the rubber tube, slip in between them, and be attached to them by a bolt through the middle, so that the ends of the tube may be raised or depressed at will, and be clamped in any position by tightening the nut on the bolt. G, Fig. 125, shows the tube attached to the U, and H and I show both of them attached to the tripod head and one leg of the tripod. The arm carrying the tube may be revolved horizontally to point in any direction, and if the connection with the tripod be made with the bolt, the nut may be turned up to clamp and hold the arm in any desired direction.

That is all there is of the leveling instrument. It need not cost more than $3, though one have to hire a carpenter to make it. It will do any work that the most expensive engineers' level will, except that, not having telescope sights, one cannot see so far or do so fine work with it. The engineers' spirit level is a very delicate, sensitive instrument, and all its parts must be in perfect order and in true adjustment, or it will not do correct work. The instrument I have been describing does not depend, in the least, on the perfection of its workmanship, and so long as the water in the tube has free passage from end to end, one cannot get it out of adjustment, or make it tell a wrong story. It is absolutely correct and truthful every time.

There are other cheap devices for taking levels; one of them uses a plumb line with sights at right angles with the line. It may be made by fastening together three strips of board like a letter A, see Fig. 125. The plumb line is hung from the apex of the triangle, and the sights attached to the cross piece. To fix the sights in the right place, strike a circle with the plumb line, using as much of it as is necessary in order to mark exactly where the circle crosses the ends of the cross board. Stick pieces of needles into each end of the cross board for sights, being careful to put them exactly in the circle. Then make a mark on the cross board exactly half way between the sights. When the instrument is erect and the plumb line, hanging free, just covers the center mark, the sights will be level. By the assistance of other marks on the cross board, you will be able to set the sights at any desired slope. This form of a level is cheaper and easier made than with a water tube, but whether it be correct or not, depends entirely on the accuracy with which the sights and plumb line are adjusted to each other, while with the water tube, the line of sight adjusts itself and cannot be wrong.

Michigan. FRANK HODGMAN.

FARM NOTES FROM PENNSYLVANIA.

Crimson Clover Report.—This clover, sown last summer after strawberries, made a pretty fair growth for the very dry season, fully as good as the previous year; but every plant was winter (or spring) killed. It was not lifted out, simply frozen to death. It did not seem to me that the weather was more severe than one year ago, and I thought that, perhaps, there might be something in the claim that some strains of seed produced hardier plants than others. In 1894, my seed was purchased from a grower in Delaware, who claimed extra hardiness for his brand of seed. It came through the winter pretty fairly, but was turned under for strawberries before making much growth in the spring. A neighbor who had some of the same seed, let a portion of his piece mature its crop, which was from 18 to 26 inches high, and a very thick growth. The sod was turned under, but enough of the seed grew to make, I believe, a pretty fair stand. But it came out this spring no better than mine, so another theory has "gone to smash."

Some Peach Items.—A peach orchard set two years ago, had potatoes planted in it, and they and the trees were given a liberal application of Stockbridge Potato manure. The trees made a very rank growth, but were badly frozen during the blizzard the following winter. Potatoes were planted again last year, but no fertilizer was applied to the trees. Although the mercury fell to 18 degrees below zero, the trees were not so badly injured as before, the injury being least where the soil is poorest. The varieties are Crosby, Mountain Rose, Stump, Oldmixon and Elberta. The last is as thrifty and hardy in wood as any I have and, as to fruit buds, all the blooms I have seen, were on a tree (seedling) that was buried in snow during the coldest weather.

Working Wet Land.—I have a good (?) example of the effects of plowing when too wet. Three years ago, I commenced to prepare a piece for strawberries. It is naturally quite wet, but has been drained. As the weather was "catchy," a small strip was manured and then plowed, being in excellent condition. The next day, two men were employed and ordered to manure a narrow strip and then to plow it, repeating the process in order that no manure should be left on

the surface, and thus keep the ground wet for a long time in case of rain. After they had plowed two or three strips, I had occasion to pass where they were at work, and I found that the last plot plowed was entirely too wet, and said so to one of the men who replied, "I thought so, but supposed that you knew your own business." The soil was turned in large clods which, after becoming dry in the drought that followed, were almost as hard as bricks.

The berries made a poor growth that year and a small crop the next. The piece was plowed after the berries were picked, when up came the bricks made by the former plowing. It was harrowed thoroughly, but could not be put in good condition. Crimson clover was sown, and a poor stand and small growth marked the spot. In the spring following, the clover was plowed under, and oats and Red clover were sown, each being much lighter there than in other less fertile portions of the field. The field is now planted to potatoes. The injured portion is improving, but much of it is in lumps the size of peas, and the present drought has almost prevented the potatoes from sprouting, while a rod away, they are breaking the surface of the soil. The clover sown with the oats was not as good a growth last fall as the Crimson clover sown after the berries, but when turned under this spring as soon as the ground was dry enough, there was a much greater quantity of both roots and tops than was given by the Crimson clover one year ago. I think that I shall try both kinds after berries this year. If the Red will make as robust a growth this fall, it is more valuable than the Crimson.

STRAWBERRY SUGGESTIONS.—Pinch every blossom from the newly-set strawberry plants as fast as they appear. A row of Parker Earle plants set one year ago, was allowed to bear. The result was a weaker row than those alongside from which the blossoms were removed, and it has not yet overtaken them. Is it wise to put the rows as close as suggested by Mr. Chapman? I have some closer—2½ feet, and others three feet apart. A late planted piece that failed to make a sufficient number of runners to warrant allowing them to bear, was turned under this spring, and the ground re-set. I shook the soil from one plant of Parker Earle, and found roots 24 inches long, nearly as long as those mentioned by Mr. Crawford. Will not strong plants in rows three feet apart, use and require all the space given? G. A. PARCELL.

Bradford Co., Pa.

STEAM POWER IN SPRAYING.

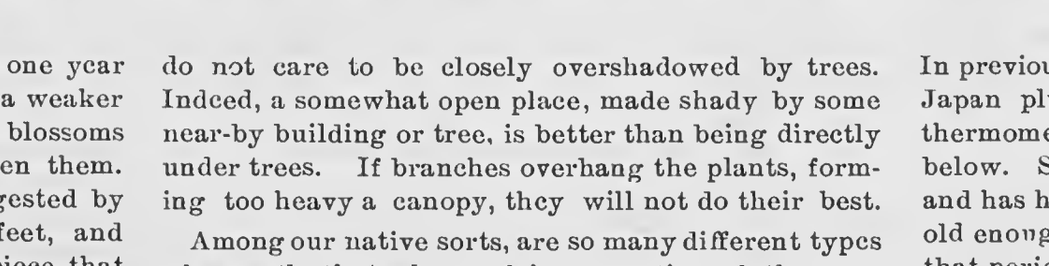
It is safe to say that any man who has worked a spraying pump by hand has had moments of wishing for the time to come when steam power would step in and save his back. The plan of working the pump by means of gearing attached to the wheels, is not very satisfactory as, when the wheels stop, the pump stops, too, and in order to do an effective job, much of the spraying must be done while standing still by the tree.

Two years ago, we told of a California man who mounted a portable steam engine on a wagon, and used it to work the pump. Now we are able to show how this very work is being done in New England. The apparatus shown at Figs. 126 and 127 was devised by Mr. Edwin Hoyt, of New Canaan, Conn., and is pictured in the last report of the Connecticut Experiment Station.

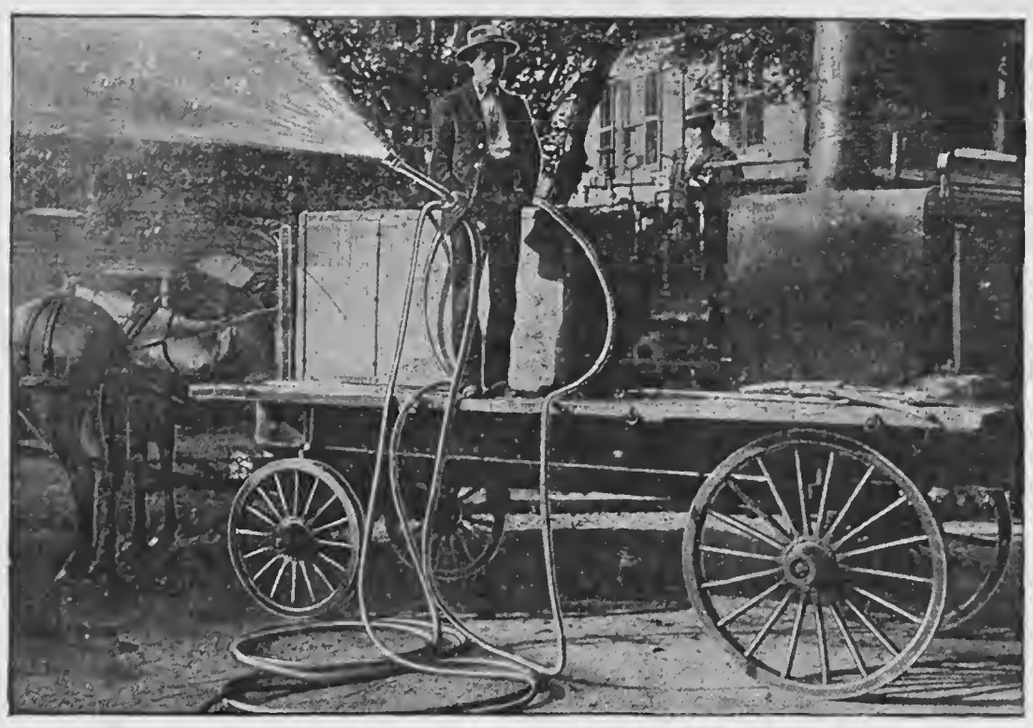
The engine mounted on the wagon is capable of producing five or six-horse power, at a pressure of 100 pounds. It is connected, as shown in Fig. 126, with a 300-gallon tank. This tank is partitioned off so as to hold 75 gallons of pure water for the boiler, and 225 gallons of the spraying mixture. It is bolted and ironed all through, and cost $40. Mr. Hoyt advises the use of half-inch hose, as it is lighter to handle, and the strain is not so great. He uses two lines, each 100 feet long. If need be, six or eight lines may be used at one time, thus covering a wide territory.

Mr. Hoyt finds the McGowen nozzle excellent for his purpose. It will throw a shower of fine spray vertically through 30 feet or more of still air, and is economical of the solution. The boiler shown in the picture, uses wood or coal for fuel, and is used for other purposes; but for spraying alone, Mr. Hoyt says that he would use a boiler heated by oil.

Fig. 127 shows the outfit at work with two lines of hose. The cost will vary from $275 to $375, according to size. It is possible that this offers a chance for some enterprising man to invest some money in a profitable enterprise, and take up the business of spraying, as he would that of thrashing.



ENGINE, PUMPS AND TANK, FOR SPRAYING LARGE TREES. FIG. 126.



ENGINE THROWING SPRAY IN ACTUAL PRACTICE. FIG. 127.

SOME USEFUL NATIVE FERNS.

Few gardens are without some corners or other places where hardly anything will grow, because of lack of sunlight, and in such places a collection of our wild ferns is just the thing to plant. Even in more open places, such as on the northern or eastern sides of a building, ferns do well, and often suit the position nicely. But though delighting in shade, they do not care to be closely overshadowed by trees. Indeed, a somewhat open place, made shady by some near-by building or tree, is better than being directly under trees. If branches overhang the plants, forming too heavy a canopy, they will not do their best.

Among our native sorts, are so many different types of growth, that when a fair proportion of them are got together, there is a varied and pleasing collection. The following are some of the best: Onoclea sensibilis, Osmunda Claytoniana, Osmunda cinnamomea, Osmunda regalis, Polypodium hexagonoptera, Struthiopteris Germanica, Adiantum pedatum, Dicksonia punctilobula, Woodwardia Virginica, Asplenium thelypteroides, Asplenium Filix-fœmina, Woodsia obtusa, Cistopteris bulbifera, Cystopteris fragilis, Aspidium Goldianum. There are also several evergreen sorts, which are particularly desirable because of their cheerful appearance in the winter season. These are: Polypodium vulgare, Asplenium ebeneum, Antigramma pinnatifida, Antigramma rhizophylla, Scolopendrium vulgare, Aspidium acrostichoides, Aspidium spinulosum, Aspidium cristatum and Aspidium marginale. The larger growing sorts of the whole list are the three Osmundas, the Struthiopteris, Asplenium thelypteroides, Aspidium spinulosum, Aspidium Goldianum and Aspidium marginale.

The Osmunda cinnamomea is the Cinnamon fern, so called because of its fertile spikes resembling sticks of cinnamon, when they are ripe. In favorable places, I have seen fronds of it four feet in length. Early in spring, when the fertile fronds are displayed, this fern is very ornamental. Scolopendrium vulgare is the Hart's tongue fern, a rare sort in our country, but common enough in England. It has a broad, entire, green frond, quite distinct from any other wild fern. Antigramma rhizophylla is the Walking fern, a useful sort for covering damp rocks. Where undisturbed in its native wilds, I have seen large bowlders completely covered with this fern.

Some of the most useful ferns we have are among the Aspidiums. Besides the large size most of them attain, and the evergreen character of others, there is the graceful outward curving of the fronds of Marginale and the lively green of Acrostichoides. The latter is so pretty and so green in midwinter, that it is popularly known as the Christmas fern.

As ferns have fine, hairlike roots, they like a light, though good soil. Sand, well-decayed leaf mold and loam are excellent for them, insuring easy piercing by the roots, and moisture in summer. Ferns do not like to be disturbed about the roots. After planting, place a lot of forest leaves about them; they prevent weeds springing up, and keep them moist. The desirability of ferns is mentioned at this time, as they are now in full growth, and may be transplanted now if desired; or marked for removal in the fall.

Pennsylvania. JOSEPH MEEHAN.

WHAT THEY SAY.

HARDINESS OF JAPAN PLUMS.—In southern Connecticut, my experience is slightly different from Mr. Woodward's. Here the Satsuma has failed to bloom, although full of blossom buds which have not swollen at all. Abundance is next in tenderness, showing but few blooms. Next in order is Normand, then Burbank, on which not more than one-half the blossom buds opened. Ogon, Red Nagate and Berckmans have been unaffected by the peculiar trials of the winter In previous winters, when peaches have been cut off, Japan plums have gone through safely with lower thermometer—the minimum here last winter was 10 below. Satsuma bore a full crop here first in 1891, and has had a full crop every year since, on all trees old enough. Peaches have failed here fully half of that period.

It may be some peculiarity of this past winter, perhaps its sudden and extreme variations of temperature, which may not soon again occur, which caused the trouble. Here, also, as with Mr. Woodward, some varieties of Domestica have succumbed to the winter, particularly Clyman, and some Americans, especially Brunswick. The Sneed peach seems to have withstood the winter better than many of the others. F.

A TUB SILO.—A tub or round silo may be safely built anywhere that it would be dry enough to build a stack of hay. Very little labor, therefore, is required in preparing a foundation. At first it was considered necessary to underdrain the site and set the bottoms of the boards forming the sides in cement This does not do any harm, but can be dispensed with. If the location selected is reasonably dry, simply remove all stones or other obstacles from an area equal to the bottom of the silo, and make it as nearly level as possible. One is then ready to build the silo, which is nothing more than setting up and matching the lumber. The silo is, when built, nothing but a huge barrel with heads knocked out, standing on end. The greatest height possible, with a tub-shaped silo, is 32 feet, that being the extreme length of matched lumber. The majority are 20, 22 and 24 feet high.

The number of hoops will, also, depend upon the height. Six will do for a 20-foot silo, and one more for every additional two feet in height. The hoops are made of round ⅝-inch iron. For a silo 13 feet in diameter, it will require two 20-foot lengths of iron for each hoop. The hoop is made in this way: The ends of two strips of iron are fastened together by forming hooks and linking together, and cutting a thread on the opposite ends for several inches with nuts to correspond. After putting the hoop in place around the silo, pass the ends through a hardwood block, and wrench the nuts until the desired tightness is obtained. When the hoops are all on, cut out doorways at convenient spaces for removing ensilage when taken out to be fed. Make the openings only between hoops, and cleat with heavy strap iron before sawing out.

Batavia, N. Y. J. W. B.

ABOUT EVAPORATED TOMATOES.—My own experience is limited, but amply sufficient to enable me to assure

the inquirer that the market will never be glutted on account of the amount of such stock thrown on it by myself. Some years ago, we had such an abundance of fruit, etc., that our fruit jars (several hundred of them) proved thoroughly inadequate in capacity. We canned, preserved, evaporated, pickled, and did everything we could to provide against a season of a less bountiful crop of the good things that delight the wife's heart and her family's stomach, and still some had to go to waste. With tomatoes, we made as free as with water, but my family was not equal to the crop, so we tried our evaporator with some of them. I soon realized that a very small receptacle would hold a bushel after it had passed through the evaporator, and then what little film of a slice was left was far inferior to tomatoes put up in other and different ways. We wisely concluded that it was more profitable to throw the surplus to the hogs and poultry.

With strawberries, we were more successful. We, at least, got an excellent product. During winter, we ate them out of hand as you might raisins and the like. We considered them quite delicious, the taste resembling that of a fig, only the flavor, to my palate, was more delicate and agreeable. People with plenty of money might be willing to pay a fancy price for evaporated strawberries when they might not even care to buy evaporated tomatoes at any price.

Virginia. J. C. SENGER.

HORSE SHOE FARM NOTES.

SOME NEW THINGS IN POTATO CULTURE.

Last year, I mowed some Timothy meadows, June 20, and immediately plowed and planted them to corn. I not only got a good crop of corn, but found the fields in fine condition for planting to potatoes. The hay crop will be the lightest for years, and I shall repeat the experiment. I find the sod well rotted, and the plowing and harrowing have mixed it well through the soil. This humus-filled soil will retain moisture and potash; in fact, I find, by removing a few inches of top soil, that it is moist all of these drying days. A good coating of horse manure spread over the surface during winter, and 200 pounds per acre of home-mixed fertilizer, will give a good crop.

I am not planting as deep as usual, for the reason that the digger did not seem to do as good work where level culture was practiced. One must hill up some, so as to let the wheels into the trenches, or it will not run deep enough. Although the average results of our experiment stations do not show any practical difference between the yields of trench and ridge systems, the deeper planting has given me best results. I did not like to change, and shall do my hilling early in the season before the roots get too long so as not to cut them; then cultivate shallow later in the season.

We have an Aspinwall cutter for cutting seed. A boy, 12 years old, cut a bushel in four minutes. If one is too particular, or seed is very high in price, some would not like its work. If one cuts slower and places the tuber in right each time, he can halve, quarter and cut into eighths. The only ojection I can see is that there are some thin slices, small pieces, and a very few pieces without eyes. These are not used, but are thrown out by the droppers. It saves a good deal of hand labor, and I am pleased with it. At first glance, one would say that the pieces are too small, but the long, white varieties show two to three eyes for each. I took out the long knife which halves them, when cutting R. N.-Y. No. 2's, as they have fewer eyes.

I have been in the habit of trenching with a two-horse plow; but as that runs too deep, I wrapped a chain around the runners of the forward bob-sled, and found that it made a good mark. As the bob has a tongue in it to guide it, a very straight row can be made, and one can ride. This makes a good marker without expense.

I have planted 30 by 14 inches. I could not find any increase in tubers when three feet apart, and concluded to plant fewer acres for the same number of bushels. Owing to the shallow mark, we could not cover with a harrow. I am using a one-horse, reversible, Syracuse plow, and find it a perfect tool for covering, turning a good furrow on to the tubers. A neighbor covered with a one-horse cultivator, but had to have a man follow with a hoe to cover the "skips." The plow will put on earth enough so that we can harrow down. I have a new lever-set, Osborn pegtooth harrow. With this, we kill all weeds before the corn and potatoes come up. I would not, after using a lever-set implement, buy any other.

The smoothing harrow takes a wide sweep, and a good deal of ground can be gone over in a day, at a minimum expense. Until the corn and potatoes are too large, not only more, but better work can be done than with a cultivator. The soil is stirred in the hill around the plants, and the small weeds killed, something a cultivator can not do. After this stirring, the crops fairly jump. It's a mistake to wait till the weeds get large before cultivating. One should not cultivate for the purpose of killing weeds, but for the beneficial effect on soil and plant. If the soil is not fine, mellow and deep, put the cultivator down to the bottom, the first time used, and let that be before the tops are more than two inches high. After that, very shallow cultivation should be the rule, as the roots soon meet between the rows. A lever-set cultivator is very handy, and can be set to run on a wheel in front and a shoe behind, so as to regulate the depth. In buying new tools, we must change our methods and adopt those suitable for our use. I am wondering if my yield will be decreased. C. E. CHAPMAN.

LATE SOWING OF CLOVER.

SHALL WE WAIT TILL THE GRAIN IS UP?

Why might it not be well, instead of sowing the clover seed at the same time with the grain (oats especially), to wait until the grain is up and nearly covering the ground, and then to sow the clover seed and use the roller? It seems to me that just about that time, it would be an advantage to the grain itself to run through it with the Breed's weeder, which would kill a good many weeds just starting, without materially hurting the grain, and would, of course, also bury the clover seed. My idea is that the clover seed would remain dormant till the grain was cut, when it would, after the first rain, quickly germinate. W. O. E.

Ontario, Canada.

Clover Must Have Moisture.

Clover starts best when the ground is continuously moist for a considerable period of time. The seeds contain a large amount of oil, hence require continuous cool and moist weather for best germination. It is probable that all the seeds would not remain dormant until the oats are cut, though much would depend on the weather; those that did start would have a hard struggle for existence in the soil robbed of its moisture and fertility by the vigorous older oat roots, and by the dense shade. Frequently the trouble is, that when the clover is sown early in the spring, it burns up or dies after the grain has been cut; having grown in the shade and been weakened, it is not able to withstand the hot, dry weather which usually comes at the close of harvest. Without doubt, Breed's weeder, on certain classes of land, would be beneficial to the oat crop, if the use of it were not put off too long. I. P. ROBERTS.

The Chances Are Against Success.

The best farm practice is that which affords the greatest likelihood of success. Some method may give desirable results in an extraordinary season, while it would bring partial failure four years out of five. We should adopt those methods that are safest in a series of years. To this class, I do not think that the proposed late seeding of clover belongs. The seed, sown at the time suggested, would not lie dormant; moisture and heat would cause it to germinate. But if it should lie dormant until the oats were cut, it would begin life under unfavorable conditions. An oat stubble is deficient in soil moisture in an ordinary season, the oats having drawn heavily upon it. Ordinary rainfall does not last in such ground, and the clover plant is handicapped by a very late start in the year, and by a dry soil. Red clover, sown in midsummer, has often done well, but usually only when the soil was moist and rich. Ordinarily, Red clover needs all the root growth it can make before summer drought sets in.

I have sown clover late in the spring in wheat, using the slant-tooth harrow to make a seed bed. The harrowing is not injurious to the wheat, unless it has been badly heaved by frost, and the idea is to give the clover an immediate start so that it can become well rooted before the time when it must be exposed to the direct rays of the sun. Clover, sown early in the spring by itself, often does better than when sown with a cover crop. I have some such clover this year, and it is very promising—much better than the clover in one rank wheat field. But this clover started when there was plenty of moisture in the soil, and before the long, hot days came. W. O. E. might sow clover very late in the oats, and get a fine stand; but this would be due to a most favorable season or some peculiar local circumstance. The chances are against success, and it is bad farming to take any unnecessary chances. A thin seeding of the oats and early seeding to clover, furnish fairly favorable conditions for a stand. Where a big crop of oats is the first desideratum, I would not invest any money in a seeding to clover. ALVA AGEE.

Ohio.

Sow with the Oats.

There can be no better time to sow the clover seed than at the time of sowing the oats. If the oats are drilled in, let the clover be sown at once, and the roller will cover the seed sufficiently. If the ground is quite dry at seed time, both clover and oats will germinate much better for the rolling. There is no necessity for using Breed's weeder, as oats will, generally, get the start of any weeds that the weeder would destroy. The idea that clover seed sown in late spring, would lie dormant till the grain is cut, is quite a mistake; the ground is in better condition for clover to start at the time of sowing the oats than at any time later, and the rains which are more frequent, usually, in the early spring, favor its growth. Clover seed sown in April, on oat ground, ought to grow from six to eight inches in height before oat harvest.

New York. T. G. YEOMANS.

SOUTHERN VEGETABLE GROWING.

SALT ON ASPARAGUS; PEAS, POTATOES.

I wish to sow some salt on asparagus, along the row, say, 12 inches wide. How much would be sufficient? How would it do to sow a wide row of Black-eye peas between each two rows after the cultivator has gone through twice? The rows are 36 inches apart, and two-year plants, just planted. If the rows of potatoes are 32 inches apart, is it necessary to throw the earth to them with a plow, to keep the sun from scalding the potatoes in sandy loam soil? H. H.

Ware's Wharf, Va.

What Do You Want Salt For?

Why do you wish to sow the salt on the asparagus? Can you give any reason for it except old custom? You ask how much is sufficient. So far as any good that the salt will do is concerned, I suppose that a teaspoonful to the acre is enough. The only possible good would come from an amount of salt that would kill the weeds, and which the asparagus might endure, though not being at all benefited by it. The only way in which I would apply salt to asparagus, would be in the shape of potash salts or kainit, and this application should be made in the late autumn, so that the salt in the kainit may have time to leach away during the dormant season. The row of peas would do no harm, if they be allowed to die on the land; but I would prefer to keep the asparagus clean of all growth. Potash, in the shape of kainit in the fall, and plenty of nitrogenous fertilizer in the spring, will make asparagus, and the salt in the kainit will do less harm in the late fall than at any other time. My experience has taught me that it is far better to set one-year-old plants, and I would not allow any man to give me two-year roots if I could buy the one-year ones at a fair price, unless the two-year roots had been taken up and separated and transplanted at one year old. We always earth up the early crop of potatoes, which here grows during the cooler part of the season (that is, it usually does, though this season it is the hottest), as the ridge of earth warms up better than the flat surface; but we always trench the late or second crop, and grow them perfectly flat. If the potatoes were properly planted, on well-prepared land, there is no need for hilling as a preventive to scalding of the tubers. W. F. MASSEY.

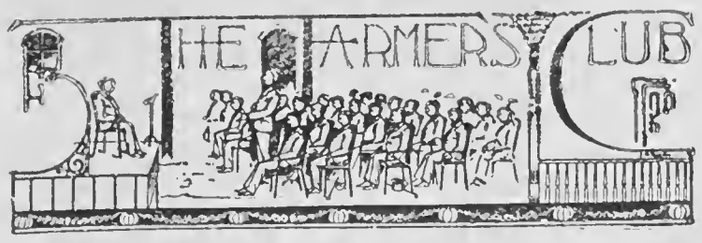
Too Late to Salt Now.

Use salt, 200 pounds per acre; but it is now too late for this application the current year; it should be applied early in the spring. I consider kainit a much better application than salt, as it furnishes the sodium chloride, and also potash. If you use it, apply in the autumn or early spring, at the rate of 1,000 pounds per acre. I find it best to cultivate asparagus very thoroughly, and do not permit anything to grow between the rows. Thirty-six inches apart are entirely too narrow; asparagus needs five feet to do well, and then the rows must be kept cultivated and perfectly clean to secure a good crop. In my work, I top-dress the asparagus twice a year with stable manure, and use the kainit in addition. In regard to potatoes, I consider it advisable to earth them up at the last working. This is especially important if the tubers are to remain in the soil for any length of time after the tops are dead. If the crop be dug at once as soon as mature, before the vines are dry, I do not think this of much importance. [PROF.] W. B. ALWOOD.

Keep the Peas Out.

Personally, I have never used salt for asparagus, for the reason that, in my opinion, the supposed benefit is more imaginary than real. If I wanted to do anything of the sort, I would, instead, use kainit, as this would, at least, add fertility to the soil, besides possessing the weed-destroying chlorine of the salt, which is simply chlorine combined with sodium. Three to four bushels per acre broadcast would be sufficient. H. H. would find it quite a task to sow a row of salt 12 inches wide in anything like a uniform manner. Before he undertakes it in the field, let him try it on the floor where he can sweep up the salt again, and I think that he will find that he has set himself quite a task. If his soil is as it should be, very rich, moist and sandy, the Black-eye peas would pretty well smother his asparagus. Absolutely clean culture, allowing not a single sprig of grass to take firm hold, would give him much thriftier plants, and a mulch applied in the fall would serve him a doubly good purpose. Parties near Loudon having as much as 100 acres of asparagus under culture, find it to their interest to mulch in the fall. My own potato soil is, likewise, a sandy loam; but by planting the potatoes deep enough, I have no trouble with sun-scalding. The plow is such a root slayer that I would not think

of using it. Level culture has always given me the best results, next to mulching, which is now my preferred method. Hilling potatoes is something out of date. H. H. must remember that the extreme heat of our summer does not equal that further north, and that, as level culture suffices in Ohio, Pennsylvania, etc., it will suffice in Virginia. J. C. SENGER.



[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Questions About Apricots and Plums.

H. S. S., Essex County, Ontario.—1. Are the Harris and Acme apricots the same, or two distinct varieties? If different, which is better? 2. Which would be best, to graft or bud the apricot on the Marianna plum stock, stocks grown from pits of the Russian apricots, or peach stocks? The soil and climate here are equal, if not superior, to any in the Province for growing peaches. 3. Which would be the better way to propagate the Marianna plum, for stocks to graft or bud on, from cuttings or from pits of the fruit? 4. What is the cause of the leaves of my Japan plum trees losing their color soon after leafing out? I have a few trees of Abundance, Ogon and Burbank; in the spring of 1894, and also in 1895, the leaves turned a cream color soon after putting out, and continued that way for some time; but they gradually changed to their natural color, and the rest of the season they grew finely. This spring, the leaves have not lost their color nearly so much as the two previous seasons. The Abundance and Ogon lost the coloring of their leaves more than the Burbank. I do not know what kind of stocks they are grafted on; they have not borne any fruit yet. They were full of blossoms this year, but have failed to set any fruit. I have six trees of the Abundance, that I grafted on sprouts of the wild plum. They were grafted from two to three feet from the ground, averaged about an inch in diameter at the place of grafting, and the leaves do not lose their color as do the others. The six trees have quite a number of plums set on them. The wild plum seems suitable for grafting on, except that, when the trees get large, they sprout badly from the roots.

ANS.—1. The Acme apricot is also called Shense. It is a variety said to have been brought from northern China by a returned missionary, and by him given to Prof. J. L. Budd of Iowa. Harris is a native seedling of central New York, where it is being grown with success as a market fruit. 2. The apricot does better budded on seedling apricot stocks, in light, porous soils; but in heavy soils, the Myrobolan plum stock is preferable. Marianna is a variety of that species, and is very suitable. 3. Wherever cuttings of the Marianna plum will root easily, they are more cheaply made into stocks than seedlings. They root much more readily in the Gulf States than farther north. The seedlings from the Marianna do not sprout from the root, so far as I have seen or heard. 4. Not knowing the kind of soil, whether light and porous, or heavy and inclined to be wet, and the kind of stock upon which H. S. S.'s Japan plum trees are worked, it would be impossible to tell the cause of the leaves turning yellow in the early part of the growing season. The climatic conditions may have had much to do with the matter. H. E. VAN DEMAN.

Root Gall in Peach Trees.

J. S. G., Darien, Conn.—I send a root or stub of a peach tree from my orchard planted two years ago the last of April. About two-thirds of the trees are affected the same as the one I send. I bought them from a local agent. I wish to learn the cause of the bunch on the tree, and the remedy. I would like to know whether the tree or the ground is at fault.

ANSWERED BY M. V. SLINGERLAND.

The peach root sent by J. S. G. is shown, one-half natural size, at Fig. 128. The enormous, somewhat corky enlargement at the point where the root system begins, is known as a root gall, and that is, in fact, about all we know about it at present. It is a very mysterious disease which occurs, not only on the peach, but on a variety of plants, as raspberries, roses, Marianna plums, pears, apricots, almonds and grapes. It is said to be a very serious affection on the Pacific coast, and one peach orchard in Niagara County, N. Y., has recently suffered severely. In the latter case, the owner is convinced that his trees became diseased by growing them in a nursery where infested raspberries were previously grown.

The disease is evidently widely spread throughout the country, and exists in Europe. In the case of peach trees, the galls occur, both upon the small roots several feet from the trunk, and, also, in large masses just under and about the crown. The galls vary in size from that of a pea to twice as large as a man's fist. Peach trees thus affected often stop growing and assume a yellowish and sickly look, and they may be mistaken for trees suffering with the "yellows" by persons not familiar with that disease. The cause of the disease is wholly unknown. German writers consider that the disease is due to mechanical injuries of the roots, but Prof. Bailey says that this hypothesis is wholly incompatible with the appearance and spread of the trouble. No investigator has yet been able to discover any insect, fungus, or germ to be associated uniformly with the galls.

The disease is prevalent in the raspberry plantations at Cornell, and is kept in check only by pulling up and burning all suspected plants. If berries are affected, it would be advisable to destroy the plantation, and set another upon non-infested ground. Prof. Woodworth, who has studied these galls in California, gives the following advice: "1. In the orchard, the knots should be carefully removed and burned as soon as found, and an antiseptic application made to the tree where the knot has been removed. We would recommend Bordeaux Mixture for this purpose. Trees so treated should be examined from time to time for, at least, a year, and should the knot re-appear, it would be best to remove and destroy the whole tree. When a tree is removed, it would be well to delay re-setting for a year or two, or re-set with a tree of an unsusceptible kind. 2. When setting an orchard, reject all stock affected by the knot. I would prefer to have stock from a nursery known to be entirely free from it. 3. In the nursery, the greatest care should be taken to destroy, by burning, everything showing any evidence of the disease. Fields in which these galls have appeared, should be devoted to some other crop for a number of years."

An extensive experiment with affected trees from the nursery, has been begun here at Cornell this year. Efforts will be made to discover the cause of the galls, and a remedial measure, if possible. This disease must not be confounded with the root-knot of the

PEACH ROOT AFFECTED WITH ROOT GALL. FIG. 128.

peach and other plants in warm climates, and in greenhouses, which is the work of a nematode worm.

Propagating the Lady-bird Beetle.

C. E. B., Crossville, Tenn.—Will not some of our State or National entomologists tell us how to encourage and propagate the Lady-birds? It is, undoubtedly, a fact that they devour the eggs of the Colorado beetles. I have watched them several times hunting over a potato vine, and as soon as they found a bunch of eggs, they at once fell to work to make a square meal.

ANS.—It is doubtful whether a practicable method could be devised whereby any predaceous or parasitic insect could be propagated on a large enough scale to affect noticeably the numbers of any insect pest. A few years ago, prizes were offered to those who would devise or suggest practicable methods of propagating dragon flies (devil's darning needles), which devour many mosquitoes, in sufficient numbers to mitigate the mosquito plague during the summer. Several essays were submitted, but none concluded the scheme practicable. However, there is one striking instance where man has very noticeably checked the ravages of an insect pest by introducing and, for a time, controlling the propagation of a predaceous foe. A few years ago, California orchards were being ruined by a scale insect whose original home was Australia, where it seems to have been checked by a little Lady-bird beetle. Our government introduced a few specimens of this Lady-bird into California, about seven years ago, and to-day, many orchards in the State are comparatively free from the pest which, at one time, threatened the destruction of the whole fruit industry of the State.

Although it may not be practicable to propagate, on a wholesale scale, the enemies of our insect pests, we may often encourage or protect them in their efforts wherever we find them. But to do this, one must be able to recognize and distinguish between friends and foes. Many people know the Lady-bird beetles, but few recognize their earlier stage—the grub—which is more ravenous than the beetle. About all that can be done by those not versed in the characteristics which often serve to distinguish friend from foe, is not to destroy an insect which is seen destroying a pest.

At the present time, there are, doubtless, at least, 50 different animals which have been seen eating the Colorado potato beetle in either its egg, grub or beetle stage. In 1876, Dr. Riley recorded the following animals as foes of this potato pest: Five birds, skunk, toad, black snake, daddy-long-legs, a mite, a wasp, six kinds of Lady-bird beetles, nine other kinds of beetles, six kinds of true bugs that suck out the juices, and two kinds of flies. During the past few years, it has been noticed that, in some localities, the potato beetles were very noticeably scarcer than usual; in some cases, this was, doubtless, due to their enemies having been numerically abundant and active. Lady-birds have often been seen feeding on the eggs, and the sucking bugs are often found with their beaks stuck into a juicy grub. The potato beetle is so easily handled with the Paris-green spray or dust, that a discussion of the advisability of propagating its insect enemies, seems hardly worth while. Nature will establish her own equilibrium. M. V. S.

Kainit and Sorrel.

Subscriber, Washington, D. C.—In a recent issue, J. W. Kerr states that 400 pounds of kainit per acre killed out sorrel. Does he mean the pestiferous red sorrel so common about here?

ANS.—In a former note, where brief allusion was made to the successful and satisfactory use of kainit as a corrective for that condition of land which invites and promotes the growth of sorrel, the common sheep or field sorrel was meant, which, doubtless, is the same referred to by your Subscriber as "Pestiferous red sorrel." The flowers of the plant are of a reddish color. To proclaim kainit as a "sovereign remedy for sorrel," was not my intention, as different conditions might likely produce results less satisfactory. However, I think that it would be well worth a trial by Subscriber, and were it my own case, would apply 400 to 500 pounds per acre, when the land is planted with corn. In addition to the instance noted in my former letter, I have repeatedly cleaned up spots and patches of sorrel by the use of kainit, but never succeeded in its complete eradication by the application of lime; for as a good many persons know, sorrel will grow luxuriantly, immediately around the edge of a lime pile. I have never attempted to destroy it by using muriate of potash. As a source of potash, high-grade sulphate would be safer and more economical than muriate for all agricultural purposes. J. W. KERR.

Boring for Maple Sugar.

A. S., No Address.—What is the best method of tapping the Sugar maple? How deep should the hole be made, and of what size should the spout be to hold the bucket? Will it be better for the tree, if the hole be plugged when the spout is removed?

ANS.—I prefer to tap my maple trees with a half-inch bit, boring not over one-half to three-quarters of an inch beyond the bark, as the sap is found to be secreted near the surface of the trunk. I use metallic spouts, galvanized, as I find that they give the best results, although a wooden spout made to fit a half-inch hole, is amply strong to hold the weight of a 12 to 14-quart bucket of sap. While some good sugar-makers advocate plugging up the holes after sugaring, I believe that the better way is to let Nature do her own work. A small, clean-cut hole will heal over naturally, and leave less scar than if plugged with dead wood. C. W. SCARFF.

Cow Peas or Canada Peas.

G. W. S., Allen's Falls, N. Y.—How many cow peas should be sown to the acre, and how should they be sown, broadcast or drilled? How deep should they be covered? How would the Canada field pea compare with them as a nitrogen trap, and a crop to supply organic matter to the soil—the crops to be plowed under?

ANS.—A very satisfactory growth of cow pea vines may be secured by sowing the seed with a grain drill at the rate of one bushel per acre. I consider it a much more satisfactory method than to sow the seed broadcast, as it is planted at a more uniform depth, and a much more even growth of plants is secured at the start, so as to cover the ground and prevent the growth of weeds. The seed should be planted about 1½ inch deep. Some farmers shut off every other drill tube when sowing cow peas, which enables the land to be cultivated with a narrow cultivator as soon as the plants appear. A heavier growth of vines would, probably, be secured by planting in rows 2½ feet apart, either drilling the seed three to four inches apart in the row, or dropping three seeds in the hill every 12 or 15 inches apart and keeping the soil thoroughly cultivated until the vines take possession of the land. The Canada field pea would not compare favorably with the cow pea as a nitrogen trap to supply organic matter for plowing under. The latter will produce a greater quantity of vegetable matter, which will be fully as rich in nitrogenous material. Try sowing part of the field with the grain drill, and the rest plant in rows, giving good culture throughout the season, and in that manner determine which method proves the most satisfactory.

Delaware Experiment Station. M. H. BECKWITH.

Bad Weed in Vermont.

A. S., BURLINGTON, VT.—In THE R. N.-Y. of May 2, is a reply to an inquiry concerning "Devil's Paint-brush" or Hieracium prœaltum. We have here a weed known as "Golden Hawkweed" and "Paint-brush" (Hieracium aurantiacum) which is rapidly becoming a serious pest, spreading by running root stocks and seeds, and driving everything else before it. It has a tuft of leaves close to the ground, with flower stems 6 to 12 inches high. The flowers are clustered, orange to flame color, showy, appearing from June to October. The whole plant is hairy. We have found this weed to be far more sensitive to salt than are ordinary plants, and from experiments have concluded that it can, in many cases, be exterminated more economically by an application of common salt than by cultivation. It is quickly killed by an application which does not injure grass in the slightest. It would seem probable that the Hieracium prœaltum, which you mention, being so closely related to the species we have, would also be easily killed by salt, and I would like to call the attention of those who are troubled by either weed to this simple means of eradication.

Use of Roofing Paper.

D. A. K., WAITSFIELD, VT.—In THE R. N.-Y. of March 7, is an inquiry concerning Fay's Manilla roofing. I have laid it on several small roofs and seen it on others; also talked with those who have used it. With my present knowledge of roofing materials, I would, on a new building, construct a flat roof, and cover with manilla. A flat roof saves much time and lumber, as well as manilla, because there is so much less surface to cover. If one follow closely the directions given, he will have a good roof for any building.

If wet lumber be used, the manilla will be wrinkled, and, perhaps, torn by the shrinkage of the boards. This may be partially avoided by making the boards narrow, say, six or seven inches, and laying the strips of roofing lengthwise of them; but it is better to have them fairly well seasoned, and perform the work in good weather. Inch boards should be used for a foundation, and if the roofing be laid lengthwise, care should be taken that there is solid board and not a crack to nail into where the joints come. I would not advise putting manilla over old, rotten shingles, as the nails will not hold well, and the material will not lie as smoothly.

Summer Seeding; Sunday Separating.

F. L. M., EDGEWOOD, Pa.—C. E. Chapman speaks of seeding grass lands in the fall with his wheat. Indications seem to point to the fact that our most favorable time to seed is the last of July on wheat or rye stubble, by simply harrowing, once or twice before seeding and rolling afterwards. We use four quarts of clover and six quarts of Timothy. To our southern dairy beginner, I would say that we separate the milk and feed the calves and pigs the same on Sundays as other days, considering this less heathenish than to change their diet for one day a week.

More "Good Roads" Talk.

S. A., STOCKPORT, N. Y.—I noticed "The Good Roads Question," by W. D. J. Tell him that, if he will come up into New York State, we can teach him many crooked ways. Tell him how we voted to tax ourselves $9,000,000 to help pay the freight on Western produce, so that Western farmers can rob us of our market, and how we will make it $50,000,000 before we are through with it, so that a lot of officers can have a good slice. It will be a CAPITOL (building) job when we get through with it. Tell him, too, that we have a road law in this State which says that if the towns will build macadam roads, the county must pay one-third and the State one-third of the cost, so as to give us good roads cheap. If W. D. J. ask where or how the towns, counties and State get the money, tell him by issuing bonds. We are prepared for anything, and progressing like a crab.

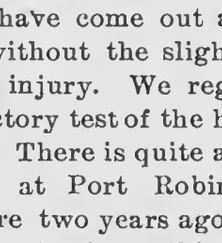
Hardiness of the Loudon Raspberry.

CHAS. A. GREEN, ROCHESTER, N. Y.—You ask for experience as to the hardiness of the new raspberries. The Loudon was perfectly hardy here, the past winter, which was one of the severest we have had for many years. We had two acres in an exposed position, on rather low ground, where a full sweep of wind could strike them; this plantation was not protected in any way, and the bushes have come out alive to the very tips, without the slightest indication of any injury. We regard this a very satisfactory test of the hardiness of this variety. There is quite a plantation of Loudon at Port Robinson, Can., planted there two years ago. We have received reports from this plantation that, thus far, the Loudon is hardy there. The Canada planters were particularly interested in the hardiness of the Loudon. They have increased their plantation this year and last, which is a pretty good indication that they are satisfied with its behavior. I hope to hear about the hardiness of the Columbian and Miller from some of your correspondents. It must be understood that there are localities in this country where no red raspberry will endure the winters; therefore, the question of hardiness is simply one that applies to localities.

Seal the Packages.

T. C. KEVITT, NEW JERSEY.—I would suggest that C. L. B., page 353, use a seal to protect his fruit in the packages. By using a seal like the one here shown, when shipping fruit, it can be readily ascertained whether the package has

OUR TRADE MARK.
(SEAL.)



Crying that he did not have enough
STRAWBERRIES.

been tampered with, as in such a case, the seal would be broken. This would present at once to the commission merchant, ground for complaint, and hold the transportation companies responsible for all loss of fruit while in their care.

Rye for Green Manure; Clover.

J. M. H., RIDGE FARM, ILL.—Mr. Jamison's experience with rye as a green manure, page 336, is similar to my own. Last season, I had a strip of rye on one side of a field which had been in millet. The rye was sown for early pasture, but having plenty without, I did not turn the stock on it. The field was plowed between May 10 and 16, and planted to corn May 17. The rye had nearly completed its growth, and as there had been no rain for some time, it had taken almost the last particle of moisture from the soil. The rye portion was about as dry as new ashes, and almost as mellow; there were no clods in the field. The remainder of the field (millet stubble) was very moist when plowed. The corn on the stubble portion made a fine growth from the start, while only a trace of that on the rye ground ever came up.

After rain came, June 18, I sowed the ground to millet, and the chinch bugs took that, so that I got absolutely nothing from the land. To be sure, the season was unusually dry, but if, as Mr. Jamison suggested, I had plowed the land two weeks sooner, I would have had a good crop of corn, and I would also have saved the price of the millet seed which, at the time, was $2 per bushel in Chicago.

I shall soon have to cut my clover. It was sown last spring in oats, and harrowed in. I don't know of a single piece sown last year that made half a stand, unless it was harrowed after sowing. Mine is thick and the wonder of the neighborhood. I sow a bushel of seed on five acres. People used to laugh at me for putting on so much seed, but they have quit. Half clover and half weeds won't do any more.

The Best Roofing for a Barn.

A. A. K., MALVERN, PA.—The most durable roofing in the world, hence the most economical, is a good heart-cypress, shingle roof, and it is the most satisfactory in every way. Such a roof will last anywhere from 50 to 100 years, barring accidents. Unless flat, or nearly so, it will need no "dipping." Soft pine shingles may be dipped or painted, and will wear many years. The best "dip" material is creosote stain. Creosote, of the right kind (there are two sorts) is a great wood preserver. It is hard on the hands and eyes, hence one should use gloves and care when using creosote stain. The shingles must be absolutely dry; dip them two-thirds of their length. Strong lime water is also good, fireproof and durable. There are fireproof washes, simple enough, but they need not be described here.

A slate roof is pretty, and especially desirable when the water is to be caught for use. But frost cracks the slates, they make an intensely hot roof in summer, and a very cold roof in winter. Shingle roofs are better ventilated, and more desirable in these respects. A broken slate is harder to replace than a defective shingle. A tin roof is not the best for a barn; it is hard to get a good one, to begin with, and almost impossible to keep it in repair. It is costly in the first place and costly to keep painted.

(*Continued on next page.*)

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I will sell as long as they last at 50 cents per bushel, shipped in sacks, or $1.50 per barrel. C. A. SWEET, Buffalo, N. Y., care Third National Bank.

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on collective exhibit of 12 varieties of potatoes, some of which yielded over 1,000 bushels per acre; the average was 490 bushels per acre of large, smooth and good flavored potatoes. It is therefore proven without a doubt that our elevation and soil are superior to anything in the United States for the growth of hardy and vigorous seed. Prices: R. N.-Y. No. 2 and Potentate, per bush., 50c.; bbl., $1.50. Mt. Carbon, per bush., $1; bbl., $2.50; 10 bbl., $2. Rutland Rose and White Mountain, per bush., $1.50. Seed limited. Our Early Siberian Oats are new and direct from the International Seed Co. The heads are from 10 to 18 inches long, with three oats in a chaff, shuck thin, berry large. Mr. B. Truax, of Chittenango Station, harvested 108 bushels of these oats from two bushels of seed. Price, $1 per bush., 50 bush., 85c. Address HOWARD LOUCKS SEED CO., Chittenango, N. Y.

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Also, Six Per Cent **Peruvian Guano.**
Fine Ground Dried Fish.
Prices on Application **BAUGH & SONS COMPANY,** 412 Exchange Place, Baltimore, Md.

It should be painted every two years, unless graphite paint be used, when once in from five to ten years will do. Graphite paint will cost twice as much as common roofing paint.

What THE R. N.-Y. says regarding good tops and bottoms for barns, is true as truth can be. The same with a man—good feet and a good head.

WHAT CRIMSON CLOVER HAS DONE

Lived on "Poorest Land on the Place."

Last August, I plowed a piece of the poorest land on the place, and sowed it to Crimson clover. It has lived through one of the worst winters we have had in a long time; not a plant killed. It is blooming now. Medium clover, growing on the same kind of land, was killed out entirely. I am very well satisfied that it can be grown successfully in this latitude, 12 miles south of Cleveland. I have only one acre of it this year, but I shall sow a larger piece next fall. C. N. G.

Independence, Ohio.

Curious Michigan Results.

Four of us last August sent for some seed to test Crimson clover on a small scale; as we had been told by a good many that it would not do anything here, we did not care to risk too much at first. We sowed it from the fore part of August until September. Three of us have a good stand of clover, while the fourth plowed his up, as it was not very good. One of the others has a light crop, while the fourth man and I have good crops. I sowed mine in a young orchard and garden for plowing under this spring. I am more than satisfied with the growth it has made, for I am afraid I cannot plow it under, as it is too heavy, and almost all of it is lodged, some of it being two to three feet tall. It is just going out of blossom. I think that, maybe, I shall have to mow it before I can plow the ground. I think that there will be more sown around here this year, as a great many have been here to see this clover. It certainly has behaved well for the first trial, any way. No fertilizers of any kind were used on mine. M. S. B.

East Leroy, Mich.

What I Know of Crimson Clover.

September 19, 1894, I sowed Crimson clover in a young grapery; it was up and growing the 23d. It made but little growth during the fall; the season was very dry. In March, none was visible to the naked eye, but it came on and made quite a showing. I concluded that it was sown too late. July 31, 1895, I sowed three-fourths acre in a young apple orchard on vacant ground. It was out and around in three days. I sowed turnip seed on part of it, with the idea of winter protection. The season was very dry, even up to winter. When the snow left in March, it showed up pretty well, except where the turnips had been sown. They seemed to have choked it out, probably owing to the dry weather. An unusually forward season brought it on rapidly in April; May 5, I saw the first bloom. May 11 and 12, I plowed it under for corn; it was in full bloom, 15 to 18 inches high, and in places, so thick that it was difficult to plow it all under. I counted many stools with from 17 to 25 strong stalks, and on each a blossom, from a single root. It was a complete garden, and a picnic for bumblebees. I shall sow it with a generous hand this year, in July or early in August. It will not endure standing water. Under similar conditions, it will heave no worse than Red clover. Last March was very trying on clover here, but the Crimson heaved hardly as much as other clover on adjoining ground. I doubt its value here as a hay crop, as it cures at a season when we seldom have suitable weather to cure hay; but as a catch crop to plow under for corn, potatoes or beans, I think it very promising, or as a winter cover for orchards that are to be plowed in the spring.

Ula, Mich. H. C. S.

A Conservative Report from Michigan.

For two years, I had tried Crimson clover, and as it stood the winters, I sowed five acres early last August, among potatoes and tomatoes. The seed lay dormant until the drought-breaking rain of August 23. It made a rather short growth, but stood the winter without loss. Of course, potato digging spoiled much of it. At this writing, it has made a luxuriant growth, and is headed. Knowing the benefit of a cover or mat on our land over winter, Crimson clover is, by far, the most valuable plant known to me for the purpose. Incidentally it will furnish more or less pasturage in fall and early spring, but its greatest value is to supply what Nature demands, and, left to herself, tries to furnish—a covering of vegetation for the naked field. For a quick-growing nitrogen trap, nothing equals it for our purpose. I expect to sow it largely this year. The soil on the five acres ranges from a light gravelly sand to heavy clay, and the clover has done well on all of it. It laid bare much of the time the past winter, and the ground was frozen 12 to 15 inches deep. Crimson clover should be sown here about August 1, but I would sow as late as September 15, if I could not earlier. I think that Crimson clover will be used more and more in Michigan, when farmers learn when to sow and for what to sow.

We use no fertilizers in connection with Crimson clover, but sow it among other crops, where it must take its chances. If sown alone, I would use 100 to 200 pounds of nitrate of soda per acre, broadcasting it after sowing the clover. Our experience with it has been where it was sown with other crops; we have never sown it alone. It would not answer to sow nitrate, etc., with crops at the time of sowing Crimson clover. I use horse manure more than any other manure, part of it having been used in hotbeds, and apply it on the portions most in need of humus. On some parts of the ground, I have never applied any stable manure. At planting time, I use nitrate of soda in quantities varying from 100 to 300 pounds per acre. I have experimented with the best grades of various mixed chemical fertilizers, but results do not warrant their extensive use. I keep the land up with clover, rye and stable manure. No extraordinary amount of manure is used, and the land should be classed as good ordinary farm land, but not as a garden. I know of cases where farmers consider Crimson clover of little or no value, but so far as I can see the trouble is not with the clover. There is a certain and definite position to be assumed by all who sow Crimson clover, viz., sow in this latitude from August 1 to 25, for no other purpose than green manure, and a mat or cover for the land over winter. More or less value may usually be had from it in pasturage; also, occasionally, with a full stand, the crop might be allowed to ripen for seed. When too late for the Crimson clover, I shall use rye, or if sown about September 10, two or three parts of common oats to one part of rye. The oats will winterkill, but the rye holds the dead leaves, and makes a good mulch. This is good for sand knobs and light soils. Of course, I use Medium clover and other ordinary grasses in seeding for rotation.

South Haven, Mich. E. M. HAVEN.

A Chance for Comparison.

Two acres were sown on July 25, 1895, to Crimson clover, 10 quarts of clover and 1¼ bushel of oats per acre on a wheat stubble that had been turned under and nicely fitted. It came up quickly, and made a good fall growth, covering the ground when winter set it. My idea in sowing the oats, was to furnish shade for the clover during the fall, and mulch in winter. Some wheat also came from the stubble, that had shelled in handling. During the winter, part of the piece was covered with coarse, strawy manure, when the snow was quite deep. Where the manure was put on, and where the snow drifted and laid on until late in March, the clover killed out badly; but where no manure was used, and where the clover was exposed most by snow blowing off in winter, the clover stands from 14 to 18 inches high to-day, by actual measurement, and is a thick mass of blooms. Where there are any depressions like dead furrows, where the snow stayed on latest, the clover is thinnest and small. Where it did not winterkill, it would cut fully one ton per acre now. I have plowed under all but about one-half acre on one side, and planted to corn. I shall save the strip left for seed, and test it as to hardiness, compared with southern seed sold at the stores here. I had to use a jointer and chain to get it under. The mercury went as low as 24 degrees below zero here last winter. I never saw bees work on any clover as they do on this; it is literally alive with them all the time. I shall stick to it as long as it does as well as this piece did. I cannot see that the oats sowed with it did any good at all, as where there were none in spots, the clover was fully as good as where the oats were best. The soil is a yellow, sandy loam

Steuben County, N. Y. J. E. P.

A Worm at the Crimson.

Beginning with August 1, I sowed six small plots of Crimson clover, one week apart, about two rods in each. The ground was rich and was made very fine by spade and rake. Following the first and second sowings, there were light showers, causing immediate growth; but there was no further rain until about September 1. Forty days after the first sowing, I dug up plants having large strong root systems extending down about eight inches. At the time of sowing the fourth plot, I sowed an acre elsewhere on land not so well prepared, following rye. Of the first three plots, about all the plants survived the very severe winter (35 degrees below zero). In the fourth and fifth plots, and the one-acre field, little clover was to be seen when the snow disappeared about April 1. The other two were perfectly preserved, and they presented a beautiful appearance. From that time, however, the plants began to die. They appeared to be rotting off just below the surface of the ground. There was no heaving out by frost, and when the earth was spaded over, it was found that the roots were all in place, a great mass of fibers. The decaying process seemed to stop after a couple of weeks, and the clover has made a most satisfactory growth, notwithstanding entire absence of rain.

It is now (May 14), showing its brilliant crimson flowers in great profusion, and will soon be a marvelous sight. But the plants are again disappearing, the stems breaking off below the surface of the ground, and this morning I discovered the cause to be the work of a weevil which I always find in the stem above the break. I suppose this to be the clover weevil, although I have never heard of its presence here before. Presumably, there is no available remedy in this case, and we may be forced to abandon clover as a crop. As for the Crimson variety, I think more highly of it as a medicine for the soil. To get the best results from it, I believe that we should sow as early as August 1, and make the seed bed very fine. One year (1890) by this means, I secured a growth of Medium clover, sown August 20, that was three feet high when cut the next June, to give place to potatoes. J. R. R.

Onondaga County, N. Y.

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SATURDAY, JUNE 6, 1896.

THE new and fashionable game of golf consists in knocking a little ball about the field with a stick. When the writer was a boy, and Satan evidently had some mischief for him to do, he was put out into the pastures and meadows with a long-handled mallet, and told to knock the hard clumps of manure into pieces. That seemed like hard work in those old days. It is a pity that we did not know the rules of golf, for then it would have been as good as a play!

⊙

SOME time when you have nothing better to do, go and smell of a milk can as it is sent back, unwashed, from the city. You won't do it the second time from choice. When that goes back to a farmer who has not the conveniences of steam, or an abundant supply of hot water, you can imagine how long the next lot of milk that goes into it will keep. The Board of Health ought to compel all dealers to rinse and steam empty cans before they are returned. There would be a great improvement, even though they simply rinsed the cans with cold water.

⊙

MR. SILAS BETTS, for six years President of the American Guernsey Cattle Club, and one of its original organizers, died at his home near Camden, N. J., May 21, in the 68th year of his age. He had resided on this farm for a quarter of a century, and was the first to introduce the Guernseys into the State. He has been foremost among the lovers of this breed in furthering its interests, and with voice and pen has done much to popularize it. He has been in poor health for many years, but in spite of this, did not cease his labors until within a few days of his death.

⊙

FROM the question asked on page 373, last week, it appears that there may be parts of the world where the sunflower may take rank as an important food for dairy stock. The seed has nearly the same composition as oil meal, and in parts of Canada, and in the treeless regions of the West, the sunflower will yield a large crop of seed. If this seed can be used to supply the pure fat needed by calves and cows, it will prove of considerable value in regions where corn does not mature, and where oil meal is too expensive. Prof. Robertson, of Canada, has shown that ensilage containing a fair amount of sunflower heads, is valuable for all kinds of stock. He is now feeding hogs on a ration composed partly of sunflower heads. Our experimenters may well take this matter up, and give it a fair investigation.

⊙

NEW YORK STATE has a new law compelling railroads to carry bicycles free, the same as other baggage. The railroads fought this law hard, but were beaten. The wheelmen were strongly organized, and their demands could not be denied. Two things are suggested by this matter. There are, probably, 50 farmers in the State of New York for every wheelman. Numbers apparently count for little, since wheelmen carry the legislatures along with them, while farmers growl in vain for legislative reforms. What does it mean? Why—the wheelmen are *organized*. They may, possibly, be few in numbers, but each one carries with him the evidence that there are 25 at his back. Every spoke in a bicycle wheel is an eloquent spokesman for a voter who will always support a candidate who favors good roads. That is why wheelmen obtain legislative favors. Farmers fail to receive them because they are not organized. No one fears their great voting power, because, instead of being wielded like a huge club, it is just as liable to scatter into a thousand splinters. It will cost the railroads more to carry bicycles free, than it would to issue 1,000-mile tickets at reduced rates to farmers; yet the State forces them to handle the wheels, while it permits them to evade the law in the other case. The other point referred to is the fact that railroads, like the Erie, which run through New Jersey and New York, have now two rates for carrying bicycles. In New Jersey, a wheelman is obliged to buy a bicycle ticket costing 15 cents or more. This carries the wheel to the New York State line, after which, according to the new law, it must be carried free. Wheelmen must see to it that similar laws are passed in all the States.

⊙

TUBERCULOSIS has been found in the herd at the Michigan Agricultural College. Instead of slaughtering the affected animals, the authorities have put them in a separate building, and will make certain experiments with living animals. It seems to us that such work is just what we need. The tuberculin test is very exact. Many animals respond to it which, after death, are found so slightly affected that it is reasonable to suppose that they might have been cured, or practically so, by the best sanitary treatment. We are not, by any means, convinced that it is a wise plan to slaughter every animal that responds to this test. The Michigan Station will do farmers a great service by studying the disease in living animals, and attempting a treatment for them that will, at least, show us what is wrong with our stables and barns.

⊙

AGRICULTURAL COMMISSIONER WIETING is making many changes in his department. So far as we can judge, most of his appointments are influenced by political considerations. It is evident that a man must be an active politician in order to stand much of a chance for office under the new administration. There is great dissatisfaction over a report that Assistant Commissioner Van Valkenburg of this city has been asked to resign. Mr. Van Valkenburg is an able and honest man, who has done excellent work in enforcing the dairy laws. No sound reason can be given for his removal. We are not offering advice to Commissioner Wieting—he seems to have *political* advisers who are directing his movements—but there is such a thing as carrying this work too far. If Mr. Van Valkenburg be forced out, the dairymen of this State "will know the reason why!"

⊙

THE "Filled Cheese" bill has fallen upon evil days in the United States Senate. Last Monday, a combination of Senators succeeded in tacking on to it a section imposing an additional tax of 75 cents a barrel on beer, ale and porter. The effect of this will be to delay the bill and, possibly, defeat it, since some members who favored the restriction of bogus cheese, may not favor this beer tax, and they cannot now support one without the other. The object of this move was professedly to provide increased revenues, since this tax will amount to $25,000,000 per year. It is significant that all the enemies of the bill voted in favor of adding this beer tax to it. It is a shame that these conflicting political interests should be permitted to play football with a measure that is clearly in the interests of farmers. In such a game, the ball alone is hurt, and no one cares for it after the game is over. Later the Senate changed its action, and defeated the taxing amendment. The bill is now left to itself, and will probably pass, though no one can tell what will be done with it next.

⊙

SOME readers may have wondered why THE R. N.-Y. stands by Crimson clover in the face of many reports of partial or complete failures. One reason is that we have often observed the marvelous ability of this plant to stool or spread out when once started in the spring. We have seen half a dozen fields that seemed, on April 1, to be entirely killed out, start suddenly into such a rapid growth that, by the middle of May, the ground was well covered. Last week, Mr. L. D. Gale, of Chautauqua County, N. Y., made a quite unfavorable report as to Crimson clover. Here is his final report, which we print here in full, as it is in line with the position THE R. N.-Y. has often taken:

> I must admit that a few straggling Crimson clover plants will make a wonderful showing if left to do their best. They can spread out equal to a bantam hen on a sitting of eggs. Where I thought there was a fair stand they left the ground clover plants will surprise everyone seeing the field to know where the seed came from. On May 16, I hitched up the horse and drove over the field with Mrs. Gale, she thought the blossoms so handsome that they would add beauty to the bouquet, so we gathered some and put them with other flowers. What was our surprise to find, in four or five days, that the clover had grown so as almost to hide the other flowers. Very few honey bees were seen at this time. A fine rain had come on the Monday following. (It had been rather too dry here). I did not see the field again until May 21, five days later, when I went to the field to plow it. I was surprised again; some of it was so thick and heavy that it bothered me to turn it under. The blossoms were alive with bees, and I almost believe that the whole working force of my 100 colonies of bees were upon the field; they fairly tumbled over each other. I never saw them thicker upon basswood bloom. After going a few times around, I stopped the teams, went to the apiary, and found the bees capping section honey. I put the teams at work in another field, and as long as it yields honey at that rate, it can stand there. I think the rain caused the flow of honey. The Medium clover is keeping up. I feel certain that where Crimson has proved a failure, the Medium will be a success. I do not intend to have any more bare floors in my corn field when I can carpet them so cheaply with clover. I shall give my preference to the Red clovers—Crimson second place.

Our opinion is that some of our friends who plowed up the clover in disgust, a month ago, would have had a similar statement to make if they had let it alone.

⊙

IN the recent articles on ice cream making, the point was made that Mr. Manchester uses nothing but absolutely pure cream, just as it comes from the milk. In most of the so-called "ice creams," you will find corn starch, or even flour, eggs and other substances. In fact, much of this so-called "cream" is more of a frozen pudding than anything else, and so far as actual "cream" is concerned, is as inferior to the substance sold by Mr. Manchester as "oleo" is to fine butter. We do not mean to say that starch and eggs are not healthful. Their use, undoubtedly, enables the manufacturer to turn out a firmer and harder cake; but it is not *cream*, and in this fact, lies the opportunity of many a farmer to build up a trade in his market town. Use nothing but absolutely pure cream. Add nothing to it but sugar and the purest flavoring you can find, and freeze it so that it will stay frozen. Then go out and tell just what you have to sell, and don't forget to point out the difference between ice *cream* and ice *pudding*. Come out squarely and claim that a dish of your cream is better, *as a medicine*, than five doses of cod liver oil!

⊙

BREVITIES.

There comes to mind a famous painting, named
"On Decoration Day"—a soldier's grave—
A band of veterans, gray, crippled, maimed,
And over them the flag they fought to save.
By that low grave a sad-eyed woman kneels;
Close at her side her son—and one may trace
The heart-ache that the weary mourner feels
In the expression grief brings to her face.
Up to the flag their eyes go wandering—
Up to the flag slow fluttering from its mast,
Yet to the mother's heart that flag can bring
Only the bitter memories of the past.
Something to die for—that is what it means,
But to her boy—viewed through unwilling tears,
It brings a newer thought—to him it means
Something to *live* for through the coming years.
God bless our flag! Old hearts and young unite
Memory and hope on Decoration day.
Beneath that banner for the truth and right
Still let us march in hopeful, strong array.

KEEP the cat in the barn.

WE want to see the hay seed succeed.

BAD outlook for the Eastern hay farmer.

GIVE a good reason for using salt on asparagus.

TRY Mr. Senger's plan of evaporating strawberries.

DON'T add the vice of bad advice to all your other sins.

THE weeder is not the tool for a clay soil in time of drought.

THERE is no turning to the lane wherein one walks without his brain.

HOW sick a strawberry plant does look when a White grub gets at its roots!

IT'S worse than a waste—that part of your earnings the rum shop can taste.

WE believe in "saving at the bung hole" when the bung hole represents a rum hole.

To make a fodder crop in time of drought, our friend, Z. Maize is just the best thing out.

A YOUNG duckling will hold more solid food in proportion to its size than any other living animal.

MAYBE Chapman's plan of plowing up the old Timothy meadow for a crop of fodder corn, is the best thing you can do.

DON'T fail back on the acid pickle your fickle appetite to tickle, but take a dose of extra size made up of healthy exercise.

THE frost was able to throw out fence posts, and you can hardly expect clover roots to stay in the soil against such lifting force.

WE have a friend who says that this spring found him with $100 in cash, and $100,000 worth of courage. That courage is raw material—he will make it into a finished product.

A FARMER'S FIELD DAY will be held at the Maine Agricultural College on June 3. The notice states that "beans and coffee will be served as refreshments." There is New England stimulant for you.

OUR friend, page 387, says that he put Crimson clover on the poorest piece of land he has. Was that a fair trial? Suppose you tried a Jersey cow by feeding nothing but hay, and then judged the breed by the results!

A new word is "trolleyosis," which refers to the practice of using a trolley or electric car for a picnic ride. A party of people hire the car for a day, and ride all over the lines, taking a lunch along and having a general good time.

THERE are some unfortunate people who cannot eat strawberries without suffering from toothache, nausea or a light rash. The latest suggestion is for these people to use bicarbonate of soda in the sugar that goes on the fruit. Try it.

HERE is a sensible idea from a Connecticut farmer: "Saturday noon, I usually knock off for a city half holiday. Why should the city chaps have it all to themselves?" That's right. You can knock off worry and trouble at the same time.

IN last week's paper, Mr. Sarg intimates that American farmers are coming to the point where it will pay them to keep cows for milk, meat and labor. We doubt it. Horses are too cheap in this country. Farmers are more likely to make use of electricity.

WHOLESALE CORN-GROWING AT THE EAST.

PLANTING CORN IN BRICK DUST.

[EDITORIAL CORRESPONDENCE.]

Gov. Morton's farm at Rhinecliff is about the last place an experienced man would select for a dairy farm; yet it supports, probably, the largest herd of Guernsey cattle in the world, and provides all the rough fodder for them. Here one may find "artificial farming." Most of the soil is such a heavy clay that it should have been used for brickmaking rather than for corn growing. This soil, with ordinary culture, will break up into brick-like clods, and when pulverized by proper tillage, is literally brick dust. During the past year, this section has been about as "rainless" as those western regions, where people have nearly starved to death. All along the Hudson River, the hay fields are simply burned out by drought. There has hardly been one good soaking rain for two years, and grass has died of thirst.

Yet, in spite of this drought, Ellerslie Farm produced, last year, 2,000 tons of corn ensilage, and, so far as human foresight can estimate, will produce an equal amount this year. Wishing to know how to raise corn in brick dust, I visited the farm on May 22, to see how the crop is put in.

The corn land, 175 acres, was all plowed last fall. Some of it was old meadow land, while the rest was in corn last year. In plowing, the furrows were left "on edge," so that the frost could work all through the soil. The first working this spring was done with a disk harrow, run crosswise of the furrows. As soon as the ground had been worked one way with the disk, it was cross-harrowed by running the disks at right angles with the first harrowing. This leaves the surface lumpy and ridged, though stirred five or six inches in depth.

Then comes the Acme harrow, which is also run twice—with the furrows and across them—and it is wonderful how, after these four harrowings, the lumps are crushed and the surface is pulverized.

"That ought to be harrowing enough," I said, and certainly the soil seemed fit to plant the smallest seeds.

"But we shall give it two more workings," said Mr. Cottrell, "with the grain drill and the roller. The work of the grain drill is equal to another harrowing. We shall also roll the ground after planting. In ordinary seasons, this would not be needed, and in a wet year it would be suicidal to roll this clay soil. This year, however, we believe that the rolling will crush the few remaining lumps, and firm the soil about the seed so that it will sprout better. For preparing our corn ground, we have found no better combination than the disk and Acme harrows. We use three horses on the disk, and two on the Acme, and run two harrows at a time, one following the other."

On the day of my visit, they were just finishing the planting of a 75-acre field. Two teams did the work in 4½ days, which is an average of a little over eight acres a day for each team. The ordinary drill for small grain is used. The corn is fed into every third hole, with the shoes arranged so that the rows are run 3½ feet apart, with the seed averaging one foot apart in the drill. The fertilizer is run into every hole, so that it is really broadcasted over the entire field, as well as placed in the drill with the seed. Each machine drops two rows at a time, and as two teams work together, four rows are planted at each round. One man drives the team and another walks behind the drill to see that seed and fertilizer are dropped evenly. At each side of the field, men are placed with fertilizer and seed to see that the boxes are kept filled.

Mr. Cottrell prefers the grain drill to the regular corn planter, for several reasons, although the fertilizer boxes are too small. The hoes give the ground a good harrowing, and drop the fertilizer evenly all over the ground. This is an important point, for, on this farm, strange as it may seem, fertilizers are used to grow feed for cows. That seems like reversing the natural order of things, for the usual advice to dairymen is to crowd the cow manure on the corn ground, and use the stalks as fodder or ensilage to feed more cows, and thus make more manure. At Ellerslie, the manure is used for other purposes, and nothing but fertilizer is used on the corn.

It is used heavily, too—700 pounds per acre being the usual dressing. Mr. Cottrell says that, whenever he has used smaller amounts, he has failed to obtain the desired crop. This fertilizer is a special mixture made to fit the needs of this heavy soil. It analyzes about four per cent of nitrogen, nine of phosphoric acid, and seven of potash. The fertilizer men usually say that this soil does not need so much potash. When they are asked if they will guarantee as good crops with a mixture containing less potash, they are not ready to do so. The success of this ensilage crop, year after year, on this hard soil, with so little moisture, is a striking illustration of the value of fertilizers when they are properly selected and rightly used. Years ago, fertilizers were used on this farm, and discarded because it was claimed that they did not pay. Why didn't they pay? Because they were of a brand too low in nitrogen and potash, and because the soil was not properly prepared. In spite of the fact that hardly six inches of available rainfall have been registered in this section in the past six months, the grain drill turned up dark, moist soil, into which the seed corn was dropped and packed. That moisture has been brought to the surface and retained there by the constant stirring and crushing afforded by the five workings with disk, Acme and drill. When soluble fertilizers are put into such soil, they become at once available for every little root, and each sprinkle of rain can be utilized.

But for this careful and thorough preparation of the soil, it is safe to say that the Ellerslie cattle would go hungry next winter, or live on western hay. There is enough of last year's ensilage still left in the silo to feed them till July, and then the clover, and oats and peas, will be ready—that is, if there be any rain.

Forty acres of grain and peas were sown this year, but though twice the usual quantity of seed was used, there is hardly half an average stand. Two bushels each of oats and barley mixed were broadcasted on each acre after it had been prepared by disking in 50 loads of cow manure, and 500 pounds of a fertilizer containing only potash and phosphoric acid. After the grain had been broadcasted, 2½ bushels of peas were drilled in, the harrowing of the drill serving to cover the oats and barley. As we have said, there is scarcely half the ordinary stand in spite of this heavy manuring and seeding. Unless a soaking rain shall come soon, there will be little but ensilage to feed on Ellerslie Farm. It is a lucky thing that the corn plant is a Prohibitionist, and can laugh at the drought when treated as it is on these clay hills. H. W. C.

THE STRAWBERRY IN NEW YORK.

THOUGH DELICATE, IT'S A LASTER!

The strawberry is one of the most perishable of fruits, its season from first to last usually spanning but a few weeks, though, by setting different varieties comprising the earliest and the latest, the fruiting season may be prolonged somewhat. Yet New York has strawberries fresh from the vines during at least two-thirds of the year. From December to August, there are few days when they cannot be purchased, at some price, in our city markets, and occasionally, they are to be had outside these months.

The first that come are the hothouse berries, which usually begin in time for the Christmas market, or, perhaps, a little earlier. These are never seen in the open market, the price confining them to the fancy trade of the higher class of fruit stores. Few can afford to eat these, and they are rightly classed as luxuries. Last winter, they sold at wholesale, as high as $2.50 per one-third cup, that is, $7.50 per quart. Of course, not all sell so high, and no great quantity, no matter how choice, could be sold for this price. But there is a chance for intelligent industry to be well rewarded in this direction These strawberries usually continue to arrive in greater or lesser quantities for several months, long after the southern berries become quite plentiful.

The first to come after these, are the Florida berries, an account of the growing of which is given on our first page. The time of their arrival depends upon the season at the place of growth. Sometimes untimely frosts delay the crop for weeks, and materially lessen the output. This year, the first to arrive in quantity to warrant quotations, came the latter part of January, and were quoted at 75 cents per quart, though choice ones would have sold for a still higher price. They continue to come until the price drops to a point that renders further shipments unremunerative, or the continued picking reduces the size of the fruit below the requirements of the market. As the strawberry market moves northward, the plantations nearer market have a great advantage in the matter of transportation, and the berries from Georgia, the Carolinas, Virginia, Maryland, Delaware and New Jersey successively crowd out and supplant their more southerly neighbors.

The methods of transportation are being constantly improved, and Florida berries, this year, seemed to reach this market in better condition than ever before. The increased use of ice in shipping, will, probably explain this. The most desirable way to use this, according to dealers here, is in the large crates, in which the baskets of berries are placed, and a tray of ice put in above them. This plan beats a refrigerator car, as the crates can be shipped direct to dealers, without any repacking. This plan beats a refrigerator car, as

The berries from the Middle South, this year, were not so good as those from Florida, on account of the drought which rendered them smaller and of poorer quality. The reports from the Hudson River Valley are also to the effect that many of the vines have been entirely destroyed by the drought, and others badly injured; so that we are not likely to get berries of so good quality from there this year.

At present, the bulk of our berries are coming from Maryland, Delaware and the eastern shore of Virginia, though a few are still coming from further south, and New Jersey is sending some. Varieties are numerous, but not one dealer or consumer in 100, knows one variety from another, unless it be the Sharpless, which is always a prime favorite.

New York is a distributing center, and thousands of crates are re-shipped from here to New England, New York and sometimes, to Canada. Later in the season, immense quantities come from near-by points. Then, still later, the strawberry fields of northern New York send whole train-loads to make the season still longer. Sometimes, too, we have had strawberries from Maine and Canada, which extend the season still longer than northern New York. Many of these, however, arrive in poor condition. The same care in packing and shipping ought to put them into the market here in as good condition as those from Florida, and the extra price usually obtained at the end of the season, ought to make it a paying business. The market is frequently glutted with poor fruit, but it is rare that the supply of choice fruit, put up in neat, attractive shape, equals the demand.

WHAT SAY?

ENSILAGE AND COWS' TEETH.—An objection to silos is making a disturbance here. Some people say that ensilage destroys the teeth of stock that eat it, so that young cows have to be disposed of because their teeth are gone. Some farmers here wish to build a silo, but if ensilage destroys the teeth of stock, they will not feed it. Can the question be started in THE R. N.-Y. to decide the matter? G. V. B.

Cortland County, N. Y.

R. N.-Y.—What about this, ye ensilage feeders? Who can show the oldest ensilage-fed cow with good teeth?

WHAT CROP FOR SMALL FARM?—I own a small farm of 30 acres, mostly light loam soil about 18 inches deep to a clay subsoil, I am told, in fair condition. It is situated on the Niagara River, nine miles from the city of Buffalo, N. Y., a city of 350,000 population, which, I suppose, would be a good market for almost any kind of product which could be grown. I use this place for a summer home, my family passing five months of the year there. I could not spare more than one day each week to oversee any work going on there. Heretofore, I have had no income to speak of from it. I would like to get, at least, six per cent interest on my investment, of $3,000, if possible. What would you advise me to do with it? I would be willing to invest $1,000 or $2,000 or more, on any improvements, if I could see any chance of getting interest on it back in a few years. Would it be advisable to put it all into fruit? If so, what kinds? Or into what other crops? I can hire ordinary help and teams at reasonable wages. Almost the entire piece is in grass now, which is about run out. J. G. G.

R. N.-Y.—We would like a discussion regarding these questions. The chances are that, all things considered, it will pay as well as anything to get the farm into grass as quickly as possible, and cut a hay crop every year.

BUSINESS BITS.

MR. J. H. MARTIN, White Lake, N. Y., wants to sell R. N.-Y. readers Berkshire pigs. Anything Mr. Martin sends out will be all right.

ANY one in need of cider or wine press machinery, for hand or power, will find a suitable press described in the catalogue of the Empire State Pulley and Press Co., Fulton, N. Y. It will be sent free.

FARMERS who wish to grade up their stock with purebred Guernsey males on their native stock, will find some desirable bulls in Governor Morton's Ellerslie herd. Address H. W. Cottrell, Rhinecliff, N. Y.

IN time of short pasture, nothing serves better to complete a balanced ration than linseed oil meal. The Detroit Linseed Oil Works, Detroit, Mich., is a good place to procure it. They will give prompt attention to R. N.-Y. inquiries.

FOR all conditions of soil and surface, we don't know of a grain drill that gives better general satisfaction than the Buckeye. Wherever we find it, or hear of it, it is doing satisfactory work. The manufacturers are P. P. Mast & Co., 9 Canal Street, Springfield, Ill.

EXPERIENCE has shown that the best success with Crimson Clover comes from seed grown in this country, and as far north as possible for sowing in northern latitudes. Arthur J. Collins, Moorestown, N. J., has a large supply of his own production which he offers to R. N.-Y. readers.

FEW implements are manufactured for farm use, that can be put to more varied and profitable uses than the "Little Gem" sprinkling cart, made by Studebaker Bros. Mfg. Co., South Bend, Ind. If you want to sprinkle the street or lawn, water the garden, or the celery, or distribute liquid manure, it is ready and serviceable. A pump may also be attached to spray trees, vineyards, etc. We believe that this implement, if used judiciously, would pay its way every year on any farm in the country.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

ICE is a luxury, yet almost a necessity during the hot weather. The poor cannot spare from their scant funds, anything to spend for the ice. So the iceman's wagon is watched by some of the more industrious ones, often children, and all the pieces left on the pavement where the ice is cut, are gathered up and carried away to add a little comfort, perhaps, to some feverish sick baby.

*

THE New York Board of Health has taken in hand the spitting on the floor nuisance, and has posted notices on the cars forbidding it. A decrease in offenses is already apparent, and we may hope that, in time, the comfort of a clean mouth will be appreciated more than the indulgence in tobacco, and that persons afflicted with disease, will have a care for those around them. The danger of spreading disease, particularly tuberculosis, will be greatly diminished when cars can be kept free from this source of infection.

*

"You press the button and we'll do the rest," was such an apt description of the perfect mechanism of a certain article, that its manufacturers found the phrase a useful advertising medium. It would seem to be the motto for electricity, so wonderful and numerous are the appliances which man has created for this mighty power to animate. Only a touch, and it goes to work. A house fitted up with electrical furnishings in every department, would be like fairy land. The meals might be cooked without fire. No waiting for the fire to burn, or an oven to heat. No hot bed of coals needed when broiling is to be done. One electrical iron would do for a big ironing, keeping hot all the time. The sewing machine will run by pressing the treadle gently. The piano will play with no more exertion. One can easily believe that there may be a wonderful heaven somewhere, perhaps much nearer than we think, when we see such exhibitions of a power that has been among us all the time but untried.

UNCLE SILAS'S OPINION OF THE NEW WOMAN.

(*Concluded.*)

"SHE ain't always a-scoldin' about her rights and wrongs, but she jest driv quietly down to the town clerk's office, and qualified to vote; then when school meetin' was called, she was there. Squire Brown's run things to suit himself in that distric' these five year back, and kep' a niece o' his in the teacher's chair, though she wan't no more fit for it than a pig. This year, he's out and the new minister is committee. They're goin' to have a Normal school graduate to teach there, too, and if the children don't larn suthin', 'twon't be because they don't hev a chance. They do say Marthy made one o' the finest speeches ever was about the duty we owe to our children, and the need of better edication and all that. She means to see that Nancy's gal has a chance."

"That's right," I said. "You must be glad that Minnie has such a good stepmother."

"Yes, I am. I will own I was afraid, at first; but Marthy's jest as good to her as if she was her own, and Minnie about worships Marthy."

"It is easy to see that she has won your heart, Uncle Silas," May observed.

"Wal, I do sot store by Marthy, now!" he admitted. "Ye know 'twas hayin' time when I was there. They were rushin' things in great shape one day. 'Twas a good hay day, and Tom, he'd set his heart on mowin' and gettin' in all the big medder crop. Now, I don't think it pays to bite off more'n you're sure ye can chaw at onst, and I've often told Tom so; but he's a Perkins. It's his own way above everythin' else with him. He came mighty near not gettin' it that day, though, for one of the horses on the mowin' machine stumbled and threw the hired man off in front of the knife. He wan't hurt bad, only one leg; but the blood jest spurted out o' that like a fountain. The men was all rattled—not one on 'em knew what to do; but Jack Riggs, the chore boy, he jest whipped up to the house and told Marthy. She grabbed up some things, and in less time than it takes to tell it, was down in the lot tyin' the poor feller up. No faintin' fits at sight o' blood for her! She fixed him up so it didn't bleed much, sent Jack after a gal that helps her sometimes, to get dinner ready for the men, and jumped on to one o' them pesky bicycles, and spun off after the doctor. The gal come all right, she'd been there before, and knew where to take holt; but Marthy got back 'fore dinner was ready. The doctor came after her with his horse, but she beat him. He said the man must ha' died before he could get there ef she hadn't known what to do for him. As 'twas he's gettin' on finely."

"'Twas a fine thing to do," I said, warmly; "but not all women have such chances to show what they are made of."

"That's true; but not all of 'em have the grit Marthy's got. I always said no decent woman would ride one o' them bicycles; but I take it all back now, and ef I had a gal, I'd get one of them for her and make her larn to use it."

"Wish I was your girl, Uncle Silas," said May, impertinently.

"Ye come purty near it, honey," he asserted, gazing at her fondly. "I hope ye'll be jest another sech woman as Marthy. She's got sense, good common sense, an' plenty of it. Why, after they got thet hired man fixed up in bed, and got dinner out o' the way, she see Tom was like to get his hay wet, for a black shower was creepin' up, an' she slipped out to the barn, harnessed a horse to the rake, and went right to rakin' jest as nateral and easy as ef it was part o' her day's work. I jest said I was s'prised. She answered that Tom helped her when she needed him, an' she didn't see why she shouldn't help him, too, sometimes. She does help in every way. Tom's twice the man he used to be. She's one o' them Bible women, 'her price is far above rubies,'" quoted Uncle Silas, reverently.

"I'm gittin' to be an old man, an' I've seen a heap o' changes in my lifetime. My mother was a smart woman in her day, but she couldn't keep up her end with Marthy ef she was here to-day. All I've got to say, ef it's edication that'll make our gals sech women as Marthy is, why, give 'em all the edication there is. Ef they've got sense, it'll do 'em good, an' ef they hain't—wal, an educated fool is better'n a dumb, ignorant one, anyway. They call Marthy one o' them 'new wimin.' Ef they're all like her, the more we have of 'em, the better," and he brought his stout walking stick down on the floor with a tremendous bang to emphasize his opinion.

GILLETTE M. KIRKE.

BENDING THE TWIG.

I SUPPOSE that we all have two standards of right and wrong—one for ourselves, the other for the rest of humanity. In the case of kindly, loving natures, these two standards are nearly identical, and sometimes we meet with a rare and noble soul whose leniency is all for the faults of others, severe only towards its own. But the majority of us expect more of others than we do of ourselves, and the more faults of our own we have, the less charity do we seem to have for the faults of our neighbors.

The result of this double way of looking at things is likely to be ludicrous, when it is not exasperating, to the observer. We hear the notoriously "slack" housekeeper criticise unfavorably the ways of those who are neat and orderly; we know how quick to resent the least infringement on his own rights, is the man whose cows and hens oftenest trespass on his neighbor's land, who never returns the tools he is forever borrowing, or mends those he breaks; we listen to the bitter tirade of the man who never pays his bills, against the person who is owing him a trifling sum; we note the scorn of the idle man for laziness—in other people. And in these and similar cases, the censor assumes such an air of conscious rectitude, that we wonder and cannot cease wondering at the strange inconsistency of a person who can so unblushingly condemn in another, the fault of which he himself furnishes so striking an example.

In speculating on the probable cause of this peculiar kind of farsightedness, it has seemed to me that it might be found in the bringing up of the person. The child was never taught that what was wrong for others, was just as wrong for him. Ought not parents to reason with their children on this important subject more than they do, and instill the habit of thoughtfulness for the rights and feelings of others?

Children, naturally, have an exaggerated idea of their own importance, and too often they are confirmed in the opinion that they are little hubs of the universe, and little paragons of virtue, by unwise parents. Johnnie comes whimpering into the house with a bruise on his head, and says that Tommy has been throwing stones at him; mamma pets Johnnie, and pities him, and says that Tommy is a bad, bad boy, and she hopes her darling little Johnnie will never do such naughty things, and he mustn't play with Tommy any more. Perhaps, a little questioning would have disclosed the fact that darling little Johnnie had been the aggressor, and thrown the first stone at Tommy, who up to that moment had been conducting himself in an irreproachable manner.

But mamma does not investigate, and Johnnie goes out into the yard to call Tommy names across the fence, feeling much abused and very virtuous, instead of being made to sit in a corner and meditate, for a season, on his own naughtiness, and the hitherto unknown fact that a stone, hitting a boy, is likely to hurt him, whoever he is, and no matter who throws the stone. L. ROBBINS.

WHY HOUSEWORK IS DISTASTEFUL

A NABLE attempt to present the domestic servants' case, is made in the American Journal of Sociology, by Miss Jane Addams, the well-known head of the Hull House of Chicago, that center of educational, philanthropic and reform activity. Miss Addams's opinions have been gained from experiences in a woman's labor bureau, and through conversations held with women returning from "situations" which they had voluntarily relinquished. She has arrived at very radical conclusions, which she states boldly and explicitly:

"The isolation of the household employee is, perhaps, inevitable so long as the employer holds her belated ethics; but the situation is made even more difficult by the character and capacity of the girls who enter this industry. In any great industrial change, the workmen who are permanently displaced are those who are too dull to seize upon changed conditions. The workmen who have knowledge and insight, and who are in touch with their time, quickly reorganize. There are many noble exceptions, but it follows that, on the whole, the enterprising girls of the community go into factories, and the less enterprising go into households. It is not a question of skill, of energy, of conscientious work, which will enable a girl to rise industrially while she is in the household; she is not in the rising movement. She is belated in a class composed of the unprogressive elements of the community, and which is recruited constantly from the victims of misfortune and incompetence, by girls who are learning the language, girls who are timid and slow, or girls who look at life solely from the savings-bank point of view.

"It is well to remember that the household employees, for the better quarters of the city and suburbs, are largely drawn from the poorer quarters, which are nothing if not gregarious. The girl is born and reared in a tenement full of children. She goes to school with them, and there she learns to march,

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to read and write in companionship with 40 others. When she is old enough to go to parties, those she attends are usually held in a public hall, and are crowded with dancers. If she works in a factory, she walks home with many other girls, in much the same spirit as she formerly walked in school with them. She mingles with the young men she knows, in frank economic and social equality. Until she marries, she remains at home with no special break or change in her family and social life.

"If she is employed in a household, this is not true. Suddenly all the conditions of her life are changed. This change may be wholesome for her, but it is not easy, and the thought of the savings bank does not cheer one much, when one is 20. She is isolated from the people with whom she has been reared, with whom she has gone to school, and among whom she expects to live when she marries.

"A man of dignity and ability is quite willing to come into a house to tune a piano. Another man of mechanical skill will come to put up window shades. Another of less skill, but perfect independence, will come to clean and lay a carpet. These men would all resent the situation, and consider it quite impossible if it implied the giving up of their family and social ties, and living under the roof of the household requiring their services. Most of the cooking and serving and cleaning of a household could be done by women living outside and coming into a house as a skilled workman does, having no 'personal service' relation to the employer. There is no reason why the woman who cleans windows in a house should not live as full a domestic and social life, as the man who cleans windows in an office. If the servant attitude were once eliminated from household industry, and the well-established one of employer and employee substituted, the first step would be taken toward overcoming many difficulties."

CANNING NOTES.

I AM not "up with the times" in canning other vegetables, but I can can tomatoes. The results are very satisfactory, and the method easily and rapidly followed. Skin the tomatoes, pack closely in glass cans, place the tops and rubbers on without screwing down, put the cans in a boiler partly filled with cold water, taking care that there is something between and under them so that they will not break. Boil until done, about three-quarters of an hour, I would say, sometimes less; lift out the cans, set on a thick cloth, fill with boiling water, and screw down the tops as tightly as possible. As these tomatoes are whole, keeping their natural color and flavor, many like them sliced with sugar and vinegar like fresh ones.

I also can all varieties of fruit, adding one cupful of sugar to a quart can, and water to cover, in the same way with equally good results. It is surely a saving of time, so much fruit can be cared for in such a short space of time. There are two exceptions, pieplant and strawberries, and I have known many people to relish pieplant prepared in the following manner, who had never liked it; wipe the stalks with a damp cloth, do not pare, cut in inch lengths enough nearly to fill a two-quart stew dish in which has been put one tablespoonful of water. Pour two large cupfuls of sugar over the pieplant, cover closely, set on the back of the stove, and cook slowly till done. It is pieplant cooked in its own juices, nearly every piece whole, and the color is pink and green.

I prepare strawberries in the same manner, and have had many words of praise from company regarding their excellence. They certainly do keep better, and do not float on top of the juice as they are likely to do when canned in other ways. SWEET FERN.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6742. Boys' Kilt Suit.

The back and sides of the full skirt are laid in deep side plaits that turn backward, giving the front the form of a broad box plait, near the edges of which four bone buttons are placed on each side. The opening can be made in center back or under the first plait on right front, the top being sewed to a band and buttoned on to the under waist. The blouse is of fine white percale, with ruffles of embroidery. A box plait is formed on the edge of left front, through which the closing is made with buttons and buttonholes. It is fitted with the usual shoulder and under-arm seams, elastic inserted in the hem at the lower edge drawing it closely around the waist to droop below in blouse style. The broad sailor collar is deep and square at the back, with pointed ends that flare widely apart in front. The full sleeves are completed with round cuffs at the wrists, that turn back over the jacket sleeves. Collar and cuffs are edged with frills of embroidery, headed by insertion to match. The Eton jacket is slightly pointed in center back, and is simply shaped with shoulder and under-arm seams. The fronts are reversed in pointed

6742—BOYS' KILT SUIT.

lapels, that have straight upper edges and close at the neck. The sleeves are of comfortable width, in regular coat shape, braid simulating a cuff at the wrists. Pattern No. 6742 is cut in sizes for two, four and six years of age.

SENSE AND SENTIMENT.

Let a man but once show the world that he feels
Afraid of its bark, and 'twill fly at his heels;
Let him fearlessly face it, 'twill leave him alone,
And 'twill fawn at its feet if he flings it a bone.
—*Owen Meredith.*

....WOMANKIND: "The ability to get the most enduring pleasure for whatever the expenditure may be, is not a mean gift."

....CHRISTIAN EVANGELIST: "Men of the ecclesiastic type do not surrender theories to save men, but they surrender men to save theories."

....EDNA LYALL: "There are great rents and voids in most lives. At first, we feel stunned and helpless, but after a time, we become accustomed to the new order of things, and live on, 'learning perforce,' as some one has well expressed it, 'to take up with what is left.'"

....NEW YORK LEDGER: "Among the important forms of missionary work, the teaching of hygiene stands well to the front. It is not easy to Christianize a dyspeptic, or civilize one either, for the matter of that. When proper food is furnished and assimilated, the temper and disposition of the individual will be greatly improved, and there will be less war talk, less wrangling and less crime."

ODDS AND ENDS.

DARK SLEEPING-ROOMS.—Bring children up to sleep in the dark, says the New York Ledger, as it is much better for their eyes, the complete darkness being an entire rest. Dark-green or blue curtains are the best for bedrooms, and they should be drawn across the window to prevent the glare of morning light falling too strongly upon the eyes. Never place a child's bed opposite a window, as the bright light falling upon the face in sleep is exceedingly bad for the sight.

COVER FOR SOFA PILLOWS.—An addition to the pillows with which every perfect couch is furnished, is a smoothly ironed linen or muslin cover to throw over them, upon which may be embroidered an appropriate motto. "Soft as Downy Pillows!" "Rest, Sweet Rest!" These not only save the dainty cushions from soiling, but cloth coverings gather dust, in spite of much care, and often are stuffy to a sensitive nose. One may spread a handkerchief over, but it is too small, and a delicate visitor will lose a few minutes of needed rest in a warm room, because pretty things fail of their original purpose of usefulness. E. B.

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"MEMORIES."

When Decoration Day was first suggested, there was immense enthusiasm over the new holiday. Its sentiment fitted in with the great wave of patriotic feeling that had been rolled up by the War, and it seemed then as though public interest in this beautiful ceremony would never die out. I can remember when thousands of people turned out to see the old soldiers deck the graves of their comrades. Now all is changed. In our town, this year, a mere handful of gray-haired veterans marched quietly to the graveyard, unaided and unattended by the crowds of younger men who filled our streets. The day had lost its old significance. The stars and stripes fluttered from many houses, but where 10 men stood by the soldiers' graves, 100 attended the baseball game.

I could see that the old veterans were sad and discontented at this state of affairs. War was a real act to them, and Decoration Day brought old memories back. Old faces looked out of the mist of the years, old forms moved into view from the shadowy past. It was so real and so true to them, that they could not understand why it meant so little to younger men and boys. It grieved them to think that the youth of this age care so little for their country's history. You see, they could not realize that, while they were looking *back* into the years, the boys were looking ahead into the future. The latter will not be able to realize what Decoration Day really means until they are called upon to make some great sacrifice for liberty. You see, it is experience and really *living* through these things, that brings them home to us so that we see things about them that others overlook.

I have read a story of a German who came to this country before the War to make his home here. When the War broke out, he enlisted and fought all through it till he loved the old flag with every atom of his being. After the War, he got news from Germany that some one had died and left him property. He went back, and though he loved to be known as an American, it seemed best for him to remain, so he married and settled down. Then the French and German War broke out, and he enlisted and fought through it with great distinction.

At heart, however, he was still an American, and when, one day, he heard that a party of American tourists had come to his town, he hunted them up and brought them to his home.

"Now then," he thought, "I will show them the best thing they have seen this side of the ocean."

He took them into his own room, and there, on the wall, hung the old, blue uniform he had worn in America. It was rusty and faded, but think what it meant to him! Over it, between two little flags, was a picture of Lincoln. The German had thought to please his new friends. To him, the old uniform represented the best part of his life; but the Americans were mostly young people—thoughtless young women and pleasure-loving men. They simply glanced at the uniform, and shrugged their shoulders. Out in the parlor, the German's wife had hung up his uniform as a German officer. It was a gorgeous affair, and the Americans went into ecstacies over it. They saw only the rich cloth and gold. The memories folded away inside the old blue coat meant nothing to them. Their generation was living at ease—living on the fruits of the blood sacrifice that was represented by the old coat. They could only see—they could not *feel* the great throb of freedom that had come to the German on many a battle field.

"That's more like it," said one man. "That shows you have been 'getting there.' That other old thing was only a *private's* uniform—no gold on it, and no style!"

We can imagine only a part of the feeling that rose in that soldier's heart at those words. Money could buy the officer's uniform, but the private's coat of blue was priceless. It gave him many a bitter hour to think that Americans of a younger generation had forgotten (or never learned) what they owed to the volunteer soldier who gave all he had—his life—for a prineiple that has uplifted the human race wherever man feels the faintest longing for freedom!

That is all, this week! I shall leave the thought with you like a bit of yeast to "raise" the dough of every day life. Others may not think as you do. Be patient with them! Show them the truth by example, as well as precept, and they will come more to your way of thinking. Stand by the old flag forever. It is a sacred thing, this old "Star Spangled Banner." For a century it has floated—a beacon light for the poor and oppressed of every land. Let us respect the lessons it teaches—not only on the battle field, but in the workshop and the home as well, in the quiet walks of life, where true American citizenship is manufactured out of the trifles that make up our daily round of toil!

CONDENSED CORRESPONDENCE.

ERIE COUNTY, N. Y.—The weather is very dry, but the grain is looking well, and promises more straw than last year. Wheat is heading (May 24), and we are just planting corn. G. T. R.

GENESEE COUNTY, N. Y.—It is now phenomenally dry here. Corn, bean and potato planting is in progress. Much of the seed will remain in a dormant condition until the proper conditions of moisture exist. Grave fears are entertained that our new seeding of clover is again to be a failure. Apples promise an abundant crop. Spraying is generally practiced, mainly for the destruction of the Codling moth and Canker worm, more especially the latter, which is making sad havoc in many of the orchards in this locality. I. D. C.

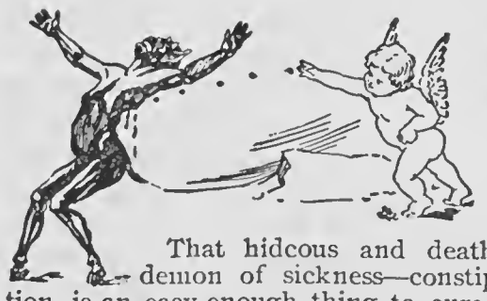
FRUIT PROSPECTS IN WAYNE COUNTY, N. Y.—Last summer and autumn were very dry, no heavy rain till December. Last winter was the coldest winter we have had in years, the thermometer going as low as 26 below zero. There will be no peaches and quinces, and but few cherries, pears and grapes this year. Many peach trees, quince bushes and grape vines are killed entirely. Apple trees have bloomed full, and give promise of a full crop I sowed Crimson clover in corn at the last cultivation, July 4. The ground was dry. It came up well. The corn was heavy, and the clover made no growth, and when winter set in, there was not much of it left. I sowed it in beans about July 15. It came up nicely. It was so dry that it grew slowly, and when winter set in, was small. During the winter, it was partly protected with snow. It came through in good shape, and is now in bloom. I think that it will stand our winters all right, and shall sow more. F. W. H.

EASTERN NEW YORK FRUIT NOTES.—With no rain of any amount since the snow left us, the ground is very dry, so that we have been able to set only a part of our strawberry ground, and one-half of the plants have died. One plot of 7,000 plants took 3,500 to reset, and if we get no rain, most of these must die. Our two-year beds are looking much better than last year's setting. There is a fair setting of fruit, but rain must be had to grow it. With grubs last year that left ruin in their course, an open winter with extreme cold and the early heat and absence of rain, we are in a critical state in respect to berries. Yet my blackberries, blackcaps and red raspberries never looked better than now, but water must be had, and that very soon. The Crimson clover in our vineyard survived the winter, but the March weather killed most of it. Another piece sowed on old strawberry ground last July, looked very fine until March weather killed that, also. I shall sow it again wherever I can, when the time comes to do it. Currants are dropping from the stems, and many bushes have nothing but bare stems on the inside. I understand that this is the case across the river in Ulster. WALTER F. TABER.

SOME OHIO NOTES.—I have never raised any winter oats, but some of our neighbors sowed about two acres a year ago last fall. They came up and looked well that fall, and I thought that they would be just the thing. But the next spring, they were all frozen out full, lying on top of the ground. They made only about five bushels to the acre. The ground is excellent wheat land, being underlaid with gravel, but I often notice Timothy meadows, thinly set with grass, and even large spots where there is not a spire of grass; still the owners will leave them and mow over them or, probably, mow around them and let the weeds take them. This is a great waste. A good way to fix these meadows, is to sow with a spring-pressure drill one bushel of oats to the acre without harrowing the ground, and re-sow Timothy. The old Timothy and oats together make a good crop of excellent hay. Oats sowed very thick and cut just when in the milk, and either cured or put up for ensilage, make excellent feed. I visited Mr. J. E. Wing recently, and was very favorably impressed with his shredded corn fodder; I shall try some this fall. If it prove what I think it will, it will make a revolution in feeding. M. C. T.

RYE AS A GREEN MANURE.—I have used rye to plow under for several years, and think that I get sufficient benefit to repay the cost and labor It is the only sure winter blanket, and as good as we have in this section of the country to protect the soil from the winter changes. If plowed under early, it gives a great amount of vegetable matter to the soil, and unless sown very late in fall, should not be turned under later than May 1. to get the best result. It should be turned under as soon as it begins to joint. If at this time you pull up a plant of rye, you will find that the roots average six to eight inches long. When headed, the roots will not average two inches long, while the stalk is in a woody stage. At the full ripened stage, the roots are all absorbed, the head being supported by a stalk of woody fiber as hard to rot as so much basswood, requiring an immense amount of moisture and time to do so, whereas, if it had been plowed under when it commenced to joint, it would have been a mass of watery, vegetable fiber that would break down at once, furnishing moisture and humus to the soil instead of subtracting from it. V.
Benton Harbor, Mich.

Miscellaneous Advertising.



That hideous and deathly demon of sickness—constipation, is an easy enough thing to cure if you take the right medicine. Constipation is one of the commonest things in the world. It is really one of the most serious things. Fully nine-tenths of all the ordinary sickness of mankind is due to this one cause. If you place an obstruction in the gutter, it will stop the flow of water, and gradually a mass of poisonous, putrefying matter will accumulate. That is exactly what happens in the digestive organs when constipation begins. Poisonous matter accumulates and is forced into the blood. It goes all over the body and causes all sorts of symptoms. A few of these are dizziness, flatulence, heartburn, palpitation, headaches, loss of appetite, loss of sleep, foul breath, distress after eating, biliousness and eruptions of the skin. These things are unpleasant, but they are not serious. The serious things come afterward. Doctor Pierce's Pleasant Pellets are for the cure of constipation. They are tiny, sugar-coated granules, easy to take, mild and efficient in their action. One is a gentle laxative, two a mild cathartic. There is nothing else in the world like them. There is nothing that takes their place. There is nothing "just as good," although lieing and unscrupulous druggists may sometimes tell you so for their own profit. Do you want to lose your health so that the druggist can get rich?

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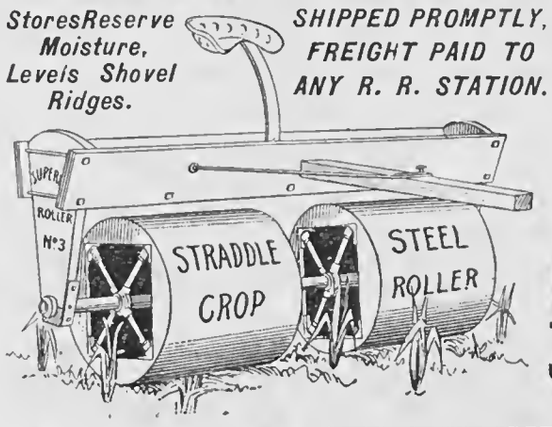

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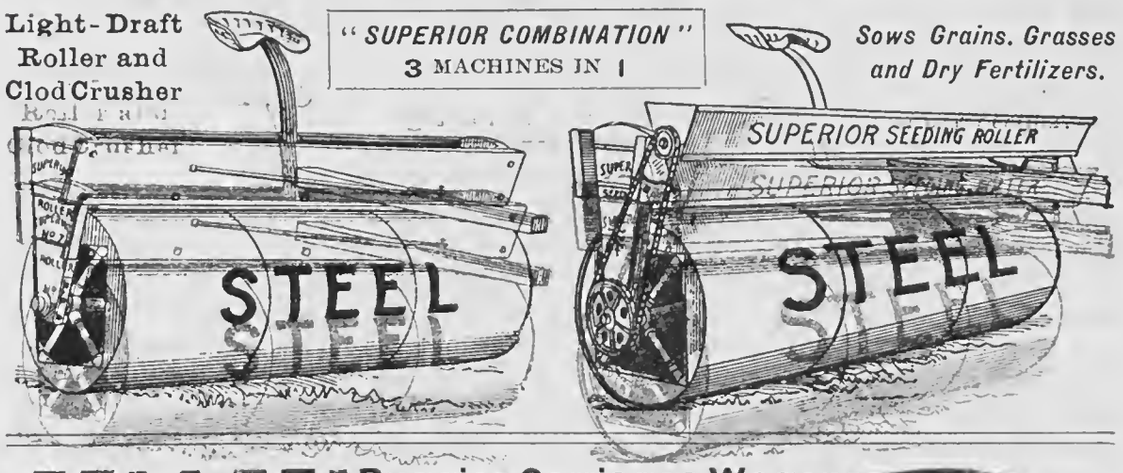

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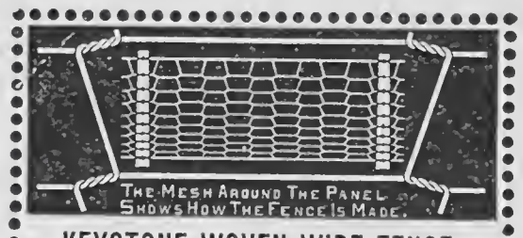

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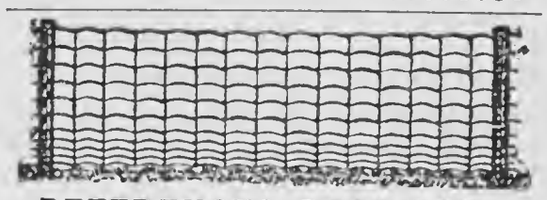

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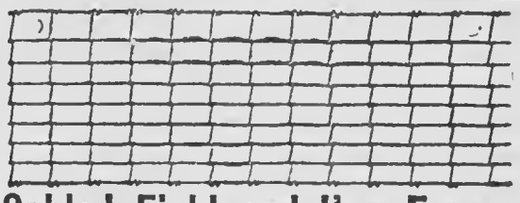

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CROP AND MARKET NOTES.

Tomatoes have been in light supply.

Peaches from Florida are in market.

Dry beans are dull, and sales are slow.

Asparagus is plentiful, and prices rule low.

The old potato trade is about over for the season.

Blackberries are scarce, though prices rule no higher.

Cucumbers have been scarce and prices somewhat higher.

Only small lots of watermelons can be sold for the present prices.

California cherries are becoming quite plentiful in our markets.

Gooseberries are scarce, the supply hardly equaling the demand.

Apples are beginning to run light, though there is a good demand for fancy fruit.

Beeswax is in large supply, and the market is weak at 26 to 28 cents per pound.

Cabbage is in large supply and outside quotations are extreme except for the choicest.

Strawberries are having their innings. The supply is large, and prices not high, though sales are fairly good.

Mottled butter is not wanted, although some of it is of very good quality. Uniformity of product will go a long way toward securing better prices for butter, cheese and other products.

Receipts of new cheese have been steadily increasing, and prices have been as steadily declining. Old cheese meets only a small local demand, and prices are extremely uncertain.

The Decoration Day holiday coming on Saturday, upsets the market during the last half of the week. Many shippers make a big mistake in shipping perishable products so that they arrive late in the week.

Efforts are being made by Pacific coast dealers to open a butter market in China. The steamers running to that country will provide refrigerator service if the trade be developed. The principal competitor for this trade is Australia.

In this second or metropolitan district, Deputy Commissioner of Agriculture Van Valkenberg has prosecuted upwards of 3,000 cases of violations of the law, during the 12 years he has held the office. The value of this work, both to producers and consumers, is too little understood. Pure food means better health for the masses.

Receipts of eggs are lighter, and the market is in much better condition. A large part of the receipts are more or less off in quality, and strictly fancy stock is not equal to the demand. The higher prices have drawn out some of the eggs that were put into cold storage during the glut earlier in the season. This will be likely to check any material advance in prices of grades other than the fresh laid.

Here's a solid chunk of wisdom from Dr. Hughes, of the St. Louis Board of Health: "Clean, pure, honest milk, free from filth, manure, or foul exhalation, from cows that are honestly fed (that means with clean, pure food) cleanly cared for, properly aired, watered and exercised, will quadruple the milk business of St. Louis, because people will be neither afraid to drink it freely nor unwilling to pay a good price for it." There are hundreds of other places where this truth will apply with equal force.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 32	@	—
Medium, 1895, choice	1 12	@	—
Pea, 1895, choice	1 10	@	—
Medium or pea, common to good	90	@1	05
White Kidney, 1895, choice	1 25	@1	35
Red Kidney, 1895, choice	1 10	@	—
Red Kidney, common to good	80	@1	00
Black Turtle soup, 1895	1 25	@	—
Yellow Eye 1895, choice	1 20	@1	25
Lima, Cal., 1895 (60 lbs)	1 82	@1	85
Pea, foreign, 1894	85	@	90
Medium, foreign, 1894	75	@	85
Green peas, bbl., per bushel	77	@	—
Bags, per bushel	70	@	72
Scotch, bags	70	@	75

BUTTER—NEW.

Creamery, Western, extras	15	@	15½
Western, firsts	14	@	15
Western, seconds	13	@	13½
Western, thirds	11	@	12
State, fancy	15	@	15½
Common to prime	11	@	15
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	14
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	11	@	12
Seconds	9½	@	10
Western dairy, firsts	10	@	11
Seconds	9	@	10
Thirds	8	@	8½
Factory, fancy	—	@	—
Factory, firsts	9½	@	10
Factory, seconds	9	@	—
Factory, thirds	8	@	8½

OLD BUTTER.

Creamery, Western, summer make	9	@	11
State dairies, firkins and tubs, finest	10	@	—
Firsts	9	@	—
Seconds	8	@	—
Tubs or firkins, thirds	7	@	—
Western factory	7	@	9

CHEESE—NEW.

State full cream, large, white, choice	6½	@	—
Good to prime	6	@	6¼
Colored, choice	6¾	@	6⅞
Colored, good to prime	6¼	@	6½
Small, colored, choice	7¼	@	7½
Small, white, choice	7¼	@	7½
Light skims, choice	5	@	—
Part skims, good to prime	4	@	4½
Part skims, common to fair	2	@	3
Full skims	1½	@	2

EGGS.

Near-by, new laid, fancy, per doz	13	@	14
State, fresh gathered	12	@	12½
Penna. and Md., country marks, fancy	12	@	12½
Western, closely graded, fancy	12	@	—
N. Ohio Ind., Ill. and Mich., prime	12	@	—
Other Western, northerly sections, prime	12	@	—
Western, fair quality	11	@	11½
Southern, fresh collections, good to prime	9	@	10
Western and Southern, poor, per case	2 25	@2	70
Western culls, per case	2 00	@2	60

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6	@	6¼
Choice, 1895, per lb	5¾	@	5½
Prime, 1895, per lb	5	@	5¼
Common to good, per lb	3	@	4¾
N. C., sundried, 1895, sliced, fancy	3	@	3¼
Southern, sundried, common to choice	1½	@	2½
State, sundried, quarters, bbls	2½	@	3¼
Western, sundried, quarters, bbls	2	@	3
South-West'n, sundried, quarters, bbls	2	@	2¾
Southern, sundried, quarters, bbls	1¾	@	2½
Southern, sundried, quarters, bags	1½	@	2¼
Chopped, 1895, per lb	2	@	2½
Cores and skins, 1894, per lb	2	@	2¼
Peaches, Sundried, 1895, peeled, per lb	4	@	7
Cherries, 1895, per lb	8	@	9½
Blackberries, 1895, per lb	5	@	5½
Raspberries, evaporated, 1894, per lb	17	@	17½
Sundried, 1895, per lb	16	@	—
Huckleberries, 1895, per lb	5	@	5½
Plums, Southern Damsen, 1895, per lb	4½	@	—

FRUITS—GREEN

Apples, Willow Twig, fancy, per bbl	5 00	@5	75
Baldwin, per bbl	2 50	@3	50
Greening, per bbl	3 00	@4	00
Ben Davis, per bbl	2 50	@4	50
Russet, Roxbury, per bbl	2 50	@3	25
Russet, Golden, per bbl	2 00	@2	50
Blackberries, N. C., cultivated, per quart	15	@	16
Cherries, fair to good, per lb	8	@	12
Gooseberries, green, per quart	8	@	10
Huckleberries, N. C., per quart	10	@	13
Peaches, Fla., Bidwell, per carrier	4 50	@6	00
Peen-to, per carrier	4 00	@5	00
Strawberries, Md. & Del., ex. large varieties	7	@	9
Md. and Del., choice, per quart	7	@	8
Md. and Del., prime, per quart	6	@	7
Md. and Del., poor to good, per quart	4	@	6
Eastern Shore, Va., per quart	4	@	7
Norfolk, poor to choice, per quart	2	@	5
Watermelons, Fla., each	75	@	—

GRAIN.

Wheat	68	@	83
Rye	59	@	45
Barley	38	@	41
Buckwheat, silver	40	@	42
Buckwheat, Japan	—	@	—
Corn	33	@	38
Oats	23	@	28

GRASS SEED.

Clover, per 100 lb	6 75	@	8 25
Timothy	3 50	@	4 00

HAY AND STRAW.

Hay, No. 1 Timothy	95	@	—
No. 2	85	@	90
No. 3	70	@	80
Clover, mixed	70	@	75
Clover	55	@	65
Salt	45	@	50
Straw, long rye	85	@1	10
Short rye	65	@	75
Oat	50	@	65
Wheat	45	@	50

HONEY.

State, white clover, comb, fancy, per lb	—	@	—
Fair, per lb	—	@	—
Extracted, per lb	5	@	6
Buckwheat, comb, per lb	7	@	8
Extracted, per lb	4	@	4½
California, comb, fair to prime, per lb	10	@	12½
Extracted, per lb	5	@	6
Southern, in bulk, per gallon	45	@	55

HOPS.

N. Y. State, crop of 1895, choice	7	@	8
Medium to prime	5	@	6½
Crop of 1894, fancy	4	@	4½
Prime	3½	@	—
Medium	3	@	—
Common	2	@	2½
Old olds	1½	@	2½
Pacific Coast, crop of 1895, choice	7	@	—
Prime	6	@	—
Medium	5	@	—
Crop of 1894, common	2	@	2½
German	14	@	20

POTATOES.

Florida, prime, per bbl	1 75	@3	00
Savannah and Charleston, prime, per bbl	1 75	@3	00
New Orleans prime, per bbl	2 00	@3	00
Southern, seconds, per bbl	1 25	@1	50
Culls, per bbl	50	@1	00
Bermuda, prime, per bbl	3 00	@4	00
Seconds, per bbl	1 50	@2	50
Maine Rose, per d. h. bbl	1 00	@	—
State Rose, per d. h. bbl	75	@1	00
Maine Hebron, per d. h. bbl	75	@1	00
Maine Hebron, per sack	75	@	—
State Rose and Hebron, per 180 lbs	60	@	70
State Burbank, etc., per 180 lbs	50	@	70
Jersey, per bbl or sack	50	@	65
State Burbank, per sack	60	@	65

POULTRY—LIVE.

Spring chickens, per lb	15	@	22
Fowls, local, per lb	9½	@	10
Western, per lb	9½	@	10
Southwestern, per lb	9½	@	10
Southern, per lb	9½	@	10
Chickens, yearlings, per lb	9½	@	10
Roosters, old, per lb	6	@	—
Turkeys, mixed, per lb	8	@	9
Ducks, local, per pair	60	@	90
Western, per pair	60	@	75
Southern, per pair	50	@	60
Geese, local, per pair	1 00	@	—
Western, per pair	85	@1	00
Southern, per pair	75	@	85
Pigeons, old, per pair	35	@	—
Young, per pair	20	@	25

DRESSED POULTRY.

Turkeys, av'ge best, mixed hens and toms	10	@	—
Average toms	8	@	9
Chickens, Phil., under 3 lbs. per pr., per lb	26	@	28
Phila., broilers, 3-4 lbs. per pr., per lb	23	@	25
Phila., broilers, 4-5 lbs. per pr., per lb	20	@	22
L. I., broilers, scalded, per lb	22	@	24
Western, average best, scalded	18	@	20
Fowls, Western, light weights, per lb	9	@	10
Western, heavy, per lb	8	@	9
Old cocks, per lb	4½	@	5
Spring ducks, Eastern, per lb	16	@	—
Spring ducks, L. I., per lb	16	@	—
Squabs, tame, white, per doz	2 25	@2	50
Mixed lots, per doz	1 75	@2	00
Dark and poor, per doz	1 50	@	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 50	@1	75
Prime, per doz bunches	1 00	@1	25
Culls, per doz bunches	50	@	75
Beets, New Orleans, per 100 bunches	2 00	@5	00
Florida and Charleston, per 100 bunches	4 00	@5	00
Florida, per crate	50	@1	00
Cabbage, Charleston, per bbl-crate	75	@1	50
Savannah, per bbl-crate	75	@1	50
N. C., per bbl-crate	75	@1	50
Norfolk, per bbl-crate	60	@1	00
Carrots, Southern, new, per 100 bunches	1 50	@2	50
Cauliflower, Fla., per half bbl	—	@	—
California, per case	—	@	—
Celery, fancy, large, per doz	75	@1	00
Average, prime, per doz	40	@	65
Small, per doz	15	@	30
Cucumbers, Charleston, per basket	1 00	@1	75
Savannah, per basket	1 00	@1	50
Florida, per crate	50	@1	25
Egg plant, Florida, per bbl	2 00	@4	00
Green peas, Jersey, per basket	1 25	@1	50
Maryland, per bbl	2 00	@3	00
Maryland, per basket	1 00	@1	25
Eastern Shore, per half bbl	75	@1	25
Baltimore, per basket	1 00	@	—
Norfolk, per half bbl	50	@1	00
Horseradish, per lb	3	@	5
Kale, per bbl	50	@	75
Lettuce, per bbl	1 00	@1	50
Onions, old, prime, per bbl	1 00	@1	25
Old, poor, per bbl	25	@	75
Bermuda, per crate	1 20	@1	25
Egyptian, per bag	1 60	@1	75
New Orleans, per bbl	1 75	@2	00
New Orleans, per bag	75	@	90
Radishes, per 100 bunches	50	@	75
Rhubarb, per 100 bunches	1 00	@1	50
Spinach, per bbl	75	@1	00
Squash, Fla., white, per bbl crate	75	@1	25
Florida, yellow, per bbl crate	75	@1	25
String beans, Savannah, wax, per crate	75	@1	25
Savannah, green, per basket	50	@	75
Savannah, green, per crate	1 60	@1	25
Charleston, wax, per basket	50	@1	50
Tomatoes, Fla., prime, per carrier	1 75	@3	50
Average, per carrier	1 50	@2	50
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A WESTERN DUCK FARM.

A writer in the Kansas City Packer, gives an interesting account of a duek farm loeated about five miles from Kansas City. This farm is managed by Mr. H. E. Moss, an old railroad man, who has about 20 aeres of upland soil. Mr. Moss says that he began by studying everything he eould find relating to duek eulture, and eorresponding with the best duek breeders. Then he bought 60 dueks and 12 drakes to begin with. When asked what it eost him to start, Mr. Moss said:

"My dueks eost me between $250 and $300, and I bought them when they were about six months old, so that they are now only a little more than a year old; yet I have a couple of drakes in my flock that I would not sell for $25 apiece.

"I bought four ineubators, with a eapaeity of about 1,500 eggs, and I built a brooder house to aceommodate the produet, for about $40. The priee of the ineubators, of eourse, depends entirely upon the kind you buy. There are a great many good ones, and a number of very poor ones. They eost all the way from $25 to $100 apieee, depending upon the manufaeture and the eapaeity. I suppose, altogether, I have spent $2,000 on the dueks, and the preparations for multiplying them, but I have done all the work myself, and, therefore, at much less cost than it can be generally estimated."

When asked how he stoeked the ineubators, Mr. Moss said:

"I shut my breeding stock up about December 5, and eommeneed to feed them earefully with egg-produeing food. About Christmas time, they eommenced to lay, and from that time up to two weeks ago, I gathered about 38 eggs a day, whieh enabled me to start an ineubator every week. My intention with four incubators, is to keep one hatching all the time. This will give me between 5,000 and 6,000 dueklings during the season, whieh will be about all I eare to handle at present."

"What do you call an 'egg-produeing food'?"

"During the laying season, from January 1 to August 1, I feed the dueks twiee a day, a eombination of bran, mashed potatoes, and a eomposition of ground blood and poultry bone. In addition to this, I give them plenty of green feed, eelery tops, eabbage, etc. The former is, I find, preferable. A curious thing in that conneetion is the stimulant this dried blood seems to furnish the laying duck. I spoke of getting 38 eggs a day up to two weeks ago. At that time, I ran out of ground blood and did not have any for a week. As a result, my egg production has fallen off to 12 daily, which I attribute to the failure to supply this ingredient in the feed."

Mr. Moss went on to say that "the ducklings have four different feeds, whieh are a eombination of hominy ehops, which are the germs of eorn, ground blood and bone meal, with green feed, and oecasionally some boiled potatoes. These artieles are eombined in different proportions, depending upon the age of the dueks, and you will see that here I have the different formulas so that there ean be no mistake about food, as that might be fatal. I feed No. 1 for the first four days; No. 4 for the seeond four days; No. 5 from that time until they are seven weeks old, and then I give them No. 6 which is a fat produeer, and puts them in eondition for market when they are eight weeks old, when they should weigh nine pounds to the pair."

"How often are the dueklings fed?"

"These little fellows, until they are eight days old, are fed every two hours, and still they cry for more. After they have passed the eighth day, I feed them four times daily, whieh seems to be about enough to keep them growing fat, and still leave them appetite enough to do eonsiderable skirmishing. You will notiee that I give them all the green stuff they can eat, and the larger ones I allow to run around through this Blue grass and oat field, so that, instead of running their flesh off, they are laying on the fat all the time. There are some little fellows over there, five weeks old, that will weigh almost three pounds, whieh is, I think you will admit, a pretty good weight for a duekling of that age, in this country."

"Why is it that you serape the boards so elean after you have fed?"

"Well, I find that if the feed that is not all eonsumed, is not all gathered up very carefully, it remains on the ground to be trampled on and finally sour. Its presenee seems to sieken the stoek, and if the next meal is put right on top of the old one, it does not take very many hours for the dueklings to get sick and die. Cleanliness is next to godliness, in the duek business as in everything else, and it is one of the elements of sueeess. The two rules that we follow are, elean food, and plenty of good, elear water for drinking purposes."

When asked about the percentage of fertile eggs, from his floek, Mr. Moss said:

"I am told by those who have had experienee, that 350 out of 400 fertile eggs should be hateked with proper eare. I did not have good luek with my first two hatehes, for the reason that I used but one thermometer in my incubator, and maintained the temperature at about 101 or 102 degrees; but I found on taking out the first hateh, that while the larger pereentage of the eggs eontained dueklings whieh were within about three days of hatching, yet I only realized about 25 per eent. The seeond ineubator turned out about the same way, and then I commeneed to investigate. I put in another thermometer in the other half of the ineubator and put my finger on the sore spot immediately; while the temperature was being maintained at 101 degrees in one part of the ineubator, it was running up to 105 degrees in the other, and this inequality in the heat was what was destroying my dueks. I have now about 700 dueklings running from a few hours to five weeks old, and I have 700 eggs whieh are due to hatch in the next two weeks. I am keeping the temperature by a thermometer in eaeh end of eaeh ineubator, and the first 14 days maintain it at about 101 and during the latter half about 103. This seems to bring about the best results."

He has this to say about markets and supplies:

"The history of the eastern market has been that dueklings whieh are ready for market and in prime eondition the first of April, will bring 40 eents per pound. This is true in both New York, Philadelphia and Boston. In our western market, heretofore, there has been no supply with whieh to meet a demand of this character. I am satisfied that, with the stoek ready for market at that time, the demand will rise right here in Kansas City. Conditions have ehanged very mueh in the West during the past five years, and in the Kansas City market particularly. Spring ducks, April 1, are a luxury, and while this luxury might not have brought the price five years ago, I am satisfied that Kansas City will prove a good market for my stoek, whenever I am able to offer it. Of eourse, I don't expect to market here all of the 5,000 or 6,000 ducks that I shall produee next year, but I know that Kansas City will take a portion of them. I would weleome competition in the duek line, because it would help me to build up a better market at home for this elass of goods, and if my suggestions will be of any value, they are freely offered."

FLIES IN STABLE.—To keep horn flies from eows, add to one pint of tanners' or coal oil, one tablespoonful of crude carbolic acid. A bottle or jug is best to keep it in, for if kept in an open dish, it dries out and gets gummy. Turn out what is used at onee, and apply with a sponge, onee in about four or five days. ery spot must be touehed; it takes me about one to two minutes to eover my cow. I used this last summer when flies were thiekest, and I eould hardly see a fly on my cow, while the eows by the side of her would be covered with flies.

Grass Lake, Mieh. J. C. H.

LIGHTNING AND HOG CHOLERA.—The following eomes from Kokomo, Ind.:

Last week, a farmer named Graff had several hogs die of cholera, and proceeded to haul the carcasses to the soap makers. While on the way, a furious storm came up, accompanied by hard thunder and wind. Lightning struck the wagon containing the carcasses, and one of the supposed dead hogs raised to its feet, jumped off the wagon to the ground and ran up the road like mad. It was afterward caught and put in a pen in the factory yard, where now it is devouring three big buckets of swill a day, and squealing for more.

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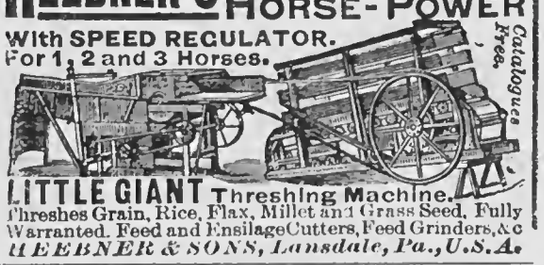
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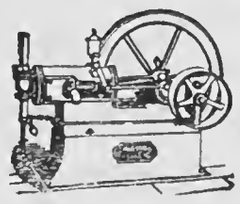
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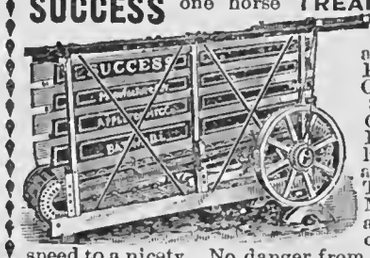
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Live Stock Matters

FORKFULS OF FACTS.

CATS AND RATS.—I was pleased to read in the recent rat discussion, that the balance of testimony was in favor of good cats as rat exterminators, as I am very favorable to the cat. Occasionally, we see in poultry articles, "Kill the cats," "Allow no cats about the poultry-yard." It is thought that the cats will catch the chickens and prove nuisances. This is by no means true, as we have always had from four to six cats about the barns and poultryhouses, and never rats and mice to annoy us. A kitten that grows up among chickens and fowls, would no more think of killing one of the chickens than it would of destroying and eating one of its own kind. So keep cats and do away with rats. M. S. P.

MANAGING BALKY HORSES. — Good horses for work and general service, are often given to balky spells. It is well known that the whip is a poor remedy, as well as being brutal. The defect is in the animal's brain; he, for the time being, is demented. The train of his thoughts needs to be diverted. Salt with a little pepper mixed in it, rubbed in his mouth, a light weight tied to his tail, a stout cord tied around the fetlock joint just tight enough to distract his thoughts, or anything that will start him to thinking of something else, are good. When he has gone a short distance, the remedy can be removed. Often an apple to eat and one held out before him, will induce him to walk to you. When he does this, he will soon be all right. Whips and boisterousness will only make matters worse, both for the present and for the future. G. D. C.

BLACK TEETH IN HOGS.—Last winter, a lot of young shoats died, and I was at a loss to know the cause. I knew that it was not cholera. Some of my neighbors suggested the rich food—hotel waste—that I was feeding. I stopped this, and commenced feeding the well ones on distillery slop and hominy meal; but they, too, in a little while, began to droop and die. One day, a tramp called at my door, and asked for something to eat. He was very talkative, and incidentally mentioned his father as the largest hog raiser in Tennessee. I thereupon spoke of my losses, and took him to my pens. He instantly pronounced the sickness "black tooth." I had never heard of such a thing before, so he explained it to me. Right next to the eye tooth is a black tooth resembling the point of a large nail. I laughed at the idea of this being the cause of the trouble, and promised to give him $10 if the remainder lived after those teeth were extracted. He said, "All right!" I procured help and a pair of dental pinchers, and from that on, my shoats—some 20 or more—began to pick up, and lived, and when I sold them, each one tipped the beam at 300 pounds. My tramp never called for his $10, but had he done so, I would gladly have given him double the amount. N. C. D.

ANS.—Let N. C. D. read the articles on "Black Teeth in Hogs," on pages 196 and 272. The explanation that the deaths ceased after the removal of the black teeth in this case, is that the disease had run its course, and that no more deaths would have occurred if the teeth had not been pulled. Many so-called "sure cures" for hog cholera and other diseases have been claimed for medicines after a single trial, when, upon further trial, they were found worthless. Unless, as suggested in the article referred to above, one test only a portion of a herd at such a time, there is little ground for claiming curative effects from a single trial of any method or medicine. F. L. K.

THE SICILIAN BREED OF POULTRY.

The Sicilians are a new, old variety of fowls; by this, I mean to say that they are new to many American fanciers. They belong to the Mediterranean class, if I have been informed correctly, and are in size about one pound heavier than the Leghorns. They are very stylish birds; the plumage of the cock is a golden bay, with a black tail. The breast of the hen is a light straw color, irregularly penciled with slaty brown, a very attractive plumage. They have willow-colored legs, but dress yellow. Their combs are their beauty. When hatched, the chick seems to have two small, single combs, which, when grown out, set on the head like a crown, nearly the size of a silver half dollar, and nicely serrated around the edge. The cock's comb is much larger and more cup shaped.

They are strictly non-sitters, and layers of nice, large, white eggs. If properly cared for, they will lay 200 eggs in a year, and a good many of these in winter, when eggs are high in price. They are small eaters, and excellent foragers, if given their liberty, but will lay well when confined, which I can show by my egg record of 1894. Then, they are so easily confined! My fence is made of three-foot wire, and a one-foot board at the bottom, making a fence only four feet high, and it is a rare thing to see one of them out. But I use no rail on top, which, I think, accounts for 't.

Six hens laid, in one year, 1,044 eggs or 87 dozens. The house is 6 x 7 feet, and yard 9 x 18 feet, with nothing green to eat except what I furnished them. In a recent issue of THE R. N.-Y., I noticed an article on Sicilians, and the answer to the question was not according to my experience with the breed. I will admit that they are hard to raise, on account of being inbred so much. Had I been blessed with more money, I would import some fresh blood at any cost, for I consider them the best layers on earth. Where eggs are desired, I think they will fill the bill, and when dressed for the table, they are plump and juicy. The bones are very light. They make a most excellent cross. I have six half-bred hens, and a cock hatched last April. The hens commenced laying in September, and are still at it, and I am safe in saying that I have averaged four eggs per day since October. I crossed with a white male, and have one white hen perfect in shape and almost perfect in comb, and a cock good in comb, but more of a Leghorn in shape, white also. I am breeding them, and have some white chicks now and more eggs hatching.

Mifflinburg, Pa. H WILKINSON.

RAW POTATOES FOR COWS.

G. E., Macedon Center, N. Y., would like experience in regard to feeding potatoes. I had six cows through the winter, in all stages of milking periods. I fed hay morning and night, and corn stalks at noon, up to about December 1, and then commenced feeding roots. I had only 200 bushels of them, consisting of beets, carrots and turnips, and a flock of 46 sheep, so I could feed but one bushel per day to the cows. I feed turnips to the sheep. I fed the cows hay three times a day, having no more stalks, feeding the roots at night. But I read an article on two rations a day and thought I would try it. So I began feeding hay morning and night, and roots at noon, and I could soon see a gain in milk, also in the appearance of the cows. But as the roots did not hold out, I bought 100 bushels of potatoes at 10 cents delivered, and fed them the same as the roots. Although I did not weigh the milk, I was well satisfied as to the results, both in quantity and quality.

In regard to the butter, two churnings were thrown away, as I did not do the churning myself. Then I tried the churning to see whether I could find out the reason for the butter not coming. The dairymaid fixed the churn, put in the cream and got it all ready for me; then I put in the thermometer, and it showed 52 degrees. This was in March. After that, the cream was warmed and the butter came in from four to twenty minutes. There never was any trouble in working the butter. As to its quality, I do not say; but as to the quality and quantity of the product of the six cows, all heifers and common stock, and the quantity and quality of the feed consumed by them, I would like to compare with a like number of young cows. Five are in full milk now, one in milk since last August, and one in milk 14 months, having gone farrow after her first calf, for some unknown cause.

The amount of potatoes was over seven quarts per cow, and I fed a mixture of equal parts by measure of ground oats and peas, wheat bran, fine middlings and a very little corn meal, giving 10 quarts to the six cows. I fed the grain the same with the potatoes, as with the roots. I kept the cows in the stable all winter, only letting them out at noon to water while I cleaned the stable, perhaps 30 minutes per day, and it was a treat to see them go to the manger as soon as I opened the door. I would have liked some of the farmers that feed in the barnyard in the winter, because the cows eat more and eat their feed up cleaner, to see those cows and the small amount of hay on which they went through the winter. G. A. G.

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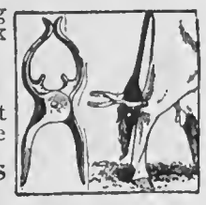

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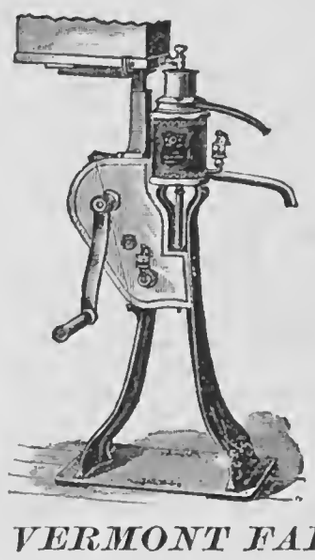
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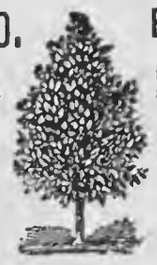
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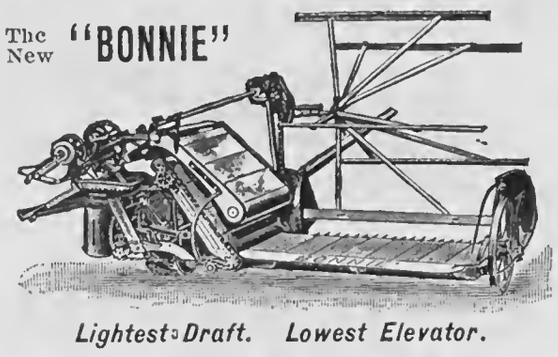
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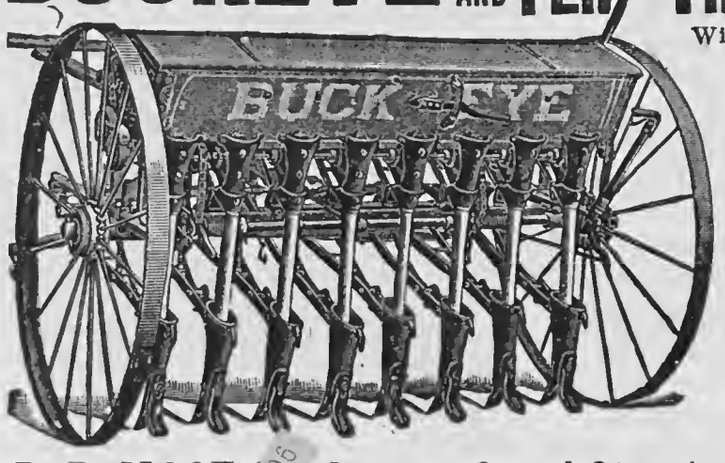

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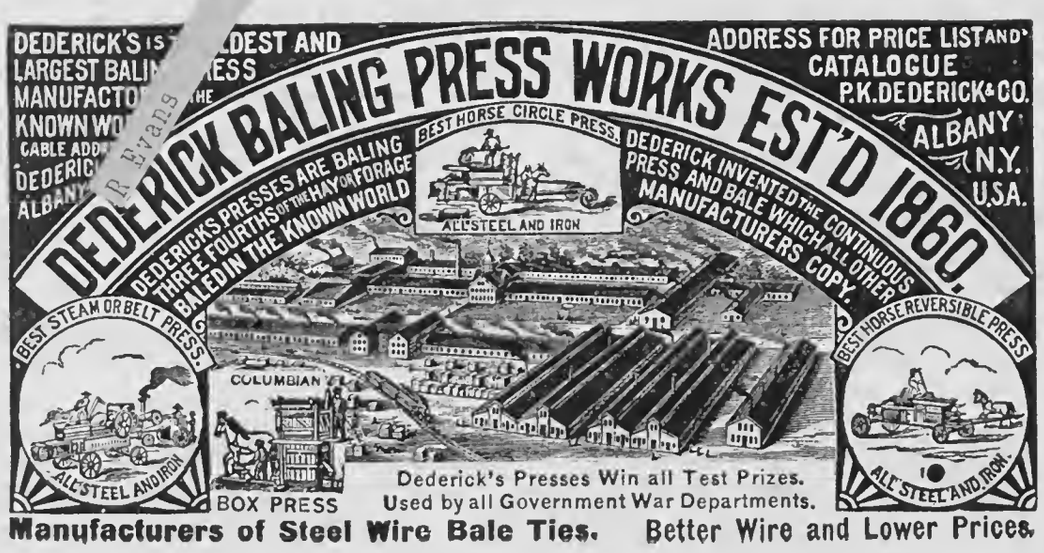

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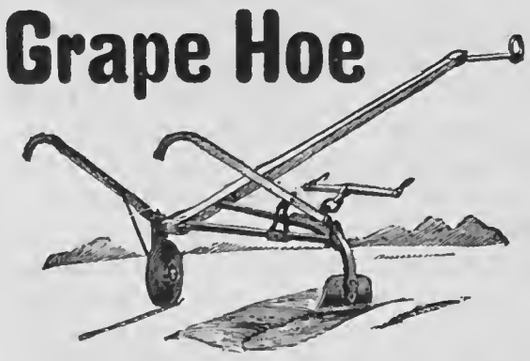
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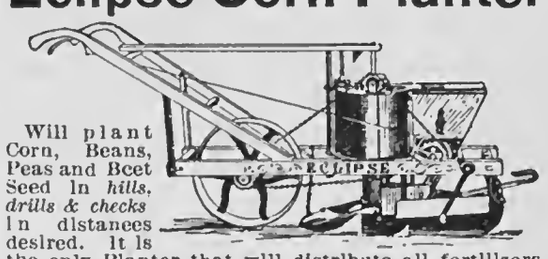

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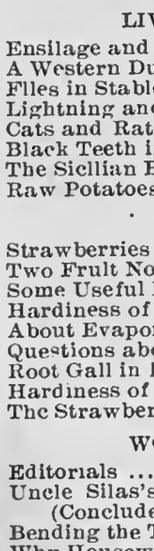

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A friend in Cheshire County, New Hampshire, who is too modest to have his name printed, as he does not like to advertise publicly his home, sends us this account of a new barn: "At Figs. 130 and 131 are shown plans of a barn I designed and built two years ago. I hope it may interest or benefit some of your readers, as I have often been helped by suggestions from others of your subscribers.

"The barn stands on a side-hill, and has three stories. For the first or basement, Fig. 130, we dug away a strip 11 feet wide, corresponding to the main driveway overhead, so that all the rest of the floor is above ground—there is no cellar about it. There are drains inside the walls, and one through the middle, and the entire surface is always perfectly dry. The floor, except the cattle stalls, is of the natural clay, leveled and pounded hard. The stall floors are of cement, with a pitch of two inches in nine feet for drainage. At the rear end of the stalls, is a little cement gutter, three inches deep and four wide, which carries the urine into the manure pit, which is four feet lower than the basement floor, and is cemented.

"My method of pasturing cattle is not original with me. I saw a modification of it given in some paper years ago but have forgotten whose plan it is. In front of the cows, is a V-shaped manger, the upper edge of which is about 25 inches from the end of the stall, and 28 inches from the floor. The cows are tied with a halter, just like a horse. When standing, the manger keeps them back; when they lie down, their heads go under the manger, and they are lying in a perfectly clean place. In the past two winters, I have not had a teaspoonful of dirt on a cow's bag, and the cows have freedom to step back and forth, and can lick themselves all over. It is a perfect success with me. All partitions in the basement, except to the manure pit and root cellar, are low (four feet), so the whole is very light and airy. There are large windows in the double doors of the sheep fold, and as that side is sheltered by the bank, those doors are all open a good part of the day. Cows in milk step around to the tub for water, but rarely go outdoors during the winter.

"The door on the east opens into a pasture of 100 acres, and as they are always fed and milked in the barn, they are always at the door night and morning in summer. On the north of the manure pit is a shed for sundries, the roof of which runs only to the floor of the second story.

"The second floor, Fig. 131, has the main driveway on the gable end, 11 feet wide and 12 feet high, with a big door at each end. On the south end, is left room for two carriages and sleigh and harness closet, also grain bins, which are filled at the top from the wagon. Next are the stairs to the basement, then a passage to the horse stable, and finally, a box stall for a stallion. The whole west side of this box is made to swing, so that in cold weather, a carriage may be run in there to wash. The stall is over the manure pit, and drains into it. The stall has a door on the opposite side, so that the horse may be fed and cared for from the stable side.

"Beside the stallion stall, are four single stalls, nearly five feet wide, and two box stalls about 9 x 10 each. The box opposite the passage, has a movable partition, so that the doors may come off and two horses be put in there. The partitions are solid five feet up from the floor, and finished to the ceiling with a sheet of four-inch mesh expanded metal. The horses can see each other, and there are no dark corners. The stalls have a pitch of two inches in nine feet for drainage into an iron gutter, which runs into the manure pit. There are no mangers—except an iron feed box in the box stalls. Hay and grain are eaten from the floor, with no waste.

"The water tub is shown, and openings to the grain bins are next to it. The hay from the floor above, comes down the chutes into the passage behind the horses, and is fed from there, and a trapdoor in the same passage lets hay down to the basement feeding alley. The manure scuttle is shown at the north end. Our cold winds are from the west, so all animals are on the warm side of the building, and with the mercury at 18 degrees below zero, the water does not freeze on either floor. If the south single stall is unoccupied, the windows in the passage north and south give draught, which does not strike the horses, and in cold weather, perfect ventilation may be had through the hay chutes to the roof.

"On the main driveway, are trapdoors to the root cellar, sawdust bin and sheep fold.

"The third story is for hay, which is put up with a horse-fork, through a six-foot square opening over the middle of the driveway. The stairs leading to the loft are in the driveway, hinged at the top, and when not in use, may be run up by weights to the ceiling, out of the way. The whole barn is clapboarded and painted, with heavy sheathing paper under the clapboards, so that no wind gets in except through the doors and windows.

"Many criticised the barn while it was being built, because it was so small—it is 35 feet square inside measurement—but as I keep no hired man, and have no boys, I wish everything as snug and convenient as possible, in order to do the work. It will not hold all my hay, but there is another building for surplus hay and wagons and farming tools, and this loft will hold nearly 25 tons of hay if well packed. Of course, this barn was arranged to accommodate the kind of stock I wished to keep. If any one wish to keep more cattle, the sheep pens could easily be fitted for 10 or 12 cows to be fed from the same feeding alley. And the stallion stall could be converted into a harness room or office, with stove, etc."

A NEW HAMPSHIRE FARM HOUSE ON A ONE-MAN FARM. FIG. 129.

A view of the farm house is shown at Fig. 129. It evidently stands in a commanding situation, and with its wide piazzas and clean back door and yard, seems, in many respects, like a model farm home.

Our friend states that he keeps no hired man. When asked to state what live stock can best be handled without hired help, he replies: "My individual preference is for sheep and horses. I keep a good-sized, well-bred stallion, which is an ideal road horse, and does enough work on the farm to pay for his keep twice over, leaving all service fees clear profit. In addition, there are, generally, eight or ten other horses, brood mares and colts, some my own, and some boarders. Six or eight horses kept during the winter, at prices which city owners are quite willing to pay for the care of their carriage and road horses, will bring in more money than twice that number of cows, kept the entire year, and with less than a quarter of the labor.

"There is kept, a small flock of sheep, anywhere

from 25 to 75, bred to lamb early, so that all grade lambs and others not fit for breeders, may be disposed of before the sheep are turned to pasture. Two or three cows are kept as needed. This amount of stock can be cared for by one man, if accommodations are suitable—warm, dry quarters, as many box stalls as possible, and sunny, sheltered yards for exercise. The sheep, at lambing time, need close attention early and late, but the rest is easy. In summer, the boarders are gone, mares, colts and sheep are in pasture, the cows come to barn night and morning to be fed and milked, and the day is free for work in the fields.

"The sheep now kept are purebred Dorsets, and I hope soon to have nothing but purebred Jerseys for cows. I use nothing but purebred males, and the best obtainable. Good females are also necessary to keep up the quality of the stock."

WHAT CROPS FOR A SMALL FARM?

HOW TO MANAGE A 30-ACRE PLACE.

I own a small farm of 30 acres, mostly light loam soil about 18 inches deep to a clay subsoil, I am told, in fair condition. It is situated on the Niagara River, nine miles from the city of Buffalo, N. Y., a city of 350,000 population, which, I suppose, would be a good market for almost any kind of product which could be grown. I use this place for a summer home, my family passing five months of the year there. I could not spare more than one day each week to oversee any work going on there. Heretofore, I have had no income to speak of from it. I would like to get, at least, six per cent interest on my investment of $3,000, if possible. What would you advise me to do with it? I would be willing to invest $1,000 or $2,000 or more, on any improvements, if I could see any chance of getting interest on it back in a few years. Would it be advisable to put it all into fruit? If so, what kinds? Or into what other crops? I can hire ordinary help and teams at reasonable wages. Almost the entire place is in grass now, which is about run out. J. G. G.

From a Near Neighbor.

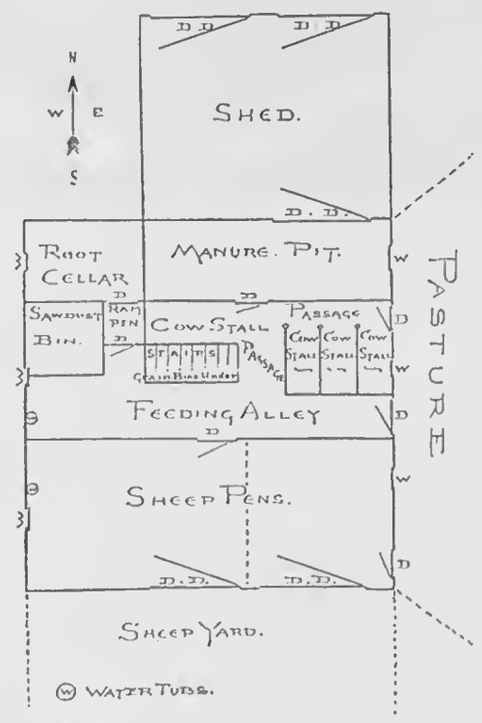
The general schedule of prices for all farm products in Buffalo is lower than we find it in most larger cities. Hay, however, is usually readily salable at rates that are decidedly profitable for the producer. On the whole, however, I would hardly advise a city man who knows nothing of farming, and can not look after the farm, to choose farms and farming as a means of investing money. But a country home will afford privileges and enjoyments which the city cannot give, and for which the well-to-do city man does not pay too much, even though he should not get any money returns from his capital invested. In fact, I would hardly expect much money profits, and I know whereof I speak. The greatest difficulty is in securing reliable help. A man that can make farming pay, will usually make it pay for himself rather than for somebody else at small hire. If J. G. G. can get a good man to take care of the farm, he may let him farm it as any good farmer would; in some sort of rotation—for instance, wheat, clover, corn, potatoes, with smaller areas in fruits, etc. Then keep a cow, some poultry, etc., and have his own milk, butter, eggs, berries, etc. If there be any surplus (and there may be some in garden stuff and fruits, less likely in hay), this can be disposed of at retail prices, and bring in a little cash. But whether it do or not, the products that are consumed at home, should be worth more than the interest on the investment at six per cent. If one have a man that understands small fruit growing, it would pay to devote an acre or two to strawberries, currants, etc., and, perhaps, to large fruits. A still safer way, perhaps, would be to let a good man till the land on shares. T. GREINER.

Niagara County, N. Y.

At Least Five Acres in Fruit.

The first thought that suggests itself in considering these inquiries, is relative to the fact that his soil, locality and convenience to one of the best markets the country affords, would favor fruit-growing as a most profitable industry. Not his whole plot of 30 acres, but a small portion, say, four or five acres, should be devoted to the growing of raspberries, strawberries and currants of the different varieties which have been thoroughly and favorably tested in that locality. Blackberries could, also, be grown with profit, undoubtedly, but, owing to their spreading and rampant growth, requiring more care and attention, it would be better, perhaps, under the circumstances, not to attempt their cultivation. Of the larger fruits, pears of the dwarf varieties, German prunes and peaches, could occupy a portion of this five-acre plot, together with a limited number of trees of the most popular kinds of both early and late apples. The remainder could well be devoted to the growing of grass and hay, aside from what would be required for pasture, garden, lawn, etc. Considering the fact that his family is to spend nearly one-half of each year at this country home, an abundance of these fruits would be found a great convenience and luxury, as compared with the stale and unpalatable supplies often obtained at the groceries and fruit stands. With a little additional labor, a surplus could be disposed of in the nearby markets, at a fair profit, especially as the owner would be enabled to attend to the "market end" of the fruit much of the time during the week.

The land now occupied by grass should, as soon as possible, be made in condition for reseeding. Plant a portion to corn or potatoes, the first season, to be followed the next spring by some sowed crop, when, immediately after its harvest, the ground should be deeply plowed and thoroughly prepared for winter wheat. Timothy seed should be sown at the same time, or a few days later, and the following spring, Red and Alsike clovers should be added. With reliable help and a good work team, it seems that this place could thus be made to pay a fair income, especially when it is considered that a large share of the family living expenses would be derived from it. J. G. G. should not be unduly anxious or disappointed that heretofore he has derived no income to speak of from his little place, when he is reminded that thousands of farmers have been working farms of much larger size, for years past, vainly hoping for an income more than sufficient to cover outside and family expenditures. IRVING D. COOK.



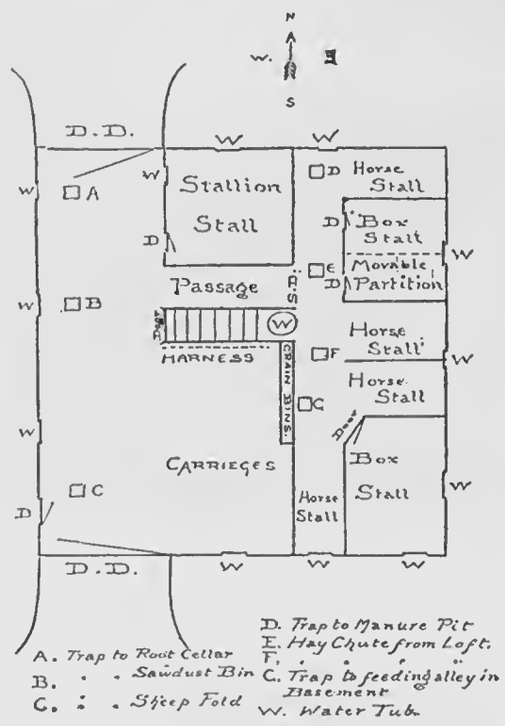
BASEMENT OF ONE-MAN BARN. FIG. 130.

See First Page.

Genesee County, N. Y.

Fruit for Family; Hay to Sell.

J. G. G. does not say anything about fruit, so I take it that there is nothing of the kind. The first thing to do would be to set out enough fruit for a succession, from the time strawberries ripen until they come again. By choosing early and late varieties of cherries, he may have them from June 10 to nearly September 1. If he will manage his berries as I do, he will have the most luscious ones he ever tasted. I have my berries thick in the row, the rows 3½ feet apart, keep them trimmed close and the ground covered with straw or strawy manure, so that it does not take any time from the spring mulch until picking begins. I do not think that it would pay him to hire help to raise anything for market, as prices are so low for everything; but if he raise all the fruit and vegetables his family can use, he will more than get six per cent on his investment. If he should have a surplus of anything, and it be No. 1, he can sell at any time.



SECOND FLOOR OF ONE-MAN BARN. FIG. 131.

See First Page.

From what I know of Alfalfa, I would try a few acres, and if it do well, would sow more. I have just sowed 10 acres, but it is so dry that I am afraid that it will not come up evenly. I think that he would better seed his farm after he gets enough fruit of all kinds for his family. CLARK ALLIS.

Orleans County, N. Y.

In Fruits on Shares.

It all depends on the future intention of the owner. If the only object be to realize the money on the investment, the grass will do it with the least effort on his part. Should the owner desire to realize on his investment, or make the place more desirable, even as a summer home, I would invest the $2,000 in building a cottage and barn costing, say, about $1,200, for a tenant. Find the right family, and make a contract with him for 10 years to work the place, plant it to fruit, if suitable by location, say, 10 acres to grapes, 5 to peaches, 5 to apples, 2 to pears, 2 to prunes, 1 to currants. Raspberries, blackberries, dewberries and strawberries could be grown between the trees, for a number of years. I would use the rest of the land for truck and grass. I would keep, at least, one cow, two pigs, and chickens, besides the working team. The proprietor should furnish all plants, trees and fertilizers, and half the packages. The tenant should furnish team and tools, do all the work and marketing, and receive half the proceeds, except the first year, when the tenant should have all the proceeds that he can realize from growing such crops among the trees as do not interfere with their well doing. I could show J. G. G. vineyards of 60 to 100 acres that are worked on this line, where proprietor and tenant have been together for 40 years, and both are doing well. G. S.

Chautauqua County, N. Y.

THOUGHTS ABOUT FARM IMPLEMENTS.

It is not an easy matter for the general farmer to decide how many and what farm implements he should own. He can not afford investment in that which is not profitable, and he can not well afford to be without those that can make a profit for him. With only ninety acres actually under tillage, it would seem that I would not need a large stock of farm implements; but I am continually puzzled to draw the line satisfactorily. The crops must be planted and worked in a thorough manner, yet reasonably economically, and the latter means only a limited amount of hiring, wages being relatively higher in price than other commodities. With a rather large tool-house, pretty well filled with tools that I have bought with hard-earned dollars, I have been studying to see whether some money has not been wasted, and find that it has been only when invested in the wrong "make" or size of some kind of implement.

My first disk harrow was a 16-inch, and the gangs were attached to the pole, or to a casting around the pole, with rods. When sitting in the shop, a man on the seat balanced the weight of the tongue, and the natural inference for an inexperienced man was that no weight would rest upon the tops of the horses' necks, settling the collars and causing the point of draft to fall too low on the shoulders. But the gang rods had a downward pull, and the greater the draft, the greater the pull downward upon the pole. By moving the seat back, this additional weight could be balanced, the double-trees being under the pole; but when a turn was made at the corner of the land, and one gang of disks cut extra deep, weight fell upon the horses' necks, and their shoulders were bruised. The disks were set to throw the ground towards the center, and the surface could not be left level, even when lapping one-half. When lapping or cutting a second time, the loose ridges of earth prevented the harrow from going as deep as it should. The harrow appeared to be doing plenty of work, but in reality, was not cutting more than one-half the depth of an eight-inch furrow.

After several years' use of this harrow, I cast it aside in the interest of horse-flesh and a looser seed bed for potatoes. I found a harrow that had the hitch made direct to the end of the frame. That seemed sensible. The pole was put in only to guide the harrow. It could be attached to the center when two horses were used, and to a point on one side when three were used. The hitch, in either case, was to the center of the frame, and the harrow was drawn in the same manner as a breaking plow. No weight could get upon the tops of the horses' necks. In this respect, I consider this an ideal harrow, and believe that it is an important point to watch when buying a harrow. Any weight at the end of the pole when turning, or at any other time, is hard on horses. The disks were 20 inches in diameter when new, and that seems just right for deep cutting. With disks throwing the earth from the center, one can, by lapping one-half, leave the surface reasonably level. The oil-cups near the top of the frame, had common caps over them, easily raised by loose earth, and I had threads cut in the tops of the cups, and caps with threads fitted in. This insures against dirt, and the harrow is one of my best investments.

I have had two two-horse cultivators with adjustable arches, and in both cases, they sprung, or sagged from some other cause. The distance between the

bottoms of the wheels was quite a little greater than that between the tops. The result was that the inside shovels run the deepest, when they should, if any difference, run the shallowest. My potato rows are only 30 inches apart this year, and the ordinary, solid-arch cultivator is too wide. Manufacturers want to please the buying public, and they want to put good goods upon the market. I believe that there is a demand for a solid-arch cultivator that will not track over 42 inches. I induced a manufacturer to make such a cultivator for me, and it does finely. I certainly do not assert that all adjustable arches will permit this settling of the inside end of the axles; but buyers should deal only with reliable firms, and ask a guarantee in this respect. I found one such cultivator a losing investment; the other was taken back by the makers. One of these cultivators was adapted to deep cultivation, and had only two shovels on each side. That was all right for the earliest plowings of potatoes, but did poor work when surface cultivation was wanted. It seemed absolutely necessary to have a two-horse surface cultivator, as it would do the work of two one-horse cultivators until the vines became large, and this would save hiring. I find that eight spring-teeth on a cultivator do nearly perfect work, and taking two middles at a time when the tops were half-grown, one team cultivated 14 acres of potatoes in a day last summer in rows 80 rods long. This implement is a profitable investment in my case.

The weeder has become a necessity; mine has again paid for itself this season. It must be used at the right time, and probably, does not give results in tight clays. Like all other implements, the lowest-priced may not be the cheapest. There must be good steel in the teeth, or they will break badly.

Americans incline to light-weight implements, and we, probably, make the best in the world; but there is a limit to desirable lightness. I went beyond the limit when buying one mower, the frame being too light to stand the strain as it should. It was exchanged for a make with heavier frame, and the latter will be far more durable. There is no virtue in heavy pot-metal, but a mower frame should be sufficiently heavy to prevent excessive vibration when the sickle is going through heavy and tough grass.

My potato planter does much better work than can be done by hand, placing all the seed at an even depth, and leaving no seed exposed to the hot sun, as is usually the case in dropping by hand. It misses no hills, and covers well. It is one of my best investments.

The grain drill, land roller, plank drag, smoothing harrow, breaking plows, one-horse cultivator, hay rake, fanning mill, etc., seem to be necessities, and the line can hardly be drawn against any of them; yet all combine to represent a greater cash outlay than one likes to contemplate when beginning to farm, and call for an amount of capital out of proportion to the net profits of the farm. The main point to consider, however, is that, without the most of these implements, general farming would show even smaller profit.

ALVA AGEE.

MUSKMELON CULTURE IN SOUTH JERSEY.

THE WHOLE STORY TOLD.

Melons are grown, to a large extent, in this vicinity, for the Philadelphia market. They are a somewhat precarious crop, and often fail to produce a profit, even after everything seems to have been done upon the grower's part. Yet the yield is sometimes so heavy, and the profits so large, that nearly every trucker makes them one of his standard crops.

They are grown upon a variety of soils, from sand to clay, but a stiff, sandy loam is preferable for their best development. They are made to follow sweet potatoes or some other cultivated crop that does not draw upon the soil too heavily. They may be planted at any time from April to June. The early crop is planted as soon in April as the ground is warm enough to sprout the seed without rotting, between peas. Early peas are sown as soon as the ground opens in February and March, in drills five feet apart. As soon as the peas appear, furrows are opened between the rows, and stable manure well composted and rotted, is put in the furrows at the rate of 10 tons per acre. It is aimed to do this as long before planting time as possible, so that the soil and manure may become settled and firm before planting the seed. Some put the manure in hills; this necessitates crossing the field and peas with a marker to know where to plant the seed after the manure is ridged over with a plow. Generally the manure is spread evenly along the furrow, and as the hills are only three feet apart, the roots find it all.

Growers are very particular about the seed, and either save their own, or get it from some one who is noted as a successful grower. As soon as the ground gets moderately warm in April, the first planting is made, dropping from six to eight seeds in a hill, and covering with a hoe about an inch deep. In about 10 days afterwards, whether the first planting has sprouted or not, a second planting is made in the same hills where the first seed were planted. This gives a double chance for a solid stand.

The peas coming up first, attract most of the Cutworms to them, so the melons do not suffer so much as they otherwise would. The melons are kept well cultivated, and at the second hoeing, are thinned out, leaving the best two plants in each hill.

As soon as the peas are picked, and the melons begin to run freely, they are laid by. This is done by lifting the vines by hand, one hill at a time, in a middle between two rows, and turning them over into the adjoining middles; every alternate middle in the field is served in this manner, and these are then plowed with a one-horse plow, throwing the soil toward the melon rows and plowing the pea vines under. The vines are then turned carefully into the plowed middles, and the remaining middles are plowed in the same way. The vines are then distributed where they belong. This treatment leaves the vines in fine condition; they should soon cover the ground, smother all weeds and grass, and need no further care until picking time.

The proper picking of melons requires some experience. If picked too green, they do not develop their highest flavor; if they are not picked close enough, there will be great waste. They ripen so rapidly that it is necessary to go over them every day, and in hot weather, twice a day. The patches left from Saturday to Monday have a large quantity of over-ripe culls on the latter day. The melons are picked in baskets, carried to the ends of the rows, and poured carefully in heaps to be packed for market. Three grades are made—primes, culls and hog melons. The culls are melons that are over-ripe, or smooth and have not roughened up properly. As soon as the market gets full, most of the culls go to the hogs, for which they are very fine feed.

The melons are packed in five-eighth-bushel baskets, rounded up symmetrically six to ten inches above the top, and a fine specimen placed in the center. They are then placed upon wagons holding from 75 to 100 baskets, and carted to commission merchants in Philadelphia, who sell them for 10 per cent commission, returning all empty baskets. The first melons generally bring from 75 cents to $1 per basket, the price rapidly falling to 50 cents, gradually to 25 cents, mostly to 10 cents, sometimes to five cents and less. If they do well, there is a good profit in them at 25 cents per basket, as a good field will readily yield 500 baskets per acre.

The principal enemy of the crop is the Melon louse, and when a patch becomes infested with this insect, it is of little account. No practical plan of combatting this foe has been discovered. Kerosene emulsion will kill all that it reaches, but from the habit of the insect of confining itself to the underside of the leaf, it is difficult to reach it. An effectual remedy consists in placing over the whole vine a tight cover of some kind, and then placing under the cover a saucer of bisulphide of carbon, or cyanide of potassium and sulphuric acid. Either of these will generate a gas fatal to the insects. But the method is slow and expensive. Many growers watch carefully, and when they see an infested hill, pull it up and bury it. This is effectual when the attack is not widespread.

Another drawback is the scald. Sometimes when the field has escaped the louse, and bids fair to turn out finely, a few heavy showers followed by hot sunshine, will scald the foliage and ruin the field. The melons will not roughen up right, will be of poor flavor, and net the grower a loss instead of a profit. Still, the returns of from $100 to $300 per acre, which sometimes occur, and which all hear about, are so fascinating, in these seasons of dull times, that nearly all truckers risk from five to ten acres yearly in this crop, and, perhaps, on an average, it pays about as well as others.

CHARLES PARRY.

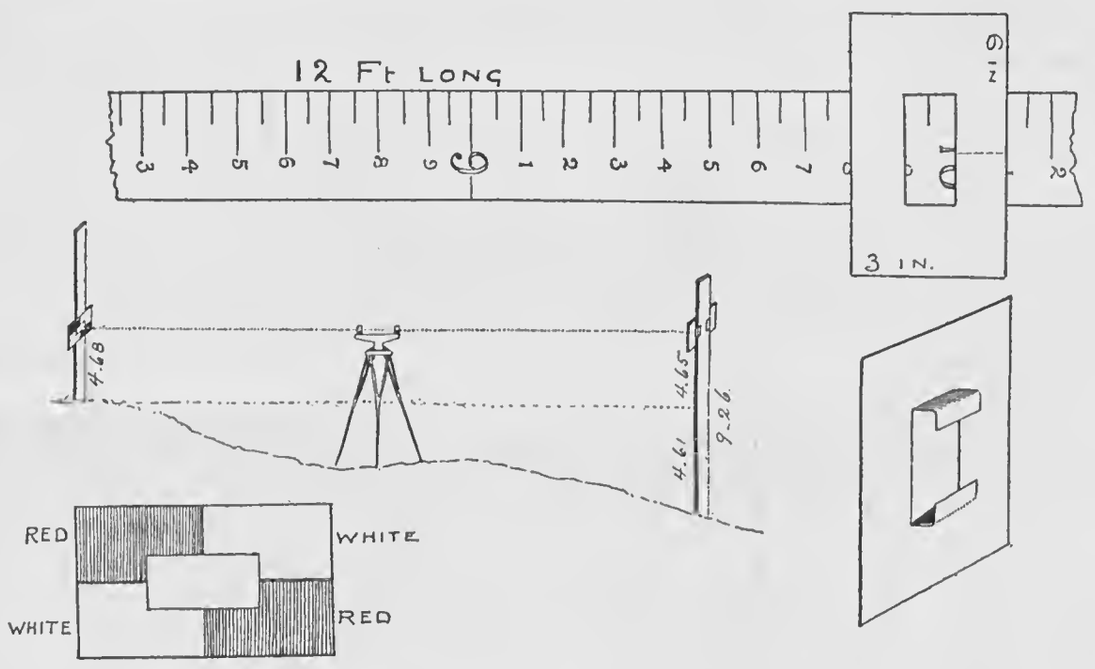
Burlington County, N. J.

CIVIL ENGINEERING FOR BOYS ON THE FARM

PART III.

The Leveling Rod.

Aside from the leveling instrument, a leveling rod will be needed, with which to take levels. Any plain, straight rod will do, but it will be more convenient if marked off into feet and parts of feet. Engineers use leveling rods in which the foot is divided decimally, *i. e.*, into tenths and hundredths, because it is so much simpler and handier to do the figuring that way than it is to have the feet divided into inches. A good leveling rod is made from a strip of straight-grained board, about 12 feet long, two inches wide and three-fourths inch thick; plane it smooth, straight and true, and mark it off into feet by marks extending squarely across the rod. These should be numbered from the bottom upward. Then with a pair of compasses or dividers, space off each foot into 10 equal parts, and for these divisions, make marks half way across the rod and number them also from the bottom upward. These spaces may be again divided into halves and the dividing lines marked one-fourth way across the rod, see Fig. 132. These divisions are as small as are used in ordinary work by civil engineers. When a smaller division is needed, it is estimated by the eye, or if the work be what is known as precise leveling, a special device known as a vernier is used to obtain the smaller measurements. Precise leveling is seldom, if ever, required in laying out drains, road grades, or any similar work, and if it were, it would require an instrument with telescopic sights to do it.



APPARATUS FOR LEVELING. HOW THE WORK IS DONE. FIG. 132.

A target should be attached to the rod so as to slide up and down it, to mark the place where the level line strikes it. If the rod is two inches wide and one-half inch thick, a good size for the target will be three or four inches wide and six inches long. If made of tin, it may be cut out in the middle so that two pieces may be bent back in such a way as to clasp and hold it to the rod, see Fig. 132. It should clasp the rod tightly enough not to slide out of place by its own weight, but stay wherever it is placed. It may have a horizontal line marked across the center of it to sight to, or either edge may be used for that purpose. Whichever line on the target is used to sight to, should be at right angles or square with the rod. It is common to paint the target so that it can be seen more plainly. It is marked off into quarters, these quarters painted red and white alternately, and the sight is taken to the middle line of the target. Instead of marking the feet and tenths, or inches, on the rod itself, a piece of tape line may be tacked on to it. An envelope or a card held in the hand, may be used for a target. A thin metal plate fastened to the bottom of the rod for a shoe will prevent wear.

HOW TO FIND THE DIFFERENCE IN HEIGHT OF TWO POINTS.—We will suppose the two points to be so situated that it will not be necessary to set up the level but once, and that we have a level mounted on a tripod, and having an adjustable arm carrying the water tube like the one described in Part II. Set up the level at some point from which both the points can be seen, and, preferably, about equidistant from them. Spread the legs of the tripod so the instrument will stand firm, and at the same time place them in such a position that the tripod head will be somewhere near level. Turn the arm carrying the level tube so that it will point toward the higher point; level it approximately. A glance over it toward the horizon will give a pointer on that. Then pour the colored water into the tube, elevating or depressing the ends as required, until the water can be plainly seen in both the glass ends of the tube above the arm. An assistant called a rodman, now holds the rod on the desired higher point being careful to hold it plumb, and moves the target up and down on the rod, as directed, until it is exactly on a level with the surfaces of the water in the instrument. The distance from the target down to the bottom of the rod, shows how much the point is below the level of the instrument. This distance is read right off from the rod, and is called the rod reading. Call the rod reading at this point, 4.65 feet. The rodman now goes to the lower point, sets up his rod, and its reading is found in the same way that it was found at the higher; call

it 9.26 feet. If the higher point is 4.65 feet lower, and the lower one is 9.26 feet lower than the surfaces of the water in the leveling instrument, then the lower one must be their difference, or 4.61 feet lower than the higher one.

That is all there is of leveling. Everything else consists of a repetition of the same process, and in keeping the figures right. One can go on and take rod readings from as many points as can be reached without taking up the leveling instrument, and the difference in the rod readings of any two points, will be their difference in height. FRANK HODGMAN.

Michigan.

NOTES FROM WESTERN NEW YORK.

Something New About Canker-worms.—Canker-worms have been pretty bad in western New York for about four years, every year getting worse, and particularly where the owners of orchards have not given much attention to fighting them. I had one orchard that was not within a half mile of any other, except on a side on which there is a large stream dividing it from two which are about 50 rods away, and in which the worms have been very bad for two years. We have never had any in this orchard until this year, and now there are a few all over the orchard. But we have been spraying, and shall, next year, band the trees early, use plenty of tar, and have no fear of injury from them.

But I started to tell how they came to be so extensively distributed through this orchard, where I am sure that there have never been any before. At the proper season, I noticed a good many males about the trees and in the air just at night. I set about watching, and by and by, I caught a stout, heavy-winged male that was carrying a small female attached. It has long been known that the males will copulate with the females as soon as the latter emerge from the ground, and go scrambling up the trees with them attached; but I am now sure that the strong males will carry the smaller females on the wing several rods. Of course, this is only done occasionally, but enough to carry them from one orchard to another, and from one part of the orchard to other parts. Though it is only the very smallest females that are carried in this way, they will lay eggs enough to spread the curse.

After I had seen this being done, and told one of my neighbors, he watched and said that he saw the same thing being done on his farm. Has any entomologist seen anything like it?

Stick to Crimson Clover.—I have now been experimenting with Crimson clover for three years, and change my mind each year. I was, at first, deeply in love with it, then became disgusted, and now think it worth a further trial. Of a few things I am satisfied: It must be sowed early, not later than August 10, and better a month before that, so that it may get a good start before winter. The seed must be covered—harrowed, brushed or rolled in; the sparrows are very fond of it, and unless it be covered, they will succeed in picking up about four-fifths of it.

There are some things about it that I can't understand: In one field sowed last August, after early potatoes, it made a good growth, went into the winter in fine condition, and when the snow went away this spring, was looking all right and very even; but for some reason, one land would be entirely killed by the subsequent freezing and thawing, and another of the same kind of soil would not be injured in the least. I am saving some seed of the hardiest in hopes to get a hardier strain. But I am so much in favor of it that I shall sow it extensively, even though every stalk kill each winter. It cost only about 60 cents per acre for seed, and very little for the sowing, and I am sure that mine, where killed, was worth several times that amount, for I pulled up roots from 10 to 15 inches long, as large as my thumb, and then it had a large top to plow under. It can't be possible but, in time, we shall get a variety of it that will be found hardy. Mine, where it killed, did not heave out with the frost, but just seemed to die, root and branch. That it will smother under the snow, I don't believe, for in one orchard, mine had six feet of solid snow upon it, that did not go away until the middle of April, and there it is as nice "as a pink." Hurry up, experimenter, and give us a Crimson clover as hardy as the Red.

Why Sheep Lose Their Wool.—Dr. Kilborne, in his answer to O. L. R., page 368, does not get the scope of the inquiry, neither does he give the true cause of loss of wool in sheep. "Fleece-growing" or cotting, as it is sometimes called, is a loosening of the fleece, although not an entire shedding of it, and often a new fleece will be found growing under the outer one. By taking hold of the two, they may be pulled entirely apart. This and shedding the wool, are due to the same cause, and neither by any of the causes named, although they contribute to the one and only true cause.

Sheep of any breed, and especially fine wool sheep, when in perfect health and properly fed, never shed their wool as other animals do their hair. I have seen sheep with four or five years' wool, and unlike hair, wool continues to grow as long as left upon the sheep, providing all the conditions are right. As should be known, wool is a "by-product" of the sheep, the same as milk is of the cow, and it grows only after the bodily wants are first supplied. If the sheep are improperly fed, are partially starved, or from any cause, become diseased so that they do not eat sufficient food, the wool growth is diminished, or may be entirely suspended. Whenever this happens, the fiber is weakened, or in extreme cases, becomes so brittle as to allow the fleece to come off in spots, or all over. If, after a period of suspended growth, the conditions be so changed that the sheep once more thrive, a new growth begins, and in some cases, the old fleece is held to the new one only by a few fibers, and the fleece is said to be cotted or fleece-grown, and sometimes felted wool. I have never seen a healthy sheep, when so well fed as to thrive, lose wool in any part of its body. I am sure that prevention is the best remedy, and that prevention is easy and practicable by keeping the sheep on a generous diet of a properly balanced food, and not allow them to get wet or take cold, so as to become diseased.

As for mangels causing a loss of wool, I will take the chances of giving my sheep just all they will eat seven days in the week, the winter through. But I would want them to be kept warm, and have other foods to correct the effect of so much succulent food.

J. S. WOODWARD.

BALING HAY DIRECT FROM MEADOWS.

THE QUESTION.

Have any of The R. N.-Y. readers had experience in baling hay right from the meadow? My room is limited. Can I allow my new hay to cure well, and then bale it and store it in the barn? I have both Timothy and clover, separate. J. M. H.

Ridge Farm, Ill.

THE ANSWERS.

My experience leads me to be wary, in pressing hay direct from the meadow. I certainly would expect it to spoil. Unless hay has passed through the sweating process, I would not consider it safe to bale. We sometimes bale hay two or three weeks after it has been placed in the mow, and then it must be placed on the market for immediate use. D. C. LEWIS.

New Jersey.

I have never known of an instance of hay being baled directly from the meadow. I do not believe that it can be done without the hay heating or spoiling in the bale. Hay needs to go through a sweating or curing process in the mow or stack, of from four to six weeks, at the least, according to the weather, before it is safe to bale it. My judgment would be that a good, well-built stack is the safest and most profitable place to store this hay until it is fit to bale.

New York. CHAS. CHAPMAN.

I would say no. All early-cut hay has to go through a sweat before it is safe to bale. I once baled green clover and green corn stalks; in a few weeks, they became rotten. Once I mixed hay a year old with early-cut, well-dried new hay, baled it, and in a short time, it began to heat, and when I opened it, it was discolored and musty. Dead-ripe Timothy, well-dried, might possibly, be baled; but hay as usually cut and cured, would be spoiled by being baled from the field. CHAS. O. NEWTON.

This is done along the Hudson River, where the hay is put aboard barges and sent to New York City for immediate use. The hay is put up in large bales weighing 150 to 200 pounds, but loosely pressed, and even then, oftentimes, this hay gets hot and loses in value very materially. My advice to J. M. H. is to have his hay well cured before pressing, as it would be disastrous to press it from the field and put it in store; only immediate use could prevent it from heating and being a total loss. I made an experiment in this direction a number of years ago. The hay taken from the meadow, was in good condition to go into the barn. I had several bales of it pressed, allowed it to remain in the store for 30 days, and then dumped it in the river, as it was absolutely worthless.

Editor Hay Trade Journal. WILLIS BULLOCK.

I knew two men in this locality, who baled hay right from the meadow, and stored it about as J. M. H. wishes to do. One of them baled a large quantity of mixed Timothy and clover right from the meadow, some of it so green that the sap ran out of the press. This green hay was stored in a large granary, which was closed as nearly air-tight as possible, and strange as it may appear, it kept well, and stock ate every particle of it. A lot of the better-cured hay was stored in an open shed, with a good roof extending well down, and most of it kept first-rate. A small quantity that was quite damp when baled, did not keep so well in this shed, opening out quite dusty, yet stock ate it greedily. The other man baled a lot of well-cured and dry Timothy hay right from the meadow, stored it in a dry shed, and it kept in fine condition until fed out the following summer. From all the facts I can learn about this matter, it seems to be perfectly safe to bale and store in a dry place, any hay that is fairly well cured, and dry when baled. The only question for J. M. H. to settle is whether the cost of baling for three or four years, will not equal or exceed the cost of a good hay shed that will last 15 or 20 years.

Christian County, Ill. FRED GRUNDY.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

A Lame Mare.

A. S., Wilcox, Neb.—My mare has a hard lump or bunch growing on her left knee; what is it, and what can I do for it? She is very lame.

Blister with the red iodide of mercury ointment. If this fail to reduce the swelling, firing with the hot iron will, probably, be necessary. The bunch is, evidently, a bony growth, due to some injury.

Cow Dislocates Her Stifle.

I. J., North Hillsdale, N. Y.—My cow threw her stifle about four weeks ago. I have applied a liniment composed of white oak bark, wild indigo, and copperas. She does not seem to improve.

If there is a displacement so that the cow is unable to use the leg, it will be necessary to employ a veterinary surgeon to reduce the displacement. Otherwise, apply a strong blister over the stifle joint—equal parts strong aqua ammonia, oil of turpentine and sweet oil, well shaken together.

Mare Always in Heat.

V. B., Langenburg, Canada.—My young mare is constantly in heat, and I do not wish to breed her. Is there anything I can give her that will prevent this, and will not hurt her for breeding another year?

Unless there is some removable cause, which can be determined only from a personal examination, I know of nothing you can do or give that will prevent the mare coming in heat. Regular work, and a light, non-stimulating diet, will lessen the tendency. Removal of the ovaries would be a sure preventive, but this would prevent her ever breeding. If she were bred now, and became with foal, it is quite possible that the trouble would not reappear after foaling. It is very doubtful whether she will get with foal.

Blood and Bog Spavin on a Horse.

S. R., Jeff, Mo.—Is there any cure for blood spavin on a horse? How can the soreness be kept out of it?

Blood spavin is a dilatation of the large vein which crosses the inner front of the hock, and does not cause lameness. It is simply an eye-sore, and treatment is usually undesirable. Bog spavin is the puffy, fluctuating swelling seen in the inner half of the front of the hock, and is due to some injury to the hock joint, causing an undue secretion of synovia. Bog spavin is frequently attended with lameness. Your horse, evidently, has a bog spavin, instead of a blood spavin. Apply a fly blister to the front and sides of the whole hock joint. The hock should be severely blistered, and the blister repeated in about three weeks if necessary. During treatment, a run at pasture would be desirable.

Sick Hens and Hogs; Veterinary Laws.

J. J. M. G., Americus, Ga.—1. Hogs in this locality are troubled with an unknown disease. One got down about five weeks ago, from weakness in the hind legs. She was suckling pigs at the time—first farrow. She had no use whatever of her hind legs, or from the hock joint down. She lost her appetite to some extent, but not entirely. I gave her Epsom salts and rubbed pine tar over her kidneys, but she improved but little. To-day, her appetite is better, and she is looking in fairly good condition, but her fore legs are swelling in the knees; she barely can get up on her hind legs, but has little use of them. I gave her some calomel yesterday and to-day. Her bowels are costive and she doesn't urinate naturally. Her hind legs are warm and seem to be about natural. 2. Will hens take cholera any sooner by drinking all the water they wish in a hot summer day? Our hens drink so much that they make themselves sick. Would it be better to keep water from them? They have the run of the place, but don't get too much green stuff, and we don't feed them much grain. They are healthy and lay well, but seem to drink too freely when it is hot weather. 3. Would it be any infringement on the law, for a farmer to treat stock for disease, for others, and make a charge?

1. I am unable to form an opinion, from your description, as to the nature of this sow's ailment. 2. Hens will not take the cholera by drinking pure water unless exposed to the fowl cholera contagion. Hens in a healthy condition, will rarely drink to excess. When they do, it is an indication that they are feverish. 3. It depends upon the laws of the State in

which you live. In New York, it would be unlawful for a farmer to receive compensation for such services. In case of an emergency, any farmer could assist a neighbor or prescribe for his stock, but he could not charge or accept any fee for his services. A few other States have a similar law regulating veterinary practice. In many States, however, there is no law upon the subject.

To Seed an Old Meadow.

T. F. K., Carmel, N. Y.—I have a meadow that I plowed last fall. This spring, I harrowed and put in oats. After I cut the oats, I wish to plow it and seed it to grass. It is naturally a wet soil. What kind of fertilizers shall I put on it? How much to the acre? I think that I shall seed with Timothy and clover. Would Red clover do to sow this fall? Would air-slaked lime do to sow, or would you prefer nitrate of soda or muriate of potash? I plowed the field because spots of moss were coming in all over it. The meadow had been plowed but once before in 50 years.

ANSWERED BY PROF. I. P. ROBERTS.

A fertilizer should contain a relatively high per cent of nitrogen and potash, say, eight to ten per cent of the former and as great a per cent of the latter, and it also might contain a little phosphoric acid. This land should still be rich, and it would seem advisable to set free and utilize the plant food already in the soil by superior fitting of the land, rather than to insure a crop by expensive commercial fertilizers; 200 or 300 pounds per acre, evenly distributed, should suffice.

Red clover will be likely to winterkill if sowed so late in the season. In any case, Alsike clover would better be used freely, and Red clover sparingly. The latter does not flourish where its roots penetrate saturated soils, while the former is admirably adapted to wet, low lands. The clover should be sown early the following spring, three parts of Alsike to one of Red. It would also be a good plan to sow in the fall, when the Timothy is sown, two or three pounds of Tall Meadow Fescue, if pure seed can be secured.

Air-slaked lime is of comparatively little value, as it does not act energetically on the soil. It may, sometimes, though usually it does not, supply lime that is lacking, as nearly all soils have an abundance for the wants of the plants. Quick, not air-slaked, lime is applied to correct acidity, cause certain chemical changes to proceed rapidly, thereby setting free plant food, and to improve the physical condition of the land. Caustic lime tends to destroy mosses, sorrel, and other similar plants. Twenty bushels per acre or more may be used to advantage. If the mode of slaking and distributing lime on the land is not familiar, I would be pleased to give somewhat detailed instruction for liming land, and additional explanation as to its action upon the soil. Nitrate of soda and muriate of potash would be infinitely better than air-slaked lime.

To Kill Willows and Woodchucks.

J. F. L., Rockford, Ill.—1. Will chopping down willows in the heat of the summer, kill them? If not, how can I kill them without grubbing? 2. How can I best get rid of woodchucks?

ANS.—1. Chopping down willows in midsummer will not destroy them. A "gray" willow hedge was destroyed by the writer most effectually by cutting off quite close to the ground, the trees, four to six inches in diameter, standing one foot apart, in June, and treating them to a very liberal application of common salt. About a barrel of salt was used on 400 feet of hedge. Only one or two stumps made a feeble attempt to grow, and these were at the ends of the hedge where the salt was applied lightly in order to prevent it from injuring adjoining plants. It should not be a serious job to grub out these willows. By plowing and digging a very little on one side of the hedge, a few exposed roots on that side may be easily severed; then, with a span of horses or, better, a yoke of cattle, attach a chain to each tree and jerk it out. If the willows are large trees, and stand scattered, then a block and tackle must be used so that the power of the team may be multiplied four to eight times. Fasten the block to one tree and pull out its neighbor, and so on until the end, hooking on to some solid object to pull over the last tree; but the former method may be entirely satisfactory and much cheaper, as salt can now be purchased at a slight cost. Do not be afraid to apply it liberally. The rains, in one or two years, will wash the salt out of the land, and it will again become productive. 2. Shoot and trap the woodchucks. Bisulphide of carbon may also be used in their burrows.

Value of Fish and Kainit.

J. S. R., Urbana, O.—1. What is the value of fish as a fertilizer when used alone or in mixed goods? 2. How much actual potash is contained in a ton of kainit? Of what is the rest composed?

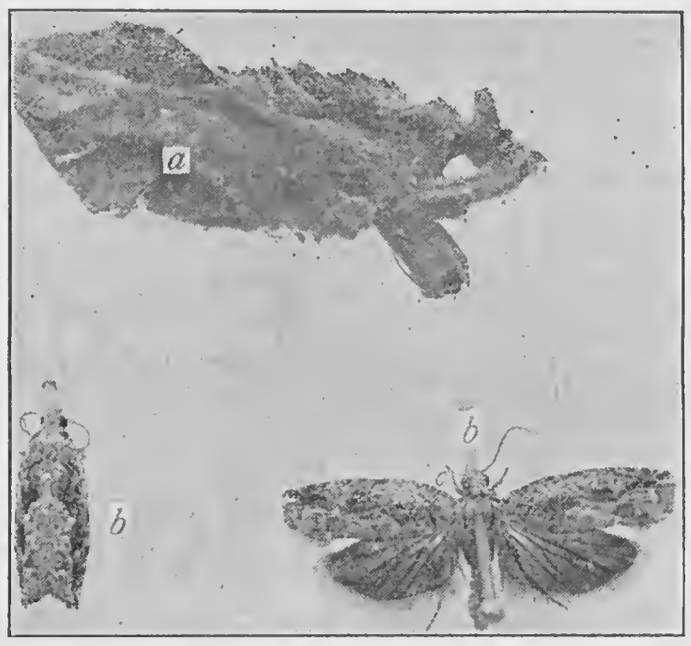
ANS.—1. Dried and ground fish is frequently used to supply organic nitrogen and phosphoric acid. It contains no acid. The fish is first pressed to take out the oil, and the "pomace" left after the pressing is ground up for fertilizer. As a source of organic nitrogen, ground fish ranks high. Dr. Jenkins, of the Connecticut Station, concludes from his careful experiments, that the nitrogen in cotton-seed meal is a little more available than that in fish. Where the fish is cooked before pressing, the nitrogen is not quite so available as where the raw fish is ground. A mixture of fish and potash, with a quantity of acid rock, will make a fine fertilizer for such crops as corn, grass or grain. 2. Kainit averages about 12½ per cent of potash. The rest of the weight is made up of salt, magnesia and substances not usually considered of value as fertilizers.

A New Destructive Insect on Pecans.

C. E. P., Ocean Springs, Miss.—I send some worms found on my pecan trees. The dark brown one spins a cocoon, works into the young buds as soon as the outer covering is thrown off, and destroys the bud. Does it not belong to the Elater family? It seems to have two broods, one now, and the other in July. Or do they change from the small cocoon around the buds to the partly grown leaves, and form another cocoon? Or does the latter belong to a later brood? In the fall, the undersides of the leaves of some trees are fairly covered with their houses, but then I can kill them by spraying, as they feed on the leaves. What I want, is to get at them in the spring. Can it be done? The second white worm, with a dark head, works into the new growing shoots, and will destroy the fruit if it get too plentiful. How can I get at it, as it is working inside the young shoots going down? Can you give me the history of both, as they may develop into a serious pest?

ANSWERED BY M. V. SLINGERLAND.

The material sent by C. E. P., consisted of several opening pecan buds webbed together; two kinds of small caterpillars, one light green in color with black head and neck, the other dark brown, with similar black head and neck; and several pupæ inclosed in cocoons made by webbing the leaves together, as shown at *a* in Fig. 133. Judging from the appearance of the buds sent, the insects were doing very serious injury. The material was placed in some of my breeding cages at the insectary, and in a few days, there emerged from the pupæ some pretty little gray moths with blackish markings; two of them are shown natural size at *b* in Fig. 133. As we had nothing like them in our University collection here, one was sent to an expert for its name. His reply was that he had labeled the same insect in his collection, Steganoptycha bolliana. His specimen came to him from Texas several years ago, but the name has never before been published; so C. E. P.'s Pecan Bud worm proves to be new to science. The moth is, probably, the parent of the green worm.



A NEW INSECT ON PECANS. FIG. 133.

I failed to breed the brown caterpillar which seems to work very similarly to the Bud moth of our New York apple orchards. The early appearance of the moths, April 18, would indicate a second brood of the worms during the summer. Neither of the worms which I found in the material sent, has anything to do with the Elaters or snapping-beetles; all were the caterpillars of small moths.

Information about this new insect is so scanty, that no definite advice can now be given as to the best time and manner to fight it. C. E. P. thinks that he can control it later in the season, and if this be true, it ought very materially to lessen the numbers to appear on the buds in the spring. It is an extremely difficult matter to poison worms working on the opening buds of trees, for as the leaves unfold so rapidly, new unpoisoned pastures are being constantly opened for them. I think, however, that two very thorough applications of Paris-green water, as strong as the trees will stand, while the buds are opening, would materially check these Pecan Bud worms.

Red Paint for a Barn.

H. C. G., Dundas, Ont.—I have a frame driving shed and cow stable which I wish to cover with a dark red paint. How shall I mix it? It must be cheap and easily applied by an ordinary workman. I have a quantity of machine oil; could it be utilized in mixing paint?

ANS.—The best "dark red paint" in the world for such a purpose, is Prince's mineral brown, formerly known as Prince's metallic paint. Get it dry, and mix with raw linseed oil. Add drying Japan sufficient to dry the paint inside of 12 hours. A cheaper dark red, or brown paint is common oxide of iron paint, dry, and may be mixed with linseed oil, or, cheaper still, with coal oil and plenty of Japan driers. Dry iron paint, may, also, be mixed with buttermilk, or with skim-milk, and wear well. Use a broad—about four-inch—painter's wall brush or good whitewash brush. To mix dry pigment for paint, always pour the oil or other fluid to be used, on top of it in the vessel, and let it soak gradually through the mass. Then add more fluid and stir. Dry iron paint will cost from 1½ to 2 cents per pound by the barrel. Ground in oil, ready for mixing with oil, it costs about three to five cents per pound. "Mineral oil" is not a paint oil, as it finally evaporates and leaves the pigment to powder off, and it does not dry well. It is the base of nearly all "substitutes for linseed oil" products. Unless the job is simply temporary, it will pay to buy linseed oil. One coat of paint made from iron oxide and linseed oil, will last many years, and hold its color well, better indeed than anything else known. Mix it quite thin, but rub in well. A. A. K.

The Erect Brome Grass.

H. B. T., Beverly, W. Va.—I send a sample of grass which I would like named. I have never noticed any in this locality before. It is scattered on a piece of ground on which I sowed Virginia Gray winter oats last fall. It stands about two feet high now, and is a rank grower, stooling similar to rye.

ANS.—The grass is Bromus erectus—Erect Brome grass. This is a European species which is becoming naturalized in some places, and is of more value for hay than many of the Brome grasses, because it is not so coarse.

Winter Vetch for Green Manure.

S. D., Oak Hill, N. Y.—Is the sand or winter vetch of any use to plow under for a fertilizer, and can it be used in a manner similar to Crimson clover? What amount of seed is needed? Clover kills here; I have tried it on all soils, from light to heavy, sowing early in July in corn, but not a live plant is left this spring!

ANS.—As far as can be learned, winter vetch has not been successfully grown in the northern States. It seems to require mild winters with little snow. In some of the Gulf States, it has been successfully grown. Vetch may be grown after wheat or rye for plowing under in November, and would, probably, make a fair growth if sown in corn about July 20, at the rate of one-half bushel per acre. It will grow vigorously in the fall, and withstands frosts quite well. At the Cornell Experiment Station, it has been successfully used as a fall crop for orchards.

C. S. PHELPS.

To Start an Asparagus Bed.

F. D. F., Popejoy, Iowa.—I have a number of asparagus roots outside of the garden, of which I wish to make a permanent bed in the garden. How deep shall I set them? How many shall I put in each place, and how should they be treated after setting this fall, to get a good yield?

ANS.—If one would have thrifty plants, which means, large, tender, spring shoots, he must give his plants a mellow bed and lots of food. It is well to plant the sets—one in a place—so that the tops shall be from four to six inches below the surface of the soil. One may incorporate as much or as little old manure with the soil as he likes. It is merely a matter of larger or smaller stalks. If the soil is mellow and rich enough to give a good yield of corn, surface manuring from year to year will be all that is needed. A dressing of complete fertilizer every spring (not in the fall as some recommend) will do good service to an asparagus bed. Salt is recommended by many; but a series of experiments made by the writer some 20 years ago, convinced him that it is of no service to the plants whatever, except that, in some soils, it may have a beneficial mechanical action. Place the sets not *less* than two by four feet, for the best results. Nothing is gained by fall setting—we prefer the spring. If set in the fall, we would mulch after the first hard freeze, with two or three inches of old manure.

Coarse and Fine Bone.

W. C. A., Torrington, Conn.—What is the value of ground bone as fertilizer, when not ground very fine? What can I afford to pay for grinding? I have some bones, and can get them ground for $16 per ton. Will it pay, and for what crops?

ANS.—The chemists class ground bone in four grades—"fine" represents the pieces that will pass through a sieve with meshes smaller than 1-50 of an inch; "fine medium" is smaller than 1-25 of an inch; "medium" is smaller than 1-12, and "coarse" larger than 1-12 of an inch. In estimating the value of the plant food in this bone, the following distinctions are made:

VALUATION IN CENTS PER POUND.

	Nitrogen.	Phos. acid.
Fine	16½	5½
Fine medium	15	4½
Medium	12	3
Coarse	7	2

These figures show, in a general way, how the fertilizing value of the bone is increased by extra fineness. Coarse bone is not profitable as a fertilizer, because it is too slowly available. One trouble with most of the plans for "reducing" bones on the farm, is that, while they are crushed and softened, they are not left fine enough for the best results. The price named is too much for grinding the bones.

A Hardy Japan Walnut.

A. A., WESTBORO, MASS.—W. E. M., page 368, does not say which variety of the Japan walnut he has. If it is Juglans Sieboldi, I think that the fall planting had more to do with the killing than the cold. We have had that variety on our grounds for four years, and have never seen a bud injured. The past winter, the thermometer registered 22 below zero, and while the walnut is alive to the tips, a Japan chestnut beside it was killed to the ground.

Easily-Made Pot Cheese.

H. W. H., EAST DURHAM, N. Y.—Rather than let R. N.-Y. readers do without the best, I submit an easier and quicker way of making pot cheese, which will prove on trial to speak ably for itself. Fill a kettle with buttermilk fresh from the churn, heat slowly on the back part of the stove till the curds separate (at no time being boiling), then cover the kettle and set off till partially cool. Dip the contents carefully into a cheesecloth bag, hang it up, and let drip till dry. To serve, work salt through, and mold with the hands. This product of pure buttermilk is very rich, and much more palatable than the rubbery curd article made of sour milk. We use 500 pounds or more of it every season.

He Likes Iowa.

A. S., HAMMONTON, N. J.—In answer to, A Chance for an Argument, page 351, I would say that I am the man who farmed out West, and came to New Jersey seven years ago. I watch very close, and find that I cannot raise anything without putting a shovelful of manure to each hill. In Iowa, I grew 78 bushels of corn, on hilly ground, per acre, without a forkful of manure, and the year before, 75 on the same ground; after that, the third year, I raised 55 bushels of Manshury barley to the acre. As to strawberries, we raised 16,000 quarts per acre, and sold for 8½ cents, shipped to market, and crates and baskets returned. In the home market, at first, they brought from 12½ to 15 cents per quart. Of course, they are sometimes winterkilled. All in all, Iowa is the best State I ever was in.

Japan Plums in the West.

J. L. N., MARKSVILLE, LA.—Mr. Theo. Williams, editor of the Omaha Bee, reports them hardy in Nebraska, and writes me as follows: "I took plums and clusters of plums upon small branches (one branch of the True Sweet Botan 10 inches long with two short side branches, held 26 plums, averaging two inches in diameter), with a leaf or two, and put them in glass jars in a solution of salicylic acid and water. In this manner, I exhibited 10 varieties at the Nebraska State Fair September 15 last. It was a revelation to the horticulturists, few of them having seen the larger Japan plums grown here. After the fair, an Iowa nursery firm bought the exhibit to canvass with, and they have since been on continuous exhibition in towns in Iowa and Missouri. I saw them last at the winter fruit show of the Iowa Horticultural Society at Council Bluffs, December 19. The Normand Japan made the best showing of them all. The Normand plums, when I gathered them, were a little over two inches in diameter, and the plum stem and leaf were just as fresh, and looked as well as the day they were gathered."

Now, doesn't it look as though there is something wrong about nurserymen buying sample fruits to canvass with, since it was a revelation to them, as they never had seen such large plums? It is not to be supposed that they had the trees of such varieties, unless a substitution is made, and the farmer is imposed on. I imported the Normand Japan in 1888, from Japan, which came to me without a label. On fruiting, in 1891, at the request of several of my friends, I agreed to give it my name. The fruit is of a beautiful golden yellow, larger and better than Burbank, shaped like an apple, and of fine flavor. The tree is of symmetrical growth and very prolific. The fruit ripens just after the True Sweet Botan.

Budding with New Varieties.

J. C. S., ORE BANKS, VA.—Complaints are continually made that this or that sort of tree does not bear fruit as it should, or is, at least, expected to do. No doubt many a tree is condemned simply because the owner does not know why it fails to meet his expectations. This failure may generally be ascribed to the fact that the tree is not of a self-fertilizing variety. The advice generally given is to plant some tree or trees of another variety in close proximity. But this is by no means always practicable. For commercial purposes, where uniformity of product proves such an important factor, it may be the only safe plan; but for home consumption, a surer, speedier, less expensive plan is to insert a bud of the desired variety on one of the central branches of the tree one desires to make more fruitful. For this purpose, my preference would always be in favor of buds taken from one of the lower lateral branches of a bearing tree, and I would insert the bud or buds pretty well up, so that, as the pollen falls in a slanting direction, it may fall on the bloom lower down. Where it is found that either of several varieties will answer the purpose, I would select buds from that which nearest conforms to the time of bloom and habit of growth of the tree to be operated upon. This method possesses the advantage that one is sure of getting fruit on the tree, at least, from the variety to which you may bud it.

Stub-End Tree Planting.

H. R., FAIRMOUNT, KY.—In THE R. N.-Y. of March 14, is shown a full-length portrait of a man holding in one hand a rootless, branchless stub, in the other, a thrifty young tree, the design being to impress the idea that such cutting back is the method to prepare trees for planting. The photograph proves only that a camera will take a negative of whatever is exposed to it, and in this case, the negative is the proper view to take. At Galveston, with a semi-tropical climate, 92 days of rainfall, a precipitation of 62.56 inches per annum, and an open soil filled with vegetable matter, the conditions for plant life may be such that cuttings strike root readily, and trees will grow when cut back to an extent that would assuredly be fatal elsewhere. If this be so, few localities have thus favorable conditions, and trees must be given a reasonable chance of life under ordinary or adverse conditions, as well as in the best. Trees cut back as shown, planted in stiff clay soil with no rain for six weeks after planting, would no more grow than pea sticks. Nature would not use time and material in elaborating a system of roots for a young tree, if they are not needed, and he who thinks that he knows better than the Creator how to start young trees, will not make others believe it.

As for the saving of freight by the stub-end system of pruning, one would better let the stubs alone, and save all the freight. There are 5,000 nurserymen in the United States, some of whom represent firms more than a century old, all of whom know something about trees. It is not to be supposed that they handle hundreds of cords of useless rubbish yearly, and fill their packing cases with a makeweight, to unload the trash on their customers. They know that trees will not grow without a healthy root system, and that the claim that all roots should be cut off before trees are planted, is an idle vagary. As for the correspondent who planted some closely-cut plum trees that unexpectedly lived, that only shows that trees will sometimes bear a great deal of neglect or abuse; it does not prove that such treatment is most congenial to them. When one plants a tree, let him get a well-rooted one, handle carefully and remember that Paul may plant and Apollos may water, but God alone giveth the increase.

Profits by Advice.

C. A. B., INDIAN ORCHARD, MASS.—About a year ago, I sent you some queries regarding "frost-proof strawberries," and the best methods of counteracting the effects of frost. The subject was fully discussed by nearly a dozen experts located in almost as many States. I was much interested and profited thereby and not ungrateful to all concerned. The white Jack has kindly kept away thus far this spring, and my patch is promising its biggest yield yet Perhaps THE R. N.-Y. had something to do with it, for I have given careful attention during the two years that I have been a subscriber, to everything relating to my berry. I think that the space devoted annually to the strawberry, is worth the price of the paper to me, and furthermore, if it's worth a fat fee to consult an expert in law or medicine, why isn't it worth as much to have the opportunity, during a whole year, of consulting an expert (or a whole crop of experts) in the science of agriculture? There are plenty of papers with a "farm and garden" column, full of quack notions, and lots of big-headed fellows running around who know a heap that isn't so. I prefer to know that I am headed the right way before experimenting.

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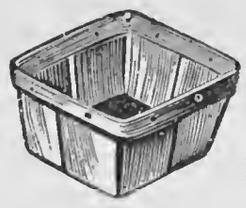

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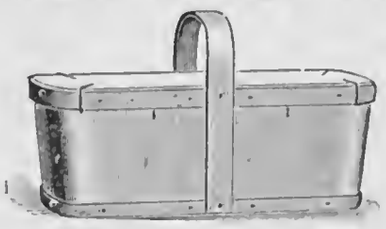

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THE SAGHALINS.—We wish that our friends would join us in calling Sacaline "Saghalin." The latter is, evidently, the proper name if we consider the name of the island for which it was named. And would not Saghalin be a suitable word for the other Knotweeds, Polygonum cuspidatum and P. amplexicaule? Now we may give our second year's experience with the shrubby perennial Knot grasses, as some botanists call them. It must, in justice, be said, as we now judge, that the claims made by those who had a hand in advocating Saghalin as a valuable plant for farm animals, were not without a reasonable basis of truth. It (or any of them, as we have shown) will grow anywhere—in low lands or high lands, in the fissures of rocks, in poor soil, in almost any soil. Once planted, it will look out for itself. We need but a single plant to start with. Its propagation is of the easiest, and without artificial propagation, it will rapidly spread and take complete possession of the land. Within a week or so, we have again handed the leaves and stalks to horses and cattle. They seem to relish the three kinds alike as nearly as we have found out, though some animals reject it when it is first offered. It has been our way to hand a few leaves and stems to the horses of friends that visit the Rural Grounds. Only one horse has refused to eat them. P. amplexicaule, because of its succulent, solid stems, would seem to be worthy of trial. That it was, at the time these notes were taken, far behind the others in height and size of leaves, may be due to the fact that our little patch grows under a pear tree and is surrounded by many herbaceous plants, notably the rank-growing pœonies. The following notes were taken May 25:

Polygonum cuspidatum, which, as has been said several times, has been growing for over 20 years under the shade of trees and encompassed by shrubs and grass, forms a clump three feet in diameter, and the stalks averaged seven feet high. The largest leaves were 5½ inches long, broadly ovate, acuminate, with heart-shaped bases. The petioles or leaf stems were half an inch long; the internodes, that is, the stems between the joints, are about six inches near the ground, growing shorter towards the top, the color of the stems and leaves is light green. The lower joints, at this time, contain about a tablespoonful of water. Our readers may remember that last year we boiled a quantity of this sap-water until it was reduced to the consistency of molasses, the flavor of which was rather sour than sweet. As nearly as we can judge, horses relish it as well as Saghalin.

Last spring, we planted two plants of Saghalin; one from a reader in Pennsylvania, whose name we have forgotten; the other from Mr. A. Blanc of Philadelphia, who, more than any other person, has been instrumental in calling attention to this plant. The first plant has eight stems, averaging about five feet high. The largest leaves are 12 inches long, broadly ovate, and less acuminate than those of Cuspidatum. The leaf stems are about two inches long, of light green color, the mid-rib being pink or pinkish. The nodes or joints are about three to four inches apart. The stems are about the same size as those of Cuspidatum, viz., about one inch in diameter near the ground. Both plants send out laterals from the axils of every leaf, like grape vines. The stems are hollow, except at the joints, like those of Cuspidatum; but they do not contain any water. The walls of the stems are, even now, somewhat hard and woody.

The plant from Mr. Blanc has 13 stems about six feet high. The leaves are about the same shape, not quite so large; the petioles and mid-ribs are purple. The plants are upright growers, and at this time, from four to five feet in diameter.

Polygonum amplexicaule is growing nearly under a pear tree, and surrounded by pæonies. The stems are, at this time, May 25, but 18 inches high. The joints are much closer together, and the stems are *succulent* and *solid*. The leaves are narrower and more tapering; at the base of every petiole, there is a papery sheath. Horses seem to relish this as well as Saghalin. This P. amplexicaule seems to spread as much as either of the others, and if it were growing under equally favorable conditions, though it would never grow so tall, might give an equal amount of forage. This, because of the closer joints and succulent stems, might prove to be more valuable.....

FEW trees are more desirable for the lawn than the Yellow Wood—Cladrastis tinctoria—or Virgilia lutea. Judging from our own specimen—we have but one—it does not bloom every year. In fact, we do not think that our tree has bloomed oftener than once in three years; but when it does bloom, it is a strikingly beautiful sight. It began blooming May 19, and it is now, May 26, in its fullest bloom. The racemes will average nearly nine inches, each one bearing about 50 white flowers, about the size and shape of those borne by the sweet pea or wistaria, having the odor of the wistaria.....

CLOTHILDE SOUPERT is, by far, in our opinion, the best of the Fairy (Polyantha) roses. We have about 15 bushes; the first came from J. C. Vaughan, of Chicago, and the others from the Storrs & Harrison Co., Painesville, O., and Ellwanger & Barry, Rochester, N. Y. They all seem equally vigorous and hardy, not one having sustained any injury during the past trying winter. We call it the queen of the Fairies. It blooms in late May, among the earliest, and the little bushes bear more flowers, if size of bush be considered, than any other rose whatever .....

FOR once, the nurserymen and florists did not overpraise a novelty, the novelty being the Crimson Rambler. Of six plants which we received last spring, not one was harmed during the winter. The shoots are wonderfully vigorous and stout, and the plants are now in bud, to bloom a week later. The Crimson Rambler has come to stay—there can be no doubt about it.....

AGAIN, we are glad to say that Rosa Wichuraiana has passed the winter in safety. One of our plants was set within a foot or so of our little lake, and less than a foot above it. Not a bud has been harmed.....

BEAN SUPPORTS.—An excellent way of supporting pole beans is described by Prof. W. W. Tracy in Garden and Forest. The tall-growing varieties need some support, and he has found that they "take to" an inclined much better than to a vertical pole, hence his plan is as follows: He plants the seed in hills 20 to 30 inches apart, in rows running north and south, and drives a six to eight-foot pole slanting at an angle of about 23 degrees to the north; on the south side of each hill he saws off the tops to a line, and connects them with cords. The plants will climb these poles much better than if vertical, and the pods hanging free, are more easily gathered, while the vines festooned over the cords at the top are very beautiful.....

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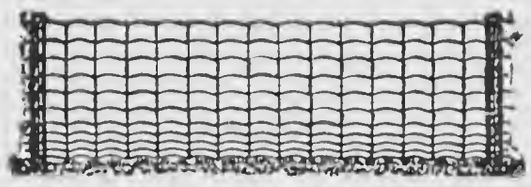

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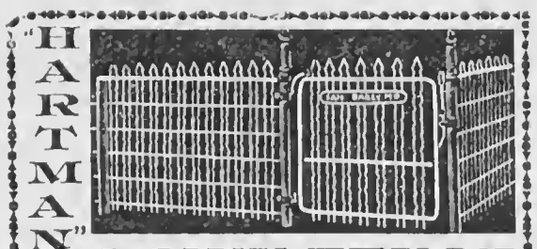

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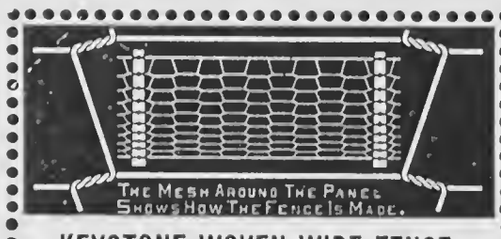

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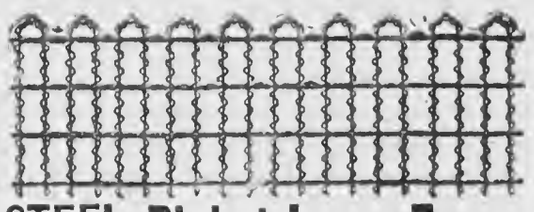

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Corner Chambers and Pearl Streets, New York.

SATURDAY, JUNE 13, 1896.

ON the next page, will be found a review of some of the wire pulling that led up to the nomination of the New York Commissioner of Agriculture. There is a nice condition of affairs! If this article does injustice to any of the parties named in it, we shall be pleased to give them a chance to state their side of the case.

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THE latest advertisement is "a stick of fertilizer" for use in irrigation. A stick of compressed chemicals about the size of a corn cob, is attached to the nozzle of a hose, so that it dissolves in the water as it passes through. Of course this is suitable only for small gardens or lawns, or for greenhouse work; yet it is a singular illustration of the progress of chemical manuring.

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PROF. S. W. JOHNSON, in the last Connecticut Station report, adds considerable weight to the argument that many soils need regular applications of lime. Some soils are naturally deficient in lime, and others become "sour" from various causes. In all such cases, lime will help, not so much as direct plant food, but because of its action upon the soil. A farmer may use it for much the same reason that he salts the sheep at pasture. He does not expect the sheep to fatten on the salt; yet he knows that it will enable them to obtain more benefit from the pasture.

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IN 1892, Prof. Bailey, of Cornell, planted 16 varieties of southern cow peas to determine their value as a catch crop in northern orchards. The Black and Whippoorwill varieties seemed best adapted to the latitude of Ithaca, N. Y., and the Black, even when sown as late as July 17, on rich soil, made a heavy growth, covering the ground. It is evident that these peas will make a fair growth on soil that is too poor to grow clover. The vines compare favorably with clover in chemical analysis; yet Prof. Bailey concluded from the trial, that the cow pea could hardly be recommended as an orchard cover so far north, since the vines afford so little protection to the soil after the leaves fall off. Of course, this objection would not hold where the vines are grown as a green manure, to be plowed under in the fall, or as a pasture for hogs. The fact that the cow peas will grow far North, is encouraging to those who desire to experiment with this plant. THE R. N.-Y. grew cow peas 15 years ago, on Long Island. Next week, we shall give the substance of its experiments.

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THE R. N.-Y., of May 30, referred to the analyzing of a large number of samples of butter under direction of the British Board of Agriculture, of which all those from the United States and some other countries, were pronounced pure, and those from a number of other countries, including Holland and Denmark, were pronounced more or less adulterated. It is now claimed that the English chemists were mistaken so far as they had to deal with the Dutch butter. The authorities of Holland, according to a contributor in the New York Produce Review, claim that during certain seasons of the year, notably the closing months of the year, it is impossible, in Holland, to produce butter of a high standard, local conditions causing those fats peculiar to butter to show less, thus giving resemblance to foreign fats. It was during these months that the larger number of adulterations were found. Still, in the butter from Norway and Sweden, very few adulterations were discovered. The writer referred to claims that such adulterations would be simply impossible in Denmark, as the government has complete control of all manufacturing of both butter and oleomargarine. Also, that the butter from cows long in milk is not of so fine a quality, and that such cows predominate in Denmark in the fall, more than in any other country. So there you have it! Are these analyses conclusive, or are they not? Are peculiar properties present or lacking in butter, which the chemists cannot distinguish? In short, what is the peculiar element that makes butter "good"?

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WE find that a good many poultrymen are experimenting with dried blood as a substitute for cut bone or meat in compounding a poultry ration. At Ellerslie Farm, this blood has been used for laying hens and for broilers, and the results have been very satisfactory. One great advantage is that the dried blood is uniform in composition. It does not vary as do many of the samples of the dried and ground meat, and the per cent of muscle-makers is very high. It was thought, at one time, that the dried blood would not be a safe food for animals, as it might convey the germs of disease, or contain injurious substances. That is a mistake, for the blood is cooked at a temperature high enough to destroy disease germs, and is simply dried and ground without mixing with chemicals. We are informed that dried blood is fed to the best horses in the German army, the principle effects noticed being an increase in spirit, and a glossy, shining coat. It seems probable that, within a few years, the feeding of dried blood and tankage to hogs will become common in the West. These products will go well with corn to form a "balanced ration," and we believe that many feeders will find it very profitable to use them.

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THERE is another good argument in favor of high-class stock in that article on the first page. Here is a man who wants to keep only the stock that he can care for himself. In order to make that system a success, every animal must be a good one. If a man plan to sell two tons of butter in a year, it will make a great difference whether there are 12 or 25 cows to make it for him. With 12 cows, he might do the work in his own family; with 25 cows, he must hire help and give extra feed. Twenty-five cows mean 100 feet and legs, while 12 animals require only 48. To produce the butter with the poorer cows, requires twice the muscular energy, and twice the money spent for a mere "maintenance ration" or the food required simply to keep the animal alive. Manufacturing has become profitable in proportion as machines have been invented which enable one man to turn out an increased amount of finished goods, and thus save the wages formerly paid for hand labor. In like manner, live-stock farming is prosperous in proportion as the farmer is able to increase the product from the individual animal, and thus save the labor required to care for the surplus animal, and the food required to feed it. Of course we are speaking now only of the one side of production, and not of the troubles that are found when the producer attempts to sell his product.

⊙

THE American Agriculturist is a paper printed in Massachusetts and "published" in a dozen or more places. Its editor seems to feel that the fact that his company hires office rooms in various parts of the country, qualifies him to lay down the law to farmers everywhere. Here is a sample of his wisdom regarding the New York State Commissioner of Agriculture:

> Much indignation is expressed by many farmers, and especially by Patrons, at the denunciation of Gov. Morton for appointing as Commissioner of Agriculture, Charles A. Wieting, of Cobleskill, Schoharie County, expressed by the Country Gentleman and RURAL NEW-YORKER. Not content with stating that Mr. Wieting had no support from the farmers, and that his appointment was a purely political one, these papers attack his fitness for the position. They condemn him before he has had a chance to show what he can do. The fact is, Mr. Wieting was the Grange candidate, and this organization is now strong enough to make or break any candidate for positions pertaining to agriculture. The Grange will also be prompt to criticise and correct the new Commissioner if he make mistakes or prove incompetent. In their desire to serve the kid-gloved farmers, the papers referred to have long ignored the Grange and other organizations that are striving to help the great body of practical working farmers. American Agriculturist cannot, however, devote its space to printing the letters it has received condemning the policy of these papers.

One answer to the American Agriculturist and the "many farmers," will be found on our next page. If this does not cover the political side of the case, we can, doubtless, furnish a stronger dose. As to the question of Mr. Wieting's fitness for the position, THE R. N.-Y. has purposely refrained from printing the facts about that side of the case. We are not disposed to hamper his work, or to place obstacles in his way. He has a chance such as is given to few men, to rise to the occasion and show the public what he is made of. THE R. N.-Y. has charged that his appointment was the result of a mere political deal, and that the real interests of the New York State farmers were never seriously considered in making it. The Agriculturist puts the members of the Grange in a most unfortunate position, unless it can disprove the facts stated on the next page; because it is clear that most of those who "demanded" Mr. Wieting, were duped by a few clever politicians. Until he can disprove these facts, the public will be apt to conclude that the editor of the Agriculturist either doesn't know what he is talking about, or else he was a partner in this political deal!

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THE National Provisioner of this city, is the champion of bogus butter. In order to make a point against the laws restricting the sale of "oleo," it attempts this comparison:

> California wine growers claim to produce a wine equal to the imported article; such may or may not be the case; but how would it be if we insisted that California wines shall be distinguished by coloring or otherwise, so as to exclude any possibility of selling same for Bordeaux, or sherry, or port wine, or as Hockheimer, Tokay or under any other name but that which would make it known as California wine! We could also demand that California wines pay a special tax of 10 cents per gallon, and that California wines shall not be sold in stores where imported wines are sold; further, that in every bar-room or restaurant or boarding-house into which California wine finds its way, this fact shall be made known by displaying prominent signs to that effect.

Now what nonsense that is! It is not a parallel case at all, unless the California wines are adulterated. If the Californians mixed a lot of cheap fruit acids together, and called it "wine," the product would represent to pure wine, just what "oleo" does to pure butter. Pure grape juice is another thing. Differences in its quality depend upon different climates and methods of culture, and different methods of handling. The same is true of butter, for some sweet, mountain grasses will make a finer flavor than the coarser herbage of low countries, while it is evident that a skilled buttermaker can produce better butter from a given lot of cream than an apprentice can. There are laws now to prevent a buttermaker or a winemaker from using another's trade mark to deceive the people. All admit the justice of such laws, and it is equally just to prevent a dealer who attempts to palm off cheap fats or cheap acids for the real articles.

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BREVITIES.

I'm glad ye got baek, Mary—yes, I done the best I could
To keep things runnin' smooth while you was gone;
But there aint no gettin' 'round it—run as easy as I could,
This home, when you aint in it, is forlorn.
It's awful good to see ye—settin' over in yer place
With baby—yes, I'm awful glad you've come,
It's mighty good to read it, shinin' right out of yer face,
"*The best part of a visit's gettin' home!*"
The days went sorter draggin'—sorter creepin', crawlin' through.
The evenins' was *so* lonesome, I can say,
To set here jest a thinkin', an' a wearyin' fer you,
An' countin' up yer comin' day by day.
But now the visit's over, an' we got ye home at last,
Ye look more like a sweetheart than a wife;
An' baby's growed so cunnin', an' he's put on flesh so fast!
I never was so happy in my life!

OFF with the bull's horns.

DON'T drink to stifle think.

WANTED: Uniform caustic potash—page 411.

THE only thing that can afford to wait is RIGHT!

READ Mr. Woodward's Crimson clover report—page 400.

A ROBIN will spoil more strawberries than any 12-year-old boy.

WHAT stock would *you* keep if you undertook to farm without the hired man?

BUY an ice cream freezer for your wife, and then sit down and turn it for her.

ONCE more we say, Put vaseline in your nose when working or riding in the dust.

A TIGHT collar will give a horse an attack of "blind staggers." Keep your own collar loose.

THIS year makes the third dry May some meadows have experienced. This one has about made an end of them.

DON'T attempt to tell an amateur that spraying is a clean job. It is dirty business at best—worse than whitewashing.

SOUND money, sound men, and sound morals. By "sound" men, we don't mean the kind that make the most noise.

IT is said that certain epicures abroad consider the big combs of poultry dainty and nourishing food. "Every man to his taste!"

A FARMER who once uses the Thoroughbred flint corn for ensilage, generally sticks to this variety. It is "all leaves and ears and no butt," as one said recently.

ENCOURAGING! The fact that breeders are overhauling the scale of points of the various breeds, and giving more attention to the parts that denote vigor and strength.

MANY sheep men have lost the clover hay crop. Clover is the best sheep fodder. What comes nearest to being a good substitute for it? Wanted—something to sow *now!*

WHEN a man stands up for an old-time principle, it is a popular thing to say that he is too "narrow." Very well—which is more likely to go wrong, the man who is too narrow, or the one who is too "broad"?

WE find more and more New England farmers who are feeding grain hay—rye and oats cut in the milk, and cured like grass. There is about as much butter in a ton of well-cured oats as there is in a ton of Timothy hay, and many more tons to the acre.

IF thou the woodchuck's life would surely win, mark well his hole and see him enter in; wrap 'round a stone a piece of cotton wool, and with bisulphide carbon fill it full. Then down the entrance let the whole thing roll. That "chuck" no more will chuckle in his hole.

A "MAUD MULLER MATINEE" is the latest game for society women. A company of them go into a hay field, and see which one can rake up the largest pile. The winner is crowned "Queen of the Hay!" While these "butterflies" are thus disporting, hundreds of genuine farm women will be at work in the hay field driving the rake or even the mower.

HOW "AGRICULTURAL COMMISSIONERS" ARE MADE.

DOWN IN THE DREGS OF POLITICS!

I have long been a reader and admirer of THE R. N.-Y., fully believe that its "*editorial declarations * * * are * * * invariably * * * based upon truth and dictated by a spirit of fairness*," and I can't see such a criticism as that of Mr. John T. Roberts, on page 357, of May 23, pass unnoticed. His suggestion "that the writer of the article relating to the new Commissioner of Agriculture, must have been uninformed of certain facts preliminary to the appointment," shows conclusively that he himself does "not know much" (anything) "regarding the appointment itself". I have, doubtless, been a member of the Grange much longer than Mr. Roberts, as, when I joined it, there were not 300 members in the State. I have a very high opinion of the organization and the work it is doing, and I do not wish to see any cloud put upon its good name. For that reason, I wish to State some facts regarding the appointment of Mr. Wieting as Commissioner, and show how the Grange became involved in the matter.

Away back in the fall of 1894, Mr. D. F. Wilber, of Oneonta, was urged to become a Republican candidate for Member of Congress in the strongly Democratic district including Schoharie County. As an inducement, Tom Platt, as the boss, promised that, if he would do so, and put enough money into the canvass to be elected, he might, in case Gov. Morton was elected, name the Commissioner of Agriculture for this State. Wieting's name was not mentioned; neither was a word said about the Grange. Wilber had, in Cobleskill, a warm Democratic friend, who was a good deal of a wire puller, and who was also a friend of Wieting, a wire-pulling Republican of the same town. In consideration of this Democrat turning in and helping to carry the district for Wilber, the scheme was concocted of naming Wieting for Commissioner, that he might give a good place to the renegade Democrat.

At the State Fair at Syracuse, in September, 1894, Wilber, Wieting and this Democrat called a number of the members of the Grange and farmers' institute workers into consultation, and parceled out the best places in the Department, provided Morton should be elected and certain things could be brought about.

One of the things to be done, was that F. E. Dawley of Fayetteville, then Secretary of the Central New York Grange, should secure the indorsement of as many Granges as possible, for Wieting. Accordingly, he sent to many, if not all, the Granges of the State, a shrewdly worded letter, by means of which, many members, who happened to know something of Dawley, but nothing whatever of Wieting, were misled as to his qualifications, and did indorse him by resolution or letter. Mr. Roberts is not well posted, or else he intended to mislead, for the fact is that very many of the wisest and best posted members of the Grange, including many of the officers and ex-officers of the State Grange, after meeting Wieting and seeing his utter lack of the qualifications fitting a Commissioner of Agriculture, withdrew their indorsement and some of the more conscientious, like the ex-chairman of the Executive Committee, wrote personal letters to the Governor protesting against his appointment as eminently unfit to be made.

His insinuation that several other candidates, knowing that Gov. Morton had made a pledge that the Commissioner should be a member of the Grange (which I don't believe), had "obtained election to the order," is a gross slander upon Mr. Wyckoff and Mr. Brundage, who had been members much longer than Mr. Wieting, and either of whom would have made a better Commissioner.

Mr. Roberts's statement, "I fail to see the justice of an accusation to the effect that Mr. Wieting's appointment was dictated by politicians," simply shows to one who knows the facts, that he doesn't know anything about the matter. The facts are that only a few days before the nomination was sent to the Senate, Gov. Morton assured some of the leading farmers of this State, and members of the Grange, also, that he would not appoint Mr. Wieting. That the name sent in should be of a well-known, practical farmer. Just then, Mr. Wilber came up to Albany from Washington, and Mr. Platt's son came from New York, bearing a message from the boss, and they insisted that, if the Governor had not made the promise personally to allow Mr. Wilber to name the Commissioner, he had known of Platt's making it, and they would hold him to a fulfillment of the pledge. Not one of these was a member of the Grange, and not a word was said about the Grange. It does seem as though politicians dictated the nominee.

Although a member of the Grange, I agree fully with THE R. N.-Y., that "Gov. Morton had no business" (or right) "to tie himself up with promises and pledges." "The Grange is a worthy institution;" I am proud of it, but as you say, "A great majority of the farmers of New York do not belong to the Grange at all;" and I have always felt as though ours was a work of love, that our highest object was to benefit all the farming class. I question the right to insist that one of our members should be selected in preference to a better man who did not happen to belong to the order. It seems to me that when we do so, we are taking the Grange out of its proper sphere. That we are doing it a vital injury, and very greatly lessening its power for good, by showing to the outsiders that we are lowering it to the level of the ordinary politician, and prefer the selection of a member, even at the sacrifice of better men. That, instead of demanding ability in a candidate and efficient service, we prefer a member of the Grange, even though of acknowledged unfitness. Such a course is unfortunate, and every honest Patron must admit that it would be a mistake. J. B. B.

More Light on a Dark Subject.

I notice in THE R. N.-Y. of May 23, an article by John T. Roberts, in which he censures THE R. N.-Y. for the editorial upon the appointment of the present Commissioner of Agriculture, by saying that the writer of the article "must have been uninformed of certain facts preliminary to the appointment." He then gives certain reasons why the appointment was made, but omits "those certain facts preliminary" which were the basis for the opposition of those who have been so closely identified with the agricultural interests of the State. It is no secret that, during the holding of the State Fair in Syracuse in the fall of 1894, the present Commissioner met a few men at the Globe Hotel, and imparted to them the information that he was to be the next Commissioner of Agriculture. That the arrangements were all made, but at the same time, he would be pleased to have the support of, at least, a few who were in close touch with the agricultural interests of the State, and as a reward they should be taken care of. That he had recently been in New York, where he had a conference with Mr. Platt, and from whom he had received positive assurance that he should receive the appointment for and in consideration of the political work which he had done in Schoharie County.

The question was asked him, what Mr. Platt had to do with so important an appointment. He replied that Mr. Morton realized that he owed his nomination to Mr. Platt, and that he would be in duty bound to meet Mr. Platt's wishes. It was at this time that the scheme for working the Grange was planned, and through certain influences, some of the Granges became petitioners, which I doubt would have been the case had the full facts been placed before them. These are the "certain facts preliminary to the appointment," which Mr. Roberts did not give, and of which, undoubtedly, he was not informed. The appointment has justified the statement made two months before Mr. Morton was elected Governor, that, "What Platt says goes!" that political debts must be paid regardless of the importance of agriculture; that Mr. Wieting was given the position to pay a political debt; that Mr. Platt has fulfilled his part of the contract. Think of it, brother farmers! The man in whom we have placed implicit confidence, has traded away the best and most important office within his gift, to pay a political debt for T. C. Platt!

How long, Oh, Israel, how long! A. R. EASTMAN.

AN AGE OF ELECTRICITY.

WHAT DOES IT PROMISE?

In THE R. N.-Y. of May 23, we spoke of the Electrical Exposition then being held in this city. It closed the last day of May, but public interest continued to increase as it neared the end, and the immense hall was literally packed every night. This serves to show the great interest evinced in this wonderful force, and in its latest applications in the industrial world. None but an expert could correctly describe and explain the myriads of devices shown, and the uninitiated would have difficulty in understanding the details if explained. But any one can see the "wheels go 'round," and can see the actual, practical work accomplished. It is a mystifying power, doing its work silently, yet effectively.

The common incandescent and are lights used for illumination, both in and outdoors, are very familiar, probably, to most of our readers. They have many advantages over other ordinary methods of illumination, especially when lights are used for decorative purposes. They can be advantageously used wherever a wire can be run, and are safe, clean and more easily controlled. Boats are illuminated, the electricity being generated by the same engine that furnishes the motive power. Some of the ferry boats in the harbor have different colored electric lights arranged on the walking beams, and the effect on a dark night is a pretty one. Large signs are erected at conspicuous points, the letters being outlined by electric light globes, sometimes of different colors. Sometimes the current is turned on and off at intervals, the brilliant sign flashing out suddenly where a moment before all was darkness; this is sure to attract instant attention.

At the exposition, a new application of the electric current for lighting was shown. As many visitors as could squeeze into a perfectly dark room, were admitted, the curtains were drawn, and the room became illuminated with a white light much resembling daylight in appearance. Luminous glass tubes could be seen running along the ceiling, which were, evidently, the source of light; but there was no glare as from an ordinary lamp, and one could read ordinary print as easily as in broad daylight.

The electric light promises to be a great aid in medicine and surgery. The X rays enable the surgeon to see at a glance the character and extent of any dislocation or fracture of any of the bones of the human frame. By illuminating the interior of the body, the condition of the different organs may be seen. Only a few days ago, a child's life was saved through its aid. A tube had slipped down the child's throat, was shown up clearly, thus being removed without difficulty or danger. Dentists have a great helper, and are enabled to detect and locate any imperfections in the teeth, as well as to use the easily-regulated current in operating their delicate instruments. Of course, many of these appliances are not yet fully developed, and have hardly passed the experimental stage; yet enough has already been accomplished to make one wonder what the end will be.

As a motive power, electricity has a wide field. The immense force developed by the cataract at Niagara, has been harnessed, and will be widely distributed. It is measured by hundreds of thousands of horse power, and will turn the wheels in hundreds of mills and factories. Any one wishing power, can connect with this source, and buy his electric power the same as he would buy gas, paying in proportion to what he uses. At the exposition, was shown a model of a canal boat propelled by electricity like the boats on a section of the Erie Canal, which is to be equipped for this purpose. It seems the most feasible solution of the canal traction problem yet devised.

The application of electricity to the propulsion of street cars is widespread. It has created almost a revolution in many localities. Not only is it used in towns and cities, but such cars are invading country places, bringing villages nearer together, breaking the isolation of farming communities, and bringing them into closer touch with the outside world. Most cities are equipped with trolley lines, in which the power is communicated to the cars from a wire strung on poles. Strange as it may seem, New York has none of these except in some of the annexed districts. A number of years ago, cars run by electricity from storage batteries were tried, but for some reason, were not adopted. Experiments are now in progress, and with good promise of success, that look toward the equipping of our great steam railroads with electric locomotives that shall attain a speed compared with which the Empire State Express, the Royal Blue, or the Black Diamond Express, shall appear like slow freights. We are living in a fast age, and electricity promises to make it still faster.

But what of the farm and the farmer? THE R. N.-Y. has already told how the Hale Brothers send their peaches to market by electricity. These easily constructed and inexpensive roads may be widely extended, and reach almost every farm. A man may have a switch, and a line leading to his barns, where he may load his grain or other products. He may, from the same wire that furnishes the motive power, divert a current to operate his thrashing machine, fanning mill, corn sheller, saw, churn, separator or any other machinery. He may light his buildings, or cook his dinner from the same wire. The wife can run the sewing machine, the washer, or iron the clothes. When the storage battery is perfected, as it doubtless will be, he can equip his wagon, his sulky plow, his wheel harrow or harvester, and guide them where he will. Who knows but the farmer of th next century, instead of taking to town his greasy old oil can to get it filled with kerosene, will, instead, speed in on a trolley car, with his storage battery, and order from the central station, so many volts of pure condensed electricity, Niagara brand? If the horse business is flat, now, what will it be when that time comes?

BUSINESS BITS.

TIRED of pitching hay on that high wagon, are you? Better investigate the Handy, All-Steel truck made by the Bettendorf Axle Co., Davenport, Ia. It's indestructible, strong, easy on team, and reasonable in price. Send for catalogue.

THE hay crop will be light this year, in many localities, and farmers will have to provide bulky feeds from other sources. Mangels, carrots, turnips, corn and millet will serve well to fill in the gap in the hay crop. Henry A. Dreer, 714 Chestnut Street, Philadelphia, Pa., has anticipated the farmers' wants in this direction, and is prepared to fill orders for anything in this line by the pound, bushel or quantity.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

THOSE desiring to send flowers to the New York Fruit and Flower Mission, may not know that flowers are distributed only on Mondays and Thursdays, and should be sent so as to be delayed as little as possible before being used. The address is 105 East 20th Street.

*

THE mother of the undisciplined baby usually has her hands full when she takes the baby abroad. He is not old enough to understand that he must behave better in public than at home, and, as his mother usually thinks this necessary, they very soon differ, and the warfare begins. It is a very poor place to settle such difficulties, for the presence of an audience makes both combatants determined to win. It is astonishing how observing a very small child is. He can read the sympathy in unfamiliar faces, and he takes up the battle anew, and is many a time the victor if his lungs are stronger than his mother's nerves. The wise mother teaches her child very early in its life, that she is to be obeyed and she saves herself much mortification, and her friends much discomfort. And the child who learns obedience as soon as it can understand, will learn it more easily and more happily.

*

THE large dry goods stores of the city, are continually adding departments wherein they offer a new line of goods. Dry goods no longer comprehend the resources of these establishments. Groceries have been a feature for some time, as have sewing machines and bicycles. Most foreign to the dry goods business is the offer of greenhouse plants at the usual cut prices. This began in the silverware department where, to make the silver fern holders for table decoration more attractive, a pot of ferns was furnished with each one at a reasonable price.

THE FLOWER-MISSION BASKET.

LAST week, one morning, Miss Louise tapped at the door, "Would the children like to go for a walk with me after dinner, to gather flowers for the mission, Mrs. M.?"

"Indeed, they would, Miss Lou. And I don't know but their mother would go, too, if she were asked."

"She is very politely asked," laughed Miss Louise.

An hour later the tap was on the other door. "Vaughn can hardly wait for you to be ready, Louise. He says that he will come over and wipe the dishes for you; for he noticed through the window that you have just donned the big checked apron."

"Send him over," was the prompt response. So Vaughn vaulted the fence and wiped the dinner dishes, and in a few minutes, the party was on the way to the woods.

"Now won't you all please be careful to select only the nicest flowers," said Miss Lou. "You know they have quite a trip on the cars to-morrow, and then they must be made up by the ladies of the mission, so that by the time they are distributed, they will be spoiled if not fresh and nice when we take them."

"Why don't you take the pretty Crane's-bill, Miss Lou," asked bright-eyed Bella. "Wouldn't the little, sick children like it better than those white flowers you are picking?"

"No doubt they would if we could get it to them fresh, girlie. But this is one of the flowers that droops and loses its petals very quickly. I never take such if I can get enough better ones."

"Such a pity these quantities of wild Lily-of-the-valley are spoiled, Louise," put in Mrs. M. "Why didn't we come a week ago?"

"Indeed, I wish we might have done so, Mrs. M. But the rooms did not open until May 25. I suppose that there may not be flowers enough to make it worth while before that date. I had these pretty, fragrant, lasting things in mind, and hoped that we could get some in the shaded nooks. Indeed, we shall have a few, but such carpets of them doing no one any good! They make me feel sorry, and last week they were so lovely."

"Oh! oh! Miss Lou," from Vaughn. "Here's a Sassafras tree! Wouldn't these be nice? See, it's all in blossom!"

"Yes, indeed! But it's late for Sassafras, and these flowers are finer. What can it be?"

"But smell it, Miss Lou," urged Vaughn. "Isn't that Sassafras?"

"It does smell like it, Vaughn. It is dainty enough for a queen, at all events," said Louise. "And here are the yellow Star-flowers, with their grassy foliage. They keep pretty well; and the alders. Is it too late for azaleas, Vaughn?"

"Too late for pinxter bloom, Miss Lou, and too early for the sweet white kind. But I will rob mamma's weigela bush for you. The flowers are most as pretty, but not so sweet."

Mrs. M. laughed. "Anything in a good cause," she said; "and I think there are a few of the very earliest rose buds just ready to open. I wish they were out."

"I don't," promptly responded Louise, "not if you will let me have the buds. The full-blown flower would go all to pieces, in the heat, by to-morrow night, while the buds will just have opened to their prettiest, and will last a day or two at least."

By the time they had reached the house, a few of the Christmas ferns, some syringas and some early Solomon's seal had been added to their stock.

"How they are wilting, Miss Lou!"

"Yes, Bella; but some water will revive them."

"Shall you pack them to-night?"

"No; I shall only bunch them, and put the stems in a pan of water to take a good drink before starting on their journey."

"Oh, may we help bunch?"

"Yes, indeed! I shall be delighted to have you help, and you will see how much we shall aid the ladies at the mission end, if we put all the flowers of a kind together. Then if we throw out all extra leaves, and cut off the long stems that aren't wanted, you will see what a lot of flowers we can put in one small basket."

As they busily bunched the flowers, Vaughn said, "Do you think the sick children will love the flowers, Miss Lou?"

"Suppose you had never had a flower of your very own, Vaughn! Suppose you had never seen any growing, except, may be, in a park, where you couldn't touch one, and couldn't even go on the grass! Why, dear, some of these poor little things, when they first see the country with all the blossoms growing wild, think it is like heaven."

Vaughn's thoughtful eyes opened wide, and wider. "I can't seem to think how it would be, Miss Lou. Are there many of them—the children, I mean?"

"Thousands, who never saw wild flowers grow, Vaughn, and so many who are sick that the ladies can give only very small bunches. If we had time, we could bunch these as they do, and save them the work. They have the prettiest rule for making a little bouquet; always something white in every bunch; always something bright; always something fragrant. Then a bit of green, and who could have a daintier bunch?"

"Something white, something bright, and something sweet," said Bella. "Isn't that lovely? But there are some that couldn't see the flowers, Miss Lou?"

"Something sweet for them, the poor, blind children, always, dear, if possible. There, we have done them all now. Thank you both so very much."

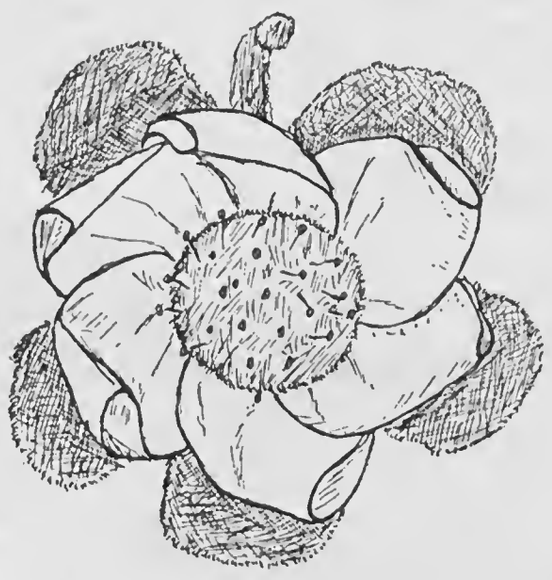
Next morning, the children ran over to see the basket. "Oh, Miss Louise, how pretty! Did you get them all in? What a lot in one little basket."

"Yes, because we sorted and bunched carefully. I put in a layer of damp paper, then all the heavier flowers; another layer of paper, then the more delicate ones, making the stems of some protect the blooms of others. They are packed quite closely, so they won't slip about and crush, and I think we have enough for 100 little bouquets in this one grape-basket. Isn't that worth while? And the express people will carry them free, and send our basket back for more."

MYRA V. NORYS.

WATER-LILY PINCUSHION.

A VERY pretty pincushion is made like a water-lily, Fig. 134. The center is of a round piece of golden-yellow velvet, four inches in diameter. This is gathered, stuffed with cotton, and drawn into a flat cushion, measuring about 2½ inches. The six petals are



WATER-LILY PINCUSHION. FIG. 134.

formed from heavy, white satin ribbon. The length required for each petal is six inches, folded into a loop as shown. Instead of ribbon, white satin may be folded into strips like ribbon. The five leaves are of green plush, with a crinoline lining. The stem is of wire, wrapped with cotton, and bound with green ribbon, or covered with a strip of plush.

ANNA HINRICHS.

A WORD ABOUT FLOORS.

COVERING AND CLEANING THEM.

WHEN one is building a new house, or repairing an old one, there is likely to be born a great desire to put down hard-wood floors—at least, in hall, diningroom and kitchen. Some experience from one "who has been there," may be of service to such as are debating the subject of house floors.

My wife and I built a new house a few years ago, and much planning ensued as to its construction, the material to be used, and the greatest possible number of conveniences for the easy doing of housework. We planned wisely in many respects, and unwisely, doubtless, in others. Probably no one has yet built a house for his own use, who does not think that it could be greatly improved if he could build another! He, doubtless, could improve on the first attempt, for there is nothing like living and doing housework in a house, to find out the weak points in its construction. We certainly could make a number of improvements in our own house even though it was so carefully planned.

We began with no thought of other than soft-wood floors, unless, perhaps, for the kitchen. We ended by having hard-wood floors in every room, hall, closets, pantry and laundry, both upstairs and down. The stairway is also of hard wood. The reasons that led to this course were numerous, one being the prevalence of the Buffalo moth, and the knowledge that he was quite sure to make havoc with any carpet that might

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be put down. Hygienic reasons forbade the putting down of carpets in sleeping rooms. Then occurred the opportunity to secure an excellent quality of hard-wood flooring at a very reasonable price, though in regard to this, we did not fully realize that the cost of hard-wood floors consists in the labor of putting them down more than in the cost of the material. We were influenced, also, by the idea that hard-wood floors and rugs are more attractive in appearance than carpets.

Disadvantages of Bare Floors.

The floors are hard to keep clean. Every particle of lint or dust that falls upon them, is magnified, and rendered painfully conspicuous. The least particle of mud brought in upon the feet, smutches them in a way to make the housewife shudder and hasten for her mop! Our floors were finished in oil rubbed into the grain. Where the greatest wear comes, the floors soon get dry, and turn light colored, making the floor of a room uneven in color. If the floors are varnished, the gloss soon wears off, except about the edges and under tables, and the floor looks dull and unattractive. If wax is used, the floors are likely to be dangerously slippery, I would judge, though we have not had experience with this kind of finish.

Hard-wood floors are dreadfully noisy. If there is a baby in the house, and his majesty is taking a nap, the rest of the family must retire out-of-doors, or go on tip-toe. If one is made nervous by noises, he would better avoid such floors, for every movement over them, and every movement of chairs or other furniture, is sure to be followed by an echoing report.

Hard-wood floors must be washed frequently, and must not be washed with soap and water, else the oil will be removed from the grain, and the surface be made rough and unsightly. We find that a mixture of water and kerosene (about one-third of the latter), with a little powdered borax in it, is the best for washing purposes; but at present prices for kerosene oil, this wash is rather expensive. Then, too, the floors, or such portions of them as receive the most use, must occasionally be wiped up with a cloth wet in raw oil, to remove the dry look. In fact, one must be more or less of a slave to her hard-wood floors. They are very nice in the summer, being much cooler than carpeted floors, and they are especially desirable in sleeping-rooms; but where one does her own housework, the care of them will be found somewhat of a burden, I am afraid, though sweeping such a floor is much, very much, easier than sweeping a carpeted floor.

On the whole, I fancy that, if we were building again, every room in the house would have a soft-wood floor, and the kitchen floor would be painted. D.

A FEW DON'TS.

DON'T in your zeal of house cleaning, forget your own personal appearance. Some one has wisely said that women "don't groom themselves enough." Is it true? You owe something to yourself, for the sake of others, and it is a woman's first duty to look just as well as she can, at all times. A tired woman is not an attractive object, at any time, every one knows; neither does she, as a rule, get very much sympathy, as a little feeling will always rise in the minds of the family, that it is, in a way, her own fault, and she need not hurry so, and make herself and every one else uncomfortable.

A writer has pleasantly said, "It is not so much the number of years we live as the way we live them." Don't let worry and care fill your face with wrinkles, and crowd out the dimples and smiles. Don't look on the dark side always; try to find the right side before you say anything about it to any one. Don't tell your personal matters to any one; let your friends take you on trust, and know only the best in you and yours. Don't be a martyr and magnify every little trouble; get the best of it if possible, and smile it away. The mother's face is the home barometer; if she frown the weather at once becomes threatening, and the family see everything through blue glasses, but if she begin the day with smiles, the sky clears, the blue glasses are replaced by the rose-colored ones, and it is sunshine all day.

Don't try to do too much outside work and home work at the same time; try to feel how much better it is to get a nice supper at home, and have your family happy and comfortable, than to work twice as hard, and spoil your best dress getting up a church supper, and waiting on people whom you care very little for, or who care little for you. It is pleasant to meet one's friends socially sometimes, of course, and to have some time for enjoyment; but don't make the mistake of so many of trying to crowd so much into your life that there is no room for enjoyment. SARAH ISHAM COIT.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting the garment and putting together.

6770. Ladies' Tucked Yoke Waist.

Linen Etamine in Persian design on ecru ground, is here attractively developed over fitted linings of rose-pink silk. The stock bow, belt and rosettes that

6770—LADIES' TUCKED YOKE WAIST.

form the decoration are of olive green velvet. The full fronts are gathered and arranged low on the lining fronts, that close invisibly in the center. The seamless yoke is sewed permanently to the right, and finished to close invisibly on the left shoulder, arm's eye and underarm seams. The back fits smoothly across the shoulders, gathers adjusting the fullness at the waist line. A belt is worn around the waist, a standing collar finishing the neck, over which the stock is tied in a bow at the back. The sleeves are of medium width, cluster tucks forming epaulets near the top. A cluster of four tucks completes the wrists above the facing. The fitted linings may be omitted if preferred. Pattern No. 6770 is cut in sizes for 30, 32, 34, 36 and 38 inches bust measure.

ODDS AND ENDS.

CREAM PIE CRUST.—May I protest against a too sweeping denunciation of the whole family of "Pie," even when it is made by such an undoubted authority as Mrs. Rorer? What objection can any one find to a crust made of good, sweet cream? Nothing more—a small spoonful of salt and flour to roll out. When filled with custard or good pumpkin, what is more wholesome, even for a child to whom a piece of pie is an unfailing treat? What boy does not appreciate seeing the blackberries he has toiled over the woods and pastures to pick, brought on the table in the form of a rich and melting pie? And huckleberries, too! What is better? Will some one try my cream crust and report? MARY BURWELL.

DRYING THE HANDS.—"Do you know," said a young girl who visits me frequently, "that I never knew how to wipe my hands till I watched you?" "Do tell me," said I, "for I can't imagine how my way could differ from yours." "Well," said she, "I noticed that no matter how often you had occasion to wash your hands, you wiped them so vigorously, and each finger and thumb separately." Can it not be possible that this lack of "knowing how," in even so small a matter as drying the hands, is to blame for the neglected, unseemly look so many children's hands have? It takes only a few seconds, and once a habit, it is done involuntarily. SWEET FERN.

PEN POTPOURRI.

If I am weak and you are strong,
Why then, why then,
To you the braver deeds belong;
And so, again,
If you have gifts and I have none,
If I have shade and you have sun,
'Tis yours with freer hand to give,
'Tis yours with truer grace to live;
Than I, who giftless, sunless stand
With barren life in hand.—*Carlotta Perry.*

....EMERSON: "A character is like an acrostic or Alexandrian stanza—read it forward, backward or across, it still spells the same thing."

....BISHOP R. S. FOSTER: "Woman is the greatest institution in the world, and the new woman is only coming on in the natural order of life. The way is opening for her on all sides."

....IDA KAYS IN WOMANKIND: "The repeating of children's speeches in their hearing is a very common error, and disastrous alike to the pert, forward child or the retiring, sensitive one."

....MARY CHISHOLM FOSTER IN THE CHAUTAUQUAN: "Civil authorities are far in advance of the church in the scientific and practical care and culture of young children. This fact is becoming apparent to some earnest primary teachers in the church, and they are inquiring for methods. It is not more method that is needed, but more intelligent consecration to this serious work, together with a knowledge of how to use the best appliances for a development of the threefold nature of the child."

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"KNOW HOW."

When I was a boy on the old farm, there was a big rock right in the middle of our best field. It spoiled, at least, 15 hills of potatoes, and that was a big loss in those days. We dulled our hoes over it, and went walking around it. The oxen lost lots of time in hawing and geeing around it when the field was plowed. The old gentleman who "brought me up" owned a third interest in an old blind horse, which I used to ride in front of the cultivator. One day, I rode the old horse at this work, dreaming of the day when I should be President, and walked him right on to the old rock. It startled him so that he fell down, barked his knees, cultivated the old gentleman's ribs with the cultivator handles, and of course, that meant an application of birch bark to my back. I speak of all these mishaps to show you how much labor and time were lost, and how much misery was caused by that old rock.

While healing his ribs, the old gentleman figured out how much actual time he had lost by stopping to get around that rock. I forget just how many days he made it, but it was enough to vex his economical soul, and he made up his mind to get rid of that rock. So, when winter came, we went out with our pick and spade, and dug a big hole by the side of the rock. It looked as though we had a hole large enough to hold a house, and then we called the neighbors in and with much pulling and pushing, succeeded in tipping the rock over—down into the hole. But, after all, we didn't get the hole big enough and one point of the rock still stuck its nose above ground. We pounded at it with a sledge, but still it stuck up, and while it now spoiled only three hills of potatoes, it was still a nuisance. We had spent about as much labor as we had lost over it, yet still it was there. There it remained—a menace to hoes and horses until, one day, a man came along with a dynamite cartridge. He put it on the rock, touched it off, and—there was only a hole in the ground left to remind us of our stubborn friend.

Now, you will see the point right away. For years, we lost time, temper and talk, in working around or stumbling over that rock, when, at last, we realized our loss, we could only go to work with the crude contrivances we knew about to remedy the trouble. Pick and spade, with hand labor, were all we could employ out of our own experience, and though we spent as much time and labor as we had lost, we did not do a good job. Then came a man who knew more than we did. He knew how to utilize the forces that Nature had tucked away in the earth, for the use of man. He was master of the wonderful power shut up in that dynamite cartridge. At his bidding, that force was applied, and in the fraction of a second, it did the work we toiled unsuccessfully for weeks to bring about. We lost labor and time because we didn't know how to utilize forces stronger than those in our own muscles. We didn't "know how," because we had no means of learning what others had been finding out. We were confined too much to our own work and thought.

Now, there are hundreds of farmers to-day who are in that same condition to a greater or less extent. The "rock" in their way may be poor live stock, or poor tools, or some old-time method of doing things that modern agriculture has rejected. At last, they realize that they are losing time or money over that rock, and they start in honestly and sincerely to put it under ground. But they take the old-fashioned way to do it, and the job is never well done while some other farmer, who knows how to utilize power and fertility, may put the rock out of sight in half the time. We may define science as the "know how"—the ability to understand something of the fixed laws of Nature, so that natural forces may be harnessed on the farm.

How does a man pick up this "know how"? We can't all go to college and spend half our time in study. Now stop and read this letter:

KNEW ALL ABOUT FARMING.

In a recent trip through one of the hill towns of the State, I discovered a wonderful man, a man that knows *all* about farming. I invited him to take THE RURAL NEW-YORKER. He said, "No." I asked him if he took any agricultural paper, and he said "No! I don't need none. I know all about farmin' now. I was three years learnin' it of old Joshua Brush, the best farmer in our town, and, I 'low I learned it thorough. I mought read your paper till I was gray as a rat, and it wouldn't move me a mite; I'm sot that way, and don't want no book farmin' fur me." Wonderful man that; got great head on him.

Vermont. C. W. SCARFF.

That man's "rock" is his own head, and the chances are that he will never know how much it is losing for him. Of course, we understand that "book farming" alone is as bad as all muscle farming; but we do believe that, if a farmer expects to succeed in these times, he must think as well as use his muscles. He must not only use his own thoughts, but those of others as well. He can no more live on his own thoughts, than he can live without buying food or clothing, or other things from other people. THE R. N.-Y. is in the business of collecting the best thoughts and experience of hundreds of good farmers. For $1 a year, it gives you the opportunity of consulting the best experts in the country. Enlarge the thoughts of your neighborhood. Do it by bringing your neighbors into THE R. N.-Y. family.

CONDENSED CORRESPONDENCE.

INDIAN TERRITORY OUTLOOK.—Prospects for fruit are good so far in this section. Too much rain for growing crops. Vegetables are abundant. The Colorado potato beetles are here in numbers this season, for the first time.

Cherokee Nation. R. ROBBINS.

JAPAN PLUMS IN NEW ENGLAND.—J. H. Hale gives the following report regarding the hardiness of Japan plums in New England: "In 1893, 1894, and 1895, peaches of nearly all varieties went through the winter all right, and fruited abundantly, as did the Japan plums; but the winter of 1896 practically killed all the peaches, so there is to be no fruit in New England this year, except here and there in isolated cases; but wherever there are Japan plums, they have stood the trial and come through all right. So far as I can ascertain, all trees of every variety, past three years of age, have bloomed freely, and have set an abundance of fruit, so that whoever has Japan plum trees, can be sure of fruit this season, when more tender peaches are lacking. From now on, I think we can go on in perfect confidence, planting such varieties of Japans as best suit our taste and markets. We here have planted about 2,000 of these trees this season, about equally divided between Red June, Willard, Burbank, Berekmans and Hale; very few Abundance and Chabot, with a few others for experimental purposes. The earliest of these will ripen its fruit by the middle of July, and the latest the last week in September, and from my present knowledge, I believe they may be grown with success on a greater variety of soils than any other fruit we have, unless it be the apple. I have seen trees thrive on the lightest, driest sand, and again, in very moist, wet ground, where I would never dare to have planted any other fruit tree.

THE SEASON IN WAYNE COUNTY, N. Y.—We have peas in bloom now (May 24), and expect to have peas and new potatoes by June 10 or 15. Corn in the garden is a foot high. We have the earliest garden in years. I had the first strawberry today, and think that, by next Sunday, we shall have enough for a mess; they are selling in market for 18 cents per quart. My orchard is thrifty and loaded with healthy young sets; but some orchards are suffering from some disease, and the Army worm. I have not sprayed, and find that the young sets are mostly perfect. We shall have no plums, cherries, peaches or quinces this year. The Niagara grapes are nearly all destroyed, but there are plenty of Wordens. E. H.

AMONG THE KELP FARMERS.—The South Shore of Massachusetts, as it is termed by the people of Boston and vicinity, is really the north side of Cape Cod, the distance from Boston Light to Highland Light, the tip end of the Cape, being 65 miles in an air line; but to follow the coast, it would be nearly double the distance. Within the past few years, a great many cottages and hotels have been built for occupancy during the summer months. A great deal of the food consumed by the occupants is shipped from Boston, which struck me as somewhat peculiar, as the soil is naturally quite fertile.

In certain localities, are a class of farmers termed kelpers. A portion of the coast is rocky, and northeast storms detach tons of kelp and rockweed from the bottom, hurling it high upon the beach; the kelper then reaps his harvest. No matter how cold the weather, some have several teams hauling at once, getting up before daylight and some even work by the light of the moon. One cold day last winter, when the mercury was below zero, I saw several loads of kelp go by, and the drivers sitting on the loads, looked anything but happy. I said to a bystander, "Does it pay to haul kelp?" "Well," he said, "that depends. I raise about 700 or 800 bushels of onions and potatoes. If I have a load of stuff to carry to the harbor, I bring back a load of kelp; it doesn't pay me to make a business of it, and I am only a mile from the shore."

I said to another who keeps about a dozen horses, and about half that number of men, "Do you depend on kelp to keep up your land?"

"I use a good deal of fertilizer with it."

"Where do you market your produce?"

"In Boston, which is about 25 miles distant."

"What do you get for a load, on an average?"

"About $75 or $100. I aim to grow two crops a year, peas and potatoes for the first crop, followed by squashes, cabbage and cauliflower, also cucumbers for pickling."

"Would it not pay you to sell your stuff nearer home?"

"Oh, if you want to talk with a peddler, see Jim Sampson."

"Mr. Sampson, I understand that you have a large trade in Nantasket, during the summer months?"

"I used to have. I am too old now. I have taken a $100 load to Nantasket, and peddled it all."

"Sold to hotels?"

"No, I didn't; they don't want to pay one-half that the stuff is worth."

"Do you haul any kelp?"

"No; I used to, and got my land full of weeds by using it. I don't use anything now but bone and potash, with a little nitrate of soda. I am now raising grass mostly."

"But can you keep up your land with chemicals?"

"Well, I am doing it."

"What about stable manure?"

"Oh, you go to Pat Kane or E. Clapp; they will talk stable manure."

"Mr. Clapp, I am told that you raise quite a lot of produce."

"No, I don't raise anything but potatoes."

"What fertilizer do you use?"

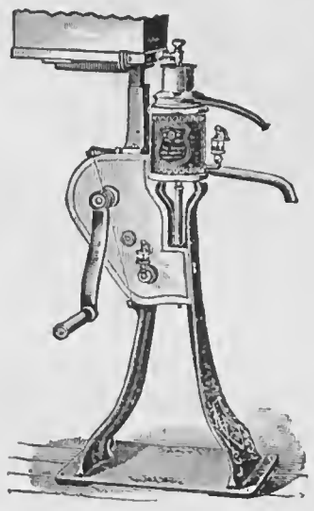
"Stable manure is good enough for me; I buy it in Boston by the car-load."

I then visited Mr. Kane. "Do you haul much kelp?"

"All I can, and I buy manure by the car-load. I don't use a great deal of commercial fertilizer. My stuff is peddled out, most of it going to Nantasket."

I talked with a number of others, and the general opinion was that it only pays to haul kelp rather than let teams stand idle, and it is done mostly by those who wholesale their produce; that cabbage and all kindred vegetables are mostly benefited, that kelp is harmful to potatoes, the excess of salt making them soggy; that, applied to strawberries and small fruits, it produced plants with a large amount of foliage, and little fruit, and that a man of average intelligence could get a good living supplying the cottages with produce during the summer months. G. A. D.

Test of Separators.



"Herewith find report of the test of Separators held at my place in Hubbardton, April 22, 1896. The committee of 3 chosen from the 50 dairymen present decided that on the three points of amount per hour, general durability and ease of running, the Improved United States Separator was much superior. The test of the skim-milk was left to be decided by the Vermont Experiment Station. Eight tests of each were made at the station, the average of the tests of each Separator being as follows:

No. 5 Imp. U. S., **0.11 of 1 per cent.** of fat left in the skim-milk.
Sharples, **0.23** " " " " "
De Laval "Baby," **0.30** " " " " "

So that in all points the Improved United States Separator was decided to be superior."

Hubbardton, Vt., May 20, 1896. C. A. ST. JOHN.

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DRY TIMES IN OHIO.—It looks as though we were entering upon the fourth year of drought for this locality. When I came on this farm 16 years ago, it was as nearly run out as could be. I commenced saving every particle of manure, used large quantities of commercial fertilizer, and have rotated crops on nearly all of the cultivated parts of the farm. Could we have rain, I could cut heavy crops of clover and Timothy. Last year, instead of cutting 30 tons, I got about eight. From nine acres of wheat, I got 52 bushels and straw in proportion. With this small amount, and low prices of corn, I had to take a stock of 12 cows, four head of young cattle and five horses through the winter. What corn there was, was good, and for that I built a silo 12x12, put it in, and when it settled, it was about eight feet in depth. How to get this stock through was a puzzle. I never had paid much attention to corn as we had had plenty of feed, and always dried off the cows about December 1, and had them fresh again in April or May. I always fed hay, all they would eat, and saved all manure. My principal business is raising and shipping winter vegetables. I sold two of the poorest cows for $13, hired the four heifers kept at $10 each, and started with the rest. Grain was cheap. I figured out a balanced ration, milked my cows all winter, brought them through, nearly every one fat enough for the butcher this spring, and after paying for feed have a fair balance on the right side of the ledger, and about four tons of hay in the barn to help out this dry year. I think that, on the whole, it was a profitable year to me, and I think that I shall let the cow earn her keep in the winter as well as summer. A. H.

Summit County.

CROP AND MARKET NOTES.

Gooseberries are dull and sales slow.

Dry beans are still lower than the former low prices.

Dried small fruits are dull, and there is almost no trading.

Cherries are plentiful, but mostly of medium and small size.

New California wheat began to go into market the last week in May.

Fancy apples bring extreme prices; receipts are liberal for the season.

Beeswax is plentiful and the demand moderate at 26 to 28 cents per pound.

Egg prices are doing a little better. The quality is better, and receipts have not been excessive.

There is little business in evaporated apples, but the stocks are so light, that the market is firm at full prices.

The constitutionality of the oleomargarine law in the District of Columbia, has been sustained by the Court of Appeals.

The Filled Cheese bill is still in limbo at this writing, and the prospect seems poor for it to pass at this session of Congress.

New cheese is extremely dull in the market, and prices are low with a tendency to go still lower. There is little export demand.

Strawberries are now coming from nearby points, but the supply is not large, the demand is good, and the market is in good shape.

Georgia and Florida peaches are more plentiful, but are largely of the common varieties and of small size; there are few choice ones.

Watermelons have small sale, but a car-load is expected soon, and with lower prices and warmer weather, the demand will improve rapidly.

There is now little doing in country dressed meats, as the weather renders the quality so uncertain that dealers prefer the city-slaughtered stock.

There has been some complaint recently that some Long Island ducks were fishy. Probably they were from some one who has not yet learned the business of feeding.

Abundant rains have visited a large part of the country, and the crops have been greatly benefited thereby. In some localities, there has been too much rain, and in others, tornadoes and lightning have done great damage.

The Ohio State crop report for the first of June, which was issued by the State Board of Agriculture, shows that since May 1, the condition of the wheat crop has fallen off six points. It was then placed at 55 per cent of a full average; now it is put at 49. The wheat came out from winter in bad condition, and is being further injured by the ravages of the Russian fly, and smut and rust.

Receipts of butter are still large, and prices do not show any improvement. The impression seems to be general that there will be a large make, and that prices will rule lower than in former seasons; consequently, speculators are not disposed to take hold to any extent. The quality of much of the goods, also, though showing the grass color and flavor, is not up to the mark, and is not what is required in butter for storage. There is practically no export demand.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 25@1 27
Medium, 1895, choice	1 10@ —
Pea, 1895, choice	1 02@1 05
Medium or pea, common to good	90@1 00
White Kidney, 1895, choice	1 30@1 35
Red Kidney, 1895, choice	1 10@ —
Red Kidney, common to good	80@1 00
Black Turtle soup, 1895	1 25@ —
Yellow Eye 1895, choice	1 20@1 25
Lima, Cal., 1895 (60 lbs)	1 82@1 85
Pea, foreign, 1894	80@ 85
Medium, foreign, 1894	75@ 80
Green peas, bbl., per bushel	77@ —
Bags, per bushel	70@ 72
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @15½
Western, firsts	14 @15
Western, seconds	13 @13½
Western, thirds	11 @12
State, fancy	15 @15½
Common to prime	11 @14½
State dairy, half-firkin tubs, fancy	14½@15
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14 @14½
Welsh tubs, firsts	13 @14
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	11 @12
Seconds	10 @10½
Western dairy, firsts	10 @11
Seconds	9 @10
Thirds	8 @ 8½
Factory, fancy	10½@11
Factory, firsts	9½@10
Factory, seconds	9 @—
Factory, thirds	8 @ 8½
Old butter	7 @10

CHEESE—NEW.

State full cream, large, white, choice	6½@—
Good to prime	5½@ 6
Colored, choice	6 @ 6½
Colored, good to prime	6 @ 6¼
Small, colored, choice	6¾@ 7
Small, white, choice	6¾@ 7
Light skims, choice	5 @—
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1½@ 2

EGGS.

Near-by, new laid, fancy, per doz	14 @ —
State, fresh gathered	13 @ —
Penna. and Md., country marks, fancy	13 @ —
Western, closely graded, fancy	12½@ —
N. Ohio Ind., Ill. and Mich., prime	12½@ —
Other Western, northerly sections, prime	12½@ —
Western, fair quality	11½@ —
Southern, fresh collections, good to prime	9 @ 10½
Western and Southern, poor, per case	2 40 @3 00
Western culls, per case	2 10 @2 70

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼@ 6¾
Choice, 1895, per lb	5⅜@ 5⅝
Prime, 1895, per lb	5 @ 5¼
Common to good, per lb	3 @ 4¾
N. C., sundried, 1895, sliced, fancy	3 @ 3¼
Southern, sundried, common to choice	2 @ 2¾
State, sundried, quarters, bbls	2½@ 3¼
Western, sundried, quarters, bbls	2½@ 3⅜
South-West'n, sundried, quarters, bbls.	2½@ 2⅜
Southern, sundried, quarters, bbls	2 @ 2½
Southern, sundried, quarters, bags	2 @ 2¼
Chopped, 1895, per lb	2 @ 2¼
Cores and skins, 1894, per lb	2 @ 2½
Peaches, Sundried, 1895, peeled, per lb	4 @ 7
Cherries, 1895, per lb	8 @ 9½
Blackberries, 1895, per lb	5 @ 5½
Raspberries, evaporated, 1894, per lb	17 @—
Sundried, 1895, per lb	16 @—
Huckleberries, 1895, per lb	5 @ 5½
Plums, Southern Damsen, 1895, per lb	4½@—

FRUITS—GREEN

Apples, Willow Twig, fancy, per bbl	6 00@6 50
Baldwin, per bbl	2 50@3 50
Greening, per bbl	3 00@4 00
Ben Davis, per bbl	2 50@4 50
Russet, Roxbury, per bbl	3 50@4 50
Russet, Golden, per bbl	2 00@2 50
Blackberries, N. C., cultivated, per quart	6@ 12
Cherries, fair to good, per lb	7@ 9
Gooseberries, green, per quart	6@ 7
Huckleberries, N. C., per quart	8@ 14
Peaches, Fla., fancy large, per carrier	3 50@4 00
Common to fair, per carrier	2 00@3 00
Georgia, common to choice, per carrier	2 00@3 50
Strawberries, Md. & Del., ex. large varieties	10@ 12
Md. and Del, choice, per quart	9@ 10
Md. and Del., prime, per quart	8@ 9
Md. and Del., poor to good, per quart	4@ 7
Eastern Shore, Va., per quart	4@ 8
Jersey, ex. fancy, selected, large, per qt.	14@ 18
Jersey, average fancy, per quart	10@ 13
Jersey, common to good, per quart	7@ 9
Up-River, per quart	10@ 18
Watermelons, Fla., each	75@ —

GRAIN.

Wheat	68 @83
Rye	59 @45
Barley	38 @41
Buckwheat, silver	40 @42
Buckwheat, Japan	— @—
Corn	33 @38
Oats	23 @28

HAY AND STRAW.

Hay, No. 1 Timothy	90@ 95
No. 2	80@ 85
No. 3	70@ 75
Clover, mixed	70@ 75
Clover	55@ 65
Salt	45@ 50
Straw, long rye	85@1 00
Short rye	65@ 75
Oat	50@ 65
Wheat	45@ 50

HONEY.

State, white clover, comb, fancy, per lb	— @—
Fair, per lb	— @—
Extracted, per lb	5 @ 6
Buckwheat, comb, per lb	7 @ 8
Extracted, per lb	4 @ 4½
California, comb, fair to prime, per lb	10 @12½
Extracted, per lb	5 @ 6
Southern, in bulk, per gallon	45 @55

HOPS.

N. Y. State, crop of 1895, choice	7 @ 8
Medium to prime	5 @ 6½
Crop of 1894, fancy	4 @ 4½
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 7
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

POTATOES.

Southern, fancy, per bbl	3 50@3 75
Prime, per bbl	2 75@3 25
Fair to good, per bbl	2 00@2 50
Seconds, per bbl	1 50@2 00
Culls, per bbl	1 00@1 50
Bermuda, prime, per bbl	2 50@4 00
Seconds, per bbl	1 00@2 00
Old, per barrel or sack	50@ 75

POULTRY—LIVE.

Spring chickens, per lb	14 @ 18
Fowls, local, per lb	10 @ —
Western, per lb	9½@ 10
Southwestern, per lb	9½@ 10
Southern, per lb	9½@ 10
Chickens, yearlings, per lb	9½@ 10
Roosters, old, per lb	6 @ —
Turkeys, mixed, per lb	8 @ 9
Ducks, local, per pair	70 @ 90
Western, per pair	70 @ 80
Southern, per pair	60 @ 65
Geese, local, per pair	1 00 @ —
Western, per pair	85 @1 00
Southern, per pair	75 @ 85
Pigeons, old, per pair	40 @ —
Young, per pair	20 @ 25

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ —
Average toms, per lb	8 @ 9
Chickens, Phil., broilers selected, per lb.	21 @ 23
Phila., broilers, ordinary, per lb	18 @ 20
L. I., broilers, scalded, per lb	16 @ 18
Pennsylvania, broilers, per lb	19 @ 21
Western, dry-picked, broilers, per lb.	16 @ 18
Western, scalded broilers, per lb	14 @ 16
Southern, small, per lb	13 @ 14
Fowls, Western, light weights, per lb	8½@ —
Western, heavy, per lb	8 @ —
Old cocks, per lb	4 @ 4½
Spring ducks, Eastern, per lb	16 @ —
Spring ducks, L. I., per lb	16 @ —
Squabs, tame, white, per doz	2 25 @ —
Mixed lots, per doz	1 75 @2 00
Dark and poor, per doz	1 50 @ —

VEGETABLES.

Asparagus, extra, per doz bunches	2 00@2 50
Prime, per doz bunches	1 25@1 75
Culls, per doz bunches	50@ 75
Beets, Southern, per 100 bunches	1 00@4 00
Florida, per crate	40@ 75
Cabbage, Charleston, per bbl-crate	75@1 00
Savannah, per bbl-crate	75@1 00
N. C., per bbl-crate	75@1 00
Norfolk, per bbl-crate	60@1 00
Carrots, Southern, new, per 100 bunches	1 00@2 50
Cauliflower, Fla., per half bbl	—@ —
California, per case	—@ —
Celery, fancy, large, per doz	1 25@1 50
Average, prime, per doz	50@1 00
Small, per doz	20@ 40
Cucumbers, Charleston, per basket	75@1 50
Savannah, per basket	60@1 25
Florida, per crate	40@ 75
Egg plant, Florida, per bbl	2 00@4 00
Green peas, Jersey, per basket	1 25@1 50
Jersey, per bag	1 00@1 25
Long Island, per bag	1 25@1 50
Maryland, per basket	1 00@1 25
Eastern Shore, per half bbl	75@1 25
Baltimore, per basket	1 00@ —
Norfolk, per half bbl	50@1 00
Horseradish, per lb	3@ 5
Kale, per bbl	75@1 00
Lettuce, per bbl	50@1 50
Onions, old, prime, per bbl	1 00@1 25
Old, poor, per bbl	25@ 75
Bermuda, per crate	1 10@ —
Egyptian, per bag	1 50@1 60
New Orleans, per bbl	1 75@2 00
New Orleans, per bag	75@ 90
Radishes, per 100 bunches	50@ 75
Rhubarb, per 100 bunches	1 00@1 50
Spinach, per bbl	75@1 00
Squash, Southern, white, per bbl crate	50@1 00
Southern, yellow, per bbl crate	50@1 00
Southern marrow, per bbl-crate	1 00@1 50
String beans, Charleston, per basket	40@ 75
Savannah, per basket	40@ 75
N. C., wax, per basket	50@1 00
N. C., round, per basket	50@1 00
N. C., flat, per basket	50@ 75
Norfolk, wax, per half-bbl	1 25@1 50
Norfolk, green, per half-bbl	1 25@1 75
Tomatoes, Fla., ripe, per carrier	1 50@3 00
Green, per carrier	1 25@2 25
Turnips, new, white, per 100 bunches	1 50@3 00
Watercresses, per 100 bunches	1 00@1 50

MILK AND CREAM.

The total daily supply has been 22,799 cans of milk, 231 cans of condensed milk and 784 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

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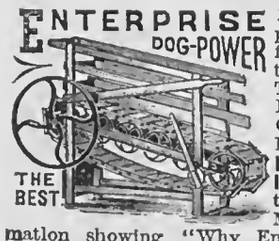

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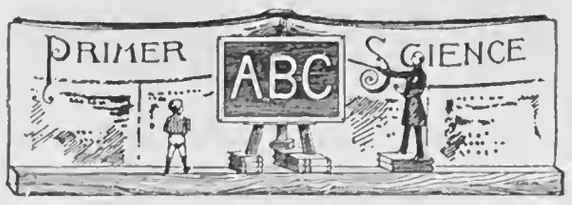

FEEDING A HEN.

PART XVIII.

"A Mush-maker's" Views and Doings

J. A. W.'s courteous, though decisive, notice of my volley of wonderments, on page 208, no doubt, ought to be a settler; but some things will not down. Still, when a man changes the face of his published figures $160 worth, it is manifest that he is a hard one to argue with.

His answer to the question, "Does 'cared for at one-fourth the expense' refer merely to care, to housing, or to feed, or to all three?" makes it plain that one main supposed cause for controversy was a misconception. His first use of the word "expense" misled me; I understood that he expected to prove more of a saving than the mere expenditure of labor. It was because of this that I made inquiries about fencing, buildings, etc.

Does any one think it fair to say that the barn was cheaper than the small houses by their cost, simply because the barn was on hand? *Both* were on hand, and it would be about as sensible to add the receipts from the small houses sold, to the profits of the flock, to prove that there is profit in poultry. Doubtless, it may have been a desirable thing to use the barn, since it called for no added expense; but this has no bearing whatever on the comparative cheapness of big barns and small houses, in general. If J. A. W. would simply say that it suited his case better to care for his poultry after the present fashion, no one could then object.

As he explains it, J. A. W. has two pet aversions: small flocks, and mashes and meat; both conducing to extra and unpaid-for work, in his estimation. Aside from this, he feeds wheat; so do "the theorists." He gives plenty of green stuff and makes 'em scratch; so do the theorists. And he furnishes that ideal of the theorists, an open, sunny scratching-shed. Now, if we only knew that his hens had hay to scratch in, we could prove J. A. W. pretty orthodox and scientific after all; his preference being merely for something aside from meat to furnish nitrogen while he has a little more of *that tired* feeling when waiting on his fowls. Let that go, however, since we don't know. But we do know of shells and grit, which the "unorthodox" ought never to use, especially with five acres of range at command.

I trust that J. A. W. will not think my object is merely to differ with him, or to criticise. Like all who use brains, I am a learner; one who has been trying, through many discouragements, for years, to work *up* to real, scientific care of fowls. I want to know the *facts*, as earnestly as J. A. W. himself, and am working for the money there is in poultry.

What have I, for one, done? It is difficult to tell fairly what "our firm" has done, because circumstances have never yet allowed us to keep our flocks just as we would like. That is, I cannot stand as a fair exponent of the scientific system.

For instance, we have no small houses, much as we would like to have them. The housing of our flocks is far from ideal, the building being just an old-timer of a barn, which Washington *may* have had his headquarters in; though I never heard that he did, even when we found a rusty old bayonet in the earth! There were cracks in number equal to the boards, and rats and dampness; while there is no apology of any kind for a scratching shed. It will be seen that we work at much disadvantage.

In one end of this shell, is housed a flock of 40 fowls. There is room enough—probably 400 square feet, or 10 square feet to a hen. Between January 1 and the present time (March 18), these 39 hens have laid about 900 eggs, say, 11⅓ a day for the 78 days. This is a trifle over 29 per cent of their number, for each and every day. As nearly as I can get at our friend's receipts for the corresponding time last year, they amount to 36⅔ eggs per day, or a trifle over 18 per cent of their number. We feed, as he does, largely of wheat, with a little corn and oats, but in addition give a daily mash and a little meat. Our grain costs us a little more than he pays for the same quantity. We have also used a little cut clover, but so very little as to be scarcely worth mentioning, and we don't run a bone mill.

One great value of a mash, to my mind, lies in the fact that it can be made so largely from waste. Our mash has consisted of waste squash and potatoes, with 2¼ cents' worth of meat-meal, and about one cent's worth of bran daily, for 55 fowls. For 200 fowls, this meat and bran would cost 12 cents, which is less than the value of a grain feed like J. A. W.'s, while it includes that expensive meat.

Looking at the value of the meat in another way, we shall see this: At 25 cents a dozen, which is, perhaps, a fair average near the eastern cities, our daily receipts from eggs, would be about 41 cents more than J. A. W.'s, provided we had 200 hens. *If* we can keep up this average difference throughout the year, the difference in receipts would be, on this basis, nearly $150. If the meat were entirely an added cost (it is not), it would be at the rate we are using it, nearly $33 The clear balance, in that case, is about $117.

J. A. W. will not admit, I know, that my case is a strong one, because of that one "*if*"; he believes that I *cannot* keep up my lead throughout the year. Time will show, perhaps.

Scientific feeders will not need to figure so hard as some people might think, on that 86 cents per year per hen. J. A. W.'s 136 eggs per year, produced at a cost of 86 cents, are a trifle more expensive than 165 eggs produced at a cost of $1. Moreover, at present rates, our

(*Continued on next page.*)

Miscellaneous Advertising.

The advantage of a policeman over a burglar is that the officer has the law on his side. Health has the same advantage over disease. The Law of Nature is for people to be healthy. When they are sick, Nature helps to cure them. Nature's law is the guide for curing sick people. There is no way but Nature's way. What the doctors call many different diseases Nature cures in one way; by nourishing the whole body with good, pure, rich, red blood. That is Nature's way of curing scrofula, erysipelas, kidney and "liver complaint," consumption and every form of eruptive and wasting disease. When you want to help Nature with medicine the medicine must work the same way as Nature works, then it has the laws of Nature on its side to make it powerful. That is the secret of Dr. Pierce's Golden Medical Discovery's wonderful cures. It assists Nature according to her own laws; it is on Nature's side and Nature helps it; it imparts new power to the nutritive and blood making organs to create a large quantity of fresh, red, healthy blood which drives every germ of disease out of the system and builds up strong healthy tissues and *solid* flesh. The "Discovery" completely clears away every form of blood-disease from the system; It even cures consumption. It is the only true radical cure for that disease; facts and testimony to prove it.

"I would like to tell the whole world what your 'Golden Medical Discovery' has done for me. The doctor, who is considered an expert on lung troubles, told me I had consumption. He said both my lungs were diseased and I could not live long. I felt down-hearted for I have dear little children to live for. I just went to him to get his opinion. I am glad I did for now I know what your medicine will do. When I started on the second bottle I was better in every way and was able to take a walk on every fine day. I enjoyed my sleep, my appetite was good, and by the time I had finished the second bottle I began to feel like a new woman. I still had a cough, so I got a third bottle and by the time it was half gone I was completely cured."

(Mrs.) James Gatfield,
77 Mary St., Hamilton, Ont., Can.

AGITATOR SEPARATORS WITH NETHERY WIND STACKERS
ARE MOST PRACTICAL AND MOST POPULAR

AS ARE ALSO THE
SELF FEEDERS
AUTOMATIC SWINGING STACKERS
SAW MILL MACHINERY
TREAD POWERS & SAW FRAMES
GRAIN ELEVATORS & MEASURERS
DINGEE WOODBURY POWERS
AND
SIMPLE AND SINGLE CYLINDER
COMPOUND
TRACTION, PORTABLE, SKID & STATIONARY
ENGINES

CATALOGUE MAILED FOR THE ASKING: ASK FOR IT
J.I.CASE THRESHING MACHINE Co.
RACINE WIS.

Make Cows Pay.

Twenty cows and one SAFETY HAND CREAM SEPARATOR will make more butter than twenty-five cows and no separator. Sell five cows; the money will buy a separator and you save cost of their keep, while the butter you make sells for two cents more per pound. Send for circulars. Please mention this paper.

P. M. SHARPLES,
Rutland, Vt. West Chester, Pa.,
Omaha, Neb., Elgin, Ill.

The CHAMPION will
COOL AND AERATE
your milk instantly. Removes the animal heat and cowey flavor, drive out all odors of foul, strong smelling, or silo foods and retard souring for many hours. Circulars Free
AGENTS WANTED.
CHAMPION MILK COOLER, Box R. CORTLAND. N. Y.

SEPARATOR and POWERS
for 1, 2, & 3 horses, with governor, either level or regular tread.

Get our prices and Catalogue of Sweep Powers, hand and power Corn Shellers, Feed Cutters, Feed Mills, Steel Land Rollers, Chilled Plows, Mowers, Wood Saws, Engines—3 to 25 Horse Power, mounted or stationary.
S. S. MESSINGER & SON, TATAMY, PA.

Our BACK GEARED ALL STEEL MILL

This one has Graphite Self Lubricating Boxes. Galvanized (4 corner) Steel Tower. Send for catalogue and see why THIS IS THE BEST. All mills WARRANTED. We make other styles. Write us.
PERKINS WIND MILL CO. 9 Race St., Mishawaka, Ind.

1854-Established 42 Years-1896
HALLADAY
GEARED
WIND MILLS

still maintain their position as the first in the procession. Most powerful, most durable, most efficient. Every mill guaranteed to be
THE BEST MADE.
U. S. Solid Wheel Mills, Gem Steel Wind Mills. Also I. X. L. Feed Cutters, Iron Feed Grinders, Hand and Power Corn Shellers, Wood Saws, Tank Heaters, Pumps of all kinds and Haying Tools. The Leading Water Supply House of the World.
Send For Catalogue.
U. S. Wind Engine & Pump Co.
118 Water St., Batavia, Ill.

FRENCH BUHR MILLS
28 sizes and styles. Every mill warranted.
For All Kinds of Grinding.
A boy can operate and keep in order. "Book on Mills" and sample meal FREE.
All kinds mill machinery. Flour mills built, roller or buhr system.
Reduced Prices for '96.
NORDYKE & MARMON CO., 270 Day Street, Indianapolis, Ind.

HEEBNER'S Patent LEVEL-TREAD HORSE-POWER
With SPEED REGULATOR.
For 1, 2 and 3 Horses.
Catalogues Free.

LITTLE GIANT Threshing Machine.
Threshes Grain, Rice, Flax, Millet and Grass Seed. Fully Warranted. Feed and EnsilageCutters, Feed Grinders, &c
HEEBNER & SONS, Lansdale, Pa., U.S.A.

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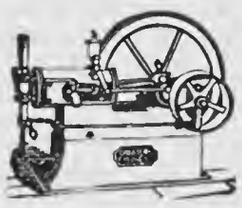

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Gasoline Portable Engines
Used Any place By any one For any purpose
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PATENT VARIABLE FRICTION FEED.
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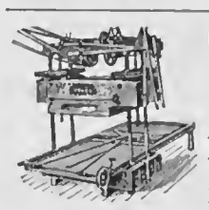
SAW MILL & ENGINE
BEST SET WORKS IN THE WORLD. Warranted the best made. Shingle Mills, Machinery, and Standard Agricultural Implements of Best Quality at lowest prices. Illustrated Catalogue.

FARQUHAR SEPARATOR
LARGEST CAPACITY.
Most economical, lightest draught, wastes no grain. Cleans ready for market. Send for catalogues.
A. B. FARQUHAR CO., Ltd., York, Pa.

CIDER MACHINERY
Hydraulic, Knuckle Joint and Screw Presses, Graters, Elevators, Pumps, etc. Send for Catalogue.
BOOMER & BOSCHERT PRESS CO.,
118 W. Water St., SYRACUSE, N.Y.



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Capacity, 10 to 120 Bbls. in 10 hrs
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(Suc. to Schenck & Sheridan)
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THE IDEAL COVERING
For Buildings of any Character.
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Sole Manufacturers.
81—83 John Street, New York.

BUCKLEY'S IMPROVED BASIN.

We make Watering Basins for Horses and Cattle, with styles adapted to every kind of fastening, at prices from 75 cents to $1.50.
WRITE FOR CATALOGUE.
C. E. BUCKLEY & CO., Dover Plains, N.Y.

THE KIND YOU WANT
There are no better
Drilling Machines

than ours For gas, oil and water Go down from 10 to 2500 feet 5 sizes. Send for catalogue and prices of machines, tools, supplies, etc. Free.
Star Drilling Machine Co. Akron, O.

WIND IS MONEY TO USERS OF Goodhue Pump and Power Wind MILLS

Back Geared and Direct Stroke, Galvanized Steel and Wood; 5-ft to 18-ft. New principle in governing; no weights or springs; leads in simplicity, durability, strength and effective work. Most successful power mills for grinders, feed cutters, shellers etc. $9000.00 worth of our power mills in daily use in one township. 3 and 4 corner galvanized steel towers. Strongest in use. Never one blown down. Our line of "Hero" and "American" Grinding Mills, Fodder Cutters, Shellers, Wood Saws, etc., the best and most complete, 2 to 8 horse Sweep Powers, 2 and 3 horse Tread Powers; Success One Horse Tread Power for Cream Separators, pumping, etc. Our new 150-page catalogue tells all about machines for preparing feed, pumping water, irrigation, etc. Send for it.
APPLETON MANUFACTURING CO., 27 Fargo St., BATAVIA, ILLS.

PRIMER SCIENCE.

(CONTINUED.)

feed for the year, *including meat*, will figure up but 82 cents per hen, even though we fed meat every day in the year; and this notwithstanding the fact that our grain costs us more than J. A. W. pays.

Just one more turn of the screw; and I hope that our friend won't cry "theory," because I quote another's work. We have been much dissatisfied with our fowls all winter. Others report many more eggs than we got, and the editor of the best farm poultry paper in the country affirms that hens, properly cared for in all respects, will lay 50 per cent of their number in January and February, and 60 to 75 per cent thereof in March and April. His published reports, which J. A. W. or any one else may read, show that his fowls have sometimes laid nearly 50 per cent of their number every day for the year, so that it can't be *theory* with him. If any one, therefore, wishes to multiply my figures in the third paragraph back by two, the result will show how I ought to astonish the world, but haven't done so. I mean to get there, though; even though I have to spend four or five weeks of every year mixing mashes for 200 birds, instead of a paltry two weeks, tossing out grain.

MYRA V. NORYS.

Observations of a Hen Man.

Labor, steps, time, thought, will all be fully occupied if the poultry plant be constructed with a view to economize every effort, and every step. The style of buildings will be what the owner fancies, usually, though circumstances may vary their cost. I think that a poultry building proves more satisfactory in the long run, to be not very large, and to be so built as not to require continual repairing. I would prefer paper, covered with clapboards or shingles, though the expense of these prevents their use many times. For instance, one might, in the spring, build a house and cover with paper, and in a year make profit enough to put on shingles; but he has spent as much money, or more, as if he had put shingles on in the first place.

Running water in the cook room, the kettle filled by turning a faucet or by the strokes of a pump handle! How much better than to hitch up a horse 365 days in a year and go to a spring or brook for water, as I did for years! The first pumping windmill set up in town put an end to that. Market day comes once a week. What would you think fair pay for a proper team and driver to make 52 trips a year, say, 10 miles, to sell your eggs, dressed poultry, often bring home grain, etc.? If we say $3 for each trip, there is an expense of $156 per year. How can such a poultryman hold out against a man who can take his eggs to customers in one-half hour, and do his day's work at home as usual? Don't get too far from the station, or post-office, or market. Sometimes profit in dressed poultry depends on putting them on the market at just the right time.

Poultry in isolated flocks in small, separate houses, will furnish less subjects for the grave digger or the manure pile; but such fowls are more exposed to enemies—haired, feathered, or clothed. Crows will walk among young chickens just as a hen would do, and gobble up the innocents by the hundred if not stopped.

When one can buy ground oyster shells and ground scraps of good quality at present prices, it is not foolishness to say no to the bone-mill agent, and to let the meat grinder alone. Time will fly fast while you hunt up horses and cattle, and chop them up and boil and serve them to your birds. Green cut bone and meat are all very well if they don't cost too much, and few are so situated as to make it pay to pound bones with a hammer.

An open shed for hens to scratch in in winter, is a good thing if you can manage it right. So is an egg room, where eggs won't freeze, and large enough to hold cases, baskets, etc.; but very few have one.

As to hatching chickens, it is a good deal of trouble, but the seat of the business is raising them. Eternal vigilance is as much the price of chickens as it is the price of liberty.

The enthusiastic beginner should bottle up some "henthusiasm" to sustain his courage during the melancholy times that will surely come before he has served his five years' apprenticeship. Seasons will vary, prices will vary, no hens will be sure to lay in the last three months of the year, and no two years will give the same quantity of eggs from the same number of hens. Too little importance seems to be given to the fact that pullets will usually lay earlier and more steadily through the winter if they are in their winter quarters in September or October, are kept dry and clean, and allowed plenty of room.

Don't put too many hens in one flock! Hold your ambitious desires in check; you will probably get as many eggs from 20 hens as if you had 30 in the same room. Some might say that it is not so, and indeed, for a time, it might seem as though he was right, but time will show him wrong, all the same.

All breeds have their friends, but the Leghorns and P. Rocks are common-sense birds, and will be good property as long as eggs and poultry find a market. I have two brooder houses, and each will accommodate 400 chicks till maturity, that is, if the males are marketed at the proper time. Each house must be at some distance from other poultry, so that the chicks may have undisturbed range, when large enough to run outdoors. Each house contains eight brooders, and a big stove. Each house is sideways to the sun, with four windows one foot wide and 12 feet long, set in the roof; these give as much light and sun to the back side of the house as to the front. Each house is 16 feet wide and 32 feet long, posts one foot high, rafters 12 feet long; the glass is set just the same as greenhouse glass, or may be laid on two rafters. Little yards of wire netting are used outside.

Hens are, in very many respects, the counterparts of their relatives, the unfeathered bipeds of Plato. Notice the neat, lady-like step of this bird, the motherly patience and impatience of that one! What village sensation was ever greater than that caused by the advent of two or three new members into the old flock? When you turn a lot of strange roosters together, will you not remember your school days? These birds want to know who is boss, as much as any school boys ever did. They will all run after some new thing just as humans will do, and drop it too, in much the same way. They will persist in eating corn and meal with a zest and appetite that they exhibit for nothing else in the grain line, in the same quantity, and to feed and care for a Brahma as for a Leghorn, will bring totally different results.

G. R. T.

Ashby, Mass.

KILLING HORNS WITH CAUSTIC POTASH.—My experience in dishorning or stopping the growth of horns on young calves, with caustic potash, has not been uniformly successful. Three years ago, I first tried it on two little Jersey heifer calves, and was completely successful with only one application. Last year, I tried it again with another Jersey calf and failed. I tried it again this spring, and failed—all these applications were made when the calves were from three to five days old, or as soon as we could locate the buttons. Each time, we used the caustic or pencil potash, and I suppose that it was made by different parties, and must have been of uncertain strength. Now this is a matter of large importance to the American farmer, and if some chemical factory will make a specialty of manufacturing potash especially for dishorning calves, and will make it of such uniform strength that it will be always successful, it would be very profitable.

W. H. R.

Mascott, Mo.

A HEN-ROOSTER.—A writer in Farm Poultry tells this remarkable story:

Last year, Mr. Geo. W. Dale, raised a few chickens, and among the number was a Brown Leghorn pullet which, probably, had a cross of Dunghill in her. However, she proved to be a very good layer, but after a while, she laid out and became broody. A sitting of eggs was given her, and she proved to be a good sitter, and came off with a nice brood of chicks. After awhile, she began moulting, and shed nearly all her feathers. When she began to put on new feathers, it was noticed that they were of a different color from the first ones. In fact, she began to look like a rooster, and in due time, she put out as nice a coat of rooster feathers, sickle feathers, and all, as one ever looked at, and to-day she is as fair a specimen of the Brown Leghorn rooster as one would find in a day's travel. No one unacquainted with the facts would ever believe it to be a hen; but nevertheless, she still continues to lay.

Home-Seekers' Excursions to the West and Northwest.

On June 9 and 23, 1896, the North-Western Line (Chicago & North-Western R'y) will sell Home-Seekers' excursion tickets at very low rates to a large number of points in Northern Wisconsin, Michigan, Northwestern Iowa, Western Minnesota, Nebraska, North Dakota and South Dakota, including the famous Black Hills district. For full information apply to ticket agents of connecting lines or address H. A. Gross, G. E. P. A., 423 Broadway, New York; E B. Spain, T. P. A., 210 Ellicott Square, Buffalo, N. Y.—*Adv*

LUNG COMPLAINTS, BRONCHITIS, ASTHMA, etc., are speedily relieved, and if taken in time, permanently cured by Dr. D. Jayne's Expectorant. You will find it also a certain remedy for Coughs and Colds. The best family Pill, Jayne's Painless Sanative —*Adv*

THE
MOST SUCCESSFUL REMEDY
FOR MAN OR BEAST.
Certain in its effects and never blisters.
Read proofs below:

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DR. B. J. KENDALL CO.
Sirs:—I have used your Kendall's Spavin Cure with good success for **curbs** on two horses and it is the best Liniment I have ever used.
Yours truly, AUGUST FREDRICK.

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HORSEMEN RECOMMEND TUTTLE'S ELIXIR

Used and Endorsed by Adams Ex. Co.

As a sure, safe and speedy cure for *Colic, Curb, Splints, Contracted and Knotted Cords, Callous of all kinds, Shoe Boils, when first started,* etc. For Ringbone, Spavins, Cockle Joints, etc., nothing else will give surer or quicker relief. It will locate lameness when applied by remaining moist on part affected. The rest dries out. A few more applications will cure.

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DEAR SIR: I have doctored horses for the last 25 years, and I think your Elixir the best liniment I have ever used, and I would recommend it to any one. C. M. GUYER, Wolcott, Vt.
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Tuttle's Family Elixir cures Rheumatism, Sprains, Bruises, Pains, etc. Sample of either Elixir sent free for three 2-cent stamps to pay postage. 50 cents buys either Elixir of any druggist, or it will be sent direct on receipt of price.
DR. S. A. TUTTLE, Sole Proprietor,
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COOPER SHEEP DIP
Will make wool grow
Kills and Prevents Ticks, Lice and Scab
Book on dipping mailed free, by
Cooper & Nephews, Galveston, Tex.
100 gal. pkt. $2, 25 gal. pkt. 50c.
If druggist cannot supply, send $1.75 for $2 pkt. to CYRIL FRANCKLYN, Cotton Exchange, N. Y. City.

What Reduces MILK & FLESH More Than FLIES
NO FLIES, VERMIN or SORES on HORSE or COW (¼ more milk.)
Where SHOO-FLY is used.
The ORIGINAL STOCK PROTECTOR 1885.
Thousands of testimonials from 37 States. If your dealer offers a substitute, send 50c. and our agent in your State will express one quart. $1.50 per gal. 1 gallon lasts 3 animals a season. Agents wanted.
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The "Lakeside" Herd.

CLOTHILDE H. H. B. 1308.
Milk record 26,021 pounds 2 ounces in a year. Butter record, 28 pounds 2½ ounces in a week.
We have 100 of this cow's descendants for sale. If this is the class of cattle you want, write to
SMITHS & POWELL CO., Syracuse, N.Y.

HIGHEST CLASS REGISTERED
JERSEY CATTLE
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Fifty head choice Cows, Heifers and Bulls for Sale.
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CHENANGO VALLEY STOCK FARMS, Greene, N. Y., J. D. Van Valkenburgh, Jr., Proprietor. Dorset Horn, Shropshire and Rambouillet Sheep, Dutch Belted and Jersey cattle; also Poland-China, Jersey Red and Suffolk Pigs.

NOW is the TIME to BUY from CHOICEST STRAINS
Willswood Herd
Recorded Berkshire Swine.
WILLS A. SEWARD, Budd's Lake, N. J., or 207 Broadway, N. Y. Through my clients CAN FURNISH a number of GUERNSEY BULLS, all ages, in locations to save transportation.

CLOSING OUT FOR GOOD. All prime registered Berkshires. The famous Boars Letterblair, Stelton and Parkhurst. Six sows in pig, three sows with litters, and over 50 young pigs. Very cheap. PARK FARM, New Brunswick, N. J.

Choice Poland-Chinas
Berkshires, Chester Whites and Poultry. Our spring pigs and prices will please you; taking orders now, to be filled when pigs are eight weeks, mated not akin. Berkshire Boars all ages.
HAMILTON & CO., Cochranville, Chester Co., Pa.

NEW YOUNG POLAND-CHINA PIGS
that will please you.
Eggs for Hatching. Send for Catalogue.
F. H. GATES & SONS, Chittenango, N. Y

CHESHIRES—SPECIAL SALE. Pigs, 10 to 12 weeks old. W. E. Mandeville, Brookton, Tompkins Co., N. Y.

REG. CHESHIRES—Young Sows bred and ready to breed. Young Boars for service. Spring Pigs, all in pairs not akin.
HOMER J. BROWN, Harford, Cortland Co., N. Y.

W. & B. P. Rocks and W. Wyandottes
Good March to May-hatched Pullets or Cockerels, $1
One-year Breeding Hens, $1; six for $5.
One-year Cocks, $2. Eggs, 75c. per sitting.
Stock and Eggs guaranteed pure.
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RARE BIRDS FOR SALE.—Show Birds. Breeding Stock. Eggs for hatching. Represent years of careful breeding. Strains well known from Canada to Texas. Knob Mountain Poultry Farm, Orangeville, Pa

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$20 PHOSPHATE FOR WHEAT AND GRASS
Sold to farmers direct. We have no agents. *Send for Circular.* Low prices for car-load lots.
YORK CHEMICAL WORKS, YORK, PA.

ORR'S Clear Grit Quarterly. Free to any address. A postal brings it. Box 13, Orr's Mills, N. Y.

POULTRY FOOD.

SOMETHING NEW!
CANNED MEAT FOR POULTRY
This food is nice, fresh meat, carefully cooked, ground fine, seasoned, and hermetically sealed. Will keep an unlimited time until opened. Conveniently put up in eight-pound cans. Especially adapted for chickens and moulting fowl.
Being ground fine, it can be readily mixed with the soft food, and fed so as to give each fowl an equal share. Price, 30 cents per can; $3 per dozen.
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All supplies for the Apiary can be obtained at Cook's Beekeepers Supply House New York City. Send for full descriptive catalogue.
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No More Tainted or Stale Butter.

If Creamery and Dairymen pack their butter fresh from the churn in RECORD'S TIGHT-SEAL COVER PACKAGES, they can provide their patrons with delicious butter, free from taints. These packages are air-tight, and can be opened and closed instantly; in 9 sizes, from 1 lb. to 60. We mail sample 1 lb. for 10c. Write for quotations. RECORD MFG. CO., 111 Main St., Conneaut, O.
USED ALSO FOR LARD.

Humorous.

THERE was a young woman in Lynn
Who oft on a blke took a spynn,
But so lowly she bent
On the bar as she went
That lt raised a big eorn on her ehynn.
—*Boston Courier.*

FARMER WAYBACK: "Only think, Samanthy, thet rich Mr. Vanderbilt allows his wife $5,000 a month fer pin money alone." Mrs. Wayback: "Wa'al, Josh, I uffen think an' uster wonder where all th' pins went to, an' now I know."—*Judge.*

PAPA: "I wonder why it is that when we drop a sliee of bread it usually falls with the buttered side down?" His Little Boy: "I guess it is for the same reason that when we fall in winter we wonder why the iee freezes with the slippery side up."—*Harper's Round Table.*

THE late Eugene Field, who wrote beautiful verses about childhood and domestie life, spent the greater part of his life in poverty—a faet whieh did not, however, weigh heavily upon him. He always spoke of his poverty as if it were a good and welcome thing. An acquaintanee, Mr. John D. Barry, tells a story of meeting Field onee at a very well-supplied table in a hospitable house where both were guests. Some delieious strawberries were passed around. They were out of season, and Field looked at them with admiration and paid his hostess a compliment about them, but deelined to eat any. "But, Mr. Field," the lady asked, "don't you like strawberries?" "Oh yes," he answered. "Then why don't you eat some?" "I'm afraid," said the poet, "that they'd spoil my taste for prunes!" This remark indieates that he was a philosopher as well as a poet.—*Youth's Companion.*

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WANTED competent Club Agents (Women, Men, Girls or Boys) in every town in the U. S. to get orders for our celebrated goods. LIBERAL TERMS; GOOD INCOMES. BIG PRESENTS with every sale. Good Teas and Coffees, 25c. per pound. Send this ad. and 16c. in stamps, and we will mail you a ¼-pound Best Imported Tea, any kind, and full particulars. THE GREAT AMERICAN TEA CO., 31 & 33 Vesey Street, New York. P. O. Box 289. RURAL.

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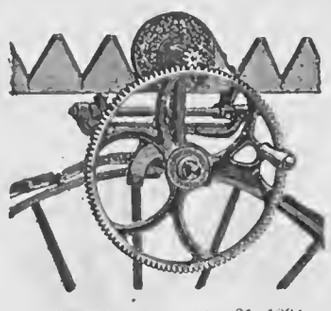
THE EASIEST, SIMPLEST, and most practical method ever invented for dressing and grinding Mowing Machine, Harvester and Sickle Knives.
First order from any town secures a Grinder at Agents' prices & the agency.
ROSS BROS.,
PATENTED AUGUST 21, 1894. Worcester, Mass.

THE "GEM" Automatic Wrench

USE the GEM Wrench
When oiling your spring wagon and keep your hands clean. Do not need to touch the nut during operation and do it all with one hand. Is the [illegible] selling article ever offered AGENTS. Sam[illegible] 50c., two for $1,00 by mail, postage paid. Get sample at once and secure territory. Big profits.
D. Y. HALLOCK & SON, Box 805, York, Pa.

N. Y. State Fair.
Aug. 31—Sept. 5, 1896.
$25[illegible]00 in premiums. New building. New water plant. Great attractions. Premium lists now ready. Apply to
J. B. DOCHARTY, Sec'y, Albany.
Special railroad facilities, reduced rates, and all exhibits unloaded from cars on the fair grounds.

SEE THE ALL STEEL "HANDY" FARM TRUCK
X
RESISTS THE POWERS OF THE WONDERFUL "X" RAYS WHICH ARE KNOWN TO LOCATE DEFECTS NOT VISIBLE TO THE NAKED EYE, BUT WHICH ONLY FIND POINTS OF MERIT IN THE TRUCK BUILT ACCORDING TO THIS AGE OF STEEL.
SIMPLICITY OF CONSTRUCTION
STRENGTH GREATEST POSSIBLE
EVERLASTING AS TO WEAR
AXLE SPINDLES PROTECTED BY RENEWABLE STEEL SEINS HENCE
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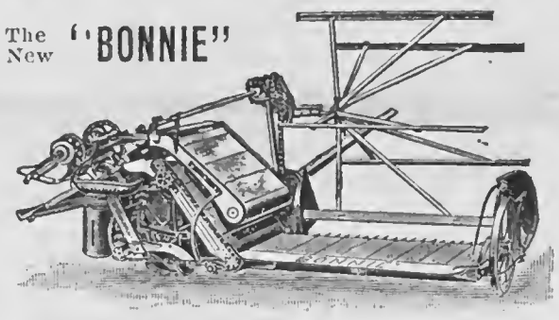
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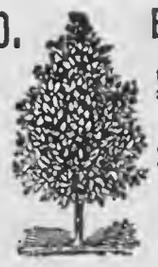
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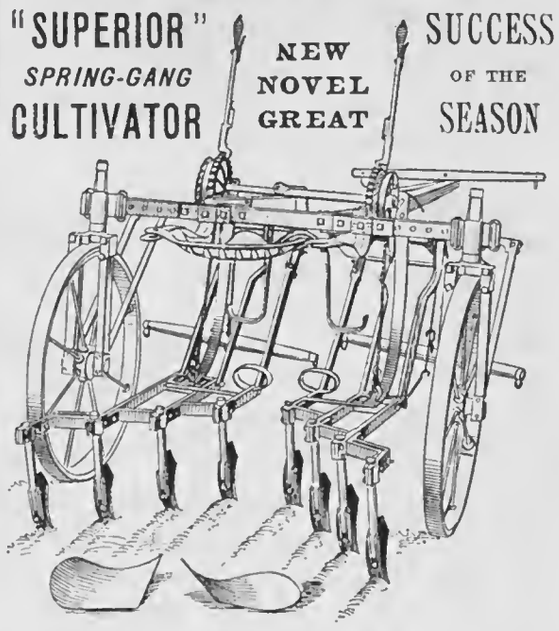
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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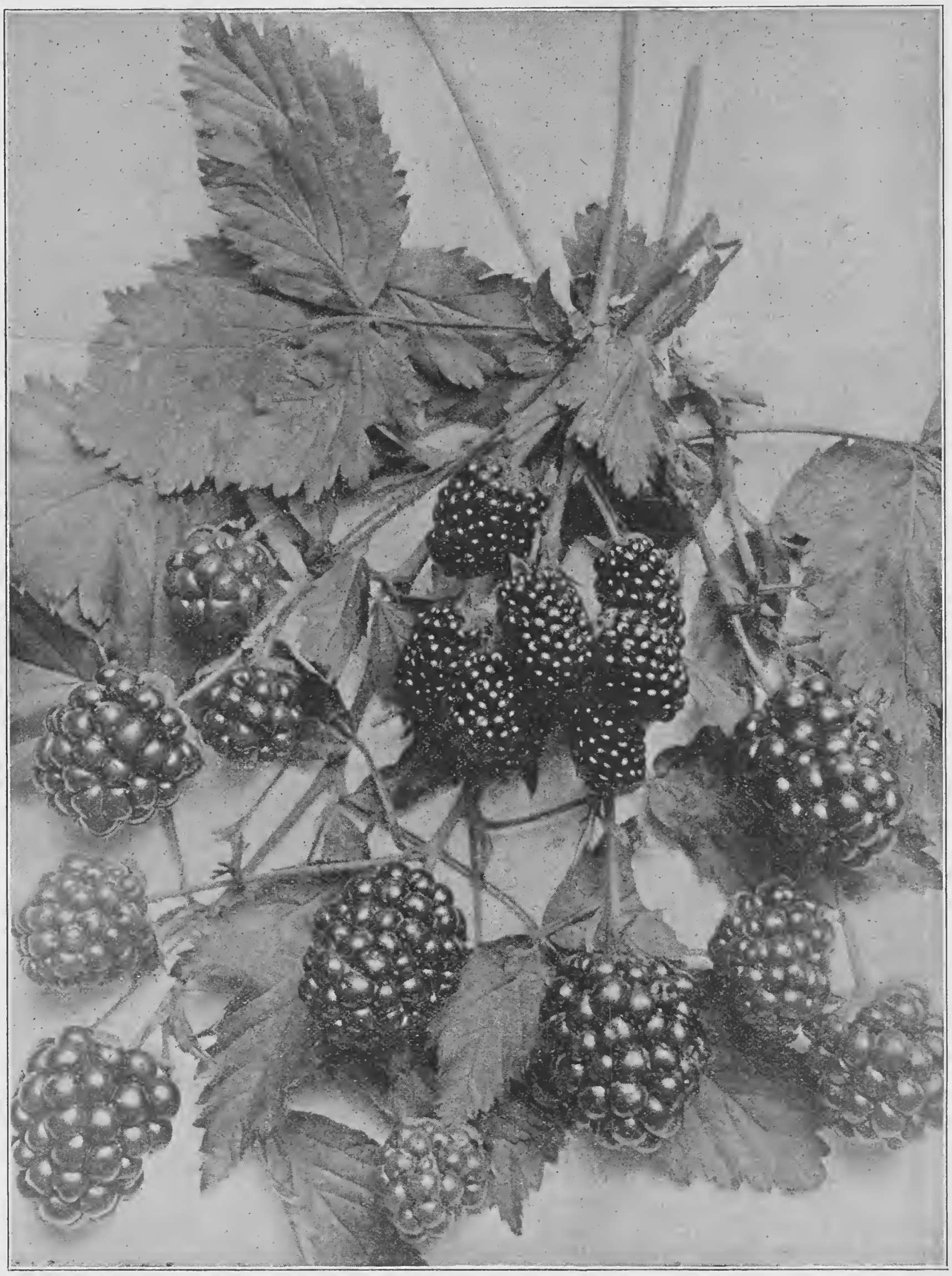
AUSTIN'S IMPROVED OR MAYES HYBRID DEWBERRY.

A NEW BERRY FROM TEXAS.

This wonderful dewberry was first discovered years ago, growing wild on the farm of Mr. John Mayes, in Denton County, Texas. In the same field, and in close proximity, grew the common wild dewberry of the South, Rubus trivialis; also, the common wild upright blackberry. As was very natural, the first discoverers pronounced it a hybrid between the dewberry and blackberry; thus the name Mayes Hybrid dewberry. Many at once secured plants, among others, Mr. J W. Austin, a local nurseryman. Mr. Austin soon found that, under good cultivation, the plants increased in vigor and productiveness, and the fruit increased in size, until it was considered wonderful by all who saw it. Consequently, Mr. Austin began the propagation of plants for sale under the name of Austin's Improved dewberry, thus the double name.

Learning of the fame of this new wonder, I secured plants a year ago last March, have studied it carefully in all the different stages of growth, and can find no evidence in plant, flower or fruit, that justifies the term hybrid To satisfy myself more fully as to the correctness of my judgment in the matter, I have planted seeds, and have a number of young plants now growing, and, in case there is a combination of the two species, the offspring will be very sure to show it. The long and well-known truth, that the sins of the fathers shall be visited upon the children, even to the third and fourth generation, is as applicable in the vegetable as the animal kingdom.

Catalogue illustrators will certainly find but little temptation to exaggerate the size of this new berry. The illustration, Fig. 135, hardly does it justice, as the berries from which the photograph was made, were taken from one-year-old plants that had not had rain or water in any shape, from the time the plants were in bloom, until the fruit was ripe. The cluster of small berries in the picture, are the best specimens of the Early Harvest blackberry, that could be found on very vigorous, three-year-old plants, ripened under the same conditions, and placed there to show the contrast in size. Better to illustrate, if possible, the size to which this berry will attain under favorable conditions, I state that 53 selected berries filled a quart box, while it required 347 of the best Early Harvest berries to fill the same box.



MAYES HYBRID DEWBERRY. NATURAL SIZE. EARLY HARVEST BLACKBERRY FOR COMPARISON. FIG. 135.

Fig. 137 shows the vigor and productiveness of a one-year-old plant, the first year's growth tied up to a stake producing fruit. The present year's growth, to date, May 15, is spread out on the ground as it naturally grows. The time of ripening is the same as that of the Early Harvest blackberry, but it ripens its crop much quicker than that variety, the ripening season covering a period of

about two weeks. How far North this dewberry will stand the winters, I am not prepared to say, further than that it is said to have stood last winter perfectly at Carrollton, Mo. I believe that it will stand as great a degree of cold as the Early Harvest and other blackberries of that class. The habit of growth is such that it is very easily protected in case it is found necessary to do so. JAMES NIMON.

THE DRY BORDEAUX MIXTURE.

WILL IT PREVENT BLIGHT? COMPARED WITH WET.

Good Results with Dry Mixtures.

My experience with dry powders as insecticides, is confined to last year's operations. I used the dry powder gun on potatoes for bugs and blight at one operation. Potatoes treated five times with Fungiroid died naturally, while potatoes not so treated died suddenly with blight. The Fungiroid also checked leaf blight on pear trees at once. After June 15, I used dry powder on apples and peaches, and cannot see why it is not just as effective as the water solution which I have always used on trees, and to some extent, on potatoes. Dry powder cannot be used when the wind blows, on trees; on potatoes it seems to make no difference, and does not require any more material. I obtained equally good results from the use of arsenic and powdered sulphate of copper in combination with twice the weight of air-slaked lime, prepared in the following proportions:

	A	B	C	D
White arsenic, pounds	1½	1½	0	½
Copper sulphate, powdered, pounds	1	0	1	1
Air-slaked lime, pounds	5	3	2	3

To mix these substances, I use a two-quart fruit jar, or when large quantities are to be mixed, I take a six-gallon keg, and turn it with the handle of a barrel churn. I call A and B sufficient for an acre of potatoes, and C and D enough for an acre of potatoes or trees. G. E. KING.

Connecticut.

Some Experience in Florida.

We are gardening with tomatoes and potatoes as the principal crops. My opinion, so far as I have used dry Bordeaux Mixture—two years—is that it is most effective on the tomatoes and least on the potatoes, though it kept my potatoes free from black rot sufficient to produce a good crop as potatoes go here. My practice is to start about daylight, and dust until the dew is pretty well dried off; then stop and wait until the next day. Where tomato plants are large, thrifty and yellow, and growing vigorously if the day is still and the weather not too dry, the dust will stick. But I like to see it on the plants; so I dilute the powder about twice and put it on so that it shows. I use flour for the dilution, as it is easiest to get here; but plaster, if finely ground and free from lumps, would be preferable. As to the intervals between dusting, if no rain comes, I dust about every 10 days. My own land is so subject to black rot, that I keep the powder gun going, with intermissions of only three or four days, all the season. If rain comes sufficient to wash off the powder, of course, the job must be done right over.

I have owned my place for seven years, and until last year, when I first begun to use the Fungiroid, my attempts to raise tomatoes have been failures. For the first three or four years, I had from one acre to four acres planted to tomatoes, but never raised enough to furnish myself with tomatoes to eat. I did not know what was the matter, but supposed that it was some fault of mine somewhere; so every year, I would try again with the same result. When we found what was the matter, I bought a powder gun and the Fungiroid, with the result that I kept the vines free from black rot, and raised, from a little over an acre, 250 crates to ship, and as many more rotted on the ground because it did not pay to ship them. This year, the fight with the rot has been a harder one than last year—for reasons unknown to me—but we have again raised the tomatoes, though the vines are not so free from the rot as I would like to see them. My reason for saying that I like it least on potatoes, is simply that the dew does not stick to them as it does to the tomatoes. The powder itself seems to work as effectively in killing the black rot on the potato as on the tomato.

There is another disease of the tomato vine here, loosely called blight, which the Bordeaux Mixture, dry or wet, does not seem to prevent, but the ammoniacal solution put on with a spraying pump, seems to give new life to the plants. E. S. HUBBARD.

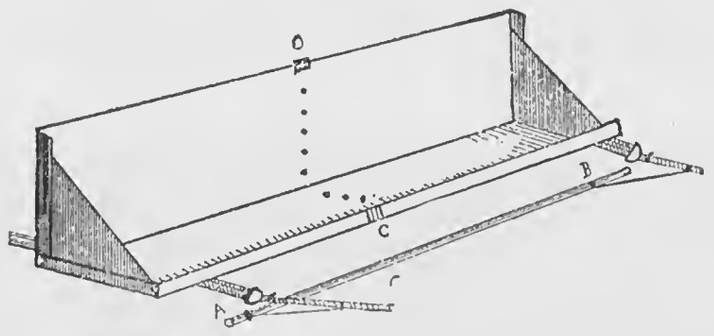
No Chance for Comparison.

I bought a powder gun last season, and expected to use it freely for blight on potatoes, and for grape and tomato rot. I used Fungiroid, but the grapes were entirely killed just before coming into bloom, by the freeze. The potato blight was not troublesome here, last year, as we had, practically, no rain from the time they were up, until digging time. I dusted them a few times, but can say nothing, either for or against this method. My potato plots were threatened with a scourge of flea beetles and grasshoppers, and a few hours' work protected my patch perfectly. As to tomato rot, I can say nothing positively, as to the effectiveness of the powdered article as compared with the wet process, as I have had no experience with the regular Bordeaux Mixture. I can say this much, it is a very convenient method of applying the fungicides or insecticides. I used the Paris-green and Fungiroid mixture. I believe it a very excellent plan to use some Paris-green in the fungicide, on potatoes, the first time or two that they are dusted. I have never been able to see much in the theory some advance, that the wet method is more effective than the dry, as the sun will, in 30 minutes' time, make a dry powder of the wet mixture. T. B. Terry objects to the dry-powder method for fear that the operator would be breathing the powder while in use. This is all nonsense, unless one use two or three times as much powder as is necessary. J. P. K.

Pucker Brush, Ind.

ACRES OF GRASSHOPPERS TO KILL.

We told our readers last fall, about the serious outbreak of grasshoppers in Minnesota, and the efforts made to destroy them. Among other devices em-

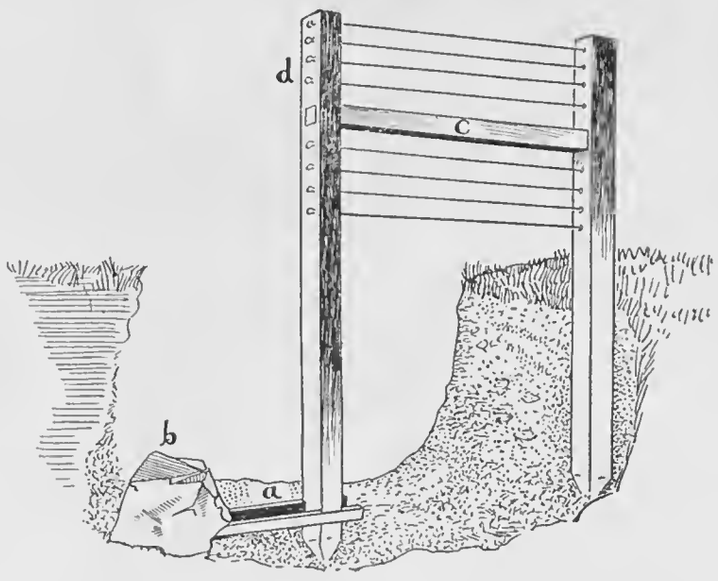


A HOMEMADE HOPPER-DOZIER. FIG. 136.

ployed, was the hopper-dozier, a picture of which is shown at Fig. 136. A bulletin of the Minnesota Experiment Station gives the following account of the making of a hopper-dozier:

A sheet of ordinary sheet-iron, such as is used for making stovepipes, was turned up 1½ inch around the edges, and riveted at the corners. This made a shallow pan about eight feet long, two feet broad and 1½ inch deep. To the bottom of this, were riveted the six small strips which could be fastened to the three runners on which the pan rested. To the rear side of the pan, was screwed a light, wooden frame, as long as the pan and 1½ foot high. Over this frame, a piece of canvas was stretched. This frame served the important office of throwing back all those grasshoppers that otherwise would jump clean over the pan, and throw them into the oil.

The runners on which the pan stood, were usually made from saplings or small pieces of board having an upward curve in front to prevent them from catching in the ground. The front ends of the runners were all fastened by screws to a cross-piece, which was, in turn, drawn by two ropes, one at each end. These ropes were joined in front, and fastened to a single-tree. Sometimes two hopper-doziers were fastened to a long pole by means of short ropes; this



HOW TO BRACE A FENCE. FIG. 137.

was very easily drawn by one horse. Just in front of the pan, was fastened a piece of rope which swept the ground a few inches in advance, and served to stir up the hoppers and make them jump into the pans. In the pan, was laid a piece of cloth which was first saturated with water. About a pint of kerosene was then thrown in and the upright sheet or sail of canvas moistened with oil. The machine was then drawn over the pasture or wherever the hoppers were thickest. In a short time, it was usually seen to be partially filled with dead and dying insects.

The slightest touch of kerosene, either from the pan or from the canvas sheet, means death to the hopper, for the oil spreads over its body in the same way that a single drop will spread over a large surface of water. It seems to produce a paralysis, which is first shown by the stiffening of the legs. A very large proportion of the hoppers that came in contact with the oil in the pan, immediately jumped out again, but they invariably died in the course of a few seconds or minutes.

Hundreds of these machines were made and drawn over the meadows and pastures, with the result that millions of the "hoppers" were killed, and this work, added to the fact that the season was unfavorable to the insects, saved many crops. Last year we had several requests from readers in the eastern States as to how these "hopper-doziers" are made, and so we print this information thus early in the season.

HOW TO BRACE A FENCE.

In fence building, one can very easily spend plenty of money, and if not careful in selecting the kind of fence, and building it, one will be disappointed in a year or two, to find his fence all sagged and out of shape. For cheapness, durability and neatness, there is nothing better than either the smooth wire fence, or woven picket. The end posts are the secret of success. These must be solid, as the strain all comes on them.

I will try to illustrate my way of bracing an end post, that holds them perfectly solid. The plan is original with me, and I am glad to say that there is no patent on it. The end post should not be less than six inches square, and eight feet long, four feet in the ground. About six inches from the end that goes into the ground, cut two notches, 2x4 inches, on opposite sides of the post; spike into these notches, two 2x4 pieces, about six or seven feet long, and let about six inches project past on one side, the remainder on the other side. Dig the hole four feet deep, and long enough (parallel with the fence) to admit of the scantling, with the long ends of the scantlings from the fence. Get a large bowlder, the larger the better, and place on these scantlings, fill up with dirt, and tamp well. I also put in a brace parallel from the first to the second posts.

Fig. 137 will show what I mean: *a* designates the scantlings, *b* the bowlder, *c* the brace, *d* the ratchets on the post to hold the wires. End posts braced in this manner, cannot give the least bit. M. C. T.

Mingo, O.

WHAT SUBSTITUTE FOR CLOVER HAY

AS WINTER FOOD FOR SHEEP?

What is the best substitute for clover hay for "hothouse lambs"? The clover crop in this section is a failure on account of dry weather, and we shall be obliged to depend largely upon some kind of sown crop for fodder. I have put in some oats and peas. How will they do, cut and cured green, for feeding hothouse lambs? E. N. S.

Livonia, N. Y.

Mixed Hay, Oat Hay and Corn Fodder.

I suppose that E. N. S. wants something to take the place of clover for the mothers of hothouse lambs. Last year, I had no clover, and kept my breeding ewes on mixed fine hay, cut early, which had a fine aroma, supplemented with oat hay, sowed thick, and cut in the milk. They seemed to relish this very much, and every part which they did not eat, was finished by the colts. In addition, I fed a lot of sweet-corn fodder, that went into the barn in fine order. I fed no grain until two weeks before lambing time. The ewes were in fine order, dropped strong, healthy lambs, and gave a large supply of milk. In addition to these feeds, there is still time for E. N. S. to put in a crop of Hungarian or millet. Have the land rich and very mellow. Don't scrimp on the fitting of the land; then sow thickly and cut early. Sheep are very fond of this fodder, and do well on it. Above all things, they like a change of food, and it pays to furnish it. He may, also, put in a crop of turnips; these will furnish a lot of succulent food, which will tend to correct any tendency to constipation. If he has a silo, he may feed ensilage, which others recommend highly. I have never tried it N.H

Oats and Peas; Will Try Cow Peas.

E. N. S. has done wisely in sowing oats and peas to make up for the shortage in the clover crop. There is no better substitute for clover hay than peas when cut at the proper stage of growth, and all kinds of stock eat them greedily when well cured. To make the best sheep food, the larger proportion of peas the better; but peas fall down so badly that enough oats must be sown to hold them up so that a mower can be used to cut them. To make the best sheep feed, the mixture should be cut when the peas are in the most edible condition for house use, in fact, before any of them get ripe. No matter about the oats; the peas are the most valuable part for sheep, and cut when they are at their best, and when fairly well cured, before any leaves get dry enough to break, put into good-sized cocks, and leave them until cured enough to be aired an hour and then drawn to the barn. To warm a little in the cock will do them no harm; but they should be watched so that they do not heat so as to be injured.

By all means, E. N. S. should have plenty of ensilage for his sheep, and, also, a good supply of rutabagas or turnips. I would not think of trying to raise winter lambs (I hate the term hothouse) without plenty of succulent food, and any of the turnip tribe is of the same class of foods as clover hay. Of course,

the ensilage is not, still its succulence helps wonderfully in keeping the sheep's system cool, and furnishing plenty of milk by the ewes. I have heard so many good things of the cow peas, that I purpose to try a few this summer. There seems no doubt that cattle eat them readily. Now, if they are equally good for sheep, they will be of great value as a substitute for clover hay. The only question, then, to be solved is, Can they be grown so far north, and to a sufficient degree of maturity to make good food in time, so that the weather will permit them to be cured? This settled in the affirmative, they will have a great value here. They have this advantage over Canada peas, they are not subject to mildew, and grow best when the weather is hot and dry; so they can be safely sown at any time in June, and do not do well if sown before the usual cold June rain. Canada peas do best if sown quite early, and if not so sown, are quite liable to be seriously injured by the mildew. J. S. WOODWARD.

Bean Straw; Oats and Peas; Roots.

The question of substituting some other fodder for clover hay for sheep is, at best, a serious one, and it is all the more trying when the decision must be made at this time of the year. To my knowledge, nothing equals the legumes as a coarse fodder for sheep, when it is desired to raise early lambs. Well-cured clover hay most nearly approaches the ideal fodder. Many early lamb raisers have succeeded fairly well by feeding well-cured bean straw, when the clover hay ran short. While this does not equal the hay, yet it makes a good substitute, and when fed judiciously with plenty of roots, the flow of milk may be kept up fairly well. If bean straw cannot be secured, I would, by all means, sow oats and field peas mixed. Cut these green and cure for hay. Cow peas, when grown under favorable conditions, produce a fairly good crop, and make, when cured, good sheep fodder. As the cow pea is a hot weather plant, it is not likely to give satisfaction under all conditions. It is usually disappointing on heavy clay soils. When planted on a deep, rich loam, in a warm season, with plenty of moisture, there should be no difficulty in securing a good growth of excellent sheep fodder. The variety known as the Whippoorwill is recommended for the latitude of Pennsylvania and farther north. If it is doubtful about securing a sufficient quantity of good hay for the sheep, plans should be made for raising an abundance of roots. If the supply of roots run short, without good hay the result could not be other than disastrous. With a partial supply of clover hay, and patching out with beans or Canada peas or cow peas, with a good supply of roots, the flow of milk can be kept up tolerably well. The idea is to feed for milk production. As a rule, mangels give better satisfaction than turnips for sheep. They are more easily kept in prime condition than are flat turnips. Sheep eat turnips fairly well until they get pithy, then they are not so good as mangels. The latter should have been planted early in the spring. If the supply of these roots is not likely to be ample, turnips should be sown a little later, the turnips fed first, and the mangels later in the season. GEO. C. WATSON.

Pennsylvania Agricultural College.

How to Grow Oats and Peas.

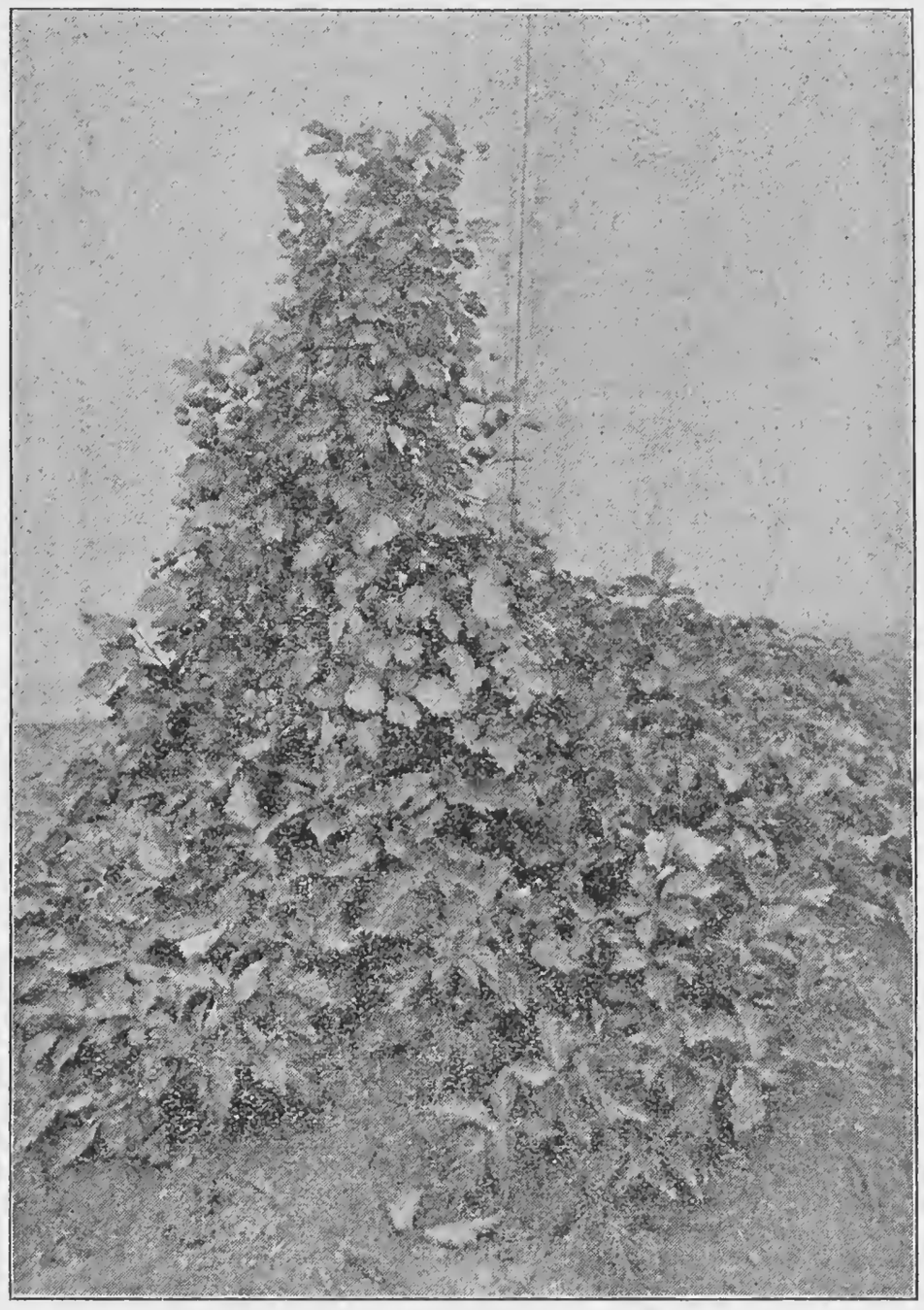
Oats and peas sown thickly, two bushels of the former and not less than a bushel of the latter, per acre, will make an excellent substitute for clover hay. True, some of the stalks of the oats will not be eaten, but sheep are able to pick them over so closely that little waste will occur, and the uneaten particles can hardly be called waste, since they may be used as necessary bedding. It is not too late to sow these plants for forage. The peas would better be put in two or three inches deep, with a gang plow or some similar implement, and the oats drilled in at a less depth. At this time of year, the roller would better be used after the plants have come through the ground two or three inches, unless the ground be so dry at seeding time that it will be necessary to roll immediately in order to promote germination. If a liberal amount of nitrogenous concentrated foods be fed, the ewes will eat and relish, and do well, on a greater or less amount of dry straw. It is surprising how much they will eat of this, if the ration be made narrow, that is, if a liberal amount of oil meal and cotton-seed meal be mixed with the bran and corn meal. The lambs eat but little roughness, in any case, and can be largely maintained on the ordinary concentrated foods. It is not too late to plant mangels, if the ground is in prime condition. Or common white flat turnips may be grown between the rows of corn, or on some of the ground where clover has failed, and both of these being carbonaceous, and the mangels especially beneficial in promoting the flow of milk, will go well with the oats, peas, and straw. I. P. ROBERTS.

USE AND CARE OF CREAM SEPARATORS.

SOME CAUSES FOR POOR WORK.

PART I.

The invention of the principle of the centrifugal separation of cream, whereby, as some one has said, we "force the fat globules out, instead of coaxing them out," marks a new era in dairy science. Like most inventions, it is the record of an idea, slowly developed and improved, until, at present, the cream separator has, perhaps, in all essential principles, reached its limit. It has been a wonderful evolution from the clumsy contrivances brought to this country in the late '70's, up to one of our beautiful modern machines, skimming 4,500 pounds of milk per hour.



A PLANT OF MAYES HYBRID DEWBERRY. FIG. 137. SEE FIRST PAGE

It is like ancient history to read of the strange separators in use at the famous Deer Foot Farm in 1880. The first of these was of an intermittent type, that is to say, a "charge" of milk was run into the "metal drum," and revolved at about 1,000 revolutions per minute for from 15 to 40 minutes, when separation having been completed, the cream was removed by means of a "pipe-scoop" (the germ of the Danish-Weston of to-day), and then, another "charge" being introduced, the process was repeated. The bowl of this truly remarkable machine was two feet in diameter, and 10 inches deep, made from 950 to 1,040 revolutions per minute, and could separate three "charges" or 700 to 800 pounds of milk per hour. The cream and milk were so badly frothed as to be doubled in bulk. The cream separator in this form could never have been much more than a very interesting dairy toy.

The great forward step was, as one of the early patents specifies, "the continuous separation of milk in a closed cylinder," and with this idea, the invention was an assured success. It was a very simple improvement—the automatic withdrawal of the separated cream, instead of "its periodic removal according to the judgment of the operator." Since then, the separators, all exactly alike in principle, have removed the cream by one of two different methods—either the old idea of scooping up the cream by means of a curved tube brought to a sharp, cutting edge, and so constructed as to be moved in or out, thus taking a greater or less proportion of the whole as cream—a method still used in the Danish-Weston. The other consists of a system of tubes running to the extreme outside of the bowl, and another tube running to a point near the center, thus being so adjusted, one to the other, that a small portion of the whole supply of milk will pass through the tube running to the center, constituting the cream, while skim-milk, which occupies a position next the outside of the bowl, is drawn off by tubes or openings at this point, and discharged into separate conductors.

Making separation a continuous process—a very natural step—was, then, the first great advance. The next idea which marked an epoch in separator construction, was the breaking up, or sectional division, of the solid wall of milk in the bowl. This was done by the "Alpha" disks about 1890, and this feature worked such a revolution in separator building, that from that time, all but one or two makes of machines have been obliged to use some modification of the great idea. Previous to that time, all separator bowls were essentially hollow metal cylinders, with simple wings on the inside. Since then, the favorite occupation of inventors has been to put almost any kind of a tin device, punched full of holes, into the bowls. One of the largest separator firms is said to have tried, literally, hundreds of different devices in its bowls, some of them better than others, but doubtless, the poorest a great improvement upon the old-fashioned hollow bowl of a half dozen years ago.

But the separator is here, and as it exists at present, is a very perfect machine. What the future will bring to it, we do not know. Probably, we shall come to separate our milk at a lower temperature, something any separator will do now if the rate of inflow be reduced sufficiently. The alluring scheme of butter direct from the milk, while it has often been accomplished with some measure of success, has still many grave difficulties in the way, and probably, does not seem so near at hand as it did five years ago.

What, then, as to the care and use of the separator as it exists to-day, especially the smaller sizes in use upon the farm? The separator is not a complex machine, in the sense of multiplicity of parts; but it is emphatically a machine of delicate adjustment. The most usual way in which a machine is liable to get out of order, is the oft repeated complaint that "the bowl shakes." This is a very common and, when not remedied, serious matter. It is especially troublesome in the smaller machines. While a slight jar does little harm, any pronounced wabbling or rattling of a bowl when up to speed, will, perhaps, seriously impair the work of the machine. By far the most usual cause of a shaking bowl, lies in the rubber ring which cushions the upper bearing of the bowl spindle. Even with all care, this ring becomes saturated with oil which swells it unequally, on one side or the other, thus throwing the bowl spindle out of line with the lower spindle, and causing the bowl to wabble sometimes so badly as to make it almost impossible to run it at all. This trouble is especially perplexing because of its sometimes temporary nature. A machine may run all right at night, and very badly in the morning; or it may even run very poorly for a part of a run, and suddenly settle down and run smoothly for the rest of the time, owing to some slight change in the position of the rubber ring or to the swelling equalizing itself. The only thing to do is to put in a new ring, and keep it as free from oil as possible. It may last for months, or it may swell unequally and trouble again almost immediately. This rubber ring may also be ruined by heating the bearing so hot as to burn it—a not very infrequent occurrence with power machines. An effort is being made to replace this rubber cushion by one made of coiled steel wire, which will not be affected by oil or time.

A shaking bowl may also be caused by the machine being set out of level, although I have never been able to see that a slight change in this respect would make as much difference as is often stated. Still, a separator should be set as nearly level as can be determined by a spirit level resting in any direction across the top of the bowl frame, and it is very necessary that it be set on something solid, preferably a cement floor or stone pier. Absolute firmness of foundation, will often overcome any tendency to shake.

Another cause of a bowl shaking, and one which

ought not to exist in a new machine, is the wearing of the spindles or their bushings, so that they no longer run "close." The fit of a separator bearing must be very exact; any slight "play" due to wear or inaccurate work in turning up the spindle, will cause shaking of the bowl, and heating of the bearings, more power will be required to run it, and it must be remedied. Sometimes a new bushing may be all that is required, or if the spindle itself be worn, it will have to be turned down to a new diameter, and a special "repair size" bearing put in. Of course, any springing of a bowl spindle, from a fall or other accident, will make it impossible to run it. Milk let into an empty bowl while the speed is very low, will often cause most violent jarring, and any large machine will start more smoothly if the bowl be first filled with water or milk, because every bowl when made, receives its final balancing when filled with water. The disarrangement of the plates or other skimming device, may cause a bowl to shake by throwing it out of balance. It is a safe rule to follow that our machine must not jar, as it affects the skimming unfavorably, is unpleasant and consumes a great deal of power. JARED VAN WAGENEN JR.

Hillside Farm.

CIVIL ENGINEERING FOR BOYS ON THE FARM.

PART IV.

How to Use the Leveling Instruments.

We will suppose that you have a level mounted on a tripod such as has been described, and a graduated rod, or their equivalents in some form, and that you wish to find the difference in height between two points. Set up the level at about equal distances from the two points, either in line between them, or wherever the ground is most favorable for the purpose. When setting it up, spread the tripod legs so that the instrument will stand firmly, and, at the same time, have the top as nearly level as you can guess. Turn the cross-bar with the level tube so that it will point toward one of the points whose difference in level you wish to learn. Then level up the cross-bar as nearly as possible. A glance over it toward the horizon will indicate whether it is nearly level or not. Then pour the colored water into the tube, filling it till the water rises into plain view in both the glass ends of the tube. If the instrument be not level, the water will show it at once, and it may be adjusted accordingly.

Now an assistant, whom we will call a rodman, holds the rod up plumb, with its lower end resting on the point from which we wish to get a level and with the marked side toward you. The rodman moves the target up or down on the rod as you direct, until it is exactly in range, hence on the same level with the surface of the water in the instrument. The distance from the target down to the bottom of the rod, shows, of course, how much that point is lower than the instrument. If the rod be properly marked, that distance can be read right off from it. It is called the rod reading. If the rod is not marked, of course you will have to measure it with something. The rodman now takes the rod to the other point, sets it up, and you take an observation on that in the same way. These two rod readings tell just how much each point is lower than the instrument, and their difference is the difference in height of the two points. The point with the greater rod reading is the lower. If the rod reading at point A, be 7.24 feet, and that at point B, be 4.18 feet, then B will be 3.06 feet higher than A.

You might go on and take rod readings at as many points as could be reached from the instrument, without moving it except to swing the cross-bar around as the occasion demanded, and the difference between any two of the rod readings, would show the difference in height of the points at which they were taken. That is all there is of leveling—all else is simply doing the same thing over and over again, and keeping the figures correctly.

How to Run a Line of Levels and Keep the Figures.

To illustrate this, we will work out a case. We will suppose that you have a pond that you would like to drain, and wish to learn whether you can do it or not, and if you can, how far you must go, how much digging you must do, and how much tile you need to carry away the water. Naturally, you will look the ground all over carefully the first thing you do, to see what promises to be the best route for an outlet. Then you will measure the water to find how deep it is in the deepest place. Next, stake out the line where you wish to do the leveling. You will need a lot of stakes for this, about two feet long, sharpened at one end to stick in the ground, and flattened smooth at the other end to be marked. These are to be driven at equal distances along the line. The line should be as straight, and have as few angles in it, as the circumstances of the case will permit. If you prefer to keep your distances in rods, four rods is a handy distance to space the stakes. If you prefer feet, set the stakes 100 feet apart. That is the distance usually adopted by engineers. If you have no chain or tape with which to measure, a light wire such as was formerly used with the grain binders, makes a good substitute.

Set the first stake at the point where you wish to start the levels, either at the deepest place in the pond, or if the water be too deep, at its margin. Mark this stake, 0, and drive a short stake down beside it, so that the top of the stake will be even with the surface of the water, or of the ground, as the case may be. This short stake or hub is to stand the rod on, when taking the levels. It should set firmly in the ground, so that, in case you have occasion to take the level over again, you will be sure of having the same starting point. In figuring up the depth of the ditch or tile, it will be measured from the top of the hub. For this reason, the hub ought to be squared off at the top, and set firmly enough so that a man would not crowd it deeper in the ground if he should happen to step on it.

Now go on and stake out the line where you think it ought to go, setting the stakes at equal distances apart, and numbering them consecutively, No. 0 at the beginning, No. 1 at the end of the first space, 2 at the end of the second, and so on as far as you go. Then the number of any stake will tell you how far it is from the starting point. Suppose you make the spaces between stakes 100 feet; then stake No. 6 is 600 feet from the starting point. Put the stakes in the straight line, and drive a hub to the surface beside each one, to take the levels from. Some pickets to set up along the line, will aid in getting it straight. These pickets should be sharpened at both ends, one end to stick in the ground, and the other to sight over. They should be high enough when set up, so you can just see over the top of them, and range the line by the sharpened points. If you set them at such distances apart that you can see three of them at once, you can run a line rapidly and very truly. Make as few angles in the line as the nature of the ground will permit. If an angle come between the regular stakes, drive a stake at the angle, and mark it as a plus station giving the distance from the preceding stake. Suppose that the angle comes 46 feet beyond stake No. 8; mark the stake at the angle, 8+46. If the ground is rough, you would better put in plus stakes wherever the slope of the ground changes, and take levels from them also. FRANK HODGMAN.

Michigan.

ALL SORTS.

ALFALFA IN OHIO.—We cut our Alfalfa May 26, and June 1, the first being the four-year-old plot, which, apparently, gets better each year. The last was the seeding of April, 1895, which endured the most severe drought of many years, vastly better than any other crop on the farm, but suffered from winter freezes to some extent, not having made sufficient root growth the previous season. It made at the rate of one ton to the acre of very excellent hay, being two to three feet high, and in full bloom. We expect to cut it the first of each month, as the old plot made a growth of one inch per day during the very dry seasons of 1894 and 1895. It will thus produce at the rate of four or five tons per acre, and next year do even better. I have faith in the future of Alfalfa for Ohio farmers. Crimson clover has not been successful with us. Seven different seedings made in 1894 and 1895 were all failures, more or less. One plot did nicely up to the March freezes, which killed it outright. Saghalin and winter oats have failed utterly, but might do better in more favorable seasons.

Shady Nook Farm. JOHN L. SHAWVER.

TRY HOME-GROWN SEED.—I sowed several pieces of Crimson clover in 1895, but drought, grasshoppers, etc., destroyed all but one; this ¾ acre was sowed in fodder corn at the last working. The soil was the poorest on the farm, stony, but not gravelly or loose, partly on a hill. The ground was worked repeatedly until it was nearly as fine as flour, the catch was good, the growth slow, probably, on account of dry weather and poor soil; but the ground was well covered before winter set in, but not very high, perhaps six inches on an average. When the snow went off, the clover was there as fresh and green as one could wish; but it began to die at once, and at present, there is not enough on the piece to cover one square rod of ground; I do not think that it was killed by heaving. We had very warm weather when the snow melted, followed by hard frosts. The coldest weather we had during the winter was 36 degrees below zero; but the ground was well covered with snow at the time. I shall let the thickest of the clover stand until the seed is ripe, for the sake of getting a few seeds grown at home. A. B. T.

Pulaski, N. Y.

CRIMSON AND RED CLOVER.—July 20 last, I sowed 10 pounds each of Crimson and Red clover seed on an acre of ground, on which was growing a heavy crop of corn. A timely rain brought it up promptly, though the fall was very dry. The corn was cut and shocked, and the clover had no protection but the corn stubs and what grass escaped the cultivator. The winter was a mild one, the temperature going down only to zero; yet I regarded it as a rather hard winter on clover. The spring was very early, warm and dry. During the first week in May, the whole acre was a rich flower garden; so completely was the ground covered with the Crimson bloom, that I thought the Red clover had failed, or been choked out by the Crimson. However, as the Crimson bloom began to fade, the blooms of the other began to show, and by May 20 the whole field was even more densely occupied with the blooms of the Red, than it had been with the Crimson. I cannot see by this test, but one variety is as hardy as the other; but it seems to me that this experiment raises the important question, whether the Red clover may not be sown in July, at the laying by of the corn crop, and answer the same purpose as the Crimson. Has anybody tried it?

White Hall, Ill. A. W. F.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

FIGHTING INSECT FOES.

ANSWERS BY M. V. SLINGERLAND.

Sulphur as an Insecticide.

H. C. S., Huntington, Long Island.—How does sulphur act as an insecticide? Flowers of sulphur is insoluble in water, but vaporizes at a certain degree of heat, and forms either sulphurous acid or sulphuric acid, according to the degree of heat. The latter is known to be a deodorizer, and to stop decay. Is it sulphurous or sulphuric acid that is the remedy? Will you help us to form some opinion when to apply it?

Doubtless tons of sulphur are used in California every year in the making of the lime, salt and sulphur wash so extensively used on the fruit trees. The dry powder, or flowers of sulphur, is also often recommended to be used alone for insects. Yet, I do not know that any one has ever explained how it acts to kill insects. I have often wondered how it could, knowing that, as H. C. S. says, it is perfectly insoluble in water, and that it may be freely taken by human beings without deleterious effect. The only effect I can imagine it may have on insects, is that it might be applied thickly enough to coat them over, and thus close the breathing holes along the sides of their bodies; or it may act as a too violent purgative if enough were eaten. When the lime, salt and sulphur wash is made, the sulphur is boiled a long time, but no amount of boiling will change the sulphur. If the flowers of sulphur be melted and boiled over a fire, the vapor simply corresponds to the steam arising from boiling water, that is, the sulphur vapor is readily converted back into the dry powder from which it came. To get sulphurous acid, it is necessary to burn in the fire the sulphur; the fumes given off are known as sulphurous dioxide which, dissolved in water, gives the acid. To get sulphuric acid, it is necessary to use violent heat and add nitrogen; the commercial acid is not obtained in this way. Sulphurous acid, not sulphuric, is the deodorizer. It is quite probable that the sulphurous acid fumes from burning sulphur, will kill insect life, but the application is limited to confined areas, as the rooms of a house.

I doubt the insecticidal properties of the flowers of sulphur used as the dry powder, or boiled in water. Even if it is, I believe that we have other insecticides that will prove much more effective. I wish that some one would explain its insecticidal properties if it has any.

How to Kill "June Bugs."

G. H. J., Missouri.—Does the common June bug—I think it is the adult of the White grub—do any damage to apple trees or apple blossoms? Every warm night when the orchard is in bloom, it is filled with June bugs, millions of them; their humming and buzzing can be heard five rods. I notice that they are attracted by a light, and if they are injurious, would it be practicable to destroy them by a large fire built in the orchard after dark, into which they would fly? Could not the White grub be kept in check through the same means—the killing of the adult?

Yes, the May beetles or June bugs often do serious damage in an orchard. I have known them to eat all the blossoms and nearly all the foliage from a young plum orchard. They fly and feed only at night. While it is true that they are readily attracted to lights, it is also a fact that it is the male insects that are attracted in much the larger numbers. It is very doubtful whether enough would be killed by a bonfire in an orchard, to pay for the wood used to make

the fire. As many or more would come to, and be killed by, lanterns set in a pan of water on the surface of which oil had been poured. These would also prove too expensive. The destruction of insects by attracting them to lights, is not now considered, by entomologists, a practicable method. A thorough spraying of the trees upon which they feed, would, perhaps, destroy some; but a much more effective method is to jar them (they drop like curculios) on to sheets or curculio catchers, and destroy them. The jarring would have to be done at night, of course, and the time of night might make some difference; this could be easily determined by experiment. It is the most practicable method yet suggested for combating the beetles, where they attack trees. Yes, the killing of the adult—the May beetles—would greatly decrease the numbers of their young, the White grubs.

Lye in Place of Lime for Bordeaux Mixture.

Reader, Benton Harbor, Mich.—Would concentrated lye take the place of lime in the Bordeaux Mixture for spraying?

I think not, for the following reasons: When a solution of concentrated lye (sodium hydroxide) is added to the copper sulphate solution, used in the Bordeaux Mixture, there is at once formed a light, fine precipitate which rises to the top of the mixture. This precipitated powder is copper hydrate, which would form the active fungicidal principle in the mixture. The acid copper sulphate alone is very injurious to foliage, as is also the alkaline concentrated lye solution. It would, therefore, be necessary to combine the two in just the right proportions to form a neutral mixture; for, if not enough concentrated lye were added, there would be some copper sulphate solution left, and if the lye were added in excess, the surplus lye would be a very injurious ingredient. It would require much more careful manipulation to get the mixture neutral, than is now the case in making the Bordeaux Mixture. A slight variation of the amount of lye, either way, would leave a very injurious element in the mixture, whereas, in the Bordeaux Mixture, an excess of lime leaves no injurious element, but adds a desirable quantity which may take up and render insoluble any arsenic which may come into solution from the addition of Paris-green.

Let us look, for a moment, at the expense necessary to make a mixture with the lye. It would take about two pounds of the ordinary commercial concentrated lye to neutralize the usual six pounds of copper sulphate used in 50 gallons of Bordeaux Mixture; it takes from four to six pounds of lime. The two pounds of lye will cost, at least, 20 cents, while the required amount of lime can be bought for less than half as much. Thus the use of the lye would render the Bordeaux Mixture made with it, more expensive, more difficult to manipulate, and it would be very liable to injure the foliage severely; even a chemically neutral solution might prove injurious when experimented with. It is very doubtful whether any substance will be found that can fulfill all the requirements of the Bordeaux Mixture as cheaply and as satisfactorily as the lime does.

The Troublesome Umbrella Ant.

H. M. S., Monclova, Mexico.—How can I get rid of the Umbrella ant? These ants have various names, but are known by their way of carrying, each, a piece of leaf, as they go, thousands at a time, in procession to their homes. We have tried every means advised without any good result—dynamite, powder, turning a small stream into the nest, opening, pitfalls, bottles, poison, even digging huge holes in the attempt to destroy the nest, but all in vain. Last year, a large wild cherry tree, when in bloom, was stripped clean of leaves and blossoms. A field of barley had all the tender blades bitten off; cabbages, peas, beans, even the tops of young onions, suffered. If no remedy can be found, all chance of gardening is gone. There is only the one kind of ant which is so bad. I have seen in papers, that this kind did not do any damage to crops, but my experience and that of my neighbors, proves the opposite.

Mr. Bates has recorded many interesting facts about this Umbrella ant, in his well-known narrative of "The Naturalist on the River Amazons." He says that the insect is common in, and quite peculiar to, Tropical America, and from its habit of despoiling the most valuable cultivated trees of their foliage, it is a great scourge to the Brazilians. In some districts, it is so abundant that agriculture is almost impossible, and everywhere complaints are heard of the terrible pest. There are three different kinds of workers in the nests; two of them have enormous heads, but most of the work is done by the more numerous smaller workers. The outworks of their nests consist of domes, about two feet in height and, sometimes, 40 yards in circumference, composed of the subsoil brought up and cemented together. There are several openings in each dome, which lead into vast subterranean galleries extending in every direction, and often for long distances.

The little people are civil engineers as well as architects, for they have been known to excavate a tunnel under a South American river as wide as the Thames at London Bridge; these triumphs of engineering skill having been executed long before such subfluvial thoroughfares were ever heard of by the human family. These ants are true harvesters, and have a very troublesome habit of plundering the stores of provisions in houses at night, especially the mandioca meal or farinha which is the bread of the poorer classes in Brazil. They come in vast hordes, and will carry off bushels of the grain, kernel by kernel, in a single night.

But their name of Umbrella ant comes from the peculiar and interesting habit the workers have of climbing trees in multitudes, and each one deftly cutting out with its sharp jaws a nearly circular piece of a leaf which is at once carried to the nest, or let drop to the ground where another relay of workers take care of it. They are wont to carry each piece of a leaf in an upright position, thus imitating an umbrella to shield them from the tropical sun. As all take the same road to their nest, and walk in procession, a very grotesque effect is produced; the path they follow sometimes becomes, in a short time, smooth and bare, looking like the impression of a cart wheel through the herbage. Unfortunately, the creatures most often choose the cultivated trees, like the coffee and orange.

What use is made of so many bits of leaves? Mr. Bates believes that they used them to thatch the domes which cover the entrances to their subterranean dwellings, thereby protecting from the deluging rains, the young broods in the nests beneath. The heavily-laden workers, each carrying its piece of a leaf, troop up and cast their burdens on the hillock; another relay of workers place the bits in position, and cover each with a layer of earthy particles brought up one by one from the soil beneath. However, Mr. Belt, another, naturalist, since discovered that, in Nicaragua, the ants store the leaves until they decay, and that on the decaying mass, a fungus grows which forms food for the little creatures. "They are," Mr. Belt adds, "in reality mushroom growers and eaters."

Having thus briefly discussed the interesting habits of these curious Umbrella ants, let us now turn to the economic side of the question, and see what has been or can be done to mitigate their ravages. Mr. Bates says: "In the Botanic Gardens, at Para, an enterprising French gardener tried all he could think of to extirpate them. With this object, he made fires over some of the main entrances to their colonies, and blew the fumes of sulphur down the galleries by means of bellows. I saw the smoke issue from a great number of outlets, one of which was 70 yards distant from the place where the bellows were used, thus showing how extensively the underground galleries are ramified." How successful this method proved, is not stated, but it may be inferred that it was not very effective. I can find no other account of any experiment against these insects.

H. M. S. seems to have tried almost everything that promised any success, but with no satisfactory results. The experience of the gardener given above, would indicate that the sulphur could not be thus effectively applied. The only other substance which I can suggest, is carbon bisulphide. This is very successfully used against our common ants in the United States. The fumes of the liquid, being heavier than air, would settle into the remotest galleries of the nest, and would be sure death to all animal life. Its application, however, may not be practicable, and may be too expensive. It would involve the closing tightly of all of the external openings possible; and before closing each, a ball of cotton or other material well saturated with the bisulphide, is to be rolled into each opening. This is the most promising method I can suggest, and is worthy of an extensive and careful trial. The fumes are very poisonous, and are also expensive. The best bisulphide for the purpose can be obtained of Edward R. Taylor, Cleveland, O., at 10 cents per pound in 50-pound cans.

What is "Land Plaster"?

F. B. T., Visalia, Ky.—What is "land plaster", and what its value, if any, as a fertilizer, and bug or insect repellant? What is it worth compared with fine ground bone at $30, and muriate of potash at $50 per ton?

ANS.—"Land plaster" is a name given to sulphate of lime, which is a combination of lime and sulphur. It is a white powder, not caustic or burning to the touch as are some forms of lime. It is mined in large chunks, and ground to powder. By heating it so as to drive off the water, you will have plaster of Paris which, when mixed with water, forms a hard substance, such as we see in some of the cheap images or castings. Grind these up, and you would have land plaster again. This substance has no fertilizing value that may fairly be compared with that of bone or muriate. Its value lies in the fact that it can bring about certain chemical effects. When placed near the carbonate of ammonia, the sulphur and the lime "break up" or separate. The sulphur unites with the ammonia to form sulphate of ammonia, while the lime forms a carbonate. The sulphate of ammonia will remain in the pile or stable unless washed away, while the carbonate would have passed away as a gas. The plaster changed the form of this valuable ammonia, and that is the chief object in using it.

Packages for Peaches.

R. B., Cherokee Nation.—I wish to crate some peaches next month, for shipment to Kansas City. How should I build the crates? What is the proper size, etc.? Can I make strips out of one-fourth-inch Yellow pine lathing?

ANS.—The parties to whom you intend to ship, are the ones to give you the information as to the most desirable packages, their size, etc. Crates vary in size and manner of construction in different markets. Usually they hold about three-fourths to one bushel. The strips you mention should be good for this purpose.

To Kill Out a Foul Weed.

L. M. M., Washington, Pa.—I have 20 acres of Timothy meadow that is good enough to please any one, except that it is polluted with yarrow. In some parts of the meadow, it is one-fourth yarrow. What shall I do with it?

ANS.—Two methods, only, are open, and it is difficult to advise which of them should be adopted to rid the meadow of yarrow, because they are expensive, and will, probably, upset the plans of rotation and feeding now practiced. One is to plow the meadow and cultivate it with corn until the yarrow is destroyed; the other is to dig the yarrow by hand. Either of these methods would seem to be nearly as bad as to go on with the yarrow present. We are great believers in raising those crops which permit of inter-culture, such as mangels, corn and the like, because it serves to rid the fields of weeds, and this method secures two to four times as much forage per acre for animals as is secured in ordinary practice. Six to seven tons of air-dried material should be secured from corn, and not less than 30 tons of mangels per acre. These combined with some concentrated food which contains a high per cent of albuminoids would make an appetizing, cheap and effective ration.

Making Small Cheeses at Home.

J. C., Victoriaville, P. Q.—How can I make small cheeses for family use? I have about three or four quarts of milk to spare a day.

ANS.—J. C. does not fully realize the amount of milk required to make a pound of cheese. A quart of average milk contains about two ounces of solids applicable to the manufacture of cheese; that amount of solids will assimilate about one-half its weight in moisture. From this, it will be seen that it would require about five quarts of milk to make a pound of green cheese. It has not been found practicable to make a cheese weighing very much less than 10 pounds, which, on that basis, would require about 50 quarts of milk. Manufacturing that quantity of milk, would require considerable care in maintaining an equable temperature to make a palatable cheese.

GEO. A. SMITH.

About the Angel Pear.

W. J. B., Denton, Md.—Are the Angel and Petite Marguerite pears one and the same?

ANS.—The Angel pear is said to have originated on the farm of a Mr. Angel, near Ghent, N. Y., as a seedling, in a field that is now his meadow. The fruit is large and handsome, quite early in season, and sells well, but is of poor quality. Petite Marguerite, originated at Angers, France. The fruit is of medium size and good quality, and ripens about three or four weeks later than the Angel and other very early pears.

H. E. V. D.

The Law of Irrigation.

S. B., Baldwinsville, N. Y.—I rent a farm for a term of years. A brook rising in another man's woodland, runs through it. The owner of my farm says that I have no right to use the water for irrigation, according to State laws, although no one else objects. Is he right?

ANS.—The common law provides that one may use water from a stream running through his land for ordinary purposes, or he may divert it for driving machinery, provided the water so used is returned to the stream from which it came before it leaves his land. Technically speaking, you would not have a right to use the water for irrigation, since you cannot return it to the stream from which it came, provided it in any way injured those who made use of the stream below, or provided any one below you objected to such use of the water. If no objections were made, or better still, if you got the consent of those on the stream below to use the water for short periods for irrigation, the man who owns the farm which you rent could, certainly, not object to your making use of the stream to promote the growth of plants, thereby benefiting both of you. In the western semi-arid belt, water is taken out of the rivers to such an extent that, for 100 miles from where it is taken, the river may dwindle into an insignificant stream, furnishing water only for stock purposes. I do not know how this is managed, but I presume "might makes right," and those in the upland and, frequently, in another State, drain the rivers for irrigating purposes, which would seem to imply that the unwritten law there is, "first come, first served," which in many cases, of course, is a bad unwritten law.

I. P. ROBERTS.

Fall-Planted Potatoes.

J. C. S., ORE BANKS, VA.—Last fall, THE R. N.-Y. set forth the intentions of a contributor to plant potatoes in autumn in order to be able to market them extra early. Here, it is a common practice to do so. Whole potatoes are planted, and the ground then mulched with forest leaves. My object in writing is to draw out from the experimenter the result of his experiment in case he made it. My own experience, this season was a very striking one. As far as I mulched the potatoes, I got as good a stand as one may wish. Though not ripe at the time, many of the tubers were of good cooking size (about as large as a hen's egg) by the middle of May. A few rows were left uncovered intentionally, with the result that the stand was too poor to admit of my allowing them to occupy the ground longer than necessary to convince me that I need not look for any more. Those that did come up, were later in doing so than potatoes planted about April 1, when the mulched lot had made considerable growth.

Judging from this single trial, the natural inference is that, although we may get volunteer potatoes from seed left in the ground, we, nevertheless, cannot get, or depend upon, a regular stand from fall planting, unless a mulch be applied. The depth of planting may have something to do with it. Mine were covered with four inches of fine, freshly-prepared soil. Most of the mulched lot have dropped their bloom, and I noticed to-day, June 1, that some of the plants indicate that the tubers are undergoing the ripening process.

Crimson Clover and Rye Hay.

C. A. S., WHITEHALL, WIS.—I sowed about two acres of Crimson clover, mostly in corn, in July and August, 1895. It came up quickly, but the weather became dry, and it made a poor growth, until the corn was cut; then rains came, and it pretty nearly covered the ground, enough to have made a good stand if it had lived. But the snow went off in February, and we had no more to speak of, but a good deal of hard freezing and wind which it could not stand. Occasionally, a bunch that was covered with some dead grass, was alive this spring. I sowed a small patch in some pop corn in the garden, left the stalks standing, and the most of that lived and looks very well, so that I am in hopes to get some seed. I think that if we had had the usual amount of snow, it would have come out all right. It was all sown on sand and sandy loam, except a small patch on muck in an old marsh. I shall try again this fall. I have just cut some rye hay; the rye was sown in corn at the last cultivation, and was pastured until the ground was frozen last fall. I think that it will yield two tons to the acre. I find it equal to Timothy hay for horses and milch cows. I shall plow the land and sow to millet, or could plant to early corn, making three crops in two years. I manure the ground well for corn.

Japan Walnuts in New Jersey.

J. H. BLACK & CO., HIGHTSTOWN, N. J.—On page 368, is a short article regarding the hardiness of Japan walnuts, over the initials, W. E. M., Jefferson County, N. Y. We would make the following comments, and trust that the same will be of benefit to your readers. This is our actual experience. Last fall, we had several thousands of the Japan walnuts standing in the nursery row, in an exposed section, which were not protected by snow at any time during the winter. They were one, two and three-year-old trees, all side by side and none of them seemed to be hurt in the least. Alongside of them, were some English walnuts grown from the northern-grown seed, and they were all right also; but some few hundred yards from them, were some English walnuts grown from imported seed, and we found that every one of them had been hurt more or less.

Returning to the subject of the Japan walnuts, we, however, had transplanted some larger ones, during the fall, in places where we wished them to fruit, so that we could show them to our customers, and we found that nearly every one of them had been killed half way down to the ground during the winter. We also found that some that we had planted on similar ground, the previous spring, were in perfect condition, and a large bearing tree of four or five years of age, was not hurt in the least, the most terminal bud starting out immediately upon the weather warming up in the spring. We, therefore, have come to the conclusion that Japan walnuts are hardy enough, but they should be set in the spring instead of in the fall, so that they will be better able to take care of themselves during the winter.

"Out West."

H., KANSAS.—C. R. W., page 351, wishes some one to write the differences between farm life in the East and in the West. I am not his man, but so closely related, that, perhaps in the absence of the right individual, mine will do for amusement, if not for profit. Though born in the West, I have had some experience in farming in Pennsylvania, Ohio and New York, and discovered that "adaptability is the twin sister of success" wherever we may go. If I owned, free of debt, a choice farm in either State, especially, if past middle life, I would stay there. I have seen so many come here full-handed, and go away "broke", that I consider it a serious thing to advise one to move. Yet, on the other hand, many are the men who came here with nothing—not a change of clothing—who now have large possessions. They moved at a snail's pace, and learned wisdom.

Most men who come West, if able to buy 40 acres of land, contract for 160 acres. If able to buy 160 acres, they contract for a whole section, and so on. There never was a better time to come West, to get the most for a little money; yet it must depend upon the man himself, whether he be successful or not.

As to raising four bushels of corn here to one in the East, I will say, that in a good year, it is more like 40 to one! And for 36 years, with one exception, we have not had as near a failure of corn, or anything else, as the last two years in Ohio.

Baling Fresh-Cut Hay.

C. E. CHAPMAN, TOMPKINS COUNTY, N. Y.—The hay must sweat before it is safe to bale it. One friend had his pressed four weeks after drawing in, and stored it in a storehouse. When ready to sell it, later, it was found to be ruined. It had heated, soured and was grown together with white mold. A hay buyer said, "It is unsafe to press hay before it has ceased sweating. I tried some, and the bales shrunk nearly one-third in weight. It soured and molded." I do not believe that hay can be cured in the field so as to be baled with safety. All efforts in this locality to do so, have been failures.

Berberis Repens.

C. S. H., WEEPING WATER, NEB.—I have just returned from a trip to the Rocky Mountains, where I have been spending a few weeks in search of health after severe professional duties. I was much impressed with the beauty, fragrance and general attractiveness of the Berberis repens [Creeping barberry]. It is an evergreen, a creeper, with leaves much like the holly. It often grows on very rough, rocky places, covering unsightly spots with its attractiveness. Its chief attraction is when in bloom in springtime. The foliage is deep green, and it bears flowers in great, rich golden racemes, which have a fragrance which fills all the air. It is a very profuse bloomer. I had seen it years before, but never fully realized how attractive it must be as a border plant. It is very hardy, and endures the drought well. It blooms in early May. The fruit is about the color of the Concord grape, with a deep bloom, and about half its size. It is sometimes called the "Oregon grape." It bears in July, and the fruit is often used by the mountain people for jams and jellies.

There is a growing demand for this plant in the East. I saw a man gathering quite a quantity for some leading horticulturists. I cannot see why it should not be quite an acquisition as a border plant. The flower is, certainly, very attractive, both in color and fragrance. The leaf is beautiful, and the fruit, though not the best, might be greatly improved by cultivation.

The White Grub Question.

W. B. ALWOOD, VIRGINIA EXPERIMENT STATION.—I am satisfied that the regular White grub occasionally breeds in summer, as I have observed this fact myself in a number of instances, and in one particular case they were present in immense numbers in hog manure that had been left some time in the yard; but I do not believe that they breed in fresh manure which is liable to fermentation. I think that Mr. Slingerland unintentionally errs in calling the larvæ of Allorhina or Green "June bug" the White grub of the South. While Allorhina and its larvæ are quite common throughout this section of the South; they are nothing like so common as the larvæ of the true May beetle. In fact, the May beetle occurs here in such numbers that the adults often defoliate large

(*Continued on next page.*)

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

oak trees, and do serious harm to orchard and ornamental trees. The larvæ of the Allorhina are very seldom seen, and occur chiefly in old pastures. The beetles are present but a short time, and make very little show. Their larvæ, I am sure, are not "dung worms" though, of course, they may be found sometimes with dung. Only once in my experience, have the larvæ of the Allorhina been present in sufficient numbers to do harm. This occurred on the grounds of the Capitol at Washington, an account of which will be found in Vol. I. of Insect Life.

Danger in Crimson Clover Hay.

C. W., SEAFORD, DEL.—I have been a champion of Crimson clover since its introduction here, and believe that I was one of the first, if not the first, to make hay of it. This has been fed to all kinds of stock with the best results always till a few days ago. On May 31, I lost a horse as a result of the hulls forming balls and causing death. I have heard of similar cases, but had fed it so long without trouble that I attributed it to badly cured hay or hulls, cut late with more or less seed in them. But my hay this year is the best I ever had, so that cannot be the cause, and I shall not feed any more. The veterinarian took 32 balls which measured three inches in diameter, and the others somewhat smaller, from the horse's stomach The substance resembles an old felt hat, and cannot be dissolved by any known means. Those who feed this hay will do well to look out for this. I have fed it, at least, seven or eight years, and this is the first trouble. As a feed for cattle or hogs, or a crop to plow under for manure, I don't know its equal.

IT was in the spring of 1894, as we remember, that Pres. Geo. W. Campbell, of Delaware, O., sent us a poorly-rooted cutting of Campbell's Early grape. Neither Mr. Campbell nor the writer of these notes, expected that it would live. It was the only available plant Mr. Campbell had at the time. With careful nursing, it did live, and is now quite a thrifty vine, having stood the past winter (18 degrees below zero, at least) without harm to a bud. There are two main branches, each about three feet high. One of them bears (May 31) a bunch of buds. Another plant was sent to us last fall by George S. Josselyn, of Fredonia, N. Y., who hopes to have a large enough stock to be able to introduce it next fall.

What weak characteristics Campbell's Early may develop, no one can tell. From what we have seen, and from Mr. Campbell's experience with it, we have high hopes that it will prove the best black grape in cultivation. The bunches are perfect as to shape, the berry is without a trace of foxiness, and the vine has, thus far, proved hardy in Delaware, O., the Rural Grounds, and in Fredonia, N. Y. We are, as in all such cases, glad to be the first to call public attention to this grape, and we request those of our readers interested in grape growing, to bear this variety in mind and, also, to bear in mind our high hopes (we might say prediction) as above expressed.....

A WEEK or so ago, we reported Hypericum Moserianum as dead. It did seem to be dead. We are glad to say that vigorous shoots have sprung up from the roots, and that it will soon commence to bloom and continue to bloom throughout the rest of the season. We know that this Hypericum is herbaceous; but knowing this, we thought that the roots were dead In our opinion, it should take rank with the most popular of herbaceous plants.....

THE Hardy Shrubby verbena, or Blue spirea, as some of our florists call Caryopteris Mastacanthus, was said to be hardy as far north as Boston. Our plant, however, is dead, root and branch. We are sorry that it is so. Its lavender flowers, produced in the greatest profusion, were most pleasing. We shall be glad to hear from others regarding the hardiness of this beautiful plant.....

IT has been said and is claimed that the hardy orange, Citrus trifoliata, is really hardy in this climate. We have had two plants growing in the same plot, about 15 feet apart, for about five years. Every winter, the plants have been harmed, more or less; last winter, one of the plants was killed, and the other was killed back about half. Neither has ever bloomed, and we must, therefore, pronounce it of no value for this and similar locations.....

WE have now about 15 different kinds of the Japan plums. The Abundance is the only one of the assortment about which we have been able to give our readers much information. This has yielded immense quantities of fruit for the past three years, and it is well entitled to a rest which it is taking this season. The tree has, perhaps, not over 20 or 30 plums upon it.....

ONE tree each of the following was planted in October, 1894, received from Wm. Parry: Satsuma, Willard, and a third, of which the zinc tag is lost; one each of Ogon, Willard, Burbank, and Satsuma, in October, 1894, from the Storrs & Harrison Co.; one of Hale, from G. H. & J. H. Hale, April, 1895. All have made a fine growth, Hale being the largest, viz., 10 feet in height. This may be because it was sheltered from the tornado of last July. The leaves of the others were riddled, and some of the branches broken. Of the above collection, Burbank—the next largest tree—is bearing about a dozen plums. Now, while all of the peach trees were more or less killed back by the past winter, not one of these Japan plums has been injured in the least.....

FROM J. L. Normand, Marksville, La., we received the following Japan plums. They were received when the ground was frozen a foot deep, and were not properly cared for. Several of them were dead or nearly so: Yone Mono, Furuguja, Nagate No Botankyo, Unknown, Wasse Botankyo, True Sweet Botan, White Kelsey, Mikado, Weeping Blood, Normand and O. Hatankyo. At the same time, Gold, Splendor and Van Deman were received from Stark Bros. & Co., Louisiana, Mo. Only Splendor is now alive.....

THE earliest and most prolific strawberry we have in our collection this year (90 varieties), is See's No. 1, from H. S. & A. J. See of Geneva, Pa. We picked a few ripe berries from it May 27. It is bisexual. The berries are round, scarlet, of excellent quality, and borne in great abundance upon upright vines with rather small leaves. The one objection is that the berries are under size—averaging no larger than the ordinary wild berry.....

EVIDENTLY, there have been different varieties of the Dwarf Rocky Mountain cherry distributed under that name. Some of our plants are badly winter-killed and bear no fruit; others have not been hurt, and are bearing a small crop. May 31, they were about the size of ordinary wrinkled peas.....

WITHIN three feet of a Catalpa speciosa, which is itself within eight feet of the north side of the dwelling at the Rural Grounds, covering an apple stump over four feet high, has been growing for many years, a Climbing hydrangea. It really may be said not to get any sunshine at all. The soil is poor, and at times, "as dry as a chip." Yet there is not a more vigorous, healthy plant on the place. It is as hardy as hardy can be. It is now (June 2) in bloom, the cymes of white flowers being flat and measuring six or eight inches across. The leaves are of good substance, glossy and beautiful. They are never infested with insects. The stems cling to the support like those of the Virginian or Veitch's Creeper (Ampelopsis quinquefolia or A. Veitchii) and the abundant foliage conceals them entirely. For such a position, it is the grandest vine of which we know.....

WE received a tree each of the Lincoln and Abundance plums in April of 1890. They were planted in the same plot, about 12 feet apart Both were introduced by Mr. J. T. Lovett. He claimed that the former was the largest in size of any of the hardy plums, averaging 2½ inches long and over six inches around, weighing over two ounces — selected specimens weighing four ounces each He further claimed (and does claim) that it is better in quality than its parent, the old Green Gage. The tree, he says, is wonderfully prolific, the plums are beautiful in form and color, very early in ripening, and curculio-proof. The color is reddish-purple, with a delicate bloom. The flesh is light yellow, exceedingly juicy, rich, sweet, melting and luscious —entirely free from any coarseness—the flesh parting freely from the stone. All of these claims may be true. We have no reason to doubt that they are, since our tree has not as yet even bloomed, while the Abundance, planted at the same time, as we have said, has given us three full crops. We would be glad to hear from any of our readers who have fruited the Lincoln.....

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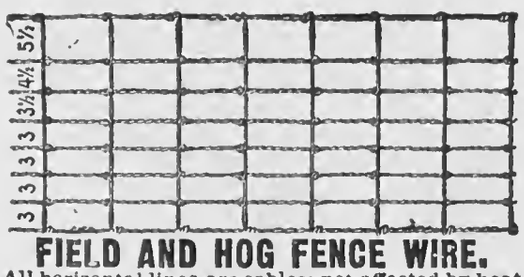

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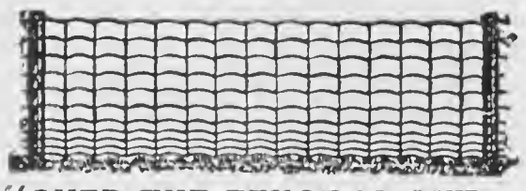

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The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

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SATURDAY, JUNE 20, 1896.

WE shall soon begin the publication of a series of articles entitled, "A Jar of Jelly," written by a woman who has made a business success of preparing table delicacies for market. Starting in a small way, under conditions similar to those experienced by the average farmer's wife, she has enlarged her business until now it has assumed large proportions. The articles will tell the whole story, and we feel certain that our readers will learn something from them. If we are not mistaken, they will be of value to those women who desire to be self-supporting, and have the knack of preparing food in an appetizing way.

⊙

NUT culture promises to be a recognized industry in this country within a few years. Many groves of chestnuts have been started, and along the Pacific coast, filbert culture is being considered. In the last three months of 1895, France alone sent us $295,890.85 worth of nuts, of which $84,529.70 went for walnuts. Spain sent $47,439.28 worth of nuts, mostly filberts and almonds. Italy sent $93,017.79 worth—about $5,000 worth of almonds and the rest nearly equally divided between filberts and chestnuts. These figures cover only one-quarter of the year, and it is evident that there is an opening here for the American nut grower to add to his revenue.

⊙

THE makers of a certain cereal preparation, put into each package a small circular advertising, in a few words, the merits of other preparations made by them. Every package that goes into the kitchen tells the housewife about the other good things the firm is ready to sell her. Why isn't this a good scheme for the farmer? If he send barrels of apples to market, why not make them advertise the fact that he also has choice butter and eggs to sell, or fancy grapes or pears? Of course, to be effective, the quality of his goods must be first-class, or they would counteract the advertisement. No one but the middleman would have any grounds for complaint, and his objections are not worth listening to.

⊙

A WESTERN New York paper reports that a farmer of that vicinity has buried 100 bushels of potatoes with the intention of keeping them until another season. He thinks that he has them covered in such a manner that they will keep in good condition through the summer. If so, this opens up a new outlook for potato growers. One disadvantage of this crop has always been that it could not be held from year to year like grain or wool, although the holding of the latter has not always proved an advantage. But if potatoes can be kept in usable condition over summer, it may relieve the market in times of plenty, and help to equalize things all around. We shall await the outcome of this experiment with great interest.

⊙

AN effort is being made in England to organize a society "for the growth, collection and distribution of British produce." The plan is to induce farmers, middlemen and consumers to take shares in the enterprise, and so conduct the business as to pay only four or five per cent interest on shares—the balance to be paid to consumer and producer. In theory, such a scheme ought to work well; but there are hundreds of obstacles to it in real practice. Society, as at present constituted, is on a selfish basis. The producer is eager for the highest price he can obtain, and the consumer wishes to pay as little as possible. The middleman wants the largest share he can get hold of for handling the goods. In order to harmonize these antagonistic elements, something besides a mere business arrangement will have to be made. Numberless schemes for bringing producer and consumer together have been suggested, but they are all likely to fail until business methods become less selfish, and both sides are ready to "live and let live."

⊙

A WRITER in the Iowa Homestead has this sensible note:

Farming on wheels is the keynote of the methods of the present day. I was once rash enough to say that when I became too old to farm afoot, I would quit. I am riding now all I can, and saving myself, and I haven't quit, neither have I any idea of doing so. I hope some enterprising genius will make it possible for me to farm for a good many years yet. Good farming tools are being manufactured now that do the work satisfactorily and well, and a man is not a dude who is seen riding a plow or cultivator or any other tool, any more than he is when he rides a planter, rake or mower. Ride! Why should I not?

Certainly; why not? It is no disgrace for a farmer to ride when he can, or to get under the shade of a canopy while riding. Most of the riding, however, will be done on the large farms. The smaller farms require more hand work. There is very little riding in the cultivation of small fruit or truck.

⊙

THERE is food for thought in the article on scrub-breeding on page 426. There is no use denying the fact that poultry breeders have nearly ruined the usefulness of several breeds by mating their birds so as to reproduce exterior and non-essential points and markings. This is not quite so noticeable in the laying breeds as in those that are used to produce broilers. The layers are not heavily fed until they are nearly mature; but the broilers are forced almost from the time they are hatched, and they must be strong and vigorous if they are to stand the forcing. It makes no difference with a broiler how perfect its comb or tail feathers would have been if it had been permitted to grow up. In a genuine broiler breed, these markings should be of small importance beside the chick's ability to gorge and digest its food for 10 weeks. We would sit down hard on any "standard" that tends to weaken constitution by arbitrary selection for exterior points.

⊙

As is usually the case at this season of the year, our readers begin to write letters asking about the great "California process" of preserving fruit. Under one name or another, this humbug bobs up every year, and many good people are induced to spend their hard-earned money in paying for worthless recipes or "secrets." This great process consists in putting some unknown substance into the cans, either with cold water or when the fruit is partly cooked. Generally borax or salicylic acid is used for this purpose, and both of these substances are injurious to health, and very dangerous in the hands of amateurs. In some cases, the "process" consists in burning a certain powder near the jar of fruit under a tight cover. The powder contains sulphur, and the fumes are supposed to be absorbed by the water in the jar, and thus act to "preserve" the fruit. The whole thing is a dangerous humbug. Far better let the "California" process alone, and stick to the good old Methodist formula of using heat to get rid of bad influences.

⊙

AT the Ellerslie Farm, the dairy room is fitted with every appliance for handling milk in the cleanest and most satisfactory way. Devices for aërating, cooling and bottling are all the best that money can buy, and the cost has not been considered in securing the outfit. A farmer might say, "That is of no value to me, because I have not the needed capital to buy such an outfit." And because of this idea, he might not even try to improve on his present system. Mr. Cottrell tells of a farmer who came to see the dairy house, and looked it over carefully. He saw that the most important things were a water-tight floor that could be washed off, walls without cracks or useless corners, and abundant supplies of hot and cold water. He had an old building on his farm, and with an outlay of $50 in cash, he has fitted it up so that he can cool and bottle his milk as well as they can at Ellerslie Farm. His homemade contrivances work well, and he is now prepared to go ahead and work up a trade in guaranteed milk. There was a man who turned his brains and pluck into capital. That paid him better than it would to borrow the cash to buy the outfit.

⊙

SOME weeks ago, THE R. N.-Y. suggested that there is a chance in almost any fruit-growing section, for an enterprising man to secure the proper outfit and go into the business of public spraying. This idea is now in actual practice. We know of a man in western New York who has a complete outfit of boiler, engine, steam pump, tank and hose, mounted on his farm wagon. A 12-year-old boy has run this outfit successfully in neighboring orchards—driving the wagon and keeping up steam. The charge is $5 a day—the owner of the orchard providing the spraying mixture, and men to hold the nozzles. With this outfit, it is possible to spray out 1,500 gallons of poisoned water in a day, and the first cost of the entire outfit was but $250. This man could not begin to accommodate those who wanted to hire his spraying outfit. In 50 days of outside work, he will pay the entire first cost of the apparatus, while the pump, boiler and tank are, doubtless, good for 1,000 days' work without repair. Here is an inkling of what is coming. A man with the needed capital, and the proper mechanical skill, has a chance to make some money as public sprayor.

⊙

THERE is a good deal of vague statement made concerning the values of the agricultural products imported from Canada into this country. The following table shows the values of five farm products brought from Canada during the three months ending December 31, 1895:

Eggs	$7,874.15
Poultry	16,204.76
Apples	58,489.45
Hay	136,039.45
Potatoes	834.70

These three months are, probably, the heaviest for apples, hay, potatoes and poultry, while more eggs are, probably, sent earlier in the year. The fact is that during the past year, the imports of almost all farm products except hay, have fallen off. The following table gives a comparative statement of the imports for 10 months ending May 1:

	1895.	1896.
Potatoes	$505.913	$78,450
Hay	1,136,009	2,420,069
Eggs	289,562	79,914

The heavy imports of hay are accounted for in the fact that the American crop was short last year, while prices were so low for potatoes and eggs that it did not pay to bring them in from abroad.

⊙

BREVITIES.

Old Major Drought comes marching with his minions through the land;
And Hay and Clover vainly strive to stay the cruel band.
But not a single cartridge of good water have they there,
For Col. Irrigation has retreated in despair;
And without ammunition, they can only stand and die.
No wonder that they watch the foe with sad and anxious eye;
Defeat means death and famine to the good four-footed friend
That in the barn, all through the year, its hard-earned savings lend
For hog and horse and sheep and cow—the mighty farm quartette,
Will die if Hay and Clover be not led by Captain Wet.
But, courage! Hay and Clover! There's a mighty substitute,
To stand between old Major Drought and every faithful brute!
His name is Sergeant Fodder Corn, the Silo is his fort;
He waves his standard at the front, whenever feed is short.
And Major Drought consumes himself with fierce, impotent rage
Whene'er his nostrils get a whiff of Fodder's ensilage.
Then rouse ye, Mr. Farmer, and send out a skirmish line
Of corn, and let his banner green along your army shine!

PUSH the pigs—into pasture.

THE Filled Cheese bill is now a law.

IT'S now or never for the Elm-leaf beetle.

DON'T promote the mote that is in thine own eye!

To reach the dyspeptic's heart, avoid his stomach!

AN interesting article (page 427) on the control of the glands of the body.

THE mill due on grain is the toll for grinding it. What cures it? The silo.

"DON'T do as I *do*—do as I say!" The words of the practiceless preacher.

DON'T try to hull the Crimson clover seed you have saved—sow it in the chaff.

DON'T let the mower bite off more grass than you can cure. It's not very likely to this year, anyway.

THE entomologists report this to be a very "buggy" season, with lots of insects hunting for our crops.

THE advantage of knowing "on which side your bread is buttered," consists chiefly in not dropping it "butter side down."

THE man who says (page 425), that he can afford to sow Crimson clover every year if he can obtain one good crop in three, has the right idea.

THE long vacation at the Michigan Agricultural College has formerly been held in the winter. It is now proposed to change and have it come in summer. This seems like a good plan from every point of view.

YOU will frequently see a grown-up woman who can make beautiful stitches, but who cannot easily go ahead and plan out a garment. Why? When she was a girl, she was taught details only—not the faculty of *organizing* these details.

THE latest dictionaries inform us that "cheek" and "gall" are slang words meaning vulgar assurance. They are not yet so firmly planted in the language that one may say, "Whoso smites thee on thy right 'check,' turn on him thy 'gall.'"

THE horn fly will soon begin operations. It works at the base of the horns and along the backs of cattle. Two parts of some cheap oil and one part of thin tar, with a little carbolic acid added, will keep the fly away. Paint the stuff on with a brush.

IN the recent London cart-horse parade, there were single horses hauling four tons and over. Of course this was under the best circumstances of smooth streets and perfect wagons. It shows, however, how the English have developed the size and strength of the Shire horse.

AN English writer claims to have lost a horse recently which had 14 pounds of fine sand in its intestines. This sand was taken in while drinking from a pasture stream. The drought had so reduced the water, that the horse could hardly drink without sipping up more or less of the sand. His system became constipated, with the result that the sand clogged up the intestines and killed him!

PEACH TREES THAT SPLIT.

WHAT CAUSED THE TROUBLE?

What causes the trunks of peach trees to crack and split? Some trees have split in the center, that is, half way betweeu the branches and the ground, while others split from the branches down. These trees seemed to be all right early in April, but as soon as the sap began to rise, they commenced splitting. Some fruit growers here say that the soil contains an excess of lime or other mineral. These trees are four years old this spring, and most of them have borne one crop of peaches, and have heretofore done well. The soil is somewhat gravelly, very fertile, and the trees have made a strong, healthy growth. The Alexander, and Early and Late Crawford are worse affected than the Globe and Early Rivers on the same ground. G. W. H.

Antlers, Colorado.

May Be Due to Freezing.

I am not familiar with the conditions in Colorado, but if this case were in New York, I should say unhesitatingly that the splitting of the peach trees is due to the severe winter. Just how the hard freezing ruptures the bodies of trees, is a disputed question with plant physiologists, but it is well known that these cracks follow a hard winter. The only thing to be done with such injuries, is to keep the wounded or exposed tissues antiseptic, and let Nature heal them over. They are kept antiseptic by painting with Bordeaux Mixture or paint, or covering with wax.

L. H. BAILEY.

A Vigorous Growth Becomes Frozen.

I have no doubt that they were split by hard freezing. G. W. H. says that the trees made a vigorous growth. The wood being porous and full of moisture, the hard freezing expanded the wood, and caused it to crack. I think that, if G. W. H. had examined the trees closely during the winter, he would have discovered the crack then; and as the trees begin to grow in the spring, these cracks will gradually widen. Trees with split trunks will send out a feathery, unhealthy growth during the summer, and will have every indication of the "yellows," so-called. I am inclined to think that, were it not for the hard freezing of trees after a warm spell in the winter, peach growers would never be troubled with the "yellows." The more vigorous the tree, the more liable it is to split or be injured by frost; so if the Colorado soil makes too vigorous a growth, stunt it by summer pruning. Try a tree by cutting off half the growth made about the middle of July.

EDWIN HOYT.

Moderate Growth; Low Heads a Preventive.

I am greatly at a loss to account for the splitting of peach trees in this manner. The malady is a common one with the sweet or mazzard species of cherries, especially at the West, upon the trunks and larger branches of high-headed trees. In such case, however, it invariably occurs in winter, during severe paroxysms of cold, and is generally believed to be due to the hardening of the bark and young wood from exposure to the heat of the sun in summer, and its excessive shrinkage during severe cold. Trees with heads low enough to shade the trunks, and not too rapidly grown, are usually exempt. In the case of the peach trees of G. W. H., especially if high branched and rapidly grown, the cause may be similar. The shrinkage under the bright sun, in the very dry Colorado climate, may, perchance, produce a parallel result in summer, though I have not previously known an instance of the kind. If such be the true cause, the obvious remedy would be, moderate growth, with low heads. T. T. LYON.

A Mulch Might Help.

Not knowing all of the peculiar conditions of climate at Antlers, Col., during the past winter, it is quite impossible to tell whether the trees were injured by severe and continued cold, or not. This I have seen occur several times in Kansas, where the conditions are somewhat like those of Colorado. Protracted periods of low temperature, especially in a dry climate, often injure tender trees like the peach, and because of the evaporation of the water naturally in them. During any severe cold spell, the bark on the twigs and smaller branches may be seen to be shriveled; but as soon as the temperature becomes more normal, the sap of the tree, which is said by a few careful experimenters not to freeze, soon replenishes the water supply, provided the earth is not so hard frozen as to prevent the roots from absorbing it. Hence, a mulch of leaves or any trash, or a covering of snow that prevents deep freezing of the soil and keeps the soil moist, will act beneficially.

I have often seen peach trees killed or badly damaged, by evaporation to the snow-line, and all sound below it. If the wood is of a soft and tough nature like the cottonwood and other species of the genus Populus, the elm and the box elder, they will withstand the unusual shrinkage of their wood from evaporation without splitting; but the peach, cherry and other trees with firm, yet easy-splitting wood, will crack easily. I have seen fruit trees so much dried out during long, cold spells on the western prairies, that one's finger could almost be thrust into the split places, and which afterward closed up with the return of mild weather.

The trees on G. W. H.'s place may have been cracked by one or more cold spells last winter, and closed again without having been noticed; but upon the coming of hot, dry weather, the cracks again opened. We must always remember that cold air is very hungry for moisture. If a current of it be added, the conditions are made still more trying to trees, and all vegetation in their dormant state, and a long continuance of severe cold, windy weather, is almost sure to result in damage. This is the main trouble with fruit-growing in the Northwest, east of the Rocky Mountains. H. E. VAN DEMAN.

POTATOES IN FIELD AND MARKET.

VARIETIES, PACKAGES, MARKETING.

The season for old potatoes in this market, is now practically closed, though they are doing somewhat better at the close than for some time back. Still, not many are wanted at this time of year. It has been, without doubt, so far as financial returns are concerned, the worst for, at least, a score of years. The reason of this was, of course, an immense crop that far exceeded the demand. Almost none were imported except the comparatively small quantities from Bermuda and Havana, and these brought excellent prices, notwithstanding the large supply and low price of domestic stock. The crop was large in almost every part of the country. It is not unusual to have a large yield in some parts of the country, but there is usually a shortage in others, so that things are equalized.

But the trouble was not entirely due to over production; under consumption in some quarters was also a factor. In this city, and in many other of the great cities, hundreds of families were almost starving for lack of food, while within a half day's journey by freight, potatoes were selling for 10 cents per bushel, and in many parts of the Empire State, would not bring enough to pay for hauling to market. Thousands upon thousands of bushels were dumped in the fields, or got rid of in the easiest possible manner as so much waste.

Wherein lies the trouble? It is the same with these as with many other food products—imperfect distribution. The railroads absorb too much for carrying these products; their rates are as high when potatoes are 10 cents per bushel, as when they are $1—but they are always too high. Another thing, the poorer classes buy in too small quantities. Many of them are forced to this, because they have no facilities for storing any great amount of provisions. Potatoes could be bought during the past winter at $1 or less per barrel in this city, and although the retail price was somewhat lower than usual, it was still high. Perhaps 10 cents for a four-quart measure, would be about the average, but at this rate, two or three prices are paid.

The first of the new potatoes to reach here come from Bermuda, and arrive generally, at least, about the holidays. They bring good prices, sometimes as high as $10 per barrel. Then later Havana sends a good many which bring about as much as those from Bermuda. After these come those from Florida and New Orleans at somewhat lower prices. These far southern States usually send considerable quantities, and are increasing their shipments yearly. As the season advances, the supplies come from Georgia, the Carolinas, then from Virginia, Maryland, Delaware and New Jersey. Norfolk is now sending a goodly number. These are mostly packed in barrels. Sometimes new potatoes are received here packed in sacks. This is a mistake, for until the skin sets sufficiently so that it will not be disturbed by bruising, potatoes should be shipped in barrels.

A barrel of potatoes is a variable quantity. When sacks are used, they are supposed to hold a barrel each, but really hold 165 to 168 pounds. A full barrel of potatoes is 180 pounds, and this is the amount taken when they are sold in bulk. Sometimes handlers who sell by the car-load, have such facilities for handling that they can sell in bulk as well as in any other way.

Varieties are things that the average marketman knows little about in anything, and much less about potatoes. Not more than a half dozen varieties are usually mentioned in market reports. Early Rose is always a great favorite, and anything that resembles that variety is sold under its name. Beauty of Hebron is also well liked, while Burbank is not so much of a favorite, and sells for a lower price. It is many years after the introduction of a new variety before it will be found in market reports, and not one variety in 1,000 will ever be found there.

The prospect for the coming crop is, so far, favorable to a good yield. So far as reports go, they seem to indicate that about the usual area is planted. The weather over a large part of the country, though dry early in the season, has been favorable to growth, and the crop is growing finely. It is possible that there may be another crop as large as the last, though this is not probable. But large or small, the work should be done as cheaply as possible, care should be taken in marketing, and the cost be reduced to the minimum. Some growers last fall sold a great many to private customers early in the season, and secured a good price. It may be wisdom to do this this year so far as practicable. One would often do better to dig and sell the crop before it gets its growth, than to let it mature and receive much lower prices. So many contingencies may arise that it requires good judgment and a thorough knowledge of market conditions to hit the market just right, and then one is often likely to miss.

MONEY IN PARKER EARLE STRAWBERRIES.

Last year, THE R. N.-Y. told how T. C. Kevitt grows the Parker Earle strawberry. This variety is a great yielder, but it must be fed and watered in order to obtain even a fair crop. It sets an enormous number of berries, but if the plants are permitted to go thirsty, the berries will be mostly small and poor. Mr. Kevitt grows the plants in hills entirely. He thinks that it is a mistake, even to let Parker Earle run in matted rows. Some of his plants cover a space nearly 18 inches in diameter, with a perfect fringe of fruit all around them. When asked what variety he would select next to Parker Earle, Mr. Kevitt said, without hesitation, Brandywine.

Mr. K. will have, this year, not far from 10,000 quarts of berries for sale, and they were all engaged beforehand at 20 cents a quart at retail. People often come to the grounds and pay 25 cents a quart. These berries are all sold in Passaic, N. J., and the way in which this trade has been developed, makes an interesting story—too long for this week. We shall tell all about it later when we get a picture of one of these heavily-mounted Parker Earles.

Of course it is only now and then that a grower can hope to obtain such prices; yet, all over this land, there are hundreds of small cities and towns which offer chances for some business-like fruit grower to develop a fine retail trade. It is going to take time and patience to work up such a trade, but Mr. Kevitt's success shows what can be done if one will go at it in the right way. Mr. K. gives one point about the Parker Earle which he says helps its sale. It can be hulled easily. There is a high, smooth neck on this berry, and it is easy to remove the stem without crushing the fruit or digging down into it as is the case with some varieties where the calyx hugs close to the fruit. "Customers speak of this," and that is good evidence that they like it. The liability of Parker Earle to suffer from drought, has led Mr. Kevitt to study up the irrigation question. One of his neighbors has solved the water problem at very slight expense, and when we obtain a picture of his homemade device, we shall tell how it was done.

BUSINESS BITS.

A YOUNG man connected with THE R. N.-Y., who is using Booth's "Hyomei" for catarrh, says that it is the best thing he ever saw.

WE have received from W. W. Clough, Medway, Mass., a couple of pamphlets devoted one each to P. Rocks and Wyandotte fowls. They comprise the experience and advice of many old breeders of the different varieties of these breeds, with hints on mating and breeding them. Either will be sent by Mr. Clough on receipt of 15 cents.

PROBABLY no other word in the English language is more abused than the little word "best." Every man is prone to consider his own creature the "best," and many who know better, seem to think that they must make the claim anyway. Of course, there can be but one "best" of anything, and considering the varied uses for most things, it is difficult, if not impossible, at times, to know which has merit above all the rest. There is no question, however, about parchment butter paper. Like other things, there is only one "best," and that is Elliot's. A. G. Elliot & Sons, manufacturers, Philadelphia, Pa., will send samples and prices. Don't let the butter go out without it.

ARE you one of the fellows who trust to luck, and bewail fate when the bugs destroy your fruit and other crops? If you are you have, probably, neglected to purchase a spraying outfit. The time is now short. This is about the last call! Don't neglect it any longer! Don't hesitate because you don't know which sprayer to buy! The poorest one you can get is better than none at all. Send to the Field Force Pump Co., Lockport, N. Y., and you can get anything you want or need in this line. This was one of the first houses to make a satisfactory spraying pump, and it has kept up with the improvements. If you have a single fruit tree, you should have some means of spraying it, and the cost will be made good the first year, if properly used.

MANY business houses retain the name of the founder of the business after his death, or after the business has passed into other hands. The farm machinery business of Mr. Minard Harder, proprietor of the Empire Agricultural Works at Cobleskill, N. Y., is an exception to this. Mr. Harder has conducted and managed the business for over 37 years, and in all this time, has kept his Fearless thrashing machines up to, or in fact, a little ahead of, the general improvements in thrashing machinery. Among the late features of improvement is a new cylinder. From personal knowledge of Mr. Harder's methods and principles, we don't believe it would be possible for an inferior machine to be shipped from his factory. He has, in these 37 years, earned a reputation for himself and his machines that insures the confidence of customers in all parts of the country. Every one should send to Mr. Harder for his finely illustrated and descriptive catalogue, which is sent free, and become familiar with the merits of the Fearless machines.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

A MISUNDERSTANDING.

"My sweetest grandchild, Margaret—
What's put the child in such a pet?
Come, quickly now the cause reveal."
"Papa won't let me have a wheel,"
Maid Margaret sobbed, with streaming eyes.

Her grandma listened with surprise;
"Won't let thee have a wheel, my dear?
That certainly is very queer!
How can my son be such a goose?
Perhaps he thinks it's not for use,
And that thee wants it just for show,
That's his opinion, well I know."

"No, papa says he can't afford,
And will not hear a single word.
Now, grandma, isn't it a sin,
For if I had one, how I'd spin!"

"Well, well-a-day, it is a shame!"
Exclaimed the dear old Quaker dame.
"But thee shall have thy wheel, my dear,
So wipe away that needless tear.
I do not see the reason why
Thy father frowns at industry;
For in the good time, long ago,
Each maiden had her wheel, I trow.
A blooming lass her wheel beside,
Is surely sight to view with pride.
So here's the money, sweet, for thee,
Go buy the wheel right speedily."
Alas for gray-haired innocence!
The dame, with horror most intense,
Espied, upon the following day,
Maid Margaret spinning blithe and gay.
Her task she never loitered at,
But it was on her wheel she sat.
Erect stood grandma's tresses gray,
And then she fainted dead away!

—*Lena C. Kraetzer in Youth's Companion.*

SOME one asks how to pickle cucumbers without vinegar. Can it be done? We have heard that there is a process whereby fermentation is produced, and the pickles soured without vinegar. If any one is familiar with any such way, will he please favor us with the details?

*

A BICYCLE parade was the attraction which New York offered on the first Saturday half-holiday of the season. The great crowd which turned out was a surprise, even to people who are accustomed to large crowds. Evidently, the interest in bicycles is not yet waning. The wheelwoman was well represented in the parade, and her behavior and dress gave one the impression that she was quite as much of a lady as any of those who sat in their carriages looking on.

*

Now that we have considered pot cheese in its preparation, let us give a few thoughts to cheese cake, one of the most attractive forms in which pot cheese may be served. Cheese cake is made in most city bakeries, and those who like it, usually like it very much. Let us have some homemade recipes first. It will, probably, be a novelty to many; but it is so easily made, and so good, that it should be better known. Do not send recipes for so-called cheese cake which does not contain cheese. By the way, do not overlook the directions for making cheese which were given on page 402.

THE ART OF MAKING A HOME.

A WRITER in Vantine's Monthly says, "The chief charm of a modern artistic interior is that, in spite of its magnificence, it has a home look. The chairs are easy, the curtains hospitably drawn. Books, photographs and engravings lie around on tables, and although one is breathing the heavy air of luxury, there seems to be nothing too good for a human being, which is the perfection of art. This is the keynote of the modern school.

How true it is that we find the homes of many of our wealthiest and most influential citizens mere dwelling places! The home atmosphere is lacking. Upon entering the vestibule, one is struck with the chilly, cheerless air which penetrates the entire house, and I might add, its inmates as well.

Money alone can never make a home. It will add much toward beautifying it, but something away back of that is needed to transform the house into a home, and the housekeeper into a home-maker. No matter how elegant our houses may be, there must be an individuality about them, if they are to be cosy and home-like. It was E. P. Roe who said, "One may live in a palace and not be a slave to the palace. Our home should be as beautiful as our taste and means can make it, but like the nest yonder, it should simply serve its purpose, leaving us the time and means to get all the good out of the world that we can."

Who can estimate the influence that a true home exerts over the various people who are entertained therein? What a haven of rest it is to the world-weary traveler who is permitted to rest for a few hours, days or weeks as the ease may be, within its gates! What a satisfaction it is, in after years, to look back longingly and tenderly to one's childhood home, and think of the absolute freedom that every member of that household felt? By freedom, I do not mean lawlessness. On the other hand, what a sense of loneliness comes over one when he thinks of the cheerless, desolate parlor where no one was allowed to sit except on state occasions—a wedding or funeral, or, possibly, a Thanksgiving or Christmas celebration!

What a misfortune it is for any family to have at its head a woman who has no higher aims or aspirations than keeping her house in apple-pie order, and feeding the physical body! Yet, in days gone by, there were many such women, well meaning and kind-hearted by nature though they were. However necessary it is for a woman to be proficient in all housewifely accomplishments, it is infinitely more important for her to understand the art of making a happy home, and to be an ideal wife and mother.

The humblest cottage may be so home-like and happy that one forgets he is not in a palace, while enjoying the blessings found therein. Instead of longing and hoping for riches as do so many, how much better and wiser to make the most of what we have, and resolve that the secret of making a happy home shall be ours? Simplicity is the cry of this century, and should be practiced in house furnishing and every-day living. It is for us to say whether our homes shall be the happiest place on earth, or mere dwelling places. CARRIE MAY ASHTON.

NED'S EXPERIMENT.

"WHOA, there!" and a sharp pull brought the horse to a standstill at the side door. "Bring me out my coat, will you? Whoa, there, sir! Nell! Nell! I want my coat! Where *are* you women, anyway? Both tending that baby, I warrant. Nell! Ne—oh, there you are at last," as the door opened and a pale, nervous-looking little woman came out, coat in hand.

"I heard you each time, Ned, but I was just putting baby into her crib. She had been *so* long going to sleep."

"Long? I should think she had; you were singing and rocking enough to quiet a regiment of them, when I looked into the door an hour ago. Have you been at it ever since?"

"Mostly; she is unusually fretful today."

"Why don't you let Bridget take her awhile? I'm sure two women ought to be able to tend one baby, anyway."

"It's Monday, Ned."

"So 'tis; well, I'm off at last. Hurry in or she will be awake again." And the spirited animal, at a word, glided away with long, easy strides. Nell watched him. She did love a pretty horse, and how pleasant it was, too, out of doors. Baby's fretful cry came to her through the half-open door. Bridget was lifting it from the crib. "Sure 'twas not aslape at all it was whin ye wint out, ma'am, and small blame til it, and the master a-shoutin' for all the world like a blast of Muldoon's thrumpets."

"She did look pale and tired," Ned said to himself as he rode on through the May sunshine. "Good morning, Mr. Brown and Mrs. Brown. Why! Whoa! you have got the baby for an airing, I do believe," seeing a tiny face among the folds of the ample, and many-hued shawl which did duty as wrap for mother and child both, as it doubtless had for the four older little Browns in their infantile outings. "Your baby and mine are just of an age, you know," he continued; "but isn't it young to be out?"

"Not a bit of it, sir," answered the older man, "It does them good, and it heartens the mother up wonderfully, a bit of a ride like this. It's only to the mill and back we be going."

"It heartens the mother up wonderfully," repeated Ned to himself driving slowly on. "It's worth trying, anyway," and a half hour later, Nellie (in hastily assumed outdoor attire), was lifted into the easy rolling carriage, and baby in all the glory of the dainty cloak and hood, the little mother had spent so many afternoons in making, was handed up to her by the delighted Bridget herself.

How much that morning drive was to tired Nellie. Baby soothed into quiet by the new motion, went directly to sleep, leaving the mother entirely free to enjoy it all.

"Rested, little woman?" her husband asked as he lifted her out at the door.

"So rested, so refreshed, Ned, dear."

"I have been trying an experiment, wife," Ned remarked at dinner. "A very successful one, too, I find."

And Bridget in the kitchen, smiled broadly. "An ixperiment—and its meself that's thinkin' it's the fine drive they took, and herself a lookin' so good afther it, the master is plaisin' himself about. Sure he's an illigant man, intirely, an who wad a thot it."

EMILY H. STEEDMAN.

RADISHES FOR GARNISHING.

I WONDER how many readers of THE R. N.-Y. have ever tried Mrs. Rorer's way of serving them? Cut the roots close to the radish, then the tops about one inch from the radish. Wash clean in cold water. Hold a radish by the top in the left hand, cut the skin from the root end downwards in several parts, as you would an orange to remove the skin in sections, but do not detach the skin. Run the point of the penknife under each little section of the skin, and loosen it down to the stem of the radish. Throw each one, as finished, into cold water. After a little practice, this operation will be comparatively easy, and the radishes will look more like tulips than ordinary table radishes. Line a pretty dish with cool, crisp lettuce leaves, arrange the radishes with cracked ice, and you will be surprised at their beauty. We use them to garnish cold meats and salads, using some pretty green with them. I hope that some one will try them. The round radishes are the best to serve in this way. Mrs. Rorer also says that the skin of the

---

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radish should be eaten with the flesh, as it contains a substance that helps digest the radish itself. CAROLINE ELIZABETH.

MRS. STANTON'S BEGINNING.

WHEN Elizabeth Cady Stanton was eleven years old, her only brother died, says a writer in Demorest's Magazine. Although his daughters were dear to him, Judge Cady had a greater feeling of pride and hope in his boy. As he sat by his dead, little Elizabeth crept into the room, and getting up on his knee, laid her head against his beating heart and waited till he spoke. Presently he said, "Oh, my daughter, I wish you were a boy!" Throwing her arms around his neck she said, "I will try to do all my brother did."

And she kept her word; she studied, she won prizes in Greek, and stood at the head of her classes in the academy, expecting to fill her brother's place in her father's heart. The father, watching her, at last told her that she should have been a boy, thinking that would be compliment enough. Then it was that she realized that the world at that day did not look upon talent or merit, per se, but asked whether it was found in a boy or girl; and she rebelled at that injustice, and has never ceased doing so.

Until she was fifteen, she was a faithful student at the academy, being the only girl in a class of boys in mathematics and languages. She spent many of her leisure hours in her father's office, and here she used to hear the old Scotch women narrate their woes; for their husbands had brought from the old world the feudal ideas of woman and property. She used to beg her father to help them, and he would take down the book and show her the laws. The students in the office, seeing her discomfort, would point out the worst of these laws, till she would cry with grief and mortification.

She began reading these laws for herself, marking each one as she read, and thus increased her abhorrence of their injustice. Her father told her when she was grown up, she should go down to Albany, tell the legislators about the sufferings of these Scotch women, get them to pass new laws, and then these would be dead. He told her this as he would have told a fairy tale; yet he foreshadowed the dream of her life, and outlined that which, to her, later, seemed her line of duty. Many years after, when his fairy tale had become a real truth, he was a great opposer to her public career. Many women can stand for principle when the men of the family help to hold up their hands, but few have bravery enough to fight out the principle in their own homes.

ODDS AND ENDS.

POT CHEESE is best made when the milk has curdled quickly; otherwise the curd is likely to be stringy. Set the vessel of sour milk on the stove, and heat slowly, not stirring much. As soon as it seems cooked, pour through a colander, and when it has drained a few minutes, press with a spoon or with the hands. Work in a piece of butter, salt, and put in some sweet cream. It can be made ready for the table in an hour, and gives an agreeable variety to the bill of fare. AUNT RACHEL.

WOMAN IN THE LABOR MARKET.—Woman realized 40 or 50 years ago, that the peaceful arts which made her an important factor in economic life, were rapidly being wrested from her by the invention of machinery and capitalization of the trade and professions which underlie the home, says Mrs. Ellen M. Henrotin in the Review of Reviews. In the past, she virtually controlled the spinning, weaving, cooking, sewing, in fact all those peaceful trades which men have created into great industries, and so have obliged her to leave the hearth and follow them into the factory and industrial centers. Any discussion of the labor movement which treats of woman as a new factor, is based upon misapprehension. In the labor market she has always been, and there she will always remain. But like the man, she must follow whither her trade or profession leads her, and if in the history of industrial invention, they pass out from the home, she must go with them. This is the beginning and end of the discussion of woman in the labor market.

DESTROYS THE TASTE.—So many victims of the tobacco habit acknowledge its hurtful effects, yet do not have determination enough to deny themselves the indulgence. A writer in the Table relates an interview with Alexander Dumas fils, whose common sense, in this instance, we can but admire:

He remarked that no real gourmet smokes. "You can have no idea, as a smoker," he said, "how smoking degrades the palate. No cook ought to smoke, and nobody who esteems the pleasures of the table. Some months ago, I stopped smoking altogether. I used to smoke several cigars and cigarettes every day, but my doctor told me I was injuring myself, so I threw away a cigar which I was smoking at the time of our consultation, and have never lighted one since. I have never ceased to congratulate myself on my action." He impressed me so much by what he

6748—CHILD'S APRON.

said, that I, too, one day made the resolution to give up tobacco, and kept my resolution for about six weeks, till, dining one night at poor Count de Kessler's, I was unable to resist one of our host's most excellent Havanas. I must say that, during this six weeks, I had full confirmation of the fact that, as Dumas put it, the use of tobacco does degrade the palate.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's patterns, send age.

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This dressy apron is made of fine, white lawn, prettily trimmed with Hamburg embroidered edging and insertion. The low, square-shaped yoke is joined in shoulder seams, and forms the upper portion, the full skirt being gathered at the top and joined to its lower edge. A band of insertion edges the top of the yoke, and forms a heading to the frill of embroidery. Full sleeves are gathered at the top and sewed in the arm's eye, the edge being decorated to match the yoke. The apron closes in the back, wide sash ends being attached to the sides at the waist line, and tied in a bow with long ends at the back. Pattern No. 6748 is cut in sizes for a child of four, six, eight and ten years of age.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv*

PRINTED PATCHWORK.

'Tis wisdom's law, the perfect code,
By love inspired;
Of him on whom much is bestowed,
Is much required.
The tuneful throat is bid to sing,
The oak must reign in the forest king,
The rustling stream the wheel must move,
The beaten steel its strength must prove.
To face the midday skies,
'Tis given unto eagle eyes. —*Carlotta Perry.*

....PHILLIPS BROOKS: "The loftier your purpose is, the more sure you will be to make the world richer with every enrichment of yourself."

....MARGARET E. SANGSTER IN HARPER'S ROUND TABLE: "There is no pleasure which surpasses that of swift motion, when one is young and strong, and the blood courses buoyantly through the veins, whether the motion come from skating, running, riding or going forward in any sort of progress which requires exercise."

....REV. MERRIT HULBURD: "I stand in favor of the admission of women to the General Conference—when woman wants it. Not when some women want it, but when woman as woman, wants it. And the man who does not favor it when woman wants it, will find himself in just about the condition of the Indian who lassoed the first locomotive he ever saw, and the last."

....MARY H. KROUT IN INTER-OCEAN: "It is a natural sentiment that inspires the man who has monopolized most things in this world worth having, to consider himself the highest, holiest reward a woman can expect in this life, and before which the rewards in the life to come almost pale into insignificance. It is natural—the logical sequence of the teaching of ages—and it is incredible that there should be those whose intellects have been quickened by knowledge and liberty that should presume to question the valuation which man has thus placed upon himself."

Miscellaneous Advertising.

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"A" Grade, $44. Style, Finish.
"A" Grade, $60. Durability.

As We Go To Press

"HEARD FROM."

The manufacturing of the "boom" to nominate McKinley for President, has been one of the most remarkable events in American politics. Most of the so-called leaders or "bosses" of his party, were opposed to him; but this fact seemed to make him stronger with the people, who began to go about talking and writing "McKinley" at every possible time and place. A single man doing this, would never have made himself heard, but when thousands or millions of men began to talk all together, they created a chorus that swept almost everything else out of hearing.

Some of the ways in which this boom was worked up, were quite remarkable. A man in Philadelphia opened a case of eggs that were shipped all the way from western Iowa. They were Leghorn eggs, and white and clean as snow, but right in the center of the upper layer, where it would be sure to attract attention, was a big brown Brahma egg on which was written:

McKINLEY IS OUR MAN!

NO MORE SIX-CENT EGGS!

And so it went all along. Men went around naming their favorite with tongue or pen, until the very repetition gave people the idea that there was something in it. When eggs and calves and lambs and, nobody knows what not, came rushing in bearing such tags as the above, people began to think, "The West must be alive for McKinley!" and first you know, they began talking for it, too—so that they might be on the winning side.

Now there are several thoughts suggested by this incident. We often have reports of men who are pushing some special line of farming hard, and obtaining tiptop prices for what they have to sell. When you come to analyze the causes of their success, you will find that they carried out, on a small scale, just what these people did for McKinley. They just went out and captured all the "free advertising" there was to be caught. First of all, they made sure that they had a good thing—so good that the truth could not possibly hurt it. Then they started to talk, and got all their friends to talk, and also fixed up every article that left their farms so nicely that it said as plain as could be, "I represent the labor of a careful man. I am reliable—I'm all wool and 36½ inches wide, and everything my boss sends out is just as good as I am!"

The farmer sets everybody and everything that he touches talking for him just in that way, and first he knows, it swells into a perfect chorus of praise, and people everywhere within buying distance, begin to say, "I guess I want some of those articles—I will follow the crowd!" That is the way a "reputation" is made. That is "free advertising," and it belongs fairly to any man who has the pluck and the patience to get hold of it and wait.

Suppose that those men who have been booming McKinley on their eggs, should use the same thought and ingenuity in booming their own hens! Sometimes a man spends valuable time and oil in carrying a torch in a political procession. About all he gets out of it is "a good time." Let him start now with a business torch, and throw a bright light over the good things he has to sell. First thing you know he has a good trade—that is what we are all after.

Now THE R. N.-Y. is prepared to practice just exactly what it preaches. We don't hesitate to say that we are out for all the free advertising we can possibly get our name connected with. You needn't, for a moment, think that any spirit of false modesty will prompt us to decline any gift of advertising you feel like making us. We claim to give a full dollar's worth in the 52 issues we print during the year. If you don't think that you can get your money's worth, it's all right; you are perfectly free to proclaim it from the housetops, or from any other place. If, on the other hand, you think that your dollar comes back to you with, perhaps, a little interest thrown in, we can't help thinking that you are a person of great sagacity and excellent feeling if you spread your opinions abroad, and say in public what you think and write. Here, for example, are a few brief extracts from letters:

I would rather lose a meal a day than be without THE R. N.-Y. D. M.
Long Island.

I shall advise my son to give THE R. N.-Y., when he has read it, to some poor farmer. It is not the business of THE R. N.-Y. to make new Christians, but I think that it will "mend old ones" for it will have a tendency to make them better men, better neighbors, and better citizens, and, of course, they will then be better Christians.
New Jersey. J. R.

You try to print the truth of which so many are afraid. I'm speaking the truth, we shall always have an open way in spite of all trials. I will speak a good word for THE R. N.-Y.
Ohio. H. B. S.

I do not want to part company with THE R. N.-Y. so long as I have an acre of ground to till, or an animal to feed. It has been a continuous welcome visitor since its second year of publication (in Rochester). J. W. N.
New York.

I thought that I could, perhaps, do without THE R. N.-Y. this year, but find that I can't. L. R.
Massachusetts.

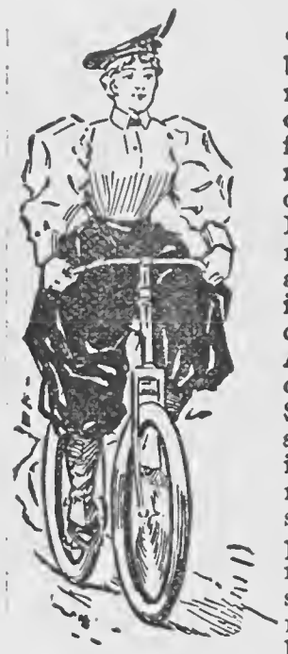
I thought that, possibly, I might have to give up THE R. N.-Y.; but wife and I concluded that we would make sacrifices upon every side before we would do so, for we think more of it than of all the other papers we read combined. We shall always be on the lookout for a chance to speak a good word for THE R. N.-Y., and whenever the opportunity offers itself, I shall be glad to add a new subscription to your already large list. With best wishes for THE R. N.-Y.'s success,
Paris, Ky. W. G. M.

I would not like to do without your valuable paper, as I think it one of the very best. The farmer who cannot get more than one dollar's worth of information from its 52 issues, must be an agricultural college and an experiment station within himself. M. E. S.
Maryland.

Now, then, suppose that every one of our readers that can truthfully proclaim

(*Continued on next page*).

Miscellaneous Advertising.



Perhaps the "New Woman" will be a stronger woman than the old one. Certainly, fresh air and the right exercise will do much for her. Fresh air is a great restorative, exercise a great nerve tonic if a woman be in condition to take it. A healthy woman can avoid disease. She can avoid the seemingly almost inevitable "weakness" of her sex if she pursues the proper hygienic methods. The same methods will not cure her if she be already sick. Taken under medical direction, in connection with the right medicine, they will help effect a cure. No women who suffers at all from so-called "female weakness" should attempt athletics of any sort. She should first put herself into possession of strong and hearty health by taking Dr. Pierce's Favorite Prescription. After she is thoroughly well, exercise and diversion will help to keep her well. The cure should come first. Dr. Pierce's Favorite Prescription is designed and recommended for only the one thing. It acts directly upon one set of organs. No matter what is the matter with them, it will cure it. It will not cure anything else. It is a wholesome tonic, an invigorating nervine, or nerve-food as well as a healing medicine, and thousands of perfectly well women have found that by taking it regularly during the period of pregnancy, the danger and pain of parturition were much lessened, and in many cases, almost entirely obviated.

In every American household, there should be a copy of Dr. Pierce's great work, "Common Sense Medical Adviser," 1008 pages, illustrated. One copy *free* to any address on receipt of 21 one-cent stamps to pay for mailing *only*. World's Dispensary Medical Association, Buffalo, N. Y.

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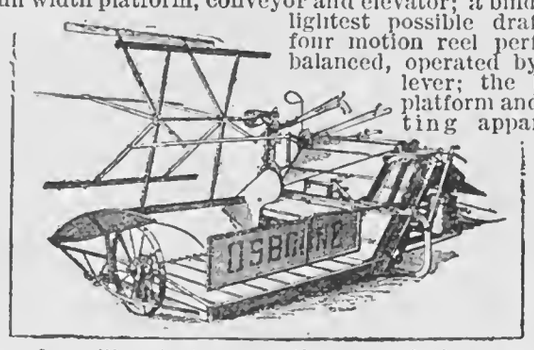
THE COLUMBIA BINDER

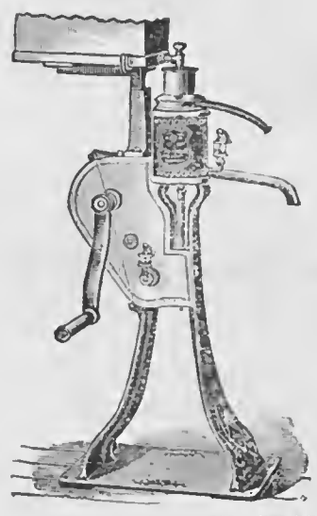
Would surely appeal to you strongly if you were acquainted with its merits and many advantages over other machines of the same class. We have been working for years to overcome defects in this class of machinery, and have produced the following: A low down binder that has full width platform, conveyor and elevator; a binder of lightest possible draft; a four motion reel perfectly balanced, operated by one lever; the best platform and cutting apparatus



made, will cut closer to the ground than any other; low elevators with easy slope, elevating the grain but 28-in.; an up to date knotter, perfect and simple; a binder attachment constructed on a new principle so the weight is carried at the center of the harvester, combining with this feature, the low elevators and adjustable seat it is easy to keep the machine in perfect balance with no weight on the horses necks. Let us tell you more about it in our Book on Farm Machinery, No. 27.

D. M. OSBORNE & CO.,
Auburn, N. Y.

Test of Separators.



"Herewith find report of the test of Separators held at my place in Hubbardton, April 22, 1896. The committee of 3 chosen from the 50 dairymen present decided that on the three points of amount per hour, general durability and ease of running, the Improved United States Separator was much superior. The test of the skim-milk was left to be decided by the Vermont Experiment Station. Eight tests of each were made at the station, the average of the tests of each Separator being as follows:

No. 5 Imp. U. S., **0.11 of 1 per cent.** of fat left in the skim-milk.
Sharples, **0.23** " " " " "
De Laval "Baby," **0.30** " " " " "

So that in all points the Improved United States Separator was decided to be superior."

Hubbardton, Vt., May 20, 1896. C. A. ST. JOHN.

Would you know more of this Separator and of this test? Write for catalogue and prices.

We WANT AGENTS IN ALL unoccupied territory.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

WE WANT AGENTS IN ALL UNOCCUPIED TERRITORY TO SELL THE

Clark's Cove Fertilizer Company's Goods.

The intelligent farmer now uses the best fertilizers manufactured. Experience has taught him that he can afford to use no other; that is why he is justified in using these reliable fertilizers in preference to all others.

BRANCH OFFICES:
ROCHESTER, N. Y.
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CLARK'S COVE FERTILIZER CO.,
43 Exchange Place, New York City.

DON'T POT YOUR PLANTS!

but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. **Agents Wanted.**

F. RICHARDS, Freeport, N. Y.

"SUCCESS" Jr.

A DIGGER THAT DIGS.

IMPROVED POTATO DIGGER

YOU WANT a digger that will please you. We want to put 10,000 samples ON TRIAL for introduction. FREIGHT PAID. If your dealer cannot show you our improved "SUCCESS" send at once for particulars.

D. Y. HALLOCK & SON, Box 805 York, Pa.

USE TAYLOR'S FUMA CARBON-Bisulphide.

For killing Woodchucks, Prairie Dogs, Gophers and Rats, Insects in Grain, Seeds, etc. Shipped in 50-pound cans by the manufacturer.
EDWARD R. TAYLOR, Cleveland, Ohio.

CRIMSON CLOVER—Nature's Fertilizer and Ideal Hay Crop. New Circular, "Reasons Why Every Farmer and Trucker Should Plant Crimson Clover"; SENT FREE. We are headquarters for home-grown, hardy seed, and furnish at lowest prices. Also, Turnip, Spinach and other seasonable seeds.
HOLMES & MACKUBBIN, Harrisburg, Pa.

FOR SALE—One LEGGETT DRY POWDER GUN, used one hour.
WARREN B. MITCHELL, Paterson, N. J.

AS WE GO TO PRESS—Continued.

such sentiments, was to make a business of airing his views! What a "boom" that would create! It would not hurt the business of a single reader to say or write such things 25 times a year. It would not hurt any one, while the result of such combined advertising would help us all, because it would enable us to make a better paper, and bring every one of us into a wider circle of readers and thinkers.

"It's a good thing—push it along!"

That is a popular saying nowadays. If you think that THE R. N.-Y. is a good thing—give it a push with tongue or pen. Its wheels are well oiled! The slightest push will force it ahead!

CONDENSED CORRESPONDENCE.

TOMPKINS COUNTY, N. Y.—Small fruits and apples are all this locality will produce this year. We have had fine rains lately, yet hay will be only a quarter crop. So much corn has been sown and planted, that no more seed can be found near here. C. E. C.

CROPS IN ORANGE COUNTY, N. Y.—The hay crop promises to be short, very short. Farmers are plowing largely, putting in fodder corn, and millet or Hungarian grass. The rains make oats look very promising. Rye looks well. Very little wheat is sown, compared with 10 or more years ago, as Minneapolis supplies the farmer's table with bread. M. H. C. G.

KALAMAZOO COUNTY, MICH.—We have had a peculiar season so far, without a day of spring weather. Winter lasted into April, with the ground frozen all the time. Then the break came with the mercury in the 80's the first day, and it has been hot summer weather ever since, without a single frost except in some low places. The winter was quite severe, but my Crimson clover—1½ acre—came through all right. I plowed it under May 13. It was then in full bloom, and would have cut 1½ ton per acre of hay. It was sowed in corn July 29, 1895. Much of the wheat in this vicinity is badly injured or destroyed by fly and rust. There is very little clover, and the grass crop will be very light. Spring crops are looking well. A number of parties in this vicinity, tried Crimson clover this year, without a failure of which I have heard. There will be a great deal of it sown this summer. I can afford to sow it every year if I can save one crop in three as good as I had this year. F. H.

AN OHIO CHERRY FARM.

In this section, we have had a very unusual season. The frost stayed in the ground, and the sugarmakers were kept busy until well into April, and then we hardly had another frost. It came off warm after every rain, of which we had five or six inches in April, and kept wet very late, which delayed getting in the crops. Those that got anything in were lucky; I never saw such rapid advancement of trees and plants; everything grew so that when it got a little dry, even the maples blighted. Strawberries have been two weeks earlier than usual, and the first of June finds us in midseason, and the cherries are ripening fast. June 1 and 2, we had light frosts with high, cool winds.

The cool, bright morning of June 2, I started across the country six miles to the noted Highland Home Fruit Farm, the home of the late Theodore Clark in Portage County, O., to see how they handled the cherry crop, the harvesting of which was in progress. This farm is situated 44 miles southeast of Cleveland, O., on a high, stony ridge. The soil is a sandy loam, underlaid with sand rock, and there are acres where the broken rock seems to be all the soil there is. It slopes in all directions from the center of the main orchards, but more to the north, is much higher than the surrounding country, and is more exempt from frost than any other place in the vicinity. I found the cherry harvest at its height. As I passed up the driveway to the house, I saw on the one hand, the bright crimson of the Early Richmond among the glossy leaves; on the other, were the large trees of the Oxheart and black varieties. In the yard, were, by count, 50 vehicles of all sizes and descriptions, waiting for cherries.

There are about 700 cherry trees on the place, about one-half of which only, are in orchards; the rest are planted in rows along the roadside, and driveways in the peach and pear orchards, the most striking of which is called Cherry Avenue, which is one-half mile long, on both sides of which are planted Dyehouse and Early Richmond. For more than one-half the length of this avenue, from one to three pickers were busy as bees at each tree. It was the prettiest sight I ever saw in fruit harvest. I expected to find them shipping, but they could not supply the local demand. People were there from points 15 miles away, and rather than wait, were picking their own. It was estimated that there were 200 rigs there on that day for cherries. The next day, they could not be had, unless they had been engaged beforehand. The crop is estimated at from 700 to 1,000 bushels. As I looked over those extensive orchards of cherries, pears, peaches, and apples, I could but think how far the influence of a man's life may extend, even though he be dead. It makes brighter and more pleasant the homes of many who never knew him; for fruit seldom enters a home without taking along comfort and happiness. H. W. G.

Palmyra, O.

CROP AND MARKET NOTES.

Honey is dull and trading slow.

Cherries are scarce, and prices firmer.

Dried peaches are very dull and slow of sale.

Exporters are buying some evaporated apples.

Cheese trade is more brisk under a good demand.

There has been another drop in the prices of dry beans.

Peaches are not very plentiful, and not of very good quality.

Watermelons are in liberal supply, and sell slowly at lower prices.

Most of the muskmelons so far received are of poor quality; good ones would sell quickly.

New potatoes are coming in freely, but not in such large quantities as is sometimes the case at this season.

The receipts of eggs in this market for March, April and May, were 916,436 cases, nearly reaching the highest on record.

There has not been any glut in strawberries, and the market has been in good shape. Fine fruit sells quickly at good figures.

The apple season is so nearly over that we drop quotations, until new ones appear, which will, probably, be within a couple of weeks.

Receipts of poultry, both alive and dressed, have been large, and prices have declined somewhat. There is a good demand for ducks.

Here is the vegetable load one Old Dominion steamer brought: 3,500 barrels potatoes, 7,000 packages cabbage, 3,100 packages cucumbers, 300 barrels and 6,000 baskets beans.

There has been little change in the butter market, though the supply of most grades has exceeded the demand. Some has been put into cold storage. There is little export demand, and isn't likely to be soon unless at lower prices. Large quantities are said to be in cold storage in the West. Production is heavy and likely to continue so for some time to come. Quality of most brands shows some improvement.

The Michigan crop report for June shows that the condition of wheat June 1 was 77 as compared with 92 May 1. These figures would go to show that the damage by Hessian fly and rust amounts to 15 per cent. The number of bushels of wheat reported marketed in May, is 537,749, as compared with 376,948 marketed in May, 1895. In condition, oats are nearly a full average. The average condition of meadows and pastures in the State is 81.3; clover, 95. Apples promise about 93 per cent, and peaches 83 per cent of an average crop. The number of sheep now on hand in the State is 29 per cent less than one year ago.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 15	@1	17
Medium, 1895, choice	1 00	@	—
Pea, 1895, choice	95	@1	00
Medium or pea, common to good	85	@	90
White Kidney, 1895, choice	1 30	@1	35
Red Kidney, 1895, choice	1 05	@1	07
Red Kidney, common to good	80	@1	00
Black Turtle soup, 1895	1 20	@1	25
Yellow Eye 1895, choice	1 20	@1	25
Lima, Cal., 1895 (60 lbs)	1 80	@1	85
Pea, foreign, 1894	80	@	85
Medium, foreign, 1894	75	@	85
Green peas, bbl., per bushel	75	@	77
Bags, per bushel	70	@	—
Scotch, bags	70	@	72

BUTTER—NEW.

Creamery, Western, extras	15	@	15½
Western, firsts	14	@	14½
Western, seconds	12½	@	13
Western, thirds	11	@	12
State, fancy	15	@	15½
Common to prime	11	@	14½
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	14
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	11	@	12
Seconds	10	@	10½
Western dairy, firsts	11	@	11½
Seconds	9	@	10
Thirds	8	@	9
Factory, fancy	10½	@	11
Factory, firsts	9½	@	10
Factory, seconds	9	@	—
Factory, thirds	8	@	½
Old butter	7	@	10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾	@	—
Colored, good to choice	6½	@	6⅝
Fair to good	5¾	@	6¼
Fancy white	6¾	@	—
White, choice	6½	@	6⅝
Small, colored, fancy	7	@	—
Small, white, fancy	7	@	—
Small, good to choice	6½	@	6¾
Small, common to fair	5	@	6
Light skims, choice	5	@	—
Part skims, good to prime	4	@	4½
Part skims, common to fair	2	@	3
Full skims	1½	@	2

EGGS.

Near-by, new laid, fancy, per doz	13	@	13½
State, fresh gathered	12	@	12½
Penna. and Md., country marks, fancy	12	@	12½
Western, closely graded, fancy	12	@	—
N. Ohio Ind., Ill. and Mich., prime	12	@	—
Other Western, northerly sections, prime	12	@	—
Western, fair quality	11	@	—
Southern, fresh collections, good to prime	9	@	10
Western and Southern, poor, per case	2 40	@3	00
Western culls, per case	2 00	@2	55

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼	@	6½
Choice, 1895, per lb	5⅜	@	5⅝
Prime, 1895, per lb	5	@	5¼
Common to good, per lb	3	@	4¾
N. C., sundried, 1895, sliced, fancy	3	@	3¼
Southern, sundried, common to choice	2	@	2¾
State, sundried, quarters, bbls	2½	@	3¼
Western, sundried, quarters, bbls	2½	@	3⅜
South-West'n, sundried, quarters, bbls	2½	@	2⅜
Southern, sundried, quarters, bbls	2	@	2½
Southern, sundried, quarters, bags	2	@	2¼
Chopped, 1895, per lb	2	@	2¼
Cores and skins, 1894, per lb	2	@	2⅛
Peaches, Sundried, 1895, peeled, per lb	4	@	6
Cherries, 1895, per lb	9	@	10
Blackberries, 1895, per lb	5	@	5½
Raspberries, evaporated, 1894, per lb	16¼	@	16½
Sundried, 1895, per lb	16	@	—
Huckleberries, 1895, per lb	5	@	5½
Plums, Southern Damsen, 1895, per lb	4½	@	—

FRUITS—GREEN

Blackberries, N. C., large, sound, per quart	10	@	—
Small or soft, per quart	6	@	8
Cherries, extra large, dark, per lb	10	@	12
Medium, dark, per lb	7	@	9
Medium, light colored, per lb	6	@	8
Small and inferior, per lb	3	@	5
Gooseberries, prime green, per quart	5	@	6
Prime green, per bushel	1 50	@1	75
Huckleberries, N. C., per quart	10	@	12
Muskmelons, Charleston, per bushel-basket	1 00	@2	00
Florida, per half-bbl	1 00	@3	00
Peaches, N. C., early sorts, per carrier	1 25	@2	50
S. C., early sorts, per carrier	1 25	@2	00
S. C., early sorts, per flat case	75	@1	00
Georgia, sound, per carrier	1 50	@2	50
Georgia, unsound, per carrier	50	@1	25
Florida, as to size, per carrier	1 00	@4	00
Plums, S'n, Wild Goose, per carrier	2 00	@2	25
Wild Goose, per flat case	1 00	@1	25
Strawberries, Hilt'n & Irv., ex. fancy, per qt.	16	@	20
Hilton & Irv., fair to choice, per quart	8	@	15
Up-River, per quart	8	@	12
Jersey, large, per quart	8	@	10
Jersey, small or soft, per quart	5	@	7
Md. and Del., large, per quart	7	@	8
Md. and Del., small or soft, per quart	4	@	6
Watermelons, choice, large, per 100	25 00	@	—
Small to medium, per 100	15 00	@20	00

GRAIN.

Wheat	68	@83
Rye	59	@45
Barley	38	@41
Buckwheat, silver	40	@42
Buckwheat, Japan	—	@—
Corn	33	@38
Oats	23	@28

GRASS SEED.

Clover, per 100 lb	6 75	@ 8	25
Timothy	3 50	@ 4	00

HAY AND STRAW.

Hay, No. 1 Timothy	90	@	95
No. 2	80	@	85
No. 3	70	@	75
Clover, mixed	70	@	75
Clover	55	@	65
Salt	45	@	50
Straw, long rye	95	@1	10
Short rye	65	@	75
Oat	50	@	65
Wheat	45	@	50

HONEY.

State, white clover, comb, fancy, per lb	—	@	—
Fair, per lb	—	@	—
Extracted, per lb	5	@	6
Buckwheat, comb, per lb	7	@	8
Extracted, per lb	4	@	
California, comb, fair to prime, per lb	10	@	12½
Extracted, per lb	5	@	6
Southern, in bulk, per gallon	45	@	55

HOPS.

N. Y. State, crop of 1895, choice	7	@	8
Medium to prime	5	@	6½
Crop of 1894, fancy	4	@	4½
Prime	3½	@	—
Medium	3	@	—
Common	2	@	2½
Old olds	1½	@	2½
Pacific Coast, crop of 1895, choice	6	@	7
Prime	5½	@	—
Medium	4½	@	—
Crop of 1894, common	2	@	2½
German	14	@	20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	5½	@	6
Fair to good, per lb	4	@	5
Com. to med., per lb	3½	@	4
Small, per lb	3	@	4
Buttermilks	4	@	5
Spring lambs, country dressed, each	1 00	@5	00
Pork, country dressed, light, per lb.	5½	@	6
Medium, per lb	4½	@	5

NUTS.

Peanuts, Va., h. p., fancy, per lb	4¾	@	5
H. p., extra, per lb	3¾	@	4
Shelled, No. 1, per lb	5	@	5½
No. 2, per lb	3¾	@	4
Spanish, shelled, No. 1, per lb	6	@	6¼
No. 2, per lb	4¼	@	—
Pecans, ungraded, per lb	3½	@	4

POTATOES.

Southern, fancy, per bbl	2 50	@3	50
Prime, per bbl	2 25	@2	75
Fair to good, per bbl	2 00	@2	25
Seconds, per bbl	1 50	@2	00
Culls, per bbl	75	@1	25
Old, per barrel or sack	50	@1	00

POULTRY—LIVE.

Spring chickens, per lb	11	@	15
Fowls, local, per lb	10	@	—
Western, per lb	8½	@	—
Southwestern, per lb	8½	@	—
Southern, per lb	8½	@	—
Chickens, yearlings, per lb	8½	@	—
Roosters, old, per lb	5	@	—
Turkeys, mixed, per lb	7½	@	8½
Ducks, local, per pair	70	@	80
Western, per pair	60	@	75
Southern, per pair	55	@	60
Geese, local, per pair	1 00	@	—
Western, per pair	85	@1	00
Southern, per pair	75	@	85
Pigeons, old, per pair	35	@	—
Young, per pair	20	@	25

DRESSED POULTRY.

Turkeys, average, hens, per lb	10	@	—
Average toms, per lb	8	@	9
Chickens, Phil., broilers selected, per lb.	20	@	22
Phila., broilers, ordinary, per lb	16	@	18
L. I., broilers, scalded, per lb	14	@	16
Pennsylvania, broilers, per lb	17	@	20
Western, dry-picked, broilers, per lb.	14	@	16
Western, scalded broilers, per lb	12	@	13
Western, small, per lb	10	@	11
Fowls, Western, light weights, per lb	8½	@	9
Western, heavy, per lb.	8	@	8½
Old cocks, per lb	4	@	4½
Spring ducks, Eastern, per lb	15	@	15½
Spring ducks, L. I., per lb	15	@	15½
Squabs, tame, white, per doz	2 25	@	—
Mixed lots, per doz	1 50	@2	00
Dark and poor, per doz	1 25	@	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 25	@	—
Prime, per doz bunches	50	@1	00
Culls, per doz bunches	20	@	40
Beets, Southern, per 100 bunches	1 00	@3	00
Florida, per crate	40	@	75
Cabbage, Baltimore, per bbl-crate	1 00	@	—
Norfolk, per bbl-crate	50	@1	25
Carrots, Southern, new, per 150 bunches	1 00	@2	50
Cauliflower, L. I. and Jersey, per bbl	75	@2	00
Celery, fancy, large, per doz	1 25	@1	50
Average, prime, per doz	50	@1	00
Small, per doz	20	@	40
Cucumbers, Charleston, per basket	75	@1	25
Savannah, per crate	60	@	80
N. C. and Norfolk, per basket	75	@1	25
Green corn, N. C., per 100	50	@1	50
Egg plant, Florida, per bbl	2 00	@4	00
Green peas, Jersey, per basket	—	@	—
Jersey, per bag	—	@	—
Long Island, per bag	60	@1	00
Horseradish, per lb	3	@	5
Kale, per bbl	75	@1	00
Lettuce, per bbl	50	@1	50
Onions, Bermuda, per crate	90	@1	00
Egyptian, per bag	1 50	@1	55
New Orleans, per bbl	1 75	@2	00
New Orleans, per bag	75	@	90
Southern potato, per basket	75	@1	00
Radishes, per 100 bunches	50	@	75
Rhubarb, per 100 bunches	1 00	@1	50
Spinach, per bbl	75	@1	00
Squash, Southern, white, per bbl crate	75	@1	25
Southern, yellow, per bbl crate	50	@1	00
Southern marrow, per bbl-crate	1 00	@1	25
String beans, Jersey, per basket	40	@	50
N. C., wax, per basket	10	@	25
N. C., round, per basket	10	@	25
N. C., flat, per basket	10	@	25
Norfolk, wax, per half-bbl	20	@	30
Norfolk, green, per half-bbl	25	@	35
Tomatoes, Fla., ripe, per carrier	1 00	@1	25
Green, per carrier	50	@	75
Turnips, new, white, per 100 bunches	1 50	@2	50
Watercresses, per 100 bunches	1 00	@1	50

WOOL.

XX and above, Ohio	18	@	19
X, Ohio	15	@	16
Other grades	20	@	22
Washed combing and delaine	18	@	23
Unwashed combing	17	@	20
Texas, medium to choice	10	@	13
Fine and medium, fall clipped, Texas	9	@	10
California	9	@	15
Oregon	12	@	13½
Territory	7	@	14

MILK AND CREAM.

The total daily supply has been 22,865 cans of milk, 185 cans of condensed milk and 799 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

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The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

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PITTSBURGH, PA.

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VIGOR GONE TO FEATHER.

GOOD BROILERS THAT "DIE YOUNG."

The broiler plant at Ellerslie Farm is one of the most complete in the country. It is located on high, well-drained land, in a remarkably healthy section, and has every appliance needed for turning out 20,000 broilers every year. The incubators are first-class, and as soon as the chicks are hatched, they are put into brooder houses of the most approved plan, and fed on the best food by skillful and experienced men. In spite of this, it must be said that the business is not satisfactory. The chicks hatch well, and start off on the race for life at a lively rate; but, after a week or so, they die off by hundreds. There are no particular signs of disease—they just droop and die from sheer weakness and lack of vitality.

"How do you account for it?" I asked Mr. Cottrell.

"I have come to the conclusion," he said, "that the birds lack vigor, and simply cannot stand the heavy feeding needed to make a good broiler. My opinion is that breeders have well-nigh ruined several of our best meat breeds of poultry, by breeding them to a so-called "standard," and striving for perfection in feather and comb to the neglect of vigor and constitution."

"You speak positively."

"Yes, because we have gone all through this thing with great care. We have tried "new blood," males from different families, and crossing with males of Plymouth Rock, Wyandotte, Brahma, Games and other breeds; but in every case where the birds have come from yards noted for high scoring, the chicks have lacked vigor and cannot stand heavy feeding. Probably, Pit Games have given us the strongest chicks of any of the thoroughbreds; while these birds have, of course, been bred by exterior markings to some extent, still, of necessity, a winning bird, even at a show, must possess high vigor and strength, and this is indicated in the chicks, though they are too slow to mature for first-class broilers."

"What cross has given you the strongest chicks?"

"A cross of a common Dunghill rooster on our Plymouth Rock hens. There he is now."

The rooster in question was a medium-sized bird, such as one may find in hundreds of barnyards. He was of half a dozen colors, and looked as though he might be a mixture of three or four different breeds. He was a thoroughbred scrub if ever there was one; but he was lively, and as "tough as an owl." The eggs from the pen over which he presided, hatched out strong and vigorous chicks, that could stuff themselves with hearty food, and then live to digest it in time for another meal. These chicks were the strongest of any on the place; almost all of them lived, but what a mixed up lot they were! There were all shapes, sizes and colors—some with top-knots and feathered legs and some as clean as a bald-headed man. Some of these chicks would make broilers in 10 weeks, while others needed nearer 10 months. There they were, a striking illustration of the two great laws of breeding.

The scrub male was a product of natural selection. There had been no artificial selection of ancestors for the purpose of perpetuating or making more prominent in him any particular characteristic of size, shape or color. His "blood" was a haphazard mixture—the result of "natural selection" which, in a flock of poultry, usually means the most vigorous male—the one capable of whipping the others. When crossed with hens of a uniform type, this rooster gave to the chicks just what his ancestors gave him, viz., a vigorous constitution, and a mixture of half a dozen different types of form and color. That is the point exactly—the male gave to the chicks what his ancestors gave him—modified, of course, in a slight degree, by the care and food he had received.

The "thoroughbred" birds did the same. For several generations back, their breeders have said, "That bird is all right except his comb and tail feathers; we will mate him with a hen that is nearer right in these respects, and the result will be a chick that is nearer perfect!"

Very likely they picked out a hen with a narrow chest, or some constitutional weakness, and crossed her with the male. The resulting chick had a better-looking comb, but the weakness was intensified, and so it went on, year after year, mating with an eye to improve comb, feather or leg, until the resulting bird got into one of the breeding pens at Ellerslie. The chicks that came from the eggs he fertilized were sure to grow up with beautiful combs and tail feathers—but who wants these things in a broiler? These chicks were expected to eat and stuff themselves with food, and grow quickly into little balls of fat. They could not do it, because their father could not give them the ability to hustle and digest that food. They could only die. Is there any good reason why strength and vitality should not be found in a bird that excels in the exterior markings of the "standard"? If there is, the "standard" should be made over at once if there is any hope of saving the broiler business from destruction.

As a matter of fact, the broiler men need a special breed for their business. If that vigorous scrub at Ellerslie Farm could produce a uniform lot of plump, white chicks, shaped about like the White Plymouth Rock, and capable of growing rapidly and steadily for 10 weeks without an hour's sickness, he and his descendants would be worth millions to the poultrymen of this land. Who is the skillful man to take the mixture out of his blood and retain its vigor?

H. W. C.

FORKFULS OF FACTS.

PROFITS IN OLEO.—Hoard's Dairyman quotes the following significant passage from a Chicago daily paper:

We have decided to close down our oleo department. The whole country seems to be against the use of the commodity, and so many laws have been passed restricting its use, that we feel it does not pay. We will, however, begin at once to build a large soap factory.

This statement was made by Mr. Cudahy of the Cudahy Packing Company. Now you see where the "oleo" fat will go to if it cannot be sold as butter. It will go to make soap. It is soap grease and nothing more. So long as oleo could be sold as butter, there was, evidently, a large profit in it—when it is forced to sail under its own colors, it is useful only as soap grease. A good deal of this grease will still be used in "filled" cheese, unless farmers bestir themselves and force Congress to pass the bill prohibiting its sale for the genuine article.

SOME "BALANCED-RATION" THOUGHTS.—I see that the opinions thus far published on that balanced ration question, page 228, are decidedly in the affirmative. With all due respect for Mr. Cottrell, Smiths & Powell and others, I cannot help speculating. Were those two cows spoken of, eating what was, for them, a balanced ration? Is clover a "well enough balanced ration" for all animals of different ages, conditions, etc.? We know that a subtle principle which we call life, is contained in every seed and embryo animal, which, if given the proper conditions, will gather to itself enough of the elements of matter to form a complete specimen of its species, and also, in most cases, to perpetuate itself. We also know that there is an individuality about each of these vital principles which sometimes baffles all rules laid down by man. For instance, I know of an apparently healthy woman, wife of one of our prominent farmers, who is invariably thrown into convulsions by eating a dish of strawberries. I know of others who cannot drink milk with impunity. These exceptions, however, do not prove that strawberries and milk are not good articles of food.

The statement that some animals are natural gluttons, I take with some allowance. It may be that their systems have been deprived of some element contained in the food upon which they are so ready to gorge themselves. Take, for instance, the birds of the air and the cattle upon a thousand hills. They must have countless opportunities for cloying themselves, but do they? Does not the individuality of each select for itself what the system needs, varying a seed with a worm, or a bite of clover with a bite of Timothy, for instance? In view of such thoughts as these, I sometimes wonder if the successful feeder of the future will not keep constantly within easy access of his animals, such a variety of foods as will enable each animal to balance its own ration according to its individual needs.

O. W. MAPES.

SOME COW THEORY.—Dr. Louis Robinson, in the North American Review, asks this question, "Why is the cow so especially useful in yielding an abundant supply of milk?" He goes on to answer his own question as follows:

Because she is naturally a forest animal, that had often to leave her baby behind, and to wander far for food. Wild cattle hide their young calves in the thickets. Unlike the colt, the calf has but feeble locomotive powers, and, therefore, it could not accompany the cow when she traveled to distant glades, where grass was abundant. Thus the sucking calf cannot get his nutriment whenever he wants it, as the young foal can, which is never away from the mare. He has to wait for

(Continued on next page.)

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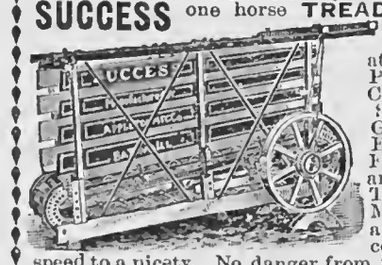

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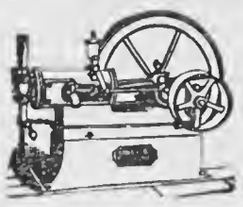

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LIVE STOCK MATTERS.

(CONTINUED.)

his meals until his mother returns. But this arrangement also renders it needful that the cow's udder should hold a good store of milk, which slowly collects during the hours when she is absent from her baby. Hence the large "bag" which always distinguishes a good milker, and hence, also, the important fact that a cow retains her milk until the morning and evening visits of the farmer or dairymaid. The habit of chewing the cud among cattle and other herbivorous animals, tells a similar tale. They had no time to masticate their grass thoroughly when they were feeding, but were obliged to get in a supply of provisions as rapidly as possible, and during the hours when the wild beasts were least abroad. Having got in their store, they retired to their safe hiding places and lay down to ruminate at leisure.

POTATOES FOR HORSES.—I have seen a number of articles in THE R. N.-Y., on feeding potatoes to cows, but not a word about feeding them to horses. I have been feeding one-half peck in the morning to each of my two horses, and they have worked hard doing my plowing, harrowing, etc. At noon, I feed four quarts of oats, and the same at night. A number have remarked how sleek and fat the horses looked. I believe that potatoes are quite equal to carrots. We know that there is plenty of starch in potatoes, and that they are not so heating as corn. G. C. D.

R N-Y.—We have often fed potatoes to horses, and had the best results when the tubers were baked. The horses seemed to like them better, and ate more of them.

PIGS IN NEBRASKA.—The editor of The Nebraska Farmer has this wise advice to western farmers:

Things have gone wrong with the spring crop of pigs to rather an uncommon extent, and although there were more sows bred than usual, it is doubtful if the crop of pigs is up to the average in numbers. This, at least, is our judgment in the matter from reports covering an extended territory. With this view of the situation, one can hardly go wrong in breeding a few good, strong sows for fall litters. As we have frequently contended, the fall pigs are just as profitable as any if they are treated right and pushed along from the day they are farrowed. The prospect is great for a corn crop, and that means cheap feed. You may be compelled to make cheap pork, too, but that beats letting the corn lie in the crib. But don't make this mistake with the pigs: don't think that because corn is dirt cheap, you can't afford to feed the pigs anything else. Whenever a man gets that notion into his head, he ought to be put on a bread-and-water diet. But even that would not be a parallel case. It is all right to finish the matured hog on corn when you are ready to round him up for the market, but if it be desired to make the most of the pig, give him plenty of bone-and-muscle-making food during the first six months of his life. Push him a little along this line of feeding, if you please, and he will be found ready to eat more corn in addition than he would have taken if fed on that alone.

FEEDING HOGS.

No occupation that a man can follow, needs more study and thought, than the proper feeding of animals. An old man once said that he could make the constitution of any animal, if he were allowed the care of its ancestors. I asked him how far he would go back, and he said, "To the great grandmother, anyway." I find that, if the proper care be taken, both of the sow and boar, I need not fear but I will be repaid for my extra care, with large, healthy litters of pigs. The breed of hogs has much to do with success. While the sow is pregnant, she should have bran mash, roots, milk and a very little corn. Milk is as near a perfect balanced ration for hogs as can be found. Corn is entirely out of the question, as it is too heating.

As soon as the pigs are old enough to eat and drink, fix places for them to drink; self-feeders are excellent, with equal parts of ground oats, rye or wheat, and bran or shorts, in their reach. If one do not care to use the self-feeders, they may be fed very nicely by moistening the feed and feeding in troughs. To get good, large, strong, healthy pigs, they should have scarcely any corn until they are three or four months old. It does not pay to keep a hog over six or eight months to make the most money out of it.

I think that I can back up my theory in the care of pigs by a few figures. Two sows farrowed pigs April 5 and 9, 1895. The sows had the care mentioned above, before pigging. The two raised nine apiece. The pigs had equal parts of rye and oats ground, and the milk from three cows. After harvest, they were turned on to the wheat stubble, and all other feed stopped except the milk. About the middle of August, they were turned in the orchard, to pick up apples, for two weeks. September 2, I began feeding new corn, and they were fed all they would eat, until sold. All were sold to neighbors for meat except six. The first seven were sold December 6, and weighed 1,764 pounds. Six sold to shippers December 14, weighed 1,521 pounds. The smallest one of the lot sold December 16, weighed 232 pounds. Four sold December 17, weighed 1,069 pounds. I do not give this to make a brag, but to show that one cannot make large hogs out of corn alone. Where pigs are fed corn alone, it produces nothing but fat. Instead, if fed something that will develop bone and muscle first, then corn, to fatten, one will have hogs to be proud of. M. C. T.

Mingo, O.

POWER OVER THE GLANDS.

To the question, By what power, muscular or otherwise, does a cow hold up or give down her milk? the editor of the agricultural department of a prominent New York weekly replies: "A cow holds up or gives down on the same principle that you expectorate or refrain from it—will power, isn't it?"

A more satisfactory notion of the power that stimulates and controls the secretion of milk may, it seems to me, be had by comparing the function or action of the udder with that of some other of the glands that act intermittently, and are to a greater or less extent, under the influence of the emotions. Take as examples, the lachrymal glands that secrete the tears; the salivary glands that secrete the saliva, and the sudoriparous glands that secrete the sweat. The lachrymal glands, under ordinary circumstances, supply just enough of their special secretion to keep the surface of the eyes moist; but under the influence of certain emotions, the flow is increased beyond the capacity of the drains provided for the purpose of carrying it off, and as a consequence, it overflows the cheeks.

We all are able, from personal experience, to understand what is meant by any one who says of something much to his taste, that the sight or the smell of it makes his mouth water. As readily, though happily, perhaps, not from personal experience, do we understand the particular emotion that possesses the soul of the man of whom it is said that "great beads of perspiration gathered on his brow;" or that a "cold sweat broke out all over his body." We know, too, either from our own experience or that of others, that, under the influence of emotion, the very opposite effects are at other times produced. We read of grief too great for tears, or dry-eyed. Fear will so effectually check the secretion of saliva, that the subject of it cannot masticate dry food, such as grains of rice, and his voice, so it is said, will "stick in his chops." Will-power has no part in the production of these phenomena. Will-power cannot even control them; they will occur in spite of the severest exercise of will-power to restrain them.

Now, reasoning by analogy, is it not altogether probable that the secretion of milk is stimulated and controlled by this same mysterious nerve force that gives rise to these other phenomena? At the sight or touch of her infant from whom she has, for a short time, been separated, the mother feels her breast tingle and fill, and in some instances, the milk will actually flow from her nipples of its own accord, as it were. It is even said that, so powerful is the effect of this nerve force upon this particular function, that the milk secreted has been so changed under the influence of some terrific passion on the part of the mother, as to act as a veritable poison upon the child. With these facts in mind, we gain some insight into the effect which quiet, gentle treatment of the cow at milking time unquestionably has in securing a readier and more copious flow of the secretion from her udder.

There is not a single fact of which I know, to support the idea that the holding up or giving down of the milk is the result of the exercise of the cow's will-power. There is not a gland of man or beast that can be directly controlled by the exercise of will-power. Some women may have the power of shedding tears when it suits them to do so; but even so, the effect is not due to the direct exercise of will-power. They accomplish their purpose indirectly, by working up the necessary emotion. A hysterical friend of mine has told me that she could, by working up the proper emotion, bring about one of these nerve storms voluntarily, when she had a purpose to serve thereby, and that, up to a certain point, she could control it, but beyond that point the fictitious passion gained the ascendency over her, and she was unable to exorcise the evil spirit that she herself had raised. W. O. E.

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"I SUPPOSE, Mrs. Newman," said Mr. Newman, sarcastically, "that, in case of war, you will insist on a man's rights and go to the front." "No, my dear," said Mrs. Newman sweetly; "I should stay at home and take care of you."—*Harper's Bazar.*

TENDERFOOT (to Texas ranchman after engaging his services and "viewing the landscape o'er"): "I accept your terms, but, really, where am I to sleep?" Ranchman: "Sleep, man? Anywhere, anywhere! I've 250,000 acres lying 'round here loose. I don't care a snap where you sleep."—*Judge.*

A DEVOUT gentleman of Boston who teaches a Sunday school class of bootblacks and newsboys, recently undertook to tell the story of Jacob's ladder. After he had graphically pictured the wanderings of the patriarch, his dream in the Eastern pasture and the ladder on which the angels were ascending and descending, he paused and said: "Now, boys, if there is anything in this story that I have not yet explained, you may ask me any question you like and I will answer it." Thereupon a little chap cried out: "Say, mister, did you say dem angels hed wings?" "Yes, my boy; angels always have wings." "Well, den, if dey hed wings, what for did they need ladders?"—*Philadelphia Telegram.*

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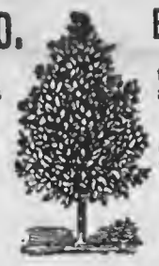

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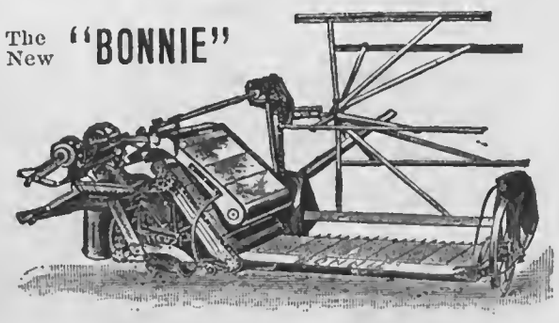

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THE AYRSHIRE COW.

WHERE SHE CAME FROM; WHAT SHE DOES.

A "Hustler" and How She Hustles.

The pictures of Ayrshire cattle on this page, show specimens of the breed from the herd of C. M. Winslow, the secretary of the Ayrshire Cattle Breeders' Association. These animals are said to be excellent representatives of the modern breed. It is said that the Ayrshires have received less good advertising than any other breed of cattle now in America. Somehow breeders have been very modest in describing the good qualities of their cows, but in spite of this, they have been quietly at work improving the breed, until now it has a special and recognized place in American dairying. The history of the breed is thus given by the secretary:

"This breed of dairy cattle originated in the County of Ayr, Scotland, and has been known as a distinct breed for over 100 years. The source from which they originated, is somewhat obscure, but the general belief is that the native stock of the country was built up by selection and the help of some foreign breeds, brought in for the purpose of improving the dairy stock of the country. There is good reason to believe that the Teeswater or old style of Durham, were the chief factors in the establishment of this breed, for they both resemble the Durham, and the common report of the country indicates such an origin.

"The County of Ayr is, in its climate and natural resources, admirably calculated to originate and foster a hardy and enduring race of cattle, being of naturally strong and productive soil, but swept by frequent coast storms of sufficient severity to try the constitution of the most hardy cattle. The natural combination of severe climate and good food, and the Scotch method of compelling the cows to roam over the heath in all weathers, was calculated to develop such traits of constitution and dairy quality as would fit them for Canada and the New England States.

"They were introduced into Canada by the early Scotch settlers, and have ever been a favorite breed in all that northern country; at a somewhat later period, they were introduced into New England by the Massachusetts Society for the Promotion of Agriculture, and by a few private individuals in New England and the Middle States.

"They were found to be a desirable breed of cattle of wonderful dairy quality and unusual hardiness, and in every way adapted to the needs of the dairyman, except that they had short teats, the result of selection and breeding in Scotland where, the milking being done by women, the preference was naturally for small teats; but in America the milking is by men who want a long, large teat that they can easily grasp with the full hand. This was a serious objection to the Ayrshire, and in spite of her great dairy ability, she became unpopular with all but her best friends who believed that the defect might be remedied. The Scotch have continued the general type of the original breed, with blocky, compact body and short teats, and the Canadians have closely followed the home type of Scotland; but the breeders of the United States have changed the objectionable characteristics, and produced a type of this breed that fits them for the needs of our dairymen without sacrificing the dairy quality. There is to-day a marked difference between the Scotch type and the type in the United States. The Scotch and the Canadian cattle have more white, larger horns, smaller and more compact bodies, a smaller and better shaped udder, with shorter and smaller teats, while the breeds of the United States have sacrificed the non-

HOW THE AYRSHIRE "GIVES DOWN." FIG. 139.

essentials, and built up the strictly useful. While our Ayrshires may, to a Scotch eye, lack in symmetry, they excel in dairy qualities, and are what the dairymen demand, hardy, useful, every-day cows."

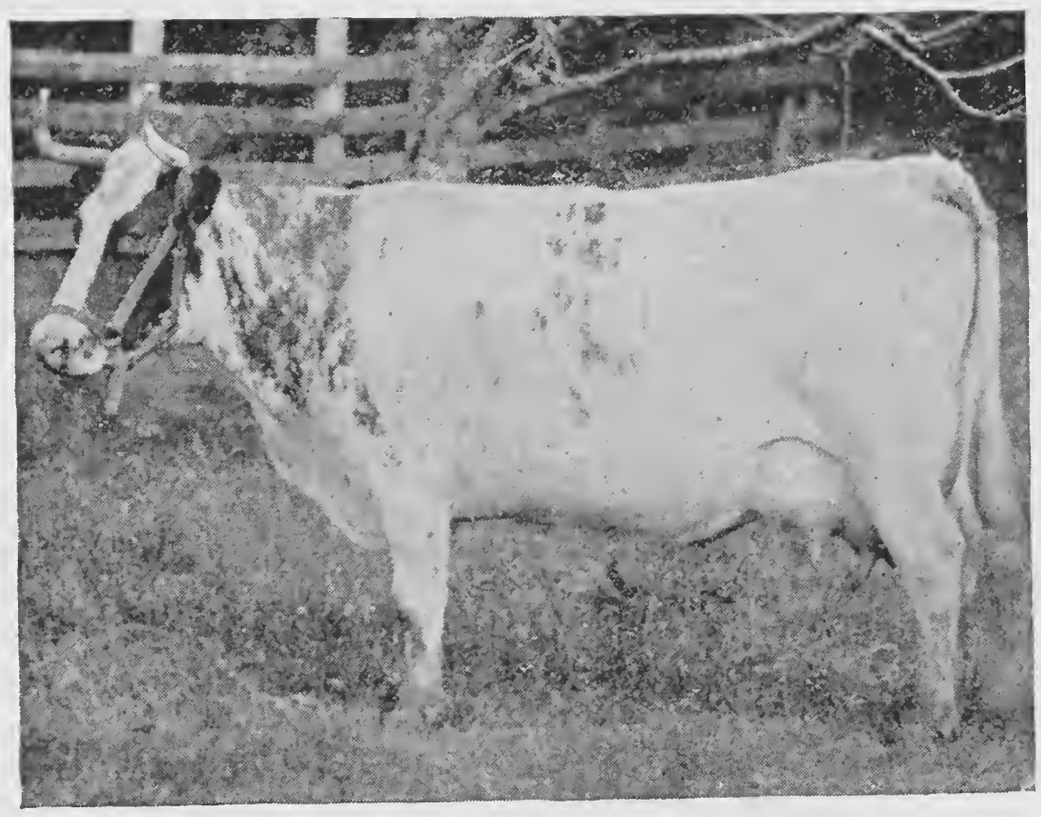
The modern Ayrshire is thus described:

"She weighs about 1,000 pounds in good flesh soon after calving. She is wedge-shaped, having a small head and fine upright horns, full eyes with a pleasant expression, long slim neck, thin shoulders, ribs well spread, forming a large barrel, straight back from head to root of tail, broad hips, heavy hind quarters, small, bony legs, long, thin tail, large, square udder running well in front and behind, long teats well spread, and large milk veins with two or more milk holes. The usual color is red and white in distinct patches, varying more or less red or white in different herds according to the taste of the breeder in selection. A shade of brown or light red of a yellowish cast is sometimes found, but the more common color is dark red and white.

"In disposition, she is tame and docile, very quick to learn and of a retentive memory. She is not easily disturbed; no amount of excitement or commotion in the stable at milking time, disconcerts her, and she appears as ready to yield her milk to one person as to another. She is a very comfortable cow to care for, as she knows her place, and will always take it, is a quiet, pleasant cow to milk, and has no notions that must be humored. She is hardy and healthy, having a vigorous constitution and great power of resisting disease. It is very rare to find a cow that is troubled with garget or any other trouble with the udder or teats.

"While it is not claimed for the Ayrshire that she cannot take tuberculosis, it is claimed that she appears less susceptible to it than any other of the thoroughbreds, having been frequently exposed in stables full of it, and on testing the whole stable, the Ayrshire seemed singled out as not having it. While an occasional Ayrshire may have tuberculosis, as a breed, she does not appear susceptible to it, but, on the contrary, appears strongly to resist the disease.

"She is always hungry and not at all dainty about her food. Everything tastes good to her because of her good appetite and strong digestion. She is always busy about her business of making milk, and when not eating, is chewing her cud. I have often seen her when on the road continue chewing her cud even when started into a run. Nothing seems able to divert her from the one great end of her life, making milk and getting the most out of what she eats. It is claimed, and generally acknowledged, that an Ayrshire cow will give a larger return of dairy product, on an average, for the food consumed, than any other cow."



A TYPICAL AYRSHIRE COW. FIG. 140.

Of course, we understand that these statements are made with a view of detailing the very best qualities of the breed. Of course, no one believes that Ayrshires cannot contract tuberculosis. The statement is made about Japan plums, that the curculio cannot harm them. No one believes it who has grown them, yet they are, undoubtedly, less injured by the insect than are the thinner skinned varieties. So with the Ayrshires, they are, as a breed, hardy and vigorous, and will, undoubtedly, resist disease where weaker animals would succumb to it. Their quiet disposition and ability to eat large quantities of coarse fodder, will make them valuable as barn feeders, while their energy and strength adapt them for thin and hilly pastures in rough countries.

As a dairy cow, the Ayrshire ranks high. Her milk may not be so rich as that of the Jersey or Guernsey, but there is a large mess of it, and when the cost of producing a pound of milk or butter is fairly figured out, the Ayrshire will generally be found among the winners. If those whose business it is to breed them, had half as much confidence in their abilities as they have reason to have, the Ayrshires would long since have been up among the leaders in the race for popularity, for that is certainly where they belong.

A CURIOUS MILK PROBLEM.

I have a herd of 30 Jersey cows; in a test on grass this spring, they averaged 4 1-5 per cent butter fat. The buyer of my milk has been more than pleased with it all winter, and it has given the best of satisfaction all around. Just after I first turned the cows out to grass on May 2, the buyer complained of a disagreeable taste, and his customers refused the milk. The first complaint came in May 24, and the milk is as bad as, or worse than, at the first. I fed ensilage all winter, and cotton-seed and linseed meal alternately, with bran. When I first turned them out, I continued to feed a little ensilage nights, and fed some grain—wheat, bran and linseed or cotton-seed meal—night and morning. On the first complaint, I discontinued the ensilage, with no improvement; I have now discontinued the linseed and cotton-seed meal, and feed only a little wheat bran night and morning. I have examined the pastures, and can find no weeds in them; the pastures are all fresh, being laid down in grass two years ago, mowed last year, and brought again into pasture this year. An examination of the milk from the individual cows, showed that four young heifers, some quite fresh in milk—two weeks—the others from one to three months, gave the worst tasting milk, not bitter, but like strong soapsuds, and quite nauseous. Four others gave milk that had the same taste, but not so bad. All the tainted milk came from young heifers; the milk from the old cows is quite sweet and good. No one that I can hear of, has had a similar experience. Of course, I am separating the sweet milk from the tainted, but what I am trying to find out is this: What has so suddenly made these heifers give such nauseous milk, when the milk was sweet and good all winter up to May 20-24? A neighbor suggests that the rank pastures and the addition of grain are the causes; but it seems impossible that that could turn the heifers' milk into such nauseous stuff so suddenly. Can you suggest anything as to the cause and the remedy? T. J. S.

Connecticut.

Dr. Babcock Gives an Opinion.

A number of complaints similar to the above, have reached me this spring. The trouble in every case has been coincident with a change from dry to succulent feed. In two cases, it occurred when cows were turned into green rye, in another when rank clover was fed. It is suggested that overeating, induced by a sudden change to a ration which the cows relish, may derange the digestion, or make the animals feverish and cause them to give tainted milk. If this is true, the difficulty would, probably, be avoided by a gradual change from dry feed to pasture, allowing the cows to run out but a short time for the first few days, and feeding them some hay until they become accustomed to the green feed.

An Aerator Would Help It.

T. J. S. says that he fed ensilage and certain grains all winter, and his milk gave the best of satisfaction. He turned his cows out to grass continuing the ensilage and grain, and his milk had a bad flavor. Without more data, I do not see what other conclusion can be reached than that the grass tainted the milk. It has been our experience that fresh pasture usually taints the milk, and this taint will often show at the first milking after the cows are turned on the grass; if the grass is rank or there are weeds, the milk is often tainted for some time. Milk will sometimes be tainted a few days after a heavy shower, when grass and weeds are growing rapidly, and also during a drought when weeds are more vigorous than the grass. In fact, we found it impossible to get a uniformly good quality of milk when cows were pastured, and as our trade demanded milk free from taint at all times, we stopped pasturing our cows, and for the past three years, have fed them ensilage at least 11 months in the year, and soiling crops when the ensilage ran short.

In regard to a remedy, the first thing I would do would be to get an aërator and pump air through the milk with it until the milk had no odor. Unless the milk is extremely bad, this aërator will take out all disagreeable odor and flavor, and all milk ought to be treated with it, no matter what the feed. Sudden changes of feed, even when the new feed is better than the old, will often taint the milk, and we are very careful to avoid them. When we pastured our cows, we turned the dry cows and heifers on the fields first, and after the grass and weeds were eaten down pretty well, we turned in the cows giving milk. We were careful to give the cows a full meal of dry feed before they were turned on the pasture, and then allowed them to remain on the grass only a short time, say, an hour. The cows were then returned to the barn, and at night, given the usual ration of dry feed, making the grass only an extra lunch. The next day we allowed the cows to stay a little longer on the grass, and each day still longer, keeping up the dry feeding for several days, and then reducing it very slowly. With this method, we avoided most of the trouble with tainted milk; but sometimes, we would have a bad lot in spite of all precautions.

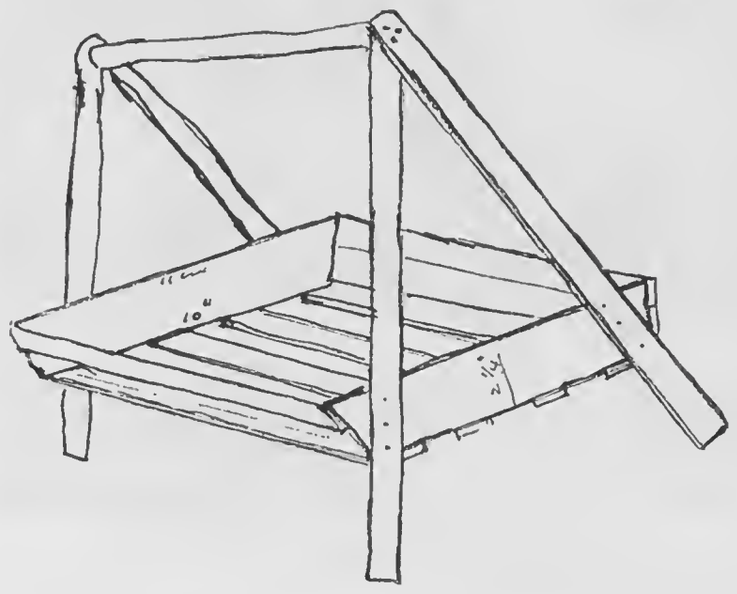
Why the heifers gave tainted milk and the old cows sweet milk, I can only hazard a guess, without knowing more about the case. In our work, we sometimes find a single cow's milk tainted, while that from all the rest of the herd will be sweet. Sometimes, the milk from four or five cows will be tainted slightly. This may be due to overloaded stomachs, chill from a draught, or any one of a dozen other causes. T. J. S.'s heifers may have been more greedy than the old cows, and overloaded their stomachs. There may have been weeds in the pasture, and the heifers being less particular than the old cows, have eaten the weeds. I would watch and find out. H. M. COTTRELL.

May Be Due to Bacteria.

It is not possible, with absolute certainty, at this distance, to say what is the trouble with the milk. It seems probable, however, that some bacterial infection is at work. Why it should pick out the heifers and not the old cows, is not clear. We have not had this particular trouble in connection with any of our station work; yet, in looking up the experience of others as given in available literature, I find the following:

"A case of soapy milk, which failed to sour and had a soapy taste, was traced by H. Weigmann and E. Zirn to the straw used for bedding. The straw was moist and discolored. All five forms of bacteria found in the milk were found on the straw. The bacteria got on to the udder, and from there into the milk. The trouble disappeared when the straw was discontinued. Another case in which the milk would not sour, and had a soapy taste, was traced to the hay on which the same bacteria were found as on the straw. Pasturage on certain pieces of land also gave rise to this trouble; the remedy was found in changing the pasture. The authors conclude that the kind of food may indirectly have an effect on the bacteriological composition of milk, and recommend that cows be milked before feeding or bedding."

There are several alkaline and semi-soapy fermentations; some cause a bitter taste, and some curdle the milk and then dissolve it into a more or less slimy solution forming peptones. The sources of these bacteria are seldom clear. They come without exception, in the case of the healthy cow, from the exterior, and can usually be prevented by sufficient care and cleanliness, once the source of the trouble is ferreted out. I am inclined to think that, in the present case,



STAND FOR STRAWBERRY PICKERS. FIG. 141.

the coincidence of pasture feeding and soapy milk, taken in connection with the statements of Weigmann and Zirn of similar coincidences, are suggestive. I would recommend changing pasture, and thorough cleansing and scalding of milk vessels as being, perhaps, as liable to bring about a change as anything.

Vermont Ex. Station. JOSEPH L. HILLS.

STRAWBERRY NOTES, IRRIGATION; PICKER'S STAND.

The strawberry season began here the earliest ever known—about May 18, and at this writing (June 8), it is almost over. The fore part of May was quite dry, and fearing a repetition of last year's drought, I made arrangements to irrigate, purchasing a centrifugal pump and 400 feet of 2-inch pipe. But I did not begin soon enough, and just after the first and only irrigation, it began to rain and the weather and moisture since have been all that could be desired. But I do not regret the purchase, as I believe that I shall now have command of the conditions for a perfect strawberry plantation.

In April, 1895, I set about three acres, one of which had been in potatoes the previous year; the other two were an old Blue grass sod, that had been in pasture for more than 25 years. Of course, I had White grubs by the thousands; but they were fully as bad in the potato land as in the pasture sod. The consequence of these and the severe drought, was that there was a very poor stand, and the plants went into winter quarters in a discouraged and truly disconsolate state, or I was at least. But this spring, not a sign of White grub is seen, and every tiny runner of last fall is now a vigorous plant. I shall mow and rake off this year, and not burn as I did last year. The rakings will be saved for mulch. Then, as soon as the mowing and raking are done, I shall go through the rows with the Cutaway cultivator, which tears up the ground and destroys weeds better than anything else I have tried.

I am fruiting, this year, 15 varieties, but shall plant next year about the following: Bubach, Haverland, Muskingum, Lovett, Brandywine, Marshall, Timbrell, Greenville, and a few Enhance for the sake of its pollen. I may also keep to Parker Earle, now that I can have water at will.

When I sat down to write it was to describe a pickers' crate or carrier that we made and have used this year. The pickers all rush for them, and feel hurt to have to take the box with the hoop handle. I send a sketch of it—see Fig. 141. It is easy to make and can be made of small, light pieces of lumber. The ends are 11 inches long on top and 10 inches on the bottom, of one-half-inch lumber, 2¼ inches wide. Nail four strips of thin stuff (I use plastering lath with the rough planed off) 17½ inches long, for the bottom, and two strips for the sides. Then use two pieces 16 inches long at each end, letting them extend below the box about 3½ inches for legs, and join them together at the top where they are nailed to a handle; a piece of broom handle 17½ inches long, will do very well. This holds six baskets, but we have one that holds nine—that is 16½ inches inside each way.

Mechanicsburg, Ohio. S. S. S.

WHAT THEY SAY.

ENSILAGE AND COWS' TEETH.—I have three cows to which I have fed ensilage eight years in succession, and so far as I can see, the ensilage has hurt their teeth about as much as corn hurts hens' teeth. These cows are from 11 to 15 years old, and one of them, a Jersey-Holstein cross, has given, when fresh last January, over 60 pounds of milk per day. Their teeth are much better than cows' teeth usually are at that age. It is high time that these hollow-horn, soak-tail, black-tooth ideas about ensilage, were cast aside, and that every intelligent farmer who can raise a good crop of corn, and wishes to keep 10 or more cattle or their equivalent of sheep, had a silo. Fifty dollars' worth of material, and a few days' time, will provide one as good as the best. Beware of the costly ones; they do not usually give as good satisfaction as the cheap ones. J. O. W.

Shortsville, N. Y.

CRIMSON CLOVER A SUCCESS.—Last year, I sowed 70 acres, and received from it all that I expected. My object was improvement of the soil, and I realized it. It went into the winter a good stand, and gave valuable protection to the soil when it needed it. The spring killed the most of it, but there was no loss, for the soil has received the benefit I had aimed for. For the fruit grower, it would be almost a misfortune to have it come out alive in the spring, for many would be tempted to leave it too long in its new growth. It should be plowed down early in the spring, otherwise, if allowed to grow, it will rapidly pump up the moisture that should be conserved for trees and plants through frequent surface cultivation. This discussion and presentation of experience by THE R. N.-Y. will be worth untold millions of dollars to the farmers of the country. They must carefully study the subject and the plant, and know just what they wish to accomplish with it. Its chief value in the northern States, thus far, is clearly proved to be for a catch crop, to benefit the soil during a few months' growth, from July to January, with its added value of winter covering and protection to the soil. I shall sow 75 acres with Crimson clover the coming season.

GEO. T. POWELL.

SPRAYING FOR THE CURCULIO.—Fruit plants bloomed here in about their usual season; yet strawberries and other fruits have ripened, or will ripen, two weeks earlier than is usual. The season has not been particularly hot, but we had two or three days of strong, warm wind from the south, amounting to almost a gale at times. Is it possible that a wind of this kind can so enormously hasten the ripening or maturing of fruit? I am reminded that during the first of these gales, I was spraying part of my orchard with Bordeaux and London-purple. A Russian apricot (the first of the bloomers), was in full bloom, and was thoroughly sprayed with the other trees, which consisted of apple, peach, cherry, pear, plum, etc. The spray was, of course, thrown entirely from one side, and was driven with great force through the trees. This apricot tree now is holding a large crop of perfect, unstung fruit, on the south side, with half a crop on the north side. Another apricot tree not far distant, that was equally full of bloom, but not sprayed until a week later, when the petals had fallen, can look down and see nearly all its fruit on the ground, with the undercut of the curculio on every specimen. As I put a pound of purple in every 100 to 120 gallons of the Bordeaux, I think that I have proved, at least, that there is no danger of injury to the bloom from spraying with the ordinary amount of arsenic, when plenty of lime is added. As to the question so often asked by bee men, "Does it do any good to spray when the bloom is on?" I have not

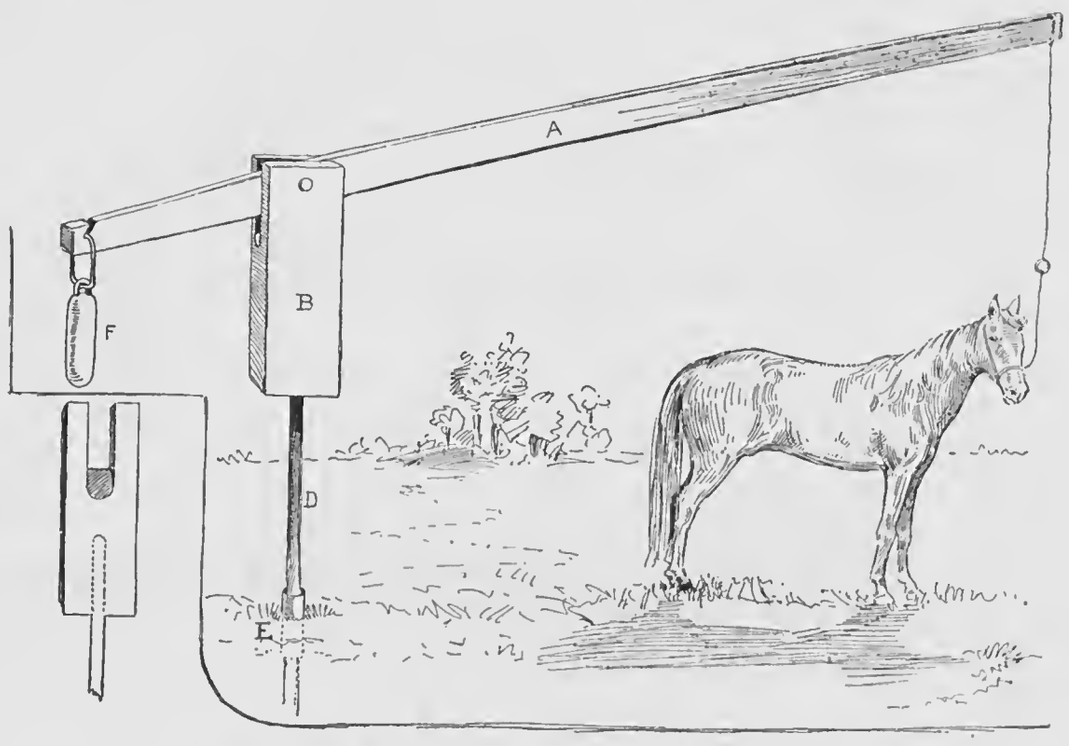
yet an answer. But if the straws continue to blow in the same direction, next year, I shall try to profit by it. B. BUCKMAN.

Sangamon County, Ill.

A SAFE TETHER.—Fig. 142 shows a tether which I have been using, and found safe for any of the farm animals. The old way of driving a stake into the ground, and tying a rope, is very dangerous; many a horse has had a foot made sore from burning with the rope, besides very often being thrown. I have seen a horse lie down, roll, get up and have a good play while hitched to the tether. I kept a horse hitched out all last summer, with one, because it could not be caught when turned loose. It will be found very convenient when only one cow is kept.

It is made as follows: "A is the pole, 12 feet long by 1¼ inch thick and five inches wide where the pin passes through, which should be at one-fourth the length of the stick from the end. The long end may be tapered down to two inches. As there is no strain on the pole sidewise, it need not be very strong. B is a block of hard wood, 16 inches long, four inches square, with a slot cut in for the pole to play in. The bottom end has a hole bored five inches deep so that it will turn freely on the end of the iron bar which is driven into the ground. Should the animal be headstrong, and the ground soft, the bar might be pulled over. If a piece of tubing be driven into the ground a few inches, and the bar set inside, it will not be tipped out. A short rope is on the end of the pole for convenience to hitch to. D is an iron bar, E a short piece of tubing, F a pail or kettle with weight sufficient to balance, which is easily set off when moving. I use an ordinary iron bar which is found on most farms, and may be stuck by hand. Only in a very few instances, when the ground was soft, have I found it necessary to use the tubing, E. L. D. GALE.

Chautauqua County, N. Y.



HOW TO TETHER AN ANIMAL IN SAFETY. FIG. 142.

A PRETTY SHRUB.—Gordon's syringa (Philadelphus Gordonianus) is a very vigorous growing species, attaining a height of from six to ten feet, and from all the strong, erect shoots, slender side shoots are produced which give it the appearance of being a shrub of drooping habit. The leaves are opposite, ovate, and of a bright green color, and the flowers which are produced in dense clusters during the month of July, are large, pure white and slightly fragrant. As the flowers are produced a month later than those of the other syringas, it certainly is a very desirable addition to our list of ornamental flowering shrubs. To enable it to develop properly, it should be given a very deep, well-enriched soil, and while the plants are small, grass or weeds should not be permitted to grow up around them. Large and well established specimens should be given a top-dressing of well-decayed manure every two or three years. This should be applied late in the fall. As the tendency of this syringa is to make strong and rambling shoots, pruning must be resorted to in order to preserve a natural grace and beauty. As it flowers on the wood of the preceding year's growth, it should not be pruned in winter or spring; but as soon as it ceases blooming, the old wood should be shortened back in order to promote the growth of the new for another season's bloom. It will be well to thin out the old wood occasionally, and to remove all root sprouts as soon as they appear out of place. Propagation is effected by cuttings, and, occasionally, by careful divisions of the older plants. C. E. PARNELL.

USE AND CARE OF CREAM SEPARATORS.

SOME CAUSES FOR POOR WORK.

PART II.

In the way of saving of fuel, and wear and tear on the machine, it is important that a separator run as easily as possible, and this is especially needful if the machine is to be run by hand. To secure this, it is necessary that the bowl run smoothly, that all bearings be accurately fitted, yet not absolutely tight, and that all bearing surfaces be free from dead oil, gum, and grit, and kept supplied with a light, free-running grade of oil. Loose bearings can generally be found by the noise made when running. If the machine runs unduly heavy, but still smoothly, flush all bearings and pinions with kerosene to cut out gum. If some shaft is dry of oil, or tight, or out of line, the place may generally be found by feeling for warm bearings with the fingers. Sometimes, an oil groove may get stopped up with gum or burnt oil, so that the oil does not reach the shaft, causing the machine to run hot, even if it is apparently well lubricated. Grit of any kind in the oil may heat a tight bearing, stopping a large separator almost instantly, burning the spindle or springing it, roughening the bearing and, perhaps, making a "cold weld" between the shaft and bearing, so that it will require several thousand pounds pressure to force it out. I saw a bearing so "stuck" to the spindle of a Danish-Weston, that blows with a heavy hammer would not start it, and when put in a testing machine, it required over 4,500 pounds pressure to force it off. In this case, the bearing which was rigidly set into a cast-iron frame, was turned around in its place so as to grind a considerable amount of iron into a black powder. No harm is done so long as a bearing does not get excessively hot, so hot that one cannot bear the hand on it. When there is liability to heat, bearings must be kept dry, and any water in them aggravates the tendency.

Sometimes a beginner is troubled by milk leaking down into the frame of the machine. This is caused, either by the bowl being adjusted too high, or too low, so that the milk does not fall into the receiving cover, or else the rubber ring is worn or frayed, or the cover is not screwed down enough to make a tight joint. The proper adjustment of the height of the bowl is not a difficult matter. A new bowl cover ring will be tighter at first if well soaked in warm water before using the first time.

Sometimes, there is trouble in getting a uniform, even flow of cream. There are machines in which there are radical defects of construction, making them liable to clog with cream so as to stop the flow entirely, or else to make it excessively thick at times, and very thin at others. The better known makes of machines will not do this, however. If the cream is too thick, either the adjustment of the regulating device is wrong, or the speed is too high, or the milk is too warm, or the machine has been run too long without any milk running through it, thus packing the cream so hard as partially to clog the cream opening.

A most important point is the completeness of skimming. Any separator that is worth using on milk in good condition, that is not old or sour, or partially skimmed already, should leave not more than one-tenth of one per cent of fat, although the usual factory practice will not average as good work as this. When skimming milk warm from the cow, it is not impossible to skim down to three-hundredths or five-hundredths of one per cent. However, the ordinary Babcock test bottle is of no use in estimating amounts below one-tenth of one per cent. But with the double-necked O. & W. bottle, we can read fairly accurate to two-hundredths of one per cent.

The work of the machine should be kept track of by occasional tests with the Babcock. If the skimming be poor, either the milk is too cold, or the speed is too slow, or the capacity has been unduly increased, or the milk is out of condition, or the machine itself is at fault, out of order or of a poor style or of individual demerit. Most machines separate best at a temperature of not less than 80 degrees, while above 100 degrees has, probably, a prejudicial effect upon the butter. Of course, no machine can be expected to do good work at a speed slower than that recommended by the makers, and a speed somewhat higher than this may be necessary for complete work. Regard must, of course, be had for the "safety limit" of bursting.

The capacity of a machine will vary widely with temperature, age, and condition of milk, and in those machines where the rate of inflow is not permanently fixed, the operator must use his own judgment, checking his results by the Babcock test, and remembering that it is generally bad economy to crowd a separator. Any good separator ought to take a very thick cream, say up to 50 per cent fat, and still do practically perfect work; but other things being equal, the richer the cream taken, the greater the liability to imperfect skimming.

It is a remarkable thing, if it be true (and I certainly believe it), that every machine has its individuality in skimming—that is to say, that of two bowls made from the same specifications and drawings, made so nearly alike that it would be hard to distinguish one from the other, one will prove much the better skimmer or, perhaps, require less power than the other to keep it up to speed. If so, this is a queer fact. Consequently, if I were to buy another machine for my own use, I would be particular, not only to get the best style, but also a bowl of good individual qualities.

In cleaning a separator, it is best to wash, at first in merely warm water, not hotter than the hands can bear, because boiling water coagulates and cooks the slime fast to the surface of the bowl, making it very much harder to remove. Whirl the parts quickly in warm water, using a stiff brush in the corners where required, and then steam thoroughly or plunge into boiling water for a few minutes; then wipe lightly the thin tin parts, and place in a dry, warm place, where the heavier fixtures will dry themselves thoroughly by the heat remaining in them from the steam or hot water. Cleaning will be facilitated if, instead of using skim-milk to flush the separator when the run is completed, there be used a quantity of pretty warm water, say three or four times the capacity of the bowl. Warm water flushes the bowl far more completely than does skim-milk, and reduces the loss of fat in the "bowl-slop."

These are a few of the most important points to be observed in the use and care of cream separators. While they are the simplest of machines, like everything else, to become masters of them at all times, will require a good deal of experience and common sense.

JARED VAN WAGENEN, JR.

Hillside Farm.

GOOD GRASS IN LESS THAN A YEAR!

I send you a 17-ounce package of Timothy cut June 1, 1896, the product of one square foot. This grass was sown last September. July 15, 1895, after securing four tons of hay to the acre, I took up 10 acres of my grass field, working the land every few days with the right lap Cutaway and two other tools made by the Cutaway Harrow Co. The total outfit cost me less than $50. The seeding was finished September 1, 45 days after the work commenced. The field was so thoroughly cultivated in that time, that the old sod was entirely annihilated. Previous experiments had led me to believe that grass seed should be rolled, not harrowed, in. Four acres were thus seeded; later, six acres were harrowed and rolled in. The harrowing was done with a fine-tooth, special, smoothing harrow, by going over it in half lap, in four different directions, thus thoroughly mixing the seed with the surface to the depth of 1½ inch.

In addition to this thorough cultivation, to secure more positive action, I used 600 pounds of bone and potash to each acre when seeding, and except for the fact that the four acres were not so thoroughly cultivated and the seed worked in, each division had the same treatment, and they were of similar condition of soil. The seed on the four acres, with the first shower, washed out of place and came up in bunches; that together with the lesser cultivation, spoiled the stand, and it will have to be re-seeded. The six-acre field made a perfect stand.

If you will examine the package of grass sent, you will find much of it over two feet high, and as fine as silk. I think that it fairly represents the field, and if so, there are now standing on the six acres, something over 23 tons per acre of grass grown from seed sown in September, 1895. This settles the question fully as to sowing grass with grain or other crop. No time is saved, both crops are injured, the grass will not only be coarse, but will never produce more than two-thirds as much thus sown. This is a bad year for grass, yet I ought to get over four tons per acre from this six-acre field. If you cannot come, send your friends to see it.

Of one thing I am certain—with the latest improved machinery, a grass crop can be continued indefinitely on wet or dry land. My field is one of the worst; it had a very tough, hard sod of six and seven years' growth. Some of it was very wet; in fact, much of it was afloat all winter, yet with perfect cultivation and grade, not a yard winterkilled. With the common plow and harrow, it would have taken years to subdue that field; yet with these improved machines, every green thing was killed, the new seed sown and

the grass up in 45 days. A word on Crimson clover. I used last year 300 pounds of Crimson clover seed in 20 or more fields of my own and others. The tests were full and complete, covering nearly every condition here. The result was a total failure. Crimson clover is worthless in this section.

Connecticut. GEORGE M. CLARK.

R. N.-Y.—The grass reached us safely, and is just as described by Mr. Clark. The best of it is fully three feet long, and is all of excellent quality.

CIVIL ENGINEERING FOR BOYS ON THE FARM.

PART V.

To Run a Line of Levels and Do the Figuring.

We will presume that you have the line staked out as previously directed, and that the line is clear, without any brush in the way to interfere with the work. You will need a little blank book, and a pencil to keep the notes. The book should have the left-hand page ruled into six columns for the figures, and the right-hand page is to note down any explanatory remarks that you wish to make. The first column on the left-hand page, is for the numbers of the stakes, and the second column is to contain the record of the rod readings or observations, as they are frequently called. Mark the top of the first column "Sta," and the second "Rod Rdg." The use of the other columns will be explained as we come to them in the example to be worked out.

Everything being ready, set up the leveling instrument in or near the line as far away from the starting point as you can clearly see the target on the rod, to have it placed at the exact level. While you are getting the instrument ready, the rodman holds up his rod on the hub at the starting point, and when ready you get the rod reading at that point as previously directed. It being the starting point of the line, the stake is marked 0, and you put that down in the "Sta" column, and opposite it in the next column, the rod reading. When you have it down, you would better take another observation on the same point, to be sure that you have not made any mistakes. The rodman then moves up to "Sta" 1, and you get and note down its rod reading in the same manner. So he goes on from stake to stake in their order, passing you and getting as many rod readings as can be taken without moving the instrument. When you have taken the last rod reading that can be had from where you are, the rodman stops where he is until you have moved your level on beyond him, when he holds up the rod a second time on the same point, and you take another reading from it. This second reading is taken for the purpose of finding out what the new height of the instrument is, since you moved it. In the "Sta" column mark it as a + sight because the rod reading has to be added to the height of the point on which the rod stands to find out how high the instrument is.

Now let us go back to the beginning and put down the rod readings so far as you have taken them and figure it up. After that, you can go on with the leveling and figuring as far as needful, as the further work is only a repetition of the same kind of a process. We will suppose that the rod you have been using is marked off into feet and tenths for convenience, and that the readings have been taken to the nearest half tenth, which is close enough for all ordinary leveling. The slight errors this causes in the readings are as likely to be one way as the other, and in the long run will offset or balance each other. We will now put down the rod readings, as for this example, we will suppose that you have taken them, and figure everything out, putting each item in its appropriate column which will be explained as we go along :

LEFT-HAND PAGE.						RIGHT-HAND PAGE.
Sta.	Rod Rdg.	Height of Instrument.	Height of Sta.	Grade. Height.	Cut.	*Remarks.*
0	3.75	103.75	100 00	96.00	4.00	Top of hub at surface of water one foot deep.
1	3.25	.....	100.50	95.80	4.70	
2	2.60	.....	101.15	95.60	5.55	In hard, stony land.
3	1.20	.....	102.55	95.40	7.15	
*c*4	2.80	.....	100.95	95.20	5.75	
+si	1.25	102.20	.....	.....	....	
5	2.00	.....	100.20	95.00	5.20	
6	3.20	.....	99.00	94.80	4.20	Edge of Marsh.
+50	4.40	.....	97.80	94.70	3.10	Bottom of water course.
7	3.40	.....	98.80	94 60	4.20	Enter willow swamp.
*c*8	3.70	.....	98.50	94.40	4.10	
+si	1.65	100.15	.....	.....	....	
9	2.30	.....	97.85	94.20	3.65	
10	3.15	.....	97.00	94.00	3.00	
B M	2.45	.....	97.70	.....	....	B M on top of rock 40 feet to right of sta. 10.

In ordinary leveling, we do not care anything about the absolute height of the different points —that is, how far they are above the center of the earth or above the level of the sea. It is the relative height we are after. We wish to know how they compare with each other. If we take the starting point of the levels as a base from which to make our figures, we may, very likely, find that some points in the line are higher and others lower than it is. Such a state of things is confusing, and likely to cause mistakes in the figures. To avoid this, it is customary to assume some arbitrary point from which to start the figures, the level of which is called the datum of the survey. The datum is selected so that it shall be certain that no point in the line shall be below it. In this case, we have assumed a datum 100 feet below Sta. 0, or in other words, we assume that the top of the hub at Sta. 0 is 100 feet high. So we put down 100.00 feet in column 4 for the height of Sta. 0. We next find the height of our instrument by adding the rod reading at Sta. 0 to the assumed height of that point, and find (100 00+3.75) that it is 103.75 feet. Put this down in column 3 When you know the height of a station, add the rod reading to it, and that will give the height of the instrument and vice versa. When you know the height of the instrument, subtract the rod reading, and it will give the height of the station.

In this case, we have found the height of the instrument, so we simply subtract the rod readings at the several stations from it as far down as Sta. 4, and put down the remainder in column 4. Sta. 4 we have marked with a *c* to show that, when we reached that point, the position of the instrument was changed. Having moved the instrument, it is necessary to find its new height, and as we know the height of Sta. 4, we take another rod reading on it (+si) which, added to the height of the station, gives us the new height of the instrument. Every time the position of the instrument is changed when running a line of levels, you must get its new height by taking a rod reading on some point whose height is known. Otherwise, there will be a break in the connection. It is not necessary to follow these figures any further, as it would be repeating the same process.

Michigan. FRANK HODGMAN.

KILLING HORNS WITH CAUSTIC POTASH.

WHEN AND HOW TO DO IT.

What to Use; Where to Use It.

On page 411, a reader in Missouri stated that his experience in killing the horns on young calves had not been uniformly successful. He used the common pencil or caustic potash, and asked for the experience of others. The following notes have been received :

How the Work is Done.

Preventing the growth of horns on young calves by the use of caustic potash, is a simple matter if the operation is properly performed at the proper time. I have applied the stick caustic potash to the budding horns of young calves many times successfully. Certain precautions are necessary to insure success. First, the caustic should be applied as early in the life of the calf as the little horn or button can be located. Second, the hair should be carefully clipped away from the young horn, and the caustic thoroughly rubbed in. Third, care should be taken not to apply the caustic to the surface of the skin except over the little horn.

When the operation is properly performed, it is necessary to clip but very little hair from over each horn. Six or eight drops of the saturated solution of the caustic applied to each horn and well rubbed in, are amply sufficient to prevent further growth. If the application be carefully made, a casual observer would not notice at any time, that an operation had been performed on the calf. My practice has been to clip the hair closely from over the budding horn, moisten the little button with strong soapsuds or ammonia water, then dip the stick of caustic potash in a dish of water, withdrawing it and holding it for a moment that the adhering drop may become thoroughly saturated with the potash, and rub it carefully over the little button. This was repeated three or four times. The other horns were then treated in the same manner. After treating both horns, the process was again repeated, giving from six to eight drops to each horn. This, if properly applied, will be sufficient to prevent future growth. In handling this stick potash, a bit of paper or cloth should be wrapped about the stick grasped by the hand.

In the successful performanee of this operation, it is necessary to do thorough work, and best to accomplish this, the operator should have an assistant to hold the calf, unless means are provided for tying the calf during the operation. I have detected no great difference in the caustic used. This was obtained at various times from the chemical laboratory, and was the commercial stick caustic potash. I am told that this does not vary greatly in strength. The difference supposed to be in the potash, I imagine was due to the application, and not to the caustic. When asked if concentrated lye would not answer the same purpose as the caustic potash, the answer has been that it undoubtedly would, with the suggestion that it be given a fair trial. Reports from such trials have been very satisfactory, indeed. GEORGE C. WATSON.

An Awful Practice—with Hot Iron.

W. H. R.'s experience in stopping the growth of horns on young calves, is the same as mine, and I believe, from observation, the same as that of most people that have used, not only caustic potash, but different preparations for the same purpose. I don't apprehend that W. H. R.'s failure was because of uncertain strength of the caustic potash. There should be a certain and sure rule to go by when one wishes to dishorn the calves. The horn grows in two parts—the outside or shell horn grows from the hide or skin denuded of flesh and hair, and would be a very poor weapon, but for the bone horn that grows inside of the shell horn, and is developed from the matrix or head bone. To make a sure thing, both the shell and the bone horn must have an application that scalds or burns enough to kill the growth of both. We have used caustics, and killed the outside or shell horn, but did not burn deep enough, and the bone horn would develop and grow a stub horn from the matrix. We have burned deep enough to stop the life of the bone horn, but not broad enough across the hide, and the shell horn would develop and grow a loose stub from the hide. When the horn or stub grows from the head bone or matrix, it is solid and firm; when it grows from the hide separate from the bone horn, it will be loose—in either case, it is unsightly.

Whatever one use, whether caustic potash, acids or horn killer, it has to do just what a red-hot iron has to do, nothing more or less. I make an iron about the shape of a clay pipe, but solid iron, only a good deal larger; the large end is one or 1¼-inch across, made quite oval. Press the hot iron on the embryo horn, and the iron being oval, will burn a countersink into the head bone. Then with a rag, or even the naked thumb, push away the burnt sediment, then one can see and feel just what has been done. If there be still the little bone horn to be felt in the center, burn until it cannot be felt. If there be a hard horn substance to be felt on either side of where it has been burnt, burn that until it cannot be felt. When that is accomplished, success will follow every time. As to the age of calf, the sooner, the less there is to burn; it can be done to calves two or three months old.

Cattaraugus County, N. Y. O. H. SMITH.

Some Experiences with "Horn Killer."

My experience in preventing horn growth on calves, has been confined to the use of "Horn Killer," with which I have had good success. I have used it each year for six years, and the only failures (?) that I have had were the following: Five years ago, I left a calf until it was six weeks old before applying it. Each of the horns has grown slowly, but they are not perfect; the cow has, while in pasture, knocked each of them off close to the head at least twice, and to-day is a model mulley. A calf treated three years ago, bore one horn, and that but little stunted, while the other one was completely killed. I see no reason why any application that will kill one horn of a calf, will not kill the other horn of the same calf, and the only way that I can account for this case, is that the remedy was wiped from one side of the head while being applied to the other. The other case of ill-success with it was on a calf dropped November 1, 1895, and left till November 29, when the killer was applied first to a young calf, and the little that was left in the bottle put on the "buttons" of the older one. Her horns are much stunted, but it will be necessary to saw them off a year hence. The manufacturer of this preparation claims that it contains neither potash nor acid, and as I never used caustic potash, my experience is not much to the point. G. G. GIBBS.

New Jersey.

Two Brief Horn Killing Notes.

At first, we, like W. H. R., were not completely successful in preventing the growth of horns on young calves by the use of caustic potash. Later, since we have taken more care to remove from the point to be treated, the hair, all dirt, exudations, etc., that is, make the skin perfectly clean, we have had uniformly complete success. It is possible that the caustic potash used by W. H. R. was variable in quality, but from our own experience, I am inclined to think that the failures were due to not shaving and cleaning the parts thoroughly to which the potash was applied, for, with the same potash which failed with us, we secured success when we were careful to do the work most thoroughly. I. P. ROBERTS.

Although I have dishorned cattle for years, I have never attempted to remove the buttons with caustic. I have neighbors who have tried it, but not with uniform success, as a deformed horn frequently starts. I think that a nice time to dishorn stock is when they are a year old past, and the horn is 1½ to 2½ inches long, with either clippers or saw, preferably clippers, which make a close cut, and that ends it for all time.

Orange County, N. Y. M. H. C. GARDNER.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

SETTING STRAWBERRY PLANTS IN AUGUST.

Is there any way in which I can set strawberry plants in August, so as to be sure of a fruit crop from them the following spring?
Massachusetts. SUBSCRIBER.

Can Do It with Potted Plants.

It is evidently useless to set out an old strawberry plant as late as August, and expect good results. We successfully set thousands of young plants as late as September 1, which give a full crop of large berries the next season. We increase the fruiting beds at midsummer every season. The young sets are dug on a cloudy day, with a mason's trowel. Each plant, by this method, holds a ball of earth. We dig from 15 to 25 plants at a time, place them in flats, and draw them to the field where they are to be set. We also set acres of potted plants as late as September 10, with great success. A profitable crop can be obtained by using chemical fertilizers as we know beyond a question. We have depended almost entirely upon chemical manures alone for strawberries.
New Jersey. T. C. KEVITT.

Must Have Fancy Prices to Make it Pay.

No one can set a strawberry bed August 1, and make it pay, if he get only ordinary prices for the fruit. If fancy prices can be secured, or if the bed is set for a family supply, it is a different thing. I am not in favor of pot-grown plants; they are expensive for the nurseryman to handle, the transportation is expensive, and the cost to the grower is generally more than the amount realized from them. I have taken young, fairly well rooted plants, from fruiting beds August 1, set them in rows 3x1 foot and got wonderful results. They were transplanted on cloudy days, and afterwards frequently hoed and treated with liquid manure and commercial fertilizers. All runners were clipped off as soon as they grew long enough. Were I buying plants of a nurseryman to set the first week in August, I would write to him at once, direct him to take the young runners as they begin to throw out roots, set them in beds closely together, and hold till I was ready to plant. Then, when ready to ship, the earth about the plants may be thoroughly soaked, and when taken up, plenty of earth clings to the roots; when transplanted, the plants never stop growing. In packing these plants to ship, use baskets. Line each basket with oiled paper, put a layer of moss on the bottom and sides, and between each layer of plants, so the roots will touch it. On receipt of plants, the planter should thoroughly soak the plants before handling, so that the earth will not rattle off. Such plants, carefully handled and set in rows 1x3 feet, and given good culture, may be made to pay if 10 cents per quart can be realized for the fruit. L. J. FARMER.
New York.

How It May Be Done.

I think that strawberries may be successfully and profitably planted in August, but success requires the following conditions: 1, strong, well-rooted layers or potted plants; 2, a moist time at planting; 3, a very rich soil; 4, thorough cultivation; 5, plants costing not more than $5 per 1,000; and 6, planted not later than August 15. Many of these conditions, however, are rather difficult to provide; for instance, strong, early plants. In a dry time, few runners are made until the last of July, or first of August. Potted plants cannot be bought for $5 per 1,000, but in case one has a spring-set plantation on the grounds, they may be grown so as not to cost more than the above figure. Plants should be set in rows or beds ten inches to one foot apart, with paths between, and no runners be allowed to grow, for, at this late date, the runners that do start, if allowed to root, will develop but few fruit stalks, and the parent plants will be weakened by the growth. I would mulch as heavily as can be safely done, and then simply make a hole through the mulch for each plant to come through in the spring. Early-rooted layers, if taken up carefully with some soil about the roots, may be moved without checking their growth, if grown near the field or bed to be planted. When strawberries are grown in hills, and the runners are cut off, strong plants may be grown by putting the runners in frames, where, by careful attention as to watering and shade, they soon become rooted and make strong, healthy plants that may be transplanted at any time without much check, unless the land in which they are set, is very dry. I am fully convinced that the above is the most satisfactory way to grow plants for spring planting as well, and I am sure that more and better berries can be grown, and more profit be made when the plants are not nearer than 8 to 10 inches apart. The earlier the plants are set in the spring, the larger and better will be the crop, other things being equal. S. T. MAYNARD.
Massachusetts Agricultural College.

Poor Success with Late Plantings.

Subscriber asks a question that requires so many factors in its solution, that with all my experience, I can only give an answer coupled with many conditions, because I use only chemical fertilizers for the purpose. Subscriber can use potted plants for setting in August, and if there be sufficient rainfall, or he can irrigate, he may hope for a fairly good crop the following year. I have sometimes followed another plan with success. If a good rain come immediately after the picking season is over, and I have thrifty fruiting beds, I prepare the ground and plow furrows where I wish to set the rows. If this ground is alongside the fruiting beds, with a round-pointed shovel, I cut a shovelful of plants from the side of the fruiting bed, deposit them in the furrow, and fill in the earth around them, setting them about two feet apart. If not convenient to do this, I place them in a wagon, and drive where they are wanted. The strawberries I sent to the World's Fair at Chicago, were grown upon rows set in this way. As a fact, I have never had success enough in late setting with potted plants or any other, except in this way I have described, to make it pay. Weather conditions, three times out of four, are unfavorable for late set plants. I expect to adopt this method in filling in rows where grubs destroyed the plants last season. WALTER F. TABER.
Dutchess County, N. Y.

How to Hurry the Crop.

My experience has been that August or fall-set plants are not profitable under ordinary conditions. The plants are difficult to obtain. The ground is dry. The weather is hot and scorching. The plant is resting, making but little growth until fall rains, and potted plants are expensive. Plants set as soon as the new runners are sufficiently rooted, say, September 1, on ordinary soil and with ordinary care, will not yield enough to pay for the labor alone. If I wished to increase my beds for next season's fruiting, I would select the richest spot I had, either sod or stubble; a piece of meadow from which the hay has been cut in June, would do. It should be heavily manured with barn manure before plowing, and be plowed deep at once. It should be harrowed as thoroughly and deeply as possible without tearing up the grass, as fast as plowed, and once or twice a week until plants are set. The object is to sprout and kill weed seeds, to fit the ground so that it will be easy to set the plants, and most of all, get the soil in that condition (particles of soil fine and compact) that it will absorb and retain moisture. The manure will not be reached and used by the plant until spring, and may be left out, and applied as a top dressing during winter in the form of well-rotted compost.

I would mark out the plot both ways in rows three feet apart. Where the rows cross, I would apply commercial fertilizer at the rate of 1,000 pounds per acre, spreading it by hand on the surface in a circle a foot in diameter. This would be worked into the soil and thoroughly mixed by running a narrow toothed cultivator (which does not shove the soil into the center of the row, but leaves it level and where it finds it), both ways in the row. The plants should be of strong-growing varieties which are characteristically prolific and hardy. I would use Bubach, Crescent, Michel's Early, Parker Earle, Haverland and Sharpless where they do well. I would use potted plants and set them with great care, putting five in a hill. Set the first plant at the crossing of the rows, and one six inches from this, in four directions in the row. By this method, they may be cultivated both ways, and should make growth enough to cover the surface in the hill by winter. The runners, if any, should be cut off, and a great growth encouraged by frequent stirring of the soil among the plants. A solid, compact hill will shade the surface and tend to prevent heaving in winter. At any time during winter, an application of well-rotted manure, free from weed seeds, spread on or among the plants, will prove profitable for two reasons—increased quantity and size of fruit, and ability to withstand cold weather. A small forkful of clean straw, corn stalks, or swale hay should be spread over each hill while the ground is frozen, and left there until after fruiting. If the straw be too thick for the plants to push through in the spring, it can be loosened a trifle. No cultivation in spring is needed. C. E. CHAPMAN.
New York.

Grape-Vine Tomato-Gall; Poison Ivy.

P. E. R., Demarest, N. J.—1. What is the cause, effect and remedy of insect ravages on the inclosed tip of Concord grape vine? Of a row 350 feet long, nine-year-old vines, almost every vine shows a few tips or leaves similar to that inclosed. 2. What is a sure and speedy cure for the effects of poison ivy other than sugar of lead or bromine, which really only seem to relieve, but do not at once check or cure the affliction, which usually runs its course regardless of such applications?

ANSWERED BY M. V. SLINGERLAND.

1. The stem, a leaf-stalk and one of the leaves of the grape vine tip sent, were deformed into, or bore curious, irregular juicy swellings known as galls. They were variable in shape and size, from round, cranberry-like swellings to irregular, bulbous protuberances looking much like a bunch of small tomatoes. They varied from a yellowish-green to a rosy red color. Their color and shape have suggested the popular name of Grape-vine Tomato-gall for this peculiar affection. If these galls be cut open, the interior will be found to be soft, juicy and acid, and each gall contains several cells, in each of which will be found a small, orange-yellow worm. By some mysterious and, as yet, unknown process, these worms cause the tissues to grow into these peculiar shapes. Before the galls rot, the worms enter the ground where they change to pupæ, and finally emerge in the spring as pale-reddish, mosquito-like insects.

This insect is known to science as Lasioptera vitis, the author of the grape-vine tomato-gall (Vitis tomatus). It is a very wonderful and mysterious fact that such minute insects are enabled to produce such curious changes in the growth of plant tissue. There are hundreds of different kinds of these tiny creatures, not half as large as mosquitoes, which cause these gall-like swellings, on different parts of plants, yet it is a curious fact that each kind of insect always makes a certain peculiar kind of gall, and usually, on the same part of the plant. There are three other curious galls sometimes seen on grape vines—one known as the trumpet grape-gall, consisting of elongated, conical galls on the leaves; another forming a large mass of filbert-shaped galls taking the place of a bud, known as the grape-vine filbert-gall; then there is a grape-vine apple-gall, a globular, greenish gall about an inch in diameter, attached to the stem of the vine. It is not often that any of the grape galls occur in sufficient numbers to injure many vines. Thus it is usually only a short job to cut off the infested parts and burn them, as soon as they are seen. This is the most practicable method of controlling the insect which causes them.

2. A friend who is very susceptible to poison oak or ivy, and who has suffered terribly from it, tells me that the best thing he has found is the tincture of grindelia. Dilute it with about three parts of water, and bathe the affected parts. It should be applied as soon as the irritation is felt, and before the characteristic pustules appear. Applied at this time, it will prevent the formation of the pustules, and soon check the irritation. But if not applied until the pustules appear, it will only prevent the formation of new pustules, and thus check the spreading of the affection to other parts; the pustules that are already formed, will simply take their course without spreading. The diluted tincture should be applied to the affected parts as often as two or three times every hour.

Red Paint for Barns.

F. V. K., Govanstown, Md.—The inquiry of H. C. G. as to red paint for a barn, recalls to my mind the strikingly handsome barns one sees in traveling through Pennsylvania, that seem to be invariably painted red, with white and green trimmings. I have often intended asking what sort of paint is used, whether bought ready-mixed or mixed at home. The shade generally used, seems to be what I would call Venetian red.

ANS.—Oxide of iron paint is most generally used for barns. It may be bought dry, and mixed with raw linseed oil, using, say, a gill of good Japan drier to each gallon of mixed paint. Put some oil on the dry paint, and let soak over night. Then mix quite thin for use. Never add the Japan drier until ready to use the paint. Paint, mixed a few days, is better than fresh mixed. Ready-mixed paint is likely to contain benzine, resin oil, petroleum, or some other bad adulterant. Venetian red is carbonate of lime (over 60 per cent), tinted with a strong oxide of iron (ferric oxide, over five per cent), contains also about 20 per cent of water (combined), and water—hygroscopic—a fraction. It will be seen, therefore, that Venetian red is simply whiting or plaster tinted a bright red, and is obviously not so good for outside painting as red oxide of iron itself, which is one of the most permanent pigments in use. It takes about 10 per cent of oil to make into a stiff paste. Venetian red is brighter than red oxide, but must be regarded as too bright for a large surface. Red oxide (brown, more properly) is better, especially where a brighter shade is obtained. Tea green trim looks well with it, though pure ochre color looks brighter. White is not a good contrasting color. Drab, stone and such colors, go well with iron paint. A. A. K.

Cutworms and a Remedy.

J. A., WESTPORT, CONN.—Of all the pests from time immemorial, ever introduced into an onion field, the Cutworms take the lead, completely cleaning a large piece of ground in a few days. It is with something of the desperation of a drowning man catching at a straw, that we look around for some means of exterminating them before they reduce all vegetation to nothingness. In this, the great Southport onion district, it has been the custom of every one owning a piece of ground large enough for a garden, to embark in onion raising, and it can be readily seen how dependent these are upon the good natures of the Cutworms. The farmer who makes onion raising a specialty, must use his best ground, this must be highly manured, and brought into a fine condition; thus a large amount has been laid out before the crop comes up.

The usual, and, perhaps, only method of coping with these pests, has been by going into the field every morning at daylight, finding evidences of their work, searching them out and killing them. This has been a laborious operation, almost equivalent to the labor involved in hand weeding every day; consequently some means must be found to destroy them on a large scale, which a number have done with applications of wheat bran and Paris-green. This mixture has given excellent results thus far, and has led many to feel that the worm problem has been solved.

Mix thoroughly 100 pounds of wheat bran and 1½ pound of Paris-green; enough water is then added to make the Green adhere to the bran, and to soften it so that it is readily eaten by the worms. Care should be taken not to use too much water, as the Green would then go off in the water instead of sticking to the bran. The preparation is sown broadcast in the evening and sows something like rye or buckwheat. The amounts named will cover two acres. The operation has to be repeated from once to four times during the season. I have just come from a field of onions, where four days before, 79 worms were found on one row about twenty rods in length. The above mixture was applied, and I fail to find any live worms, where before they were so numerous.

What Crop for Small Farm?

M. C. T., MINGO, O.—I would suggest the following plans for J. G. G, with a farm of 30 acres, page 398. Plot the farm into five plots of six acres each. Set six acres each spring to strawberries; let them fruit one season, and as quick as they are done bearing, plow them under immediately, work the ground down as fine as possible, and plant to potatoes. There is no better place for potatoes than in an old strawberry patch. As soon as the potatoes are gathered, sow the ground to rye or wheat and to clover the following spring. Two or three plots may be sown to grass immediately, so that the ground will not be idle until the rotation is established. By following the rotation mentioned, there will be berries, potatoes, rye or wheat, and hay to sell each year, and one could not ask for a better market than Buffalo. Select nothing but the very best, see that the work is done well, and I will guarantee that the farm will bring more than double six per cent on the investment.

An Experiment With Forestry.

E. V. R. G., WESTTOWN, N. Y.—Four years ago, I planted two acres of extra fine native hickory and chestnuts; I prepared the ground and planted the same as corn. The next year, I made an attempt to plow and cultivate them, but it was not satisfactory, so I abandoned the job. The weeds and grass had now covered the ground, and the little tender leaves were making slow growth. I had caught on to the idea by a bit of experience, that burning off in the spring would give them renewed growth and vigor; so last March, on a dry, windy day, I applied the match to the dead weeds and grass on the patch, and the flames leaped in true prairie style, burning everything clean. Now the trees have sprouted and made a more vigorous growth, larger than ever, and a much better stand than I had expected. How often I may repeat this method, observation and discretion will alone dictate.

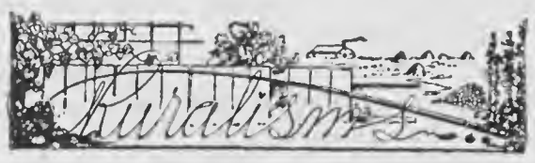
Bean Fodder for Sheep.

C. A., MEDINA, N. Y.—I raise a good many beans, and buy enough fodder to feed my sheep all winter. I do not give the sheep anything else until after they lamb, when they get all the grain and roots they will eat, but continue with bean fodder for coarse feed. I sowed 10 acres of Alfalfa this spring, and hope to get enough in years to come from that, so that I will not have to buy bean fodder. It was very dry in the spring, but since the rains came, the seed has all started, so that I feel that the Alfalfa will prove a better investment than Crimson clover.

Two years ago, I sowed some Crimson clover; it did nicely, so I raised the seed and bought more and sowed 20 acres. Last fall, it was fine, and this spring I left it until after blooming and of all I had in the fall, not one wheelbarrow full stood the winter. It was sowed from July 7 to September; some was protected and some not, and I do not see any reason why it all died.

Japan Walnut in Michigan.

F. L. C., MITCHELL, MICH.—In answer to W. E. M., page 368, I wish to say that I have a Japan walnut, Juglans Sieboldi, which has been entirely hardy here, in latitude 45 degrees, except that a part of the top killed the first winter. But last winter and the year before, it did not kill at all, while peach buds were killed totally.



A STRAWBERRY NOTE OR SO.—May 31, the following kinds were ripening: Arrow, a few; See's No. 2, a few; See's No. 1, many; Columbus, a few, poor shape; Staple's No. 1, a few, some of them large and fine, dark color, heart shape; Cyclone, a few; Eleanor, a few. June 8, Brandywine, uniformly large and of good shape, fine quality and quite firm. We have no reason this season to take back anything that we have said previously regarding it. A planting should be made of the Brandywine, as with Parker Earle and Timbrell, every year, to have the plants and berries at their best.....

OUR friend, J. H. Hale, has introduced the "Big Unknown," afterwards named at a cost of $50, Bouncer. Mr. Hale tells us that this is a cross between Jersey Queen and Miner, possessing the finer points of both parents. "Berries of extra large size and of the Miner type, of a rich, spicy flavor." We have no doubt that this berry has done well for the Hales—else they would never have spent a deal of money to purchase, name and propagate it. But it is not worth much at the Rural Grounds. Here are our notes up to June 8: Plants received April, 1895 Bisexual flowers. June 2, just beginning to ripen, vines vigorous and productive. Berry large, but variously shaped. Fruit held up well on strong peduncles. June 4: A few large berries ripening, white tips. June 5: Berries crimson color, fair quality, average large, but there are no two berries alike in shape; most of them are seamed or creased or crinkled. June 6: Vigorous vines, not productive, berries puckered June 8: Not very productive, berries very irregular and of only medium size..

WHEN an enterprising man or firm introduces a new fruit, we are anxious (over-anxious, possibly) to praise it. Especially is this the case when the man or firm is an excellent friend of THE R. N.-Y., as in the present case. We cannot praise the Bouncer. It is not the berry for the Rural Grounds, as we now judge it. But we praised the Timbrell in the highest terms. There is no better home berry at the Rural Grounds and in many other places. It is worthless in the grounds of Mr. Hale. While noting what we have said about the Bouncer, our readers may wisely consider that the variety may differ as widely elsewhere as does the Timbrell.....

AFTER having studied the two trees for 12 years or more, and assisted to prove that they were very different, we have killed our Commom catalpa (bignonioides) and left the C. speciosa to take its place and the place of the catalpas. Catalpa speciosa is a grand tree in many ways, and our friends would do well to raise it from seeds—so easily done.....

WE are trying, side by side, the Station pea, Thorburn's Extra Early Market, Nott's Excelsior and Nott's Perfection. The tornado of last year destroyed the vines. The Station is advertised as an extra-early wrinkled pea, producing more than twice the number of pods of any extra-early kind of smooth pea. The pods, it is claimed, are of larger

(*Continued on next page.*)

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RURALISMS—Continued.

size and better filled, and the peas of better quality than those of any smooth, extra-early sort.

They were planted April 20, and the first picking made from it and the Market June 6. The height of Extra Early Market vines was two feet. In better soil, they would average (we are told) 2½ feet. The Station vines (seed from Thorburn) average six inches lower. Both are exceedingly prolific varieties. The Extra Early Market pods have from three to six seeds, and while the pods of it and the Station are about the same size—say two inches—the seeds of the Market average a trifle larger.

The Extra Early Market was planted merely to serve as a standard with which to compare the Station and the other early sorts which we are trying. A careful comparison after the above notes were taken, shows that the Extra Early Market bears, at least, one-quarter more pods than the Station. As to quality, we may say that the Extra Early Market was just that of the best First Early smooth peas, while that of the Station was tender, and sweet enough to satisfy the taste of most people—though not quite so sweet as Nott's Excelsior which, in our trial field, gives the first picking about four days after.....

NOTT'S EXCELSIOR, the vines of which growing in the next row, were a foot high, is just about four days later. In a field opposite, belonging to a market-gardener neighbor, is a large plot of Nott's Excelsior growing beside one of the best kinds of the smooth First Earlies. He marketed his first lot from *both the same day.* The vines (15 inches high) were loaded with large-sized pods, crowded with from five to eight seeds—so crowded that, as with later sorts, the seeds were angular. He said, "I sell them for the Champion, the same as the market gardeners sell a dozen different kinds of potatoes for Early Rose. Nott's Excelsior is more prolific than Champion, because the latter grows five feet high, and bears most of its peas near the top of the vines. Besides, we can plant these dwarfs so close together that the vines will bear more peas than the Champion, two to one, or nearly so." Our own Nott's have never ripened quite so early as the First Early smooth peas, the difference being from two to four days, and it will be remembered that THE R. N.-Y. was the first paper to bring this excellent variety to the notice of the public. But we saw for ourselves that the difference in the time of maturity with the two kinds of our market gardening friend, was but a few hours, the average pod of the Excelsior holding nearly twice as many peas, the quality being of the very best.....

WE are more and more pleased with the new clematis — Madame Edouard André, Ellwanger & Barry. It began to bloom June 5, and will continue to bloom until frost, if it behave as it did last year. It differs from all others we have seen, in the color of the flowers which resembles that of claret wine more nearly than anything we can compare it to. The flowers have six wide petals, and measure from 3½ to 4 inches across. It is a fine acquisition.....

OUR Crimson Rambler began to bloom June 9. We shall have more to say of this beauty later.....

WINTER OATS AND CRIMSON CLOVER.—On August 27 of last year, we sowed winter oats, clover and oats, and Crimson clover on a piece of level land of low fertility, using at the rate of 600 pounds of the Mapes potato fertilizer per acre. At the rate of 15 quarts of clover seed per acre, was sown. Our object in sowing oats with the clover was (1) to find out whether it would help the clover to stand the winter, and (2) whether the oats would stand the winter better for being sown with the clover. Exceedingly dry weather prevented a quick germination of either the oats or clover. Neither had made much growth when frosts occurred. As we have already stated, about half of the Crimson clover wintered safely. Every plant of the winter oats was killed. There was no apparent difference between the clover sown alone and that sown with the oats. The variety of winter oats was the Rural New-Yorker which, the preceding year, stood the winter perfectly.

On a garden plot, we sowed, September 4, small plots of the following kinds (or supposed kinds) of winter oats: sample from Mahlon Sager, Orangeville, Pa.; from T. C. Wood & Sons, Richmond, Va.; R. N.-Y. winter oats, and Winter Turf oats from J. C. Vaughan. All were killed before spring, not a plant surviving.

Our record of Crimson clover is this: For two seasons, it has stood the winters; the first year, it was not harmed in the least. The second year, on the same plot, it was, for the most part killed. The third (1895-6) it was about half killed. The Rural New-Yorker winter oats passed the first winter without injury to a plant. Last winter, it, with the other varieties as above stated, perished. Our own experience with Crimson clover leads us to believe that it should be sown, in this and similar climates, as early as August 15, and that, if sown on poor land, it needs just as much nitrogen the first season as do any non-leguminous plants.....

MR. GREINER, one of the editors of the Practical Farmer, says that Carman Nos. 1 and 3 are heavy yielders, and of good quality. He says that No. 3 proves to be one of the best of keepers.....

AMONG our trials of new vegetables this year, is the radish, Earliest White, introduced by W. Atlee Burpee. It is the best and earliest white radish we have ever eaten—in fact, it is as early as any of the red turnip radishes, averaging 20 days from the time of seed sowing until ready for the table. The shape is oblong, about two inches long and one inch in diameter. The skin and flesh are white, and in quality, tender, crisp, mild and juicy—milder, it seems to us, than the reds.....

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

THE DOUBLE FUNNEL
Lightning Potato-Bug Killer
uses only Paris-green and one pound to the acre without plaster or water. Will kill potato bugs, all sizes, instantly. Fully guaranteed. Does two rows at once. Used for killing insects on every kind of plant. Sent to any address for $1.25. Address
D. B. SMITH & CO., Utica, N. Y., U S

FOSTITE FOR MILDEW
on Grapes, Gooseberries, Potatoes, Roses, etc. For circulars address
C. H. JOOSTEN, 193 Greenwich St., New York.

PLEASE ask your Dealer for

FORCE, LIFT, TANK & SPRAY **PUMPS**
Hay Carriers, Forks, &c. The Largest Pump and Hay Tool Works in the U. S. Catalog free.
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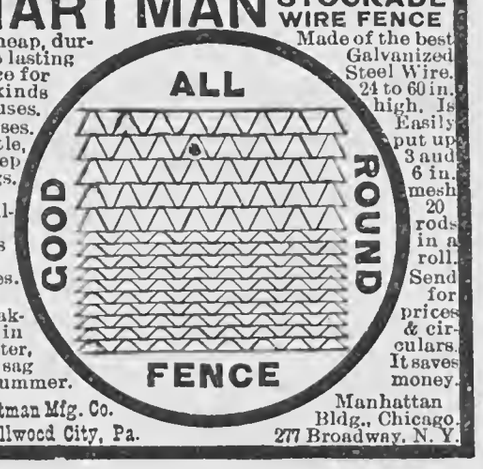
HARTMAN STOCKADE WIRE FENCE
A cheap, durable lasting fence for all kinds of uses. Horses, Cattle, Sheep, Hogs, and Poultry. Fits all cases. No breaking in winter, nor sag in summer.


Made of the best Galvanized Steel Wire. 24 to 60 in. high. Is Easily put up. 3 and 6 in. mesh. 20 rods in a roll. Send for prices & circulars. It saves money.
Hartman Mfg. Co. Ellwood City, Pa.
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WHAT IS BRIGHTER, more attractive, than the homestead painted white, with green blinds? It may not suit the critic, but we like it and it will please the owner. Painted with

Pure White Lead

and Pure Linseed Oil, it will look fresh and clean longer than anything else; if properly applied, it will not scale, chip, or chalk off, but forms a perfect base for subsequent repainting; is therefore economical.

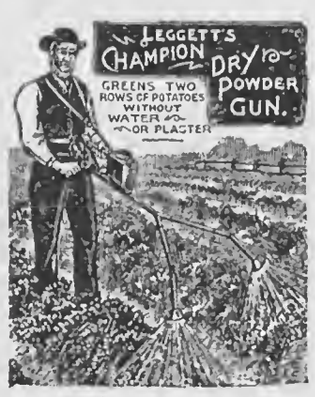
To be sure of getting Pure White Lead, examine the brand (see list of genuine brands). Any shade of color desired can be easily obtained by using NATIONAL LEAD CO.'s brands of Pure White Lead and Tinting Colors.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

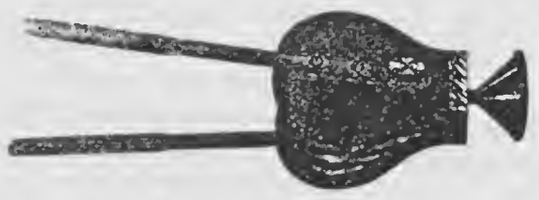
NATIONAL LEAD CO.,
1 Broadway, New York.

WILLIAMS & CLARK FERTILIZER CO.,
Office: Cor. William St. and Exchange Place, New York City.
Manufacturers of High-Grade Bone Fertilizers. Agents wanted in unoccupied territory. By the use of these goods a full crop is insured. Correspondence solicited.
BRANCH OFFICES:
BOSTON, MASS. ROCHESTER, N. Y. PITTSBURGH, PA.

SPRAY GRAPES and POTATOES
With our improved machines. Our New Victor Horse-power Machine is fitted for three or five rows. Our Red Jacket Wheelbarrow sprays two rows We also make the Garfield Knapsack and Little Gem. Perfect agitation and perfect satisfaction guaranteed. Catalog free. FIELD FORCE PUMP CO., 13 Market St., LOCKPORT, N.Y.



Adjusted to dust two rows of potatoes at a time, wide or narrow planting, as fast as a man walks; two acres per hour.
Extra tubes furnished for orchard work, with each machine.
It will pay any farmer having one acre of potatoes or tomatoes in one season's use.
Twenty-four-page circular free.
Use LEGGETT'S FUNGIROID, a dry powder. Prevents blight. In one-pound boxes. Directions on each package. Ask for Leggett & Brother's Pure Paris-green.
LEGGETT & BRO., 301 Pearl Street, New York.

Electric Insect Exterminator.

Death on Potato Bugs and all Insects. Does the most effectual work with the least labor and smallest cost of any Paris-green or Powder Distributor ever offered. Fully guaranteed. Ask your dealer, or upon receipt of $1.25 sent by express to any address.
CHAS. H. CHILDS & CO., Utica, N. Y.

SAVE YOUR FRUITS
from the Pests BY BUYING
A DOUGLAS SPRAYER.
Only $9 complete, except barrel. Especially adapted for spraying Paris Green or London Purple. Throws a constant stream.
THE BEST PAY THE BEST
Our book on SPRAYERS will give you valuable information; it is FREE; ask for it.
W. & B. DOUGLAS,
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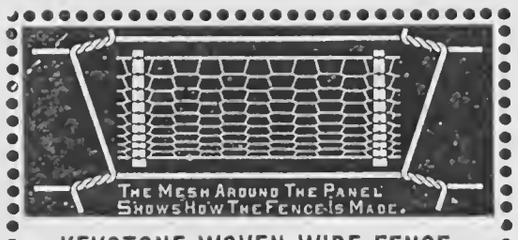

KEYSTONE WOVEN WIRE FENCE
Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.
WRITE FOR CATALOGUE.
KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.

Hard Times?
Oh yes; but those who try to break down a *Fence* with ANCHOR POSTS have a harder time still. The *Anchorage* is superior to any other kind and all styles of *Wire* or *Woven Netting* are used on ANCHOR STEEL POSTS.
Write for *Farm Circular.*
ANCHOR POST CO.,
13 Cortlandt St., New York City

STANDARD WIRE FENCE.

$5 to $8.50
For machines to weave your fence at 18 to 25 cents per rod; strongest indorsements; send for illustrated pamphlet giving valuable information on fence building. Unparalleled chance for agents to sell fences and machines. STANDARD WIRE FENCE CO.,
6 Main Street. Canandaigua, N. Y.

WOVEN WIRE FENCE
Over 50 Styles

Best on earth. Horse-high, Bull-strong, Pig and Chicken tight. You can make 40 to 60 rods a day for
12 to 20c. a Rod.
Illustrated Catalogue Free.
KITSELMAN BROS.,
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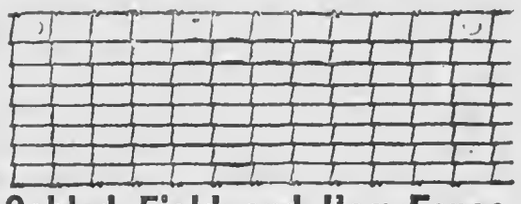
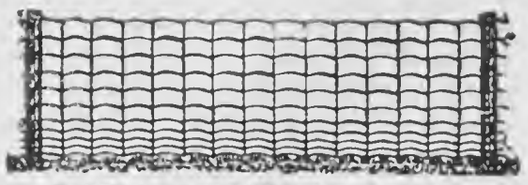

Cabled Field and Hog Fence,
24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.


A SOFT ANSWER
Works on the same plan as elasticity, but besides "turning away wrath", ELASTICITY turns away domestic and wild animals, practically insuring the farmer against loss. The PAGE is full of ELASTICITY, and like the soft answer, has such a winning way. It makes friends wherever it goes.
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, JUNE 27, 1896.

A LIST OF BOOKS.

	Price, Cloth.
First Lessons in Agriculture	$1.00
American Grape Training	.75
The New Potato Culture	.75
The Business Hen	.75

Do you want one or more of these as a present? You can have any or all. How? Get your neighbor to subscribe to THE R. N.-Y. Send us the dollar for a year's subscription. Let us know which book you want. It's yours at once. Enough *said*. Now act!

⊙

THE New York State Fair will be held at Syracuse, August 31 to September 5, 1896. The managers are making preparations for a great exhibition—with liberal premiums in all departments, and "great attractions." The show of live stock and horticultural products will, undoubtedly, be larger than ever, in fact, an improvement all along the line is to be expected.

⊙

AN English money-lender, with the suggestive name of Pockett, advertised money to be lent at five per cent. After getting a fee, he "sent details," which were to the effect that this meant five per cent a month or 60 per cent a year. Thus he lived by obtaining fees on false pretenses, and an English court gave him six months hard labor in prison, and a fine of $2,500. There are lots of dealers right in this city who deserve the punishment meted out to Pockett.

⊙

"THE YEAR BOOK FOR 1895," is a volume that should be in the hands of every farmer in the country. It is issued by the Department of Agriculture at Washington, and is one of the most interesting publications ever printed at public expense. As our readers know, THE R. N.-Y. does not consider some of these public agricultural documents of sufficient value to warrant us in calling attention to them. This "Year Book" is not in that class. It is worthy of the highest praise, and we advise readers to send to the Department of Agriculture at Washington, and ask for it, or write to your Senator or Representative.

⊙

CALIFORNIA papers say that thousands of live sheep are being sent out of the wool-growing counties of that State to Nevada or Mexico. The price of wool has gone so low that one of two things must be done—kill the sheep or send them to some place where food is cheaper. The result is that the sheep are being sent away to wilder and cheaper land where rent and labor cost less. Of course, this will upset the farm conditions in those California counties which have so long produced wool. Money will be lost and harder times will prevail until new products and new methods are introdueed. That is the history of every section when outside competition forces prices so low that old industries must fail or go elsewhere.

⊙

AN English chemist points out the fact that, in every 10 gallons of urine, there will be found as much nitrogen as is contained in seven pounds nitrate of soda, 34 pounds of bone meal, or 712 pounds of white turnips. This puts in a comprehensive way the loss that occurs when liquid manure is permitted to drain or soak away. A farmer certainly would not throw away a bag of ground bone; yet he may thoughtlessly lose more than enough liquid manure to pay for the bone. By the use of absorbents, he may save all of the urine, including the water; or by using plaster, he may let the water go and save only the nitrogen. In any case, it is just as much a mistake to let the liquid manure escape as it would be to throw a ton of fertilizer into the brook.

WHILE in Cuba, the rainy season is playing havoc with the armies of Spain, in the home country, the drought is likely to ruin the classes from which the army is recruited. During the past eight months, there have been barely 25 rainy days in the agricultural districts of Spain, and crops are threatened with nearly total loss. It is a pity (for them), that the Spaniards cannot carry a little of the Cuban weather back to the old country. From present indications, they are not likely to win anything more substantial than yellow fever in their present contest. Cuba is going to be free! That is right! The world will be better for it!

⊙

CONGRESSMAN WILBER, who was the prime mover in pushing the "filled cheese" bill through Congress, says that the secret of the success of this legislation was the fact that farmers and business men everywhere poured letters and telegrams upon their Senators and Representatives, urging them to vote for this bill. Congressmen "heard from their constituents" so clearly that they knew just what was expected of them and, as a result, they obeyed instructions. A few scattering letters sent at random, would not have had much effect; but a persistent flood of correspondence indicated organization, and that made itself felt with the Congressmen.

⊙

WHY not use the cheap, idle horses, harnessed in three and four-horse teams, to break up the old, daisy-eyed, red-sorrel-nosed, measly, thistle-infested, superannuated, "moss-back" meadows, most of which yield less than a ton of weeds and hay, mostly the former, per acre, and plant to corn, roots, oats and peas, and secure from 6 to 30 tons of green material per acre, or from 5 to 10 times as much forage as is harvested from the old meadows, and that, too, of a far better quality? Only in a few cases, under exceptional conditions, can the progressive farmer afford to keep any extended area in Timothy meadows. Culture and inter-culture are destined to revolutionize agriculture, and our methods of providing forage for animals under almost every conceivable condition.

⊙

ON page 431 will be found another note from Mr. Geo. M. Clark the Connecticut grass man. For several years past, THE R. N.-Y. has told its readers about Mr. Clark's grass experiments. He is the man who drained the big swamp, broke up the surfaee, and put it all into grass, thus giving a practieal illustration of the fact that the swamps of New England are more profitable than Western gold mines, when they are properly handled. The grass crop is the very foundation of agriculture. It grows so naturally, and is so hard to kill out, that many farmers do not think it requires the careful culture and feeding that are given to other crops. That is where they make a mistake, for, as Mr. Clark shows, grass will respond quicker than any other crop to a thorough preparation of the soil, and good feeding.

⊙

SOME years ago, there was quite a stir over the introduction of German carp. Some enthusiastie writers claimed that this fish would have a marked influence upon the American food supply, as it would thrive in any water and grow rapidly. To-day, it is pretty generally admitted that the German carp is a nuisance, and that the inland fishing industry would be better off if this fish had never been introduced. Its flesh is so poor that it cannot be sold except to the lower class of foreigners, and even they will not eat it as they do other fish. It is called "the hog of the waters," from its habit of eating, not only the eggs, but the young of more valuable kinds of fish. So general is the complaint against this fish, that New Jersey has passed laws providing severe penaltics for stocking any of the waters of that State with carp. It is as much a nuisance in the water as the English sparrow is upon the land.

⊙

SIR J. B. LAWES has been interviewed on the question as to whether England could grow wheat enough for home consumption. He claimed that it is possible for all needed English bread to be grown on English soil, and when asked why it was not done he said:

For one reason only—that she cannot afford to do it. It is only a question of money; and finding fault with the land, is the result of ignorance. England could grow all the wheat she requires; we could grow as much on one acre as they grow on three in the United States, and the idea that it cannot be grown consecutively on the same soil without damaging that soil, is equally erroneous. Wheat will grow upon an unmanured soil, taking what food it can find and thriving on the same; if the weeds are kept out, wheat will find food on land that will not nourish anything else. I have been growing wheat on the same field, year after year, for the last 53 years, and though a portion of it has had no artificial assistance save the removal of the weeds, it still bears more wheat per acre than is, probably, yielded by the average crop of the world. The British farmer can produce, not only more wheat per acre than the farmers of any other country, but more barley, oats, more roots, and more meat. We have brought our agriculture to such a state of perfection, that we cannot meet the lower prices by increasing the yield of our crops.

In this country, it is popular to say at the West and South, that New England farming is ruined because farmers in that section do not grow as much grain and meat as they used to do. As a matter of fact, the farms of New England are capable of supporting 10 times the population they once fed, while with the advantages of green manuring, chemical fertilizers and irrigation, there is no more productive soil anywhere. In New England as in Old England, the best farmers do not grow the common, coarser products, simply because other crops are more profitable.

⊙

LAST week, we referred to the advertisement of the "California Cold Process" of preserving fruit. This advertisement usually takes the form of a letter like the following, which is printed in several of the religious papers:

A CHANCE TO MAKE MONEY.

I have berries, grapes and peaches, a year old, fresh as when pickled. I use the California Cold Process, do not heat or seal the fruit, just put it up cold, keeps perfectly fresh, and costs almost nothing; can put up a bushel in ten minutes. Last week I sold directions to over 120 families; any one will pay a dollar for directions, when they see the beautiful samples of fruit. As there are many people poor like myself, I consider it my duty to give my experience to such, and feel confident any one can make $100 or $200 'round home in a few days. I will mail sample of fruit and complete directions, to any of your readers, for 18 2-cent stamps, which is only the actual cost of the samples, postage, etc.. to me.

As we have before stated, this is one of the greatest humbugs of the day, and we cannot believe that any reader of THE R. N.-Y. will be so foolish as to send 36 cents for any such foolishness!

⊙

BREVITIES.

There are shadows on life's pathway, as we journey through the years,
Like great caverns in the sunshine, where the troubles and the fears
Seem to brood and hatch afflictions, that come sneaking, creeping out
In the days when hope is darkest—whispering awful words of doubt.
God alone knows all the struggles you have made to own your home!
Now gray hairs have sapped your vigor, one by one the troubles come.
For the lights of home will tremble at the whisper of alarm,
Of the imp within the shadow of the mortgage on the farm.
Oh, the cruel, greedy mortgage, eating on through night and day,
Stealing years of patient labor, stealing life and hope away;
Ever present, grim and silent, turning courage to despair,
Reaching out with cruel fingers to demand its hateful share!
There's a life work in its clutches—still it stands beside your door,
Grinning at your disappointments—ever hoarsely crying, "more!"
Oh! what buoyant hopes are broken! Oh! what lives yield up their charm,
To that grim, despotic tyrant—to the mortgage on the farm!

TAKE a day off!

SPRAYING pumps are trumps.

DON'T forget to try cow peas!

A BRAN new way to cut off Cutworms—page 434.

DON'T forget that Crimson clover is a cool weather plant.

ONE of the things that makes a bright mind is an open eye.

ICE is now to be used in shipping vegetables from the South.

DON'T get "wheel" on the brain and ride your business away!

Too much rain at fruiting time will make your berries soft as slime.

GERMANY passes an anti-option law—this country apparently can't do it.

THE curculio did more damage than frost in the Georgia peach orchards this year.

TRY the Mapes plan of killing lice by painting the roosts with grease—page 442.

THE man who stops to tell stories will find himself at the tale end of the procession.

HAY crop bad? Meadow run out? See how Mr. Clark ran his meadows in again—page 431.

THE article on cream separators in this week and last, ought to go into your scrapbook for reference.

YOUR "hacks," blowhards, and others of that ilk, preach you their cream but *live* their thinnest milk.

Is there a useful place for gun or revolver on your farm? Do you want your children to know how to shoot? Why?

WE want to know how late in the season we can sow barley—alone or with peas—and cut a fair crop of fodder for next winter's feeding!

THAT'S an interesting question about milk—page 430. The chances are that the milk will right itself in time, but it will breed disaster while it lasts.

THERE are few men in this country who have studied the grape more carefully than T. V. Munson. Remember that when you read what he says on page 437.

FARMERS are sometimes asked to pay money for a new device for tying out a horse. The picture on page 431 shows the best one yet. You don't have to pay for it. Make it!

JUST notice what George T. Powell says about Crimson clover on page 430. That is a new idea for fruit growers to think over. THE R. N.-Y. has always claimed that this clover will pay a profit, even though every spire of it be killed by the winter. Mr. Powell backs that up with 70-acre testimony.

REFERRING to what Mr. Buckman says on page 430, about spraying for the curculio, we would state that Prof. L. H. Taft puts it this way: "If you have an abundant crop and can spare some, spraying will destroy the pest. If the crop is light, the curculio will destroy the rest. In this case, jar the trees." The spraying must be done early.

AMERICAN ASSOCIATION OF NURSERYMEN.

REPORT OF THEIR RECENT MEETING.

The meeting of the American Association of Nurserymen at Chicago, June 10 and 11, was well attended, and favored with instructive addresses. After a close and prolonged contest as to the place of the next meeting, between St. Louis, Mo., and the Thousand Islands, the former was selected. The old officers were reëlected: Silas Wilson, of Atlantic, Ia., president; Geo. C. Seager, of Rochester, N. Y., secretary. An important committee of five, including the president as an ex-officio member, on railroad transportation of freight, was created, with instructions and money provided to use all honorable means to secure lower rates. Some concessions have already been obtained by the nurserymen, but the rates are yet far too high, and as the planters all over the country have to bear the principal part of the burden, it is very desirable that the work of this committee should be successful.

Hon. N. H. Albaugh, of Ohio, led in the discussion of the subject, "To Plant or Not to Plant." This was considered from the nurseryman's standpoint, of course. In view of the exceedingly low price of nursery stock, and the general depression in prices of fruit, as well as all other things, there is a question in the minds of nurserymen as to whether it is best to increase, or even maintain the present amount of stock. It was thought by the speaker that, in nearly all lines of stock, especially orchard trees and small trees, there was no need for holding back.

"The duty of the nurseryman to the fruit grower," was the topic of a comprehensive address by Prof. H. E. Van Deman. His first point was that the nurseryman should be honest, because the fruit grower is practically at his mercy, and must, in nearly all cases, take his stock on trust as to being true to name. He should be an intelligent guide to the fruit grower who constantly seeks his advice. To this end, he must understand, at least, the fundamental principles of botany and vegetable physiology, in order to be able to know how to propagate his stock, and to recognize and classify the species and varieties. He should be well posted in pomology, that he may be able to select the best varieties for all localities covered by his trade, and to advise his customers which to plant for any purpose, and which not to plant. Entomology and mycology should be carefully studied, because he and his customers have to fight insects and fungous diseases almost constantly. The duty of being very careful not to introduce any new fruit until it has been well tested and proved to be really better than others of the same class and season, was especially emphasized. The solemn duty was pointed out, which he owed, in preventing the spread of insect pests. The mixing up of the names of fruits, by reason of not knowing the right ones, or being careful to use them, is another fault of the nurseryman which he should correct. The make-up of the catalogues came in for a share of criticism, as they sometimes contain extravagant statements regarding fruits, and illustrations which are misleading. Another reformation should be in the way of hiring only agents of fair experience in horticulture and strict honor. If nurserymen would follow the advice given, their trade would be increased and all parties benefited.

Prof. L. H. Bailey gave a most instructive address upon the subject of nursery lands, what they should be and how treated. He stated that nursery trees should be grown in soil suited to produce good crops of almost any kind, such as Nature grows her trees in. It should be rich in potash and phosphoric acid in available form, and filled with humus. They are constantly taking the needful mineral elements from the soil, putting nothing back, and cultivation is burning up the humus. Commercial fertilizers alone will not restore its ability to produce another crop of trees as soon as the old one is taken off. There must be a period of rest and a rotation of farm crops of some kind, in which clover and stable manure are plowed under to replenish the supply of humus. It is not practicable to supply the humus during the time of the growing of a crop of nursery trees, which occupy the ground from two to five years, by working in stable manure, and thus prevent the period of rest; but that end can be reached by growing Crimson clover wherever it will succeed. If sown after nursery cultivation ceases, in the latter part of the summer or early fall, it will grow up sufficiently before it is time to resume cultivation in the spring to add materially to the soil humus that is rich in nitrogen. If properly followed up, the soil may be in as good condition for the growth of trees at the end as at the start of a crop of nursery stock. Underdraining and deep subsoil-plowing will always pay, because they make a soil, especially if it be stiff and largely composed of clay, loose, and able to retain a large store of moisture.

Mr. Greening, of Michigan, spoke against the unwise policy of nurserymen putting their wholesale catalogues in the hands of the retail customers. It rarely induces them to buy more stock than they would from a retail catalogue, and furnishes them and often their neighbors with an excuse for not buying at retail prices. It breaks down the legitimate retail nursery trade, which is the support of the whole business. Nursery trade deserves the same protection as any other commercial business. L.

ARE WHITE GRAPES LESS VIGOROUS THAN BLACKS?

Reports from the public press, and from our readers in various parts of the country, seem to indicate that the past trying winter has killed off the white varieties of grapes worse than the black ones. Can you give us any reason for this state of affairs, if it is a fact that this difference exists? We shall be pleased if you can tell us why the white varieties should be less hardy than the blacks.

It Is Only a Theory Yet.

There are no data in our vicinity to justify the statement, and I would require a mass of facts before I formulated a hypothesis. Some white grapes have always been subject to damage more than some dark ones; but the contrary is also true. I would dislike to formulate a reason for a doubtful condition. You may think that you may have sufficient testimony; in that case, you might be justified in looking for the cause. I would prefer to gather more testimony and postpone the process of making out a theory.

C. W. GARFIELD.

T. T. Lyon Doubts the Statement.

I have had no experience of the kind mentioned, within my sphere of observation; and I very much doubt if it is, in any proper sense, true of white varieties of pure labrusca parentage, such as Martha, Lady, Pocklington, and others. Such comparative tenderness might, perhaps, be reasonably anticipated in the case of hybrids with vinifera, such as Empire State, Lady, Lady Washington, and various others; while Niagara, a cross between labrusca and a less hardy species, may, doubtless, be assumed to inherit its reputed lack of hardiness from such source. T. T. LYON.

Has Never Noticed the Difference.

The past winter has not been severe here, and only the most tender varieties of grapes, as of the Herbemont class, were injured. If there is any difference in hardiness between white varieties of grapes and black ones, I have never noticed it. I would expect to find as much difference between white and yellow corn as between different colored grapes. True, the hardiest grapes that I can now recall, are black, viz., Ironclad, Janesville and Worden; but Pocklington, Martha and Lady are but a neck behind. I am inclined to think that the "difference" does not exist. If it does, I certainly cannot tell why.

BENJ. BUCKMAN.

Albinos are Usually Feebler.

I believe that, as a general rule, Albinos, either vegetable or animal, are of a feebler organization than colored species and varieties. Strong coloration is likely to attend upon vigor of organization. But when it comes to the "why," there may be many conjectures with but a small degree of certainty. Color may be supposed to indicate stored force in excess of that existing, or active, in its absence. In relation to grapes, according to my not very wide observation, all the dark grapes have more vital vigor, or stored force, than light colored sorts. This is shown by their stronger growth, their wider range, and their greater resistance to adverse conditions; and, to some extent, their more regular and abundant fruitage.

T. H. HOSKINS.

It's a Fact, Says Mr. Munson.

Concerning the relative hardiness of white and black grapes in resisting cold, I am unable to impart much information; but as to their capabilities in enduring severe drought and in bearing large crops continuously, there is certainly a large difference here in favor of black varieties. To get at the exact truth, white varieties should be compared only with the black varieties of the same species, from the same origin. For example, let us compare the pure white varieties of Concord seedlings, with black varieties of Concord seedlings: White Concord seedlings—*Martha, *Lady, Adeline, Augusta, Antoinette, Victoria, Alphonse, Capital, Eva, Macedonia, Esther, Golden Concord, *Hayes, Leavenworth, Mason's Seedling, *Pocklington, Una, *White Ann Arbor, *Colerain, Witt.

BLACK CONCORD SEEDLINGS.—*Atavite (T. V. M.'s seedling), Albert, Black Hawk, Bundy, Burr's Concord Seedling, Cambridge, Chautauqua, *Gov. Ireland (T. V. M.'s seedling), *Grayson (T. V. M.'s seedling), Modena, *Moore's Early, McDonald's Ann Arbor, New Haven, *Worden, Young America, Chase Bros.' Seedling, Chidester's Seedling, *Cottage, *Denison (T. V. M.'s seedling), Dr. Warder (Huber's), *Eaton, Edmeston, Hero, Hosford, Jennie May, Jumbo, Keystone, Linden, Osage, Paxton, Rockland, etc.

All those marked with an asterisk I have grown here, and the six white Concord seedlings marked, are, as a lot, weaker than the eight black varieties marked, enduring less hardships, and generally poorer bearers, producing smaller berries and clusters, but generally of better quality than the black varieties. However, very few of the black varieties are as vigorous as Concord, and all seedlings of Moore's Early and other Concord seedlings, are much weaker than Concord, which I attribute to "in-and-in breeding."

Why the white varieties are less hardy than the black, I can only conjecture. It is a fact, however, and generally, among plants and even animals, when the complexion is much fairer, tending to white or Albino, than the species at large, the constitution is feebler and capability to endure any kind of hardship, less. I regard the light color, either in foliage or fruit, as indicative of weakness in constitution. The cause of the weakness and whiteness is obscure and would seem to depend upon accidental conditions in the fertilization or pollination of the ovules; for pure Concord seeds from the same vine, may produce some black and a few white varieties, just as the same parents sometimes produce Albino children, while their other progeny are normal. Generally, then, to secure greatest vigor in varieties of grapes, as well as other plants, select those with strong wood growth, large, tough, dark green leaves, and with dark red or black fruit. But in fineness of quality, the red and white varieties on the whole excel, and there is immense difference of vigor and hardiness, even among white varieties. T. V. MUNSON.

Prof. Goff Names Some Hardy Whites.

The generalization has been made that whiteness in plants is correlated with weakness, and there are evidences that this is true. Among wild raspberries, blackberries, strawberries, currants, huckleberries, cherries and grapes, white-fruited varieties are comparatively rare, which may be, in part, due to the inherent weakness. I think that white or light-colored varieties of fruit are, as a rule, less firm in flesh, and possess less of the characteristic quality than darker varieties. It is certain that the character of the wood is, to some extent, correlated with the color of the fruit, at least, in some plants, for in the raspberry, the white and yellow-fruited varieties have lighter colored bark than others, and I think that the same is true in the apple. It may be true that white-fruited grapes are less hardy than dark-fruited ones. It is certain, however, that some of the hardiest apples have nearly white fruits. The McMahan, or McMahan's White apple, is proving to be one of the hardiest varieties in the Northwest, and the fruit is more nearly white than that of any other that is extensively grown. Yellow Transparent is also very hardy, so far as cold is concerned, and so is Talman's Sweet. Some of the Russian apples are nearly white.

E. S. GOFF.

Notes from Three Authorities.

The past winter was not unusually severe here, and the spring has been favorable for the growth of grapes and fruits generally. I do not remember to have noticed, at any time, that white grapes of the same class or family were, as a rule, less hardy or less productive than the blacks. In looking over the different varieties on my place, at this time (June 16) all the white grapes seem to be in full average good condition, except the Pocklington and F. B. Hayes, which, though not apparently winterkilled or injured, are bearing very little. Eldorado, probably on account of its imperfect blossoms, is also doing next to nothing. Colerain, Elvira, Empire State, Green Mountain, Lady, Niagara, Witt, and Moore's Diamond, are all fruiting well; the last appears more vigorous in growth, and more productive than heretofore.

G. W. CAMPBELL.

Nobody knows why white grapes are more tender than the purple ones, neither is it well proved that they are always so. Niagara is less hardy than Concord and Worden. This is simply a varietal characteristic or difference, and I doubt very much whether the comparative tenderness is correlated with whiteness of fruit. L. H. BAILEY.

The winterkilling of grape vines is a trouble that seldom occurs in Delaware, hence I have had no occasion to make a study of the subject. The white varieties of grapes, as a rule, are not as strong growers as the black ones, and the reason for the difference in the winterkilling of the white and black varieties would seem to have been due to the difference in the maturity of the past season's growth of wood. The general lack of moisture during the latter part of the growing season, prevented the weaker growing varieties from as fully maturing the wood as did the stronger-growing black varieties. This would seem to me, without making a systematic study of the subject, to be the reason for the greater damage to the white varieties. M. H. BECKWITH.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

THE fuss a man makes about having his buttons kept sewed on, may seem exaggerated; but when we consider that almost every button on a man's garments is used, and cannot be dispensed with except at inconvenience, it would seem that his buttons are more important than our own. One can count on the fingers of one hand the number of buttons on a man's suit that are used for ornament; sometimes there are two, at the most, six. What do we find when we consider feminine apparel? This year, at least, there are many superfluous buttons used simply as a trimming. A few buttons missing would not impair the garment's usefulness.

*

SAILOR hats remain in vogue. There are two styles; one has quite a wide brim, and a low crown. This is made in rough straw, and is usually much trimmed with flowers, tulle, etc. The other has a narrow brim, and high crown. It is made of fine, smooth braid, and worn most often with no trimming except the ribbon band. The Panama straw is an exeeption; it is almost invariably trimmed.

*

TULLE is much used in trimming hats, and comes in all colors. A full ruching all around the crown is seen on many hats. On others, large, full rosettes are mingled with the flowers. A very pretty effect is that obtained by using two colors of tulle, and folding them together before gathering into rosettes, etc., one color showing through the other giving the two-toned effect that we have had so long and have not wearied of.

*

BLACK velvet ribbon is used on the broad, white leghorn hats in preference to the fancy ribbons used so lavishly on other hats and dresses. Summer outdoor amusements allow woman the freedom to avail herself of the picturesque large hat which is so much condemned worn indoors. This, probably, is the reason that the leghorn hat is never out of favor.

*

THE lace hat is superseded by the tulle or chiffon hats, and these are made in colors as well as in black and white. Straw crowns and tulle brims are frequently combined, a fancy straw only being appropriate for the dainty effect desired.

DINNER AT CLARK'S.

A SPOOL of Clark's thread, what does it mean to you? To the great majority, it means standard quality, and satisfaction in the work done with its help. Generally, the seamstress who has become familiar with it, will "take no other" anyhow, and it doesn't have to be advertised.

But there are several thousand people living near New York, to whom "Clark's Thread" calls up very different thoughts. Thoughts of endless hours of ceaseless work; thoughts of buzzing wheels and rattling chains and clicking machinery bars. Thoughts of discomfort from heat, where they must work in a room kept at 85 degrees perhaps, every day in the year; and from water in the rinsing rooms, where it runs ceaselessly over the floor. These are the employees in the great thread works; 2,600 of them, and nearly two-thirds of these girls.

But great firms sometimes have souls, in spite of the general belief to the contrary. The employees are cared for by this firm in a practical way, as well as in more esthetic ones. Plants in neat boxes adorn all the windows. Signs of danger are posted everywhere at special points, like elevator shafts. The girls are cautioned by placard to beware of wearing their hair loose about the head, or hanging free, lest it be caught in the swift-flying machines. Across the street, is a reading-room, and on another corner, is the restaurant lately opened by the firm for the benefit of the employees—or rather, of the girls; as no men are allowed to take meals there, though meals are sent out to them, if desired.

All thoughtful people who frequent restaurants, are amazed at the lunches which women and girls make a habit of ordering. It makes little difference what the occupation, whether the customer be a shopper merely, or a hard-working shop girl, if the purse admit, charlotte russe, ice cream, and fancy cakes rule the day, with, possibly, a cup of tea. It was to combat this tendency, and to furnish substantial, nutritious and hygienic food for the mill girls, that the restaurant plan was adopted.

The Cook is a Man.

One is surprised to find that the cook is a man who might serve as chef in the most aristocratic city hotel; a man with all the niceties of his profession well in hand, intelligent to a degree, thoughtful, and so well educated that, in an hour's conversation, one would scarcely note a single slip in careful, grammatical speech; a man withal, so interested in the plan and in his work, that it would seem as though he *must* make it succeed.

Having found out from the superintendent the number of employees (2,600), one of the first questions I put the cook was, "How many do you serve with meals each day?"

"That's just where the trouble comes in," was the reply. "We seldom have above 50 or 60, and we send out, in addition, about as many more dinners: Then, even these are irregular, and we have so much left over sometimes, that we can hardly make the scheme self-supporting."

"That is scarcely four per cent of the whole number, or seven per cent of the girls! Have you any idea wherein lies the cause of this lack of patronage?"

"Yes, I have an idea. It is certainly not any fault in the food itself, for, although we serve it plainly, as you see, it is always of superior quality, and in fair variety."

"How much do the people pay for their dinner?"

"Fifteen cents. Of course that is about the price at which a meal may be obtained at any cheap restaurant; but at such places, one helping only of each item is allowed. We, on the contrary, give them all they wish of any dish on the day's bill of fare. They can have a half dozen helpings of any favorite dish, if they wish; and even the cheap restaurants charge 25 cents for a regular dinner."

"How much variety do you manage to have?"

"Well, the variety is not large for any one day; but we make the bill different each day, as far as possible. For instance, to-day we had a vegetable soup, roast beef and potatoes, cocoa and ginger snaps for dessert. We usually have a pudding. Tea we are obliged to have always, the girls will not go without it."

"How about coffee?"

"The firm does not serve coffee at all. I do not know why, unless it considers it unwholesome. Now, to-morrow, perhaps, we shall have a hash, or a soup from the beef left to-day, a mutton stew with vegetables, and a pudding. This, with tea and cocoa, gives a soup, a meat, vegetables, drink and dessert, making a very fair dinner. Sometimes we have other little extras, but these are the stand-bys."

"How do those manage who do not come to you? Do they bring their meals from home? It might, perhaps, then cost them less than 15 cents, might it not?"

"I don't think so; because they work hard, the dinner is the main meal of the day, and a light, cold lunch cannot take its place."

"Are the wages sufficient to justify them in paying 15 cents for dinner, when they could, perhaps, bring their luncheon from home, at half that price, or less, and have a dinner with the family at night? The poor are often reduced to many straits, we know."

"Oh! I think that the pay is really very good, especially that of the piece-workers, and even the smaller girls are not ill-paid. Besides, a large number of them patronize other restaurants near us, paying the same price for, perhaps, less food, although they may have greater variety to select from. No; I think that the real trouble is that they believe that the firm is trying to make money out of them. Somehow, the workers can never be made to feel that the employers are their friends and well-wishers."

"Doubtless it is the same as with pupils in school. Because there are rules, and penalty follows transgression, therefore, the maker of the rules is a hard master, an enemy to be thwarted and opposed on general principles, and whenever possible."

"That is my idea, exactly. Now, I know that the firm is very anxious to make this plan work, even though it does not quite make ends meet. But if the restaurant is not patronized by the hands, it has no reason for existence. We could crowd it every day with outsiders, but that is against the rules.

Hard to Please.

"I never tried so hard to please a set of customers as I have tried to please these girls. But they are the hardest people to suit I ever saw. They won't eat hash and rice puddings, or any of those things that have to be used to even up things, and they don't appreciate extra fine cookery."

"What is the reason for that?"

"Chiefly that they don't recognize it. One day, I took the greatest pains to serve a fine dish of mutton with caper sauce. They guyed me, and found fault without stint, till they discovered that I had sent over a second helping to Mr. Clark himself. Mr. Clark called it prime, and when this was known, it was all right. One day, I made a mock turtle soup extra nice; the very same that I have made many a time at sea-side resorts where it sold for 75 cents a plate, *except* that it lacked the liquor. Didn't take at all! They couldn't eat that stuff."

"Are the men less particular?"

"I think that they are. But we have to send their meals out in order to keep this place free and pleasant for the girls, and the bar-room lunch counter is our great competitor with the men. I wish that those places could be wiped out! They are the worst enemies our people have, and the people don't seem to know it."

Having heard a pretty thorough story from the employers' side, I thought that it would further my purpose to hear what the girls had to say about the new departure.

The girls, however, were inclined to talk very little. Perhaps, had they been seen away from the mills, they might have been more communicative. I talked with an intelligent girl from the "thread-end," asked her if she patronized the restaurant, etc.

"Oh, yes."

"Do you like it?"

"Yes; *I* like it very much."

"Do many of the girls get their lunch there?"

"No; only a very few."

"What do you think is the reason? Isn't the food good? Or do they bring their dinner from home?"

"The food is very good, I think; and as I said, I go there. I don't think many of the girls bring lunches. But they consider it another money-making scheme for the firm; so they continue to patronize the two or three women that furnish dinners, just the same as they did before the Clark restaurant was opened."

Thus it appears that another plan for the amelioration of the condition of the hardest workers, is likely to fail. This scheme has interested outsiders, who have been watching to see its outcome. But it is the same old story. There seems to be no way to lead employees to a belief in the sincerity of employers' interest in them, but giving them a share in the business. And this in spite of the fact that the interest shown by many great firms in the comfort, prosperity and happiness of their employees is a matter of surprise to outsiders having no particular bias either way.

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Flowered challis, violets on a cream ground, is here daintily decorated with Valenciennes lace. The collar, which is removable, is of creamy mull edged with a frill of lace, headed by insertion. A stock of violet ribbon is tied in a bow at the back of the neck, and a belt to match is tied in a bow in front. The standing collar has flaring laps of lace and insertion joined on at the top. The full lower edges are usually worn under the skirt, but may be belted over it if so preferred. Pattern No. 6789 is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure.

A PLEA FOR THE POTATO.

A WRITER in the Medical Record considers the desirable qualities of the potato. He says that the fact that it contains very little nitrogen, is no reason to condemn it, for we are prone to have a dietary of too concentrated foods, and the system demands bulk for the proper intestinal action as well as for nourishment. Here the potato is most useful. It would be unfit for the sole diet, as such large quantities would be required to satisfy at all the demands of the body, which even then

6789—LADIES' WAIST WITH FANCY COLLAR.

would not be perfectly nourished; but combined with nitrogenous substances, it is a valuable food when properly cooked. It contains less starch than rice, peas, lentils, etc., so is less harmful than they where starch is objectionable in the dietary. Again, it has less woody fiber than the other underground vegetables, which is, of course, in its favor from the digestive point of view.

It seems like a sweeping injustice to ascribe American dyspepsia to the humble potato. It certainly has not made a nation of dyspeptics of the Irish—and they have given it a severe test—and it seems unlikely that it would make any race distinction and discriminate against us. Plainly American dyspepsia must seek for some other cause than the potato *per se*.

When fried, warmed over, or transformed into Saratoga chips, croquettes, or any of the many indigestible things that modern cookery has devised, it is objectionable, but what food would not be? Even when baked or boiled, it is also objectionable unless the cooking be properly done, and the fact that it so seldom is properly done, is, doubtless, the cause of much that is said against it; but do let us lay the blame where it belongs, and remedy the evil by teaching our cooks how to prepare it properly, not by eliminating it entirely or even partially from our tables.

Shorn of details, an incident that several years ago occurred in the writer's family, may be cited in this matter. The baby girl of the household, when a little over a year old, began to refuse her food. In spite of tonics and a change to country air, this state continued. Many different foods were tried, and all that eminent medical skill could do or suggest was unavailing. Concentrated nourishment and stimulants kept the spark of life flickering, but even these were failing. Her temperature was below normal, and death's finger seemed already laid upon the wasted baby frame, and death was coming through starvation—starvation in the midst of all the foods that modern science had given us. Finally, with death as the alternative, the physician said: "Take her to the table, and if there is anything that she will eat, give it to her." And she did eat a little mashed potato!—the first food that she had taken willingly for a month. This was the turning point. The convalescence was very slow but sure, and all through it potatoes were her only food, except such small quantities of other foods as could be mixed with them without affecting their flavor perceptibly. Gradually she began to take a little milk and other things, and health returned permanently.

ODDS AND ENDS.

WHY NOT?—Miss should be changed into Mrs. when the school girl buds into womanhood, just as Master is changed to Mr. when the school boy becomes a man, argues a writer in the Westminister Review. This writer argues as did Harriet Martineau, that it is not dignified to address a middle-aged woman as Miss, and that marriage should have nothing to do about the matter in the case of women any more than it has in the case of men. It would sound a little strange to speak of Master David B. Hill, or during his first campaign, of Master Grover Cleveland.

WASTEFULNESS.—Why do poverty and wastefulness almost invariably go hand in hand? One of our tenants complained in the cold weather, that she had to go almost without shoes; they were so poor it was all they could do to buy things to eat. When the surroundings came to be cleaned after they moved out, there was found a tobacco pail full of pancakes, quite an amount of cookies, etc., and nearly whole loaves of bread, besides many garments which had, evidently, blown from the line unnoticed, and been hidden by the snow. I heard one woman tell of taking a 25-pound flour sack full of dry bread from the cupboard when she cleaned a house.

SWEET FERN.

STORIES FOR CHILDREN.—The instincts of children are a tolerably safe guide, says T. W. Higginson in Harper's Bazar. Where was there ever a child who did not prefer a true story to a fictitious one, if it were—what rarely happens—as well given. The tales told by the hunter, the old sailor, the Indian fighter, need no spice of fiction to make them fascinating. Test the preference. Tell the best story you can invent, and when the child asks the unfailing "But is it really true?" answer, "No." Is not your hearer disappointed? But if you are able to answer conscientiously, "Yes, my dear child, that very thing actually happened to your revered Uncle Abner, or your excellent Aunt Rachel," the child goes to sleep happy, and awakens to find life newly glorified by the possession of such gifted relatives. Truth, as truth, is never unwelcome, but the contrary; the difference is in the telling. There is a realm, no doubt, for the pure play of the imagination—Robin Hood and Roland and King Arthur; neither would I ever deny a child Santa Claus or Jack the Giant-killer. But I remain in the belief that truth is greater and profounder than any fiction, however ideal or however realistic. As now the schoolboy will turn even from Oliver Optic to The Boys of '76, or Baron Trenck's Memoirs, so I think that for our descendants, history and biography will be written with such spirit and skill as shall displace the carnival of the romantic. If that day be delayed, it is only because telling the truth is the higher art, and so develops more slowly.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

CRUMBS FROM DIFFERENT TABLES.

To all labor wrought for human good
Is due an equal meed of fame—
Between making laws and sawing wood,
The only difference is in the name—
Who robs it of its hard-earned pelf
By a cunning trick or legal role,
Will in the end but rob himself—
He may cheat the gallows but not the goal.
—*M. E. Pleas in Indianapolis Sun.*

....PHILLIPS BROOKS: "Only he who puts on the garment of humility finds how worthily it clothes his life."

....WM. H. HILL IN LADIES' HOME JOURNAL: "The softest thing in the world is the hand of a woman when it caresses."

....ATCHISON GLOBE: "Every girl learns a lot of nonsense from her mother that she passes on down to her own daughters, and the world will never get rid of it."

....ALICE B. TWEEDY IN POPULAR SCIENCE MONTHLY: "Now that man has laid violent hands on woman's former employments—cutting children's garments by machinery, baking, pickling, and preserving for the nation—it is inconceivable that woman, industrious woman, should fold her hands and sit in a corner."

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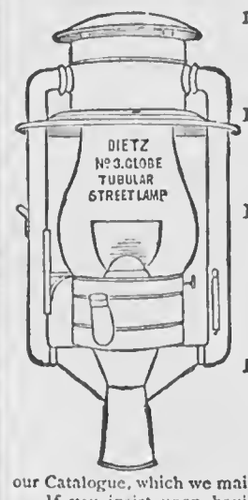

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Finest Tone, Best Work and Materials.
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"WORKING POWER."

Some months ago, in Congress, a speaker gave the following illustration to show the working power of a dollar:

When I was a small boy, I saw something that I shall never forget. It was at a circus. The clowns and some other employees arranged themselves in a circle. Let us say that there were 20 of them in all. No. 1 said to No. 2: "I owe you $2. I'll pay up as soon as I can." No. 2 made this statement to No. 3, No. 3 to No. 4, and so on around the circle, No. 20 saying it to No. 1. No. 1 shoved his hands into his pockets and with a look of pleased surprise pulled out a dollar. Turning to No. 2, he said: "I didn't know that I had that dollar. Here's so much on account." No. 2 took the dollar, and with similar language passed it on to No. 3, and so it went around the ring. No. 20 passed it to No. 1, who received it with a smile and started to put it into his pocket, but instead he turned to No. 2 and said, "I didn't expect to be able to pay you the balance so soon, but here it is." And so it went around the ring, finally coming back to No. 1, who with a satisfied smile put it into his pocket.

Now it does not matter whether this man was arguing for silver or for gold; the illustration is a good one, for it shows how a dollar or its equivalent in the form of a check, note, mortgage or anything that may be easily handled, will circle about among the people, satisfying, perhaps, thousands of wants and obligations before it goes out of circulation. Strawberry growers are getting so that they must have new baskets and crates for each lot of berries. It is not so with a bushel basket, or a barrel, or with a yard stick. These things simply measure articles, and are kept in use till they wear out. This is true to a greater extent of the dollar. It keeps moving about from hand to hand, measuring values and paying debts.

Let us take a simple example. You send us a money order for $1 in payment for a year's subscription. We take it to the post office in New York, in company with many others, and receive a check for the full amount. We deposit this check in the bank. On Saturday, we draw from the bank what cash we need and pay off the hands. The dollar you sent goes, in another form, into the hands of a printer. He takes it home and pays his board. The landlady takes it with others and pays the butcher. He puts it into the bank, and in a day or so, draws a check with which to pay his rent. The landlord puts the check into another bank. That bank may use that value to pay a draft in San Francisco, and thus the dollar jumps away across the continent. Some fruit grower borrows at the bank cash with which to pay his hands. The dollar goes into some man's pocket. He goes wandering about after a job, and the dollar goes with him until it is broken up and scattered in all directions—paying for food, sleep, hat, shoes, car fare, cigars and a hundred other things. And thus the dollar and its representatives in the way of checks, tickets, notes, etc., go wandering through the land doing their part in the work of exchanging values.

It is this "working power" of the dollar that gives true value to money. When some one holds the dollar out of circulation, and will not pass it along, dozens of people must suffer. Suppose you refuse to send us the dollar for your subscription! We cannot pay the printer. We might offer him a year's subscription to THE R. N.-Y., but he would not accept it. Why? Because his landlady would not accept it as payment for board. She would not take it because she knows the butcher would refuse it.

Suppose our printer had some of his former savings invested in a bicycle. If he could not pay his board, the chances are that his landlady would make him give up the bicycle. He might have paid $75 for it, yet, at a forced sale, it brings only $45. There you have a loss of $30, because the working power of your dollar has been cut off by lying inactive in your pocket or in your bank. Or, take the case of THE R. N.-Y. Suppose you and 5,000 other subscribers refuse to send the dollar on time. We must have cash to pay our bills, and we are forced to go and borrow it. We go to a bank and say, "Here are 5,001 good men, each of whom owes us $1. Lend us $1,000, and we will tell 1,000 of them to pay you when they *get ready*." They would laugh at us, not because they doubt your willingness to pay, but because they demand better security. We have to pay them interest, and mortgage property in order to get that money, and all because there is a stoppage in the circulation of 1,000 single dollars. Happily, THE R. N.-Y. does not have to do such business, because its readers are prompt and exact—but that is a fair illustration of what happens when this movement of dollars is paralyzed. On a large scale, that is what ails the land to-day. Money has fled from the country districts, and while farmers have products to sell, and desires to be gratified, there is a hitch somewhere in the circulation of money, and as a result, they are like the printer—making a sacrifice of his bicycle in order to pay his board.

And now let us consider another side of the matter, viz.:—the "working power" of a thought. Some years ago, in New Hampshire, an old man thought out a plan for killing weeds by raking among them with long, slender rods or sticks. That was the original thought. It grew and spread—passed from farm to farm and mind to mind until the present weeder was perfected. This implement has been worth millions to the farmers of this land, yet it all grew from that old man's thought—polished and perfected by passing from mind to mind. Suppose that old man had never worked out his thought! Suppose it had never been pushed and advertised or made much of! Farmers would still be using the slower methods of weeding with hoe and cultivator—paying for human labor that is now done by the horse.

It is the working power of a thought that lifts up farming, and puts the progressive farmer on a business plane with the manufacturer. The dollar kept in the miser's pocket, fails to fulfill its mission. The progressive thought chained to the lonely farm may help hold back the wheel of progress. How does the farm thought get into circulation and acquire working power? We answer without hesitation—through the agricultural paper! You may say what you like about the farmers' institute, the bulletins or the catalogue, a new and valuable thought is never given true working power until the agricultural papers take hold of it and pass it along. We think that you will agree with the propositions made above. We will close with the following statements which we think can be substantiated:

1. During the past 15 years, THE R. N-Y. has given "working power" to more new ideas and new articles than any other agricultural paper in the land.

2. During the next 15 years, we expect to lead the procession as in the past.

3. The price of THE R. N.-Y. is only one dollar a year, and we guarantee the most profitable terms to agents.

4. There is room upon our list for the names of a dozen of your neighbors.

CROP AND MARKET NOTES.

Watermelons are becoming more plentiful.

Supplies of honey are small and the trade light.

Receipts of milk and cream are unprecedentedly heavy.

Niagara grapes have made their appearance from Florida.

The Le Conte pear is the first to make its appearance in market.

Large quantities of southern tomatoes are being sold at auction.

Demand for beeswax is moderate at 26 to 28 cents per pound for pure.

Grasshoppers are reported to be doing great damage in some parts of Indiana.

Receipts of most vegetables are heavy, both from the South and from nearby points.

The fifth National Irrigation Congress will be held in Phœnix, Arizona, in December next.

Receipts of hay have been liberal, demand moderate and the market weak with lower prices.

It is estimated that the cold storage in this city available for butter, will accommodate 300,000 tubs.

A beet sugar factory with a capacity of 400 tons of beets per day, is being erected at Menominee Falls, Wis.

There has been no glut of strawberries this year; the heaviest supplies were from the South early in the season.

California fruit growers have the benefit of more competition in refrigerator transportation this year than ever before.

A company has been incorporated for the purpose of starting a large coffee plantation in Mexico, and planting 1,000,000 coffee trees.

The cheese market is doing better under an increased export demand, though the quality of much of the arrivals is not up to the mark.

It is proposed on the New York Produce Exchange, to abolish the hay inspection system, but the hay dealers are making a vigorous protest.

The supply of maple sugar is light, market quiet, and sales at seven to eight cents per pound, with syrup nominal at 40 to 60 cents per gallon.

Southern new potatoes have been in large supply, and the price has declined greatly. Old potatoes cut no figure in the market, and there is little sale for them.

The 14th annual convention of the American Seedsmen's Association, comprising those in the United States and Canada, has been in session in Niagara Falls, N. Y.

Have you noticed that long rye straw is worth more than the best Timothy hay? And the prospect is good for continued high prices. Better take good care of the straw this year.

A case has been made out in this city against a Chinese restaurant by the inspectors of the New York Agricultural Department, for violation of the oleomargarine law. This is said to be the first case on record against a Chinaman.

Reports are to the effect that not more than half the usual acreage of hops will be cultivated in the State of Washington this year. Many of these will not be sprayed, which means that they will amount to little. Altogether, the crop there will be far below the usual one.

The swine breeders of North Carolina have formed an association, and now desire to have sufficient membership fees sent in to the secretary to warrant the incorporation of the association, and offer liberal prizes at the coming State Fair. Frank E. Emery, secretary, Raleigh.

The fruit market changes rapidly these days. All the small fruits are in fair supply. Southern peaches are not plentiful, but supplies are increasing. Plums and pears from the South add variety. Cherries are plentiful, while muskmelons and watermelons are becoming plentiful and cheap.

Alabama enacted a law prescribing a penalty for the sale of oleomargarine and other similar substances without labels to distinguish them. Violators of the law pleaded unconstitutionality, but were convicted. They appealed, but the Supreme Court decided against them, thus affirming the constitutionality of the law.

The United States Consul at Denia, Spain, says that the outlook for the Spanish wheat crop is excellent, yet large importations will be necessary. He says that no country that has grain to export has any advantage over the United States in the matter of distance and shipping facilities. It could be transported more cheaply than from Russia or India. He suggests that a line of vessels direct to Mediterranean ports would open a profitable market for our surplus products.

The production of butter is reported heavy in all parts of the country. Receipts in this market have not been heavy, but immense quantities have gone into cold storage in different parts of the country. It is said that there never before was so much butter stored in Chicago at this season. Exporters are endeavoring to open up a trade, and present prices are likely to be maintained, or, in case of increased exports or buying by speculators, might be somewhat increased.

At a recent meeting of the board of trustees of the University of Illinois, important changes were made in the organization of agricultural interests at the university. Two new departments were created for the College of Agriculture—a department of agricultural physics, and one of dairy manufactures. Both these positions are to be filled before the beginning of the college year in September, so that, hereafter, the instructional force in agriculture will consist of three men instead of one as heretofore, and the three great interests—live stock, soils and crops, and dairying—will each have an individual who will make their study his specialty. The same organization and the same men will also serve the experiment station. This department of the university has also undergone an important change in that the dean of the College of Agriculture has been made ex-officio director of the station, and the board of direction, which has hitherto served in the capacity of director, is retained as an advisory board. The importance of this extension of the teaching force, and the recognition of the three great lines in agriculture, mean that the trustees recognize the importance of the subject, and are determined to put it upon a sound basis.

CONNECTICUT CROPS.—We have had no experience with barley or Hungarian grass, always depending upon corn to make the hay shortage good. We have doubled our corn area this year, and would plant more had we sufficient help to take care of it. We are struck on corn; instead we shall put in some Hungarian grass about June 25. Since May 25, we have had considerable rain, and grass, in many fields, is thickening up. We expect a fair crop on our farm, except on the very driest land. One 20-acre field adjoining our farm will hardly yield one ton of hay on the entire piece. More corn was planted in this locality than ever before. Potatoes which were planted in moist or very early land are doing well; but those on dry soil, were very slow to come up, and much of the seed failed to start. Early ones are beginning to bloom, and some show signs of early blight. Old potatoes are getting scarce and are a little better in price. Strawberries are a full crop, and better than ever. Recent rains helped them very much. All vegetation is about a week earlier than usual.

H. G. M.

Miscellaneous Advertising.

Many a free man who is sick would willingly change places with a healthy convict. A man might as well be shut out of enjoyment one way as another. If he is shut up in a cell, he cannot engage in active pleasures. He cannot see the beauties of nature and art, but he can imagine them, and so get some benefit from them. A man who is sick has these things before him, but he doesn't see them as they exist. He cannot look on anything with appreciative eyes. His physical condition warps his vision and his mentality. He cannot enjoy anything, no matter how enjoyable it may be in the abstract. A man with a foul taste in his mouth, with a bilious headache, and with poisonous refuse matter circulating all through his body cannot enjoy anything. He honestly believes that the world is all wrong, and that it is a mighty poor place to be in. He is blue, despondent, cynical. Life isn't worth living to him. Such a simple thing causes this condition that it is absurd and ridiculous to think of a sensible man remaining in it. Symptoms like these come from constipation. It is the most prevalent of all causes of sickness. It makes a man worthless for work or pleasure. It is a stubborn trouble when you do not treat it properly, and a simple one when you do. It is cured by Dr. Pierce's Pleasant Pellets. They were made for this purpose, and no other. They accomplish this purpose as no other preparation ever did. An unscrupulous druggist may try to sell you something else. Look out! It is your health that is at stake. It is your health against an extra profit on the thing he says is "just as good." Doctor Pierce's Pleasant Pellets—don't forget—don't take anything else.

The People's Common Sense Medical Adviser, in plain English, or Medicine Simplified by R.V. Pierce, M. D., Chief Consulting Physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., 1008 pages, illustrated. 680,000 copies sold at $1.50. Now sent, paper-bound, ABSOLUTELY FREE on receipt of 21 one-cent stamps to pay for mailing *only*. Address the Author, as above.

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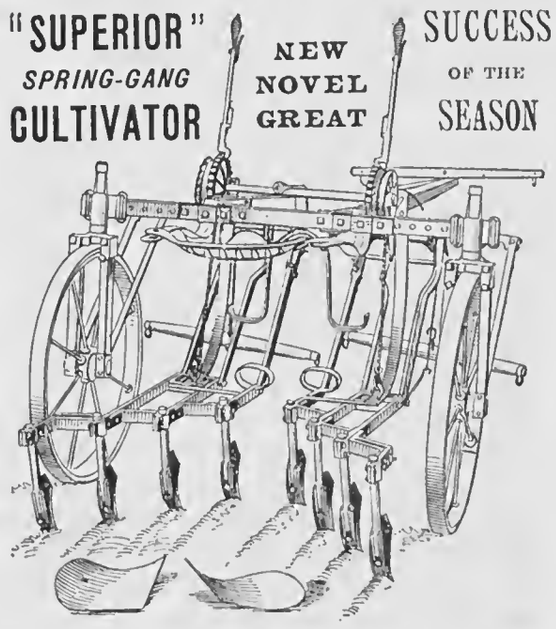

This tool will work shallow or deep, give level or ridge cultivation, pare or plow the land; it will do any style of work desired for any variety of soil, on flat land or side-hills; it has high crop clearance and track adjustable from 30 to 52 inches! The tooth standards are round and swivel in steel clamps. The guidance is at pleasure either by hand or foot with pivoted wheels or by feet with independent center (crop row) teeth. The only practical and really adjustable spring pressure (flat steel), anti-friction cable lift, ball wheel bearings to reduce draft, genuine easy spring seat, and perfect balance, go to make up the merits of this advanced implement. If you want the most substantial cultivator (riding or walking) with the widest range of work, one that will do thoroughly whatever it is put to do, write

JOHN MOORE'S SON COMPANY,
RARITAN, NEW JERSEY.

TRUE FRIEND FOR SOUTHERN FARMERS.

I am glad to see THE R. N.-Y. still standing up for Crimson clover. Many farmers are complaining about not getting a good stand during the drought of last fall; but with me, it did well. One four-acre field, I believe, gave me more feed than I ever before obtained from a like amount of ground in my life. The land was old Timothy sod, overrun with weeds, was broken in the winter by a Syracuse steel plow, followed by a bull-tongue subsoiler in the furrow behind the turning plow. It was planted to corn in April, in checks, was cultivated both ways with Breed's weeder, five or six times, no other implements being used. On July 14, I sowed Crimson clover seed, 15 pounds per acre, and covered it nicely by running the middle section of the weeder twice in each row, leaving the ground level, clean, and well prepared for the mower. The clover seed came up in a few days, and grew nicely. The corn was cut and shocked at the proper time, was husked the first week in November, the fodder hauled to the barn and cut into half-inch lengths for the cows; not being injured any by exposure, it did make a fine lot of cow feed. Ten small Jersey calves were put on the clover about November 1, and pastured until March 15.

The clover made a solid mat by December 1, and stood the winter well. By April 15, it was the prettiest field I ever saw. During the winter, when the ground was frozen, I had the corn stubs cut off with hoes at the top of the ground, and, the land being cultivated level, it was in fine shape for the mower. May 1, the clover was in full bloom, about 16 to 18 inches high. I turned under two acres of it for fertilizer, and harrowed twice with the Acme harrow so as to smooth the top and not pull up anything that was buried. I let this lie 10 days to settle, and then planted to corn. Strange to tell, at the end of 10 days, none of the clover was left; all was rotted and gone. The corn came up in a few days, and is now making a wonderful growth.

The other two acres I cut for hay May 14. We had a fine spell of weather, and I got over two tons per acre of the nicest, brightest, cleanest hay I ever put up in my life. As soon as the hay was off, I turned under the stubble and harrowed twice with the Acme harrow to smooth and make the surface solid. I let it lie 10 days, had a fine rain on it, then planted it to corn. At this writing (June 25), the corn has made a fine stand, has been worked, and is looking well. I find no buried trash to interfere with the cultivation; it is all decayed, and looks under the surface as though something had been burned and only ashes left. So you see, from two acres of that ground, I got 100 bushels of fine, sound corn, a lot of the best of cow feed, nearly five tons of excellent hay, and now have it back to a very promising corn crop—all in 12 months. This is where Crimson clover helps us—a catch crop—a winter carpet for the naked soil, four months' pasture, a good hay crop and no time lost between two corn crops, with the land in better condition.

This is the third year I have grown Crimson clover. It was first brought to my notice by THE R. N.-Y., and I will say that I am well pleased with it. I had about 20 acres this year—some for pasture with barley, some sown with Orchard grass to cut for seed, and thus I have to lose no time in getting a stand of Orchard grass. It will not do to sow the Crimson clover seed down on the surface without covering; it must be harrowed or lightly plowed in. It does best with me to sow in July or August. If very dry, harrow in the seed and then roll. It can be sown with barley or rye in September, and will make an excellent late winter and spring pasture. And what a color it gives the butter! While other dairymen were using artificial coloring, my butter did not need it.

Of course, I do not claim that Crimson clover will take the place of Red clover, or drive it out of use, no more than that oats or rye would displace wheat. We know that rye or oats are not so good as wheat for bread; yet who of us would like to farm without the use of rye or oats in connection with our wheat growing? Just so with Crimson clover; it gives us another help to farm, another implement to work with; so let us use it! Some one has asked in THE R. N.-Y. if Crimson clover can be sown with or among cow peas. I answer no; the shade of the vines is too dense, and it will do no good sown in the spring. It is a cool weather plant. It makes a good winter and spring pasture. It makes a fine fertilizer when turned under green, or it makes a fine hay four weeks earlier than Red clover, and six weeks earlier than Timothy. J. N. M.

Dark's Mill, Tenn.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 15	@	—
Medium, 1895, choice	1 00	@1	10
Pea, 1895, choice	95	@1	00
Medium or pea, common to good	85	@	95
White Kidney, 1895, choice	1 25	@1	30
Red Kidney, 1895, choice	1 00	@1	02
Red Kidney, common to good	80	@	95
Black Turtle soup, 1895	1 20	@1	25
Yellow Eye 1895, choice	1 20	@1	25
Lima, Cal., 1895 (60 lbs)	1 80	@1	85
Pea, foreign, 1894	80	@	85
Medium, foreign, 1894	75	@	80
Green peas, bbl., per bushel	75	@	77
Bags, per bushel	70	@	—
Scotch, bags	70	@	72

BUTTER—NEW.

Creamery, Western, extras	15	@	15½
Western, firsts	14	@	14½
Western, seconds	12½	@	13
Western, thirds	11	@	12
State, fancy	15	@	—
Common to prime	11	@	14½
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	14
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	11	@	12
Seconds	10	@	11
Western dairy, firsts	11	@	11½
Seconds	9	@	10
Thirds	8	@	9
Factory, fancy	10½	@	11
Factory, firsts	9½	@	10
Factory, seconds	9	@	—
Factory, thirds	8	@	8½
Old butter	7	@	10

CHEESE—NEW.

State full cream, large, colored, fancy	7	@	—
Colored, good to choice	6½	@	6¾
Fair to good	6	@	6½
Fancy white	6¾	@	7
White, choice	6½	@	6¾
Small, colored, fancy	7	@	7¼
Small, white, fancy	7	@	7¼
Small, good to choice	6¾	@	7
Small, common to fair	5½	@	6½
Light skims, choice	5	@	5½
Part skims, good to prime	4	@	4½
Part skims, common to fair	2	@	3
Full skims	1½	@	2

EGGS.

Near-by, new laid, fancy, per doz	13	@	13½
State, fresh gathered	12	@	12½
Penna. and Md., country marks, fancy	12	@	12½
Western, closely graded, fancy	12	@	—
N. Ohio Ind., Ill. and Mich., prime	12	@	—
Other Western, northerly sections, prime	12	@	—
Western, fair quality	11	@	—
Southern, fresh collections, good to prime	9	@	10
Western and Southern, poor, per case	2 40	@3	00
Western culls, per case	1 50	@2	40

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼	@	6½
Choice, 1895, per lb	5⅜	@	5¾
Prime, 1895, per lb	5	@	5¼
Common to good, per lb	3	@	4¾
N. C., sundried, 1895, sliced, fancy	3½	@	3¾
Southern, sundried, common to choice	2	@	3¼
State, sundried, quarters, bbls	2½	@	3½
Western, sundried, quarters, bbls	2½	@	3⅜
South-West'n, sundried, quarters, bbls.	2½	@	2⅜
Southern, sundried, quarters, bbls	2	@	2½
Southern, sundried, quarters, bags	2	@	2¼
Chopped, 1895, per lb	2	@	2½
Cores and skins, 1894, per lb	2	@	2¼
Peaches, Sundried, 1895, pecled, per lb	3	@	6
Cherries, 1895, per lo	9	@	10
Blackberries, 1895, per lb	5	@	5½
Raspberries, evaporated, 1894, per lb	16	@	—
Sundried, 1895, per lb	15	@	—
Huckleberries, 1895, per lb	5	@	5½
Plums, Southern Damsen, 1895, per lb	4½	@	—

FRUITS—GREEN

Blackberries, N. C., large, sound, per quart	10	@	12
Small or soft, per quart	7	@	9
Md. and Del., cultivated, per quart	13	@	15
Md. and Del., small early, per quart	9	@	11
Cherries, extra large, dark, per lb	10	@	—
Medium, dark per lb	7	@	9
Medium, light colored, per lb	6	@	8
Small and inferior, per lb	3	@	5
Currants, per quart	9	@	10
Per lb	7	@	8
Gooseberries, green, per quart	3	@	5
Prime green, per bushel	1 25	@1	50
Prime green, per 10-lb basket	20	@	25
Grapes, Fla., Niagara, per case	2 00	@3	00
Huckleberries, N. C., per quart	11	@	14
Md. and Del., per quart	11	@	14
Jersey, per quart	11	@	13
Muskmelons, Charleston, per bushel-basket	75	@1	25
Florida, per half-bbl	75	@1	50
Peaches, N. C., early sorts, per carrier	1 25	@2	25
S. C., early sorts, per carrier	1 50	@2	25
S. C., early sorts, per flat case	75	@1	25
Georgia, sound, per carrier	1 50	@2	25
Georgia, unsound, per carrier	1 00	@1	25
Florida, as to size, per carrier	1 00	@4	00
Plums, S'n, Wild Goose, per carrier	1 75	@2	25
Wild Goose, per flat case	1 00	@1	25
Chickasaw, per 6-tit. carrier	75	@1	00
Pears, LeConte, per bbl	6 00	@7	00
Raspberries, blackcap per pint	4	@	6
Blackcap, per quart	8	@	11
Red, Up-River, per ½ cup	8	@	12
Red, Md. and Del., per pint	8	@	12
Strawberries, Hilt'n & Irv., ex. fancy, per qt.	16	@	20
Hilton & Irv., fair to choice, per quart	10	@	15
Up-River, per quart	10	@	14
Jersey, large, per quart	10	@	12
Jersey, small or soft, per quart	5	@	7
Western New York, per quart	8	@	14
Watermelons, choice, large, per 100	22 00	@23	00
Small to medium, per 100	13 00	@20	00

GRASS SEED.

Clover, per 100 lb	6 75	@ 8	25
Timothy	3 50	@ 4	00

HONEY.

State, white clover, comb, per lb	—	@	—
Buckwheat, comb, per lb	7	@	8
White clover, extracted, per lb	5	@	6
Buckwheat, extracted, per lb	4	@	—
California, comb, fair to prime, per lb	10	@	12½
Extracted, per lb	5½	@	6
Southern, in bulk, per gallon	45	@	55

MEATS—DRESSED.

Veals, country dressed, prime, per lb	6	@	6½
Fair to good, per lb	4½	@	6
Com. to med., per lb	4	@	4½
Small, per lb	4	@	5
Buttermilks	4	@	5
Pork, country dressed, light, per lb	5½	@	6
Medium, per lb	4½	@	5

POTATOES.

Southern Rose, fair to prime, per bbl	1 50	@2	00
Chili red, fair to prime, per bbl	1 25	@1	75
Seconds, per bbl	75	@1	00
Culls, per bbl	50	@	60
Old, per barrel or sack	50	@	85

POULTRY—LIVE.

Spring chickens, per lb	13	@	15
Fowls, local, per lb	10	@	—
Western, per lb	10	@	—
Southwestern, per lb	10	@	—
Southern, per lb	10	@	—
Chickens, yearlings, per lb	10	@	—
Roosters, old, per lb	5	@	5½
Turkeys, mixed, per lb	7½	@	8½
Ducks, local, per pair	70	@	80
Western, per pair	60	@	75
Southern, per pair	55	@	60
Geese, local, per pair	1 00	@	—
Western, per pair	85	@1	00
Southern, per pair	75	@	85
Pigeons, old, per pair	35	@	—
Young, per pair	20	@	25

DRESSED POULTRY.

Turkeys, average, hens, per lb	10	@	11
Average toms, per lb	9	@	10
Chickens, Phil., broilers selected, per lb.	22	@	24
Phila., broilers, ordinary, per lb	18	@	20
L. I., broilers, scalded, per lb	16	@	18
Pennsylvania, broilers, per lb	19	@	21
Western, dry-picked, broilers, per lb.	17	@	18
Western, scalded broilers, per lb	16	@	17
Western, small, per lb	14	@	15
Fowls, Western, dry-picked, choice	10	@	—
Dry-picked, fair to good, per lb	9	@	9½
Scalded, choice, per bbl	9½	@	10
Old cocks, per lb	5	@	5½
Spring ducks, Eastern, per lb	15	@	15½
Spring ducks, L. I., per lb	15	@	15½
Squabs, tame, white, per doz	2 25	@	—
Mixed lots, per doz	1 50	@2	00
Dark and poor, per doz	1 25	@	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 75	@2	00
Prime, per doz bunches	75	@1	50
Culls, per doz bunches	25	@	50
Beets, per 100 bunches	1 00	@1	50
Cabbage, L. I., per 100	2 00	@2	75
Norfolk, per bbl-crate	40	@	85
Carrots, per 100 bunches	1 00	@1	50
Cauliflower, L. I. and Jersey, per bbl	75	@2	00
Celery, fancy, large, per doz	1 00	@1	50
Average, prime, per doz	50	@	75
Small, per doz	20	@	40
Cucumbers, Charleston, per basket	40	@	60
Savannah, per crate	20	@	25
N. C. and Norfolk, per basket	40	@	50
Green corn, N. C., per 100	25	@1	25
Egg plant, Southern, per bbl	3 00	@6	00
New Orleans, per box	1 50	@2	00
Green peas, Jersey, per basket	—	@	—
Jersey, per bag	—	@	—
Long Island, per bag	1 00	@1	50
Horseradish, per lb	3	@	5
Kale, per bbl	—	@	—
Lettuce, per bbl	40	@	50
Onions, Bermuda, per crate	90	@1	00
Egyptian, per bag	1 40	@1	50
New Orleans, per bbl	1 75	@2	00
New Orleans, per bag	75	@	85
Southern potato, per basket	50	@1	00
Radishes, per 100 bunches	25	@	75
Rhubarb, per 100 bunches	1 00	@1	50
Spinach, per bbl	25	@	50
Squash, Southern, white, per bbl crate	75	@1	00
Southern, yellow, per bbl crate	75	@1	25
Southern marrow, per bbl-crate	75	@1	25
String beans, Jersey, per basket	75	@	—
N. C., wax, per basket	40	@	50
N. C., round, per basket	40	@	50
N. C., flat, per basket	25	@	40
Norfolk, wax, per half-bbl	50	@	60
Norfolk, green, per half-bbl	40	@	50
Tomatoes, Fla., prime to extra, per carrier	75	@1	25
Florida, poor to good, per carrier	50	@	65
Mississippi, per case	85	@1	10
Savannah, per carrier	1 00	@1	50
Turnips, new, white, per 100 bunches	1 00	@2	00
Watercresses, per 100 bunches	1 00	@1	50

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Presidential Campaign News.

The Presidential Election next November promises to be one of the most exciting and important since 1860. We can't print all the news about it in THE R. N.-Y.; but we have made special arrangements with the leading National papers of both parties in the following list, so that we can send your choice of them for the rest of the year at a trifling cost. This will give you all the political news during the campaign, and the results of the election in November. Every regular issue of any paper in this list will be sent from the date your order is received, until January 1, 1897, together with THE R. N.-Y. for one year for the price opposite the name of paper. Agents and club raisers may take these orders, and retain their regular commissions on THE R. N.-Y., but no discount can be allowed on the other papers.

THRICE-A-WEEK WORLD, New York	$1.45
THE BALTIMORE SUN. (Weekly)	1.30
THE DEMOCRAT AND CHRONICLE, Rochester. (Weekly)	1.30
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Remember, these prices are for the papers mentioned until January 1, 1897, and THE R. N.-Y. one year, or we will send any paper in the list free to any subscriber who will send $1 for a new subscription (not his own) to THE R. N.-Y.

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Live Stock Matters

FORKFULS OF FACTS.

SOME PROLIFIC STEERS.—W. A. Shafer, in The Breeder's Gazette, says that 15 years ago, in Ohio, cross-bred Short-horn steers, with a little Galloway blood in them, always brought top prices. He says:

My father raised six cross-bred steers that were very fine, and sold them to a Cincinnati butcher at a fancy price as Christmas beeves when they were three and four years old. The lot weighed 11,950 pounds, averaging almost 2,000 pounds. The butcher who bought them paraded them through the principal streets of Cincinnati, and they were one of the attractions of Christmas, 1881. He sold car-loads of beef "from the six black mulleys," but soon after he "slaughtered" them, we noticed an item about six black polled steers from Ohio selling in the New York market at the top price of the season. The weights were given, and left no doubt as to their identity.

A CHOKED COW.—A cow of mine choked one morning. We tried a probang, drenching with melted lard, and several other things, but could do no good. The cow was nearly suffocated, when an aged German, hearing of it, came in to see her. After a careful examination, he found the obstruction just back of the pharynx. Picking up a hammer, he put the handle under her neck and with his left arm over the cow's neck took hold of the other end and pulled it up and back between the pharynx and obstruction. The third time, the obstruction moved and passed down into the paunch, and the cow was cured.

Marion County, Ind. H. J. HALE.

"GALLANT ROOSTERS."—F. H. Graves, in the Poultry Monthly, has this bit of observation concerning roosters:

A writer in a western journal says that "gallantry in a rooster" can be carried to an extreme, and that some will deny themselves food to the verge of starvation in order that the hens may gorge. Such a cock—one that hasn't brains enough to eat when hungry—is not fit to breed from. If "like produces like," it would not take long to produce a strain of fowls, the cocks of which would have to be fed with a spoon, or "crammed" in a manner similar to that in vogue for fattening poultry in certain districts in France. I don't believe that Game cocks are troubled with gallantry to such an extent—at least, I have never observed it. I have seen cocks of the Pit kind that were sufficiently generous to share certain rare morsels with their consorts, but never knew one to "turn up his toes" for lack of nourishment when there was food within reach. On the other hand, I have seen Malay cocks, as well as Japs and Indians, that would drive every hen away from its food, until their own appetites were appeased. At other times, they were as attentive to their mates as could be. With them, gallantry was all right in its place. Their ability to draw the line at feeding time, showed a sagacity quite equal to their swinishness. Whether gallantry is a more marked characteristic in some breeds than in others, I have never understood. It may be that the early training of the cockerel has much to do with his idiosyncrasies as a cock.

LATE FEED FOR SHEEP.—The work of growing "hothouse" or other lambs to the highest degree of perfection, depends largely on the quality and amount of food furnished the mother ewe, especially during the period from the time of the lamb's birth, until it is ready for market. In the absence of clover as a forage crop for this purpose, it may be safely said that no one will make a mistake in arranging for a crop of oats and peas as a substitute. The fact that the pea is highly nitrogenous, and also one of the leguminous plants, should recommend it at once as one of much value. In connection with oats to be cut and cured at the proper time, it should combine qualities for feeding purposes of the highest order. Many others are adopting this same method. My first seeding of grain the present spring consisted of oats and peas mixed—two bushels of oats, and one of peas per acre.

Many years since, I learned that Hungarian grass made an excellent food for horses and cattle, and I have to-day (June 9), sown a plot of four acres, a portion of which I anticipate will be relished by our sheep. Of course, it is essential that it be cut at the proper time, as soon as the earliest heads are beginning to turn brown. A liberal allowance of beets may also be profitably fed to breeding ewes.

While reference has been made to the feeding of ewes, it is well known that lambs, at an early age, begin, in a small way, to take food of a coarser nature than the mothers' milk, and if a mixture of oats and corn meal and bran, be placed in a "creep," where they can eat whenever they choose, it will be attended with excellent results. But after all, it is the faithful and painstaking care of the ewe, that is the essential factor in lamb growing.

Genesee Co., N. Y. IRVING D. COOK.

THE DOINGS OF A POULTRYMAN.

NEW SCHEMES BY O. W. MAPES.

We have often told our readers about the "Hens by the Acre" scheme of Mr. O. W. Mapes, of Orange County, N. Y. Some years ago, Mr. Mapes rather startled the poultry fraternity by his scheme of keeping hens in small houses scattered all over his farm, and connected by means of an electric service which closed doors and opened feed boxes. THE R. N.-Y. has visited Mr. Mapes's place twice, and we have told all the details of this singular business, which has proved profitable from the very start.

At first, Mr. Mapes's argument was that it paid him better to have the small houses scattered about the farm. He thought that the hens would be more contented in this way, and that it would be much easier to fight an attack of disease. The experience of two or three years, however, in caring for the hens in winter, has shown him that there is too much travel, especially in cold, snowy weather, and he has been considering the scheme of concentrating the hens in one large building. In fact, his son is now building, on another farm, a house that will accommodate 1,000 birds. This house is to be 16 x 336 feet, divided by wire netting into pens that will contain 50 birds each. There will be no yards, and the hens will run in and out, and all over the farm. When this scheme is fairly started, it will prove a very interesting experiment in connection with Mr. Mapes's old plan of small houses and wide range, and we shall all be interested to see how it turns out. When the house is built and stocked, we expect to visit the place and give a full description of it in THE R. N.-Y.

When asked how they expect to stock the house, Mr. Mapes said that they would buy all their birds as pullets in the New York market. In fact, they have already bought a few pullets and contracted for others. They will be of all sorts of birds and breeding, though most of them will, probably, be Plymouth Rocks. The pullets will average 10 or 12 weeks old, and will cost about 16 cents per pound, or probably, less than 25 cents each. Of course, these birds are only for the first season's work. No males will be kept with them, and they will not be used as breeders at all. As they fulfill their obligations at the nest and retire from active life, their places will be filled by well-bred birds from Mr. Mapes's own flock of Brown Leghorns.

Mr. Mapes, as our readers know, has had a long and severe struggle with the roup, and from his experience, he is satisfied that he can handle this disease in a big house as well as he can in many scattered houses, and certainly he ought to know what he is talking about, having fought the disease for two years and finally conquered it.

In asking about breeds, for his own purpose, Mr. Mapes says that he would prefer the Mediterraneans, by all means, for layers. He has been experimenting with some of Mr. Wyckoff's White Leghorns, and they have given the very best of results thus far. He has crossed the Whites with the Browns, and made very good laying birds. Some of the Whites have already shown a disposition to sit. He says that he has a number of Black Minoreas, three years old, that have never shown the slightest disposition to

(*Continued on next page.*)

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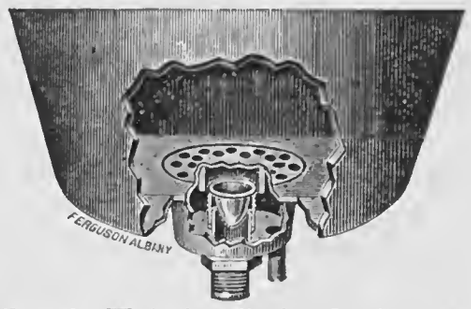

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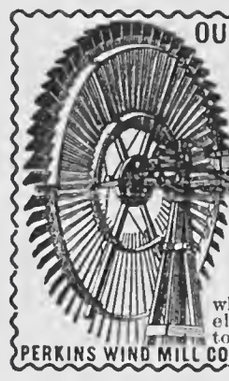

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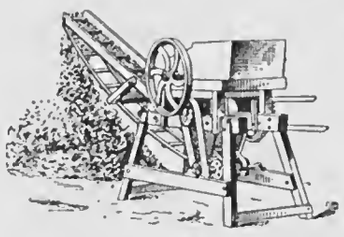

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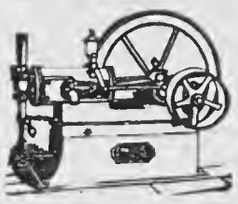

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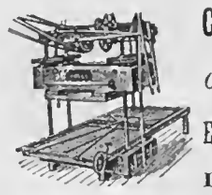

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LIVE STOCK MATTERS.

(CONTINUED.)

sit since he has had them. In keeping so many of the Mediterraneans, he has found it difficult to secure early sitting birds, though he has 1,000 healthy chicks now, growing up for next season's layers. He has been investigating the subject of incubators, and is trying his hand at an incubator of his own which he hopes will be successful.

When asked about a "balanced ration" for birds, he says that he is obliged to differ with THE R. N.-Y. a little, and uses a wider ration than one part of muscle-makers to four of fat-formers. In fact, he has about come to the conclusion that the ration for hens should be about as wide as for a cow, namely: 1 to 5½ or 6. Starting with a small ration, he added corn meal slowly, as it seemed to agree with the birds. He has not quite reached the limit of profit yet, so far as he can see, and is about ready to throw in another bag of corn meal anyway, to make the ration wider yet.

It was Mr. Mapes who asked us last year about the life history of the hen louse, and Prof. Slingerland, in reply, gave all the available information regarding this interesting insect. Acting on the suggestion that grease of any kind is sure death to vermin, Mr. Mapes tried the experiment of smearing the roosts, perches and cross bars with melted tallow or "cottolene." This was painted right on the perches during the daytime, and the result was that, so long as the grease remained on the perches, not a single mite could be found on them, and the hens were absolutely free from these insects. As is known, these mites leave the hen during the day and crawl on the under side of the roost, working only at night. In this way, the tallow or other grease painted on the roost, not only kills those that are there, but prevents the hatching of the eggs, and thus makes an end of the whole foul race. While this might not kill the large gray, or body louse, it is perfectly sure death to mites, and this treatment is well worthy of a trial by all poultrymen who desire to get rid of this henhouse pest. Be sure to do the painting in the daytime, when the hens are away, and put the grease on thick enough so that it will stay on quite a long time.

ANOTHER "MUSH-MAKER" TALKS.

I have been much interested in the "mush-making" controversy in your columns, and I think that Myra V. Norys has given, on page 410, a very complete summing up of the case for the mush-makers. Her average difference (if kept up for a year), of $150, in favor of "mush," would convince any reasonable being, and her showing needs no reinforcement. Nevertheless, since she has referred to me and the paper of which I am editor (as I modestly assume), I may be pardoned for relating an experience on my farm in the winter of 1891.

I was keeping, at that time, about 300 fowls, all but 30 of them pullets, feeding a "mash" five mornings in the week, with wheat, barley and oats at noon and night (and the other two mornings), with about two feeds of whole corn each week. It was my custom to make up the mash in the evening, after my return from the city, then feed it in the morning, and water the fowls before going to the city again. The noon and night feeding and watering and collecting the eggs, were done by the boys (three of them, aged 9 to 16 years), outside of their school hours. Sickness in the family, followed by my absence from home on business, cut off the mash feed for nearly four weeks. It was resumed January 23, the proportion of meat-meal in the mash being increased for a week, to make up for the total omission of animal food during the interim. The birds had been laying about 100 eggs a day, the first of December, but dropped off somewhat, owing to a severe cold spell the first half of that month, and were rallying again when the mash feed was dropped. The following account of the result of that experiment, I clip from Farm Poultry for March, 1891:

January 23, we began the mash-feed again. January 26, the egg-yield was 70; 28, 80; 31, 88; February 1, 98; 2, 107; 3, 122; 5, 133; 7, 150, and for the week ending February 17, the yield was 1,054 eggs, or 150½ eggs per day. For the week ending Jannary 27, an average of 64 per day. Surely good care and feeding pay well!

For convenience we have prepared a table of the egg-yield by weeks, including price per dozen and value.

Week Ending.	Total Eggs.	Daily Average.	Price Per doz.	Value.
Nov. 25	703	100*	$0.40	$23.43
Dec. 2	751	107*	40	25.03
9	655	93*	40	21 83
16	627	89*	40	20 90
23	663	94*	40	22.10
30	709	101*	40	23 63
Jan. 6	575	82*	38	18.21
13	461	65*	38	14.60
20	474	67*	38	15.01
27	448	64	35	13.07
Feb. 3	650	92*	35	18.96
10	941	134*	30	23.53
17	1,054	150*	28	24.60

(*And a fraction over.)

We do not lose sight of the fact that the season was advancing, and that a part of this rapid increase in egg-yield should be credited to that, and we mentioned the fact that there were half a dozen days when the birds could be out of doors, also a help. With these facts kept in mind, the above table shows remarkable results from good care and good feeding; by the latter, we mean feeding a cooked morning mash.

There can be no question but a cooked morning mash increases the possibilities of assimilation. The fowl has to grind up the grain ration before it is prepared for assimilation. Supposing that she has ground up and assimilated the grain eaten for supper during the night. If she is fed grain in the morning, it will be some hours before that ration can be ground and made ready for assimilation; whereas the cooked mash is available for assimilation almost immediately upon being eaten, consequently so much time is gained. The cooked mash enables biddy to "make over-time."

Another advantage of the cooked mash is the variety of food elements it contains. There are the cooked vegetables, the animal food in the meat meal, which contains meat, bone, etc., and is rich in albuminoids. In fact, we may suppose that the grain ration gives biddy the wherewithal to sustain life, resist the cold, and replace worn-out tissue, and that the cooked mash furnishes the material out of which to manufacture eggs. Life *must be* sustained, cold resisted, and worn-out tissue replaced, before eggs can be made. There must be a surplus for egg making. Isn't that surplus the cooked mash? A. F HUNTER.

COW PEAS FOR SHEEP FODDER.

"Many sheep men have lost the clover hay crop. * * * Wanted, something to sow *now!*" This I read in THE R. N.-Y., page 404. If I am not mistaken, there is a better thing than a "good substitute." I can give no better advice than to state what I am doing now (middle of June), have been doing for several weeks, and expect to do for several weeks longer, as I can snatch a few spare hours from my other work to prepare the land. I refer to sowing cow peas.

The cow pea will do fairly well on soil that would starve clover. It luxuriates in hot weather, and the hay made therefrom highly exceeds clover in feeding value. As it is fit to cut in a very short time after sowing, I can see no earthly reason why many tons of it could not be converted into valuable forage at any place on the face of the earth where there is no danger of frost, for at least, three consecutive months. This is not saying that it will mature seed in those places, although last year, I gathered the ripe pods in August from seed sown in June. In past years, I have sown many acres of cow peas on wheat stubble early in July, and when I began to fallow for winter oats, in September, many of the pods were perfectly ripe.

But for the purpose of securing the most excellent winter roughage for stock, one does not wish the cow peas ripe. As soon as the first pods give an indication of ripening, it is a warning that, for best results, the vines should be cut at once. I would advise no farmer North to attempt to grow his own seed, for even if he could succeed, he would find it unprofitable, as the seed can be procured at such a low figure in the South where the cow pea is at home. Some seedsmen in the North charge such fabulous prices for the seed, that it is no wonder that its culture has not been more extensively practiced. Leading seedsmen in the South offered them some weeks ago for 85 cents per bushel. Sometimes they sell for even less, but a fair average price is about $1 per bushel.

The land-renovating qualities of the cow pea have been so often extolled that I need here but allude to the fact. Even should the experiment cost $1, sow a pint of the Black variety now, cut the vines no later than the first indications of some of the pods ripening (before frost, of course), cure nicely, and let the stock pass judgment on their palatability next winter. Thereafter, you will thank THE R. N.-Y. for having, through its columns, prepared the way to enable you to bridge over any short hay crop that may occur in the future. J. C. SENGER.

Virginia.

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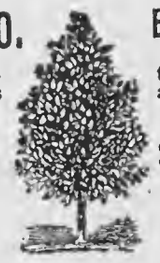

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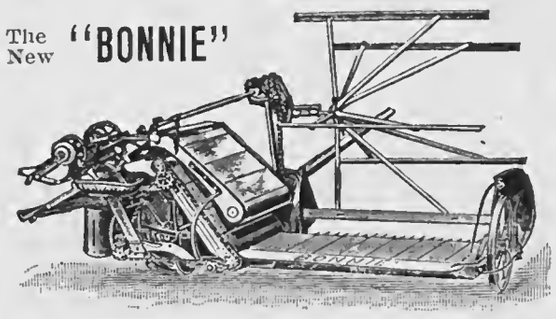

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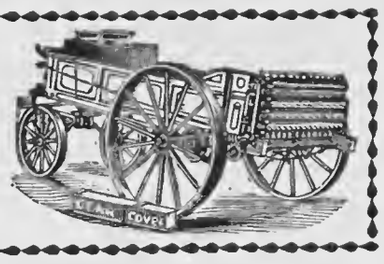

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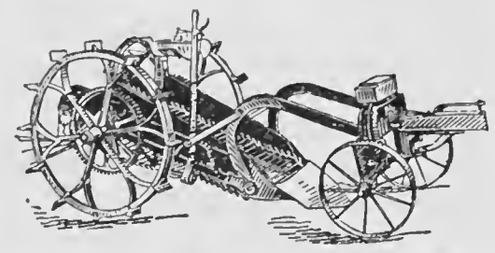

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG. CO., N.Y.

VOL. LV. No. 2423. NEW YORK, JULY 4, 1896. $1.00 PER YEAR.

A VERMONT WOMAN'S DAIRY WORK.

A PARTNERSHIP WITH JERSEY COWS.

Possibilities of New England Farming.

The struggle for supremacy between honest toil and hard economic conditions was, probably, never more fierce than at the present time, and the question as to whether the dairy will conquer hard times, or hard times vanquish the dairy, is a debatable one. Although dairy products now bring a very low price, still I am inclined to believe that the dairy will yet prove the salvation of the New England farmer. Doubtless, many instances in every community could be noted where the dairy had lifted the mortgage from the farm, fed and clothed its owner, and furnished the fertility to repay the soil for all demands that had been made upon it. One reason why there are not still more cases of successful dairying, is because many so-called dairy cows are not workers, but simply boarders whose only thought and care is to be on hand regularly at meal time. Another reason is that many so-called dairymen are not well enough acquainted with their cows, or their business, to tell the workers from the boarders.

A VERMONT WOMAN'S FAMILY AND FARM BUILDINGS. FIG. 143.

I recently visited Hillside Dairy Farm, in Ryegate, Caledonia County, Vt., a town that has the credit of having more profitable working dairies than any other in the State. Hillside Dairy Farm is owned and operated by Mrs. Carrie J. Nelson, a widow who has managed her own affairs, reared and educated her family of four children, and built up one of the best dairy farms in Vermont. What Mrs. Nelson has accomplished, is best told in her own language, which in substance is as follows:

"Thirteen years ago, I was left a widow with four children, three boys and one girl, the eldest but eight years old at the time of his father's death. I was then living on this farm, but with the cares of my little family, and the large amount of indebtedness on the estate, I was induced to sell the farm to a brother-in-law who lives in Boston. After all debts were paid, I had $1,925 in cash, including $1,000 paid me in life insurance after the death of my husband. For five years, I lived on the farm and managed it for my brother-in-law; but I concluded that, if I could run the farm satisfactorily for him, I could for myself, so I bought back the old home farm, which took all my savings, and put me in debt about $5,000 besides.

"In 1891, I put in the upper floor in the barn, and built the driveway thereto. In 1894, I put in a silo 9 x 14 x 23 feet, and built an addition on the back of my house for a washroom and summer kitchen. I am now painting and repairing the house outside and inside, and have the lumber on the ground for another silo a little larger than the first one. One year ago I bought a piece of newly cleared land containing 43 acres, adjoining my pasture, for which I paid $656. I seeded this piece to Alsike and White clovers, principally, and it will make a good addition to my farm, as I lacked for pasture. In 1894, I put in a separator and make the butter at home. I also bought a piano for my daughter that year; this can hardly be classed as a farm improvement, but we all take comfort having it in the house.

"The farm now contains 216 acres; I have 39 acres of tillage land, sufficient pasturage, and timber land enough to supply the farm, besides selling considerable cord-wood. Last year, it kept 50 old and young cattle, and three horses, except the mill feed, which I buy altogether. My bran I buy by the car-load. My dairy last year, consisting of 40 cows and heifers in milk (except one cow counted out for family use), averaged 315 pounds of butter per cow. This year, I hope to do better than that, but I have so many heifers replacing old cows, that I do not know that I can. My average, the year before, was 309 pounds. My butter is all put up in half-pound prints, and wrapped in a printed wrapper bearing my name and farm address. The butter is all sold by a well-known Boston commission merchant, who has always paid me the top price.

"My butter took the first prize at the Vermont dairymen's meeting in 1892, at the Vermont State Fair, and the World's Food Fair in Boston in 1894, and at the Vermont and New Hampshire Interstate Fair in 1895.

"My cows are all high-grade Jerseys, and at various times in the past three years, I have added choice A. J. C. C. heifers and sires from the best herds in the State. I employ two men the year 'round, besides what my children do. My daughter and second son, now 15 and 16 years old respectively, make and handle all the butter. My father, now 86 years old, and a sister totally blind, live with me, so you see that I have quite a large family for which to provide.

"The first five years after I bought back the farm, I reduced the mortgage over one-third; but the last three years I have simply kept the interest paid, and have used what surplus I earned in the purchase of the pasture lot, and in improving the buildings on the farm. I always keep a book account of my farm operations, so that I can see each year on which side of the fence I am. I have had but little trouble in collecting my bills, having lost but one account in 13 years of business."

At the conclusion of her narrative, I asked her if she could recommend other women situated as she was 13 years ago, to undertake what she had, and her reply was: "I do not feel as though I had done any more than any woman could do, if she would only try."

Mrs. Nelson has certainly demonstrated that the dairy, rightly managed, will drive away hard times, and has set an example in practical, economical farm management, that is an inspiration and encouragement to all who make their living by dairy farming.

Vermont. C. W. SCARFF.

R. N.-Y.—During the past few years, we have heard of several women who have had much the same experience as Mrs. Nelson. They were left with small capital to bring up families of young children. At the prevailing rates of interest on investments in stocks or mortgages, their money would not yield them a living. Invested in a farm, it provided a comfortable home and a fair income besides.

WHAT THEY SAY.

How I Grow Turnips.—Some time ago, a question was asked regarding turnips being a profitable crop. When I first bought the farm on which I now live, I was able to pay but a small part of the price agreed upon. The seller said that excellent turnips could be raised on portions of the land, but that I must be careful to grow them on the lightest land that has good drainage. He agreed to take one-half the interest money in turnips at 50 cents per bushel, the variety to be Sweet German. So I spread manure broadcast, and used fertilizer in the drills, putting the seed in June 20. The crop was harvested the first of November, and such a lot of prongy, punky, black-streaked turnips! Some weighed 10 pounds. When I delivered them to the man, he said, "Well, I can feed them out; they are not fit to eat." He told me to try again.

The next year, I sowed seed August 3, using four different brands of fertilizer. I had read "Gregory on Fertilizers," so I thought that I would try a formula of bone and wood ashes. I did not use any stable manure. I opened furrows with a light plow, strewing the fertilizer in the drill (about 800 pounds to the acre) I covered the furrows with a horse hoe, and sowed the seed right on the freshly-stirred soil. The seed came up in four days, the plants grew finely, but the season was not long enough, and when I harvested them, about one-half were too small for market I marked the drills so that I might know what kind of fertilizer gave the best results. I found that where I had used bone and ashes, there were no black streaks, but where I had used fertilizer, all were affected.

I then began a series of experiments with hen manure cotton-seed meal, ground bone, ashes, etc. I found that turnips did not require a great amount of potash, that nitrogen should be organic, that the best time to sow the seed was from July 10 to 20, that the market demanded a turnip of medium size with a straight tap root; that, in order for seed to sprout, it should be sowed on freshly-stirred soil. The best fertilizer for me was fine ground bone and cotton-seed meal, and I could get 50 cents per bushel when others were selling at 35 and 40. In a town of 12,000, I could peddle out from 500 to 700 bushels with a trade increasing, and selling from one to six bushels per family. I think that, in some localities, the yellow would sell best. G. A. D.

New Facts About Celery.—The cultivation of celery is regarded as important, particularly so, when the conditions do not exist for favorable growing of the crop To overcome some of the difficulties, various methods have been advocated, but I have observed none as yet to compare with that in operation on the farm of Mr. John Harris, situated in the Catawissa Valley, near Ringtown, Pa. For early market, Mr. H. usually relies on the White Plume, the seed of which he sows in hotbeds April 1. When about one month old, and measuring 1½ inch in height, the plants are transplanted into hotbeds 6 x 18 feet, from six to eight inches apart each way. In preparing the hotbeds, considerable care should be exercised in having the soil properly prepared. One foot of fresh horse manure is first placed in the hotbed, on the top of which are 10 to 12 inches of fine, rich earth. By this process, the stalks have frequently grown to a height of three feet without being trenched or hilled up, and as the heavy foliage excludes the light, the stalks have become perfectly blanched, and ready for market about August 1.

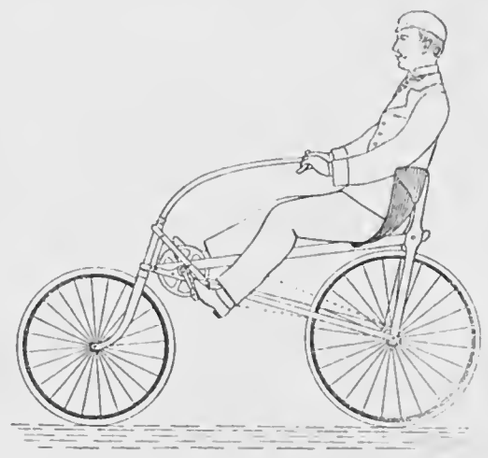
The system of irrigation put in practice on Mr. H.'s farm of 14 acres, is of simple construction. The water is furnished by a bountiful spring at the base of a large mountain, which forms the rear boundary of his premises. To secure sufficient force, a dam or reservoir was constructed, from which a 1½ or 2-inch pipe conveys the water down a grade of 300 yards to the barn, where he has, in place of an elevated tank, six vinegar barrels all connected by a small pipe at the bottom. Into these barrels, the water is piped, and being elevated 10 feet above the ground (the level of the hotbeds), sufficient force is secured through a pipe laid to the beds, to permit of thorough irrigation. Mr. Harris has been known to grow stalks of the Rose celery that weighed over 12 pounds. This manner of cultivation is very simple, and could be put in practice in any locality. T. C. F.

Spraying by Steam Power.—Last winter, I secured a spraying outfit, consisting of a one-horse Acme engine complete, placed on a frame so that it could be fastened on a platform built for a common lumber wagon, with one small can for the oil, and another for the water supply of the engine. On the back part of the wagon, we have a cask that will hold about 150 gallons of water, and from the engine, we run a brass rod through the bottom of the tank with two paddles fastened to the rod on the inside of the tank as an agitator, and it is a good one. The steam generated by the engine is conveyed in a pipe to a steam pump (solid brass) and this steam pump does the spraying.

It takes one man or boy to drive the team, two men to operate the nozzles (we use two nozzles of four Vermorels each), and one to care for the engine. My boy, 13 years old, with the old team, went out among my neighbors. He took charge of the engine, the farmers furnish the other help, and all the material, pay $5 per day for the use of the rig, and are much pleased to get it at that price. The common price here for spraying, is four cents per tree for each spraying, the sprayor to furnish all materials. With this machine, we can spray 500 trees, 25 years old, in a day, doing it much better than by hand. The engine carries 100 pounds of steam, and the relief valve is set so that each hose gets 70 pounds pressure to the square inch. I really think that this is the best method yet devised for doing thorough work. We have a fine spray, a good agitator, and a good one-horse engine for other purposes. T. B. WILSON.

Ontario County, N. Y.

New Swiss Bicycle.—At Fig. 144, is shown a drawing of a new form of bicycle that is made in Switzerland, and known as the Normal. The position of the rider is much like that of a man in the usual sitting position, which gives him more force to apply at the wheel. The theory is that, where the back is so well supported, the rider is able to exert, at least, twice as much power as where he can use only the weight of his body. This wheel is closer to the ground than the ordinary "safety," and the inventors claim that it can be driven at greater speed with less fatigue.



NEW SWISS BICYCLE. Fig. 144.

What is needed more than anything else is some mechanism in place of the sprocket wheel, that will give direct power.

HOW TO FILL THE HAY MOW.

BARLEY AND PEAS AND MILLET.

Is Anything Better Than Corn?

In many parts of central and eastern New York State, as well as in portions of New England, the hay crop is practically a failure, with very poor prospects for a corn crop, which is usually relied on to fill up the gap made by a shortage in hay. As a consequence, many farmers are looking about for some quick-growing fodder crop that they can use to fill up the gap and provide winter forage. We have been told that barley can be sown as late as the middle of July or the first of August, with the reasonable chance that it will provide a fair crop of forage for winter feeding. It is also said that Hungarian grass sown late in the season will, in an average year, produce a fair amount of fodder. What has been your experience with barley, or barley and peas, sown late in the season: that is, on or after July 15? Do you think that it would be safe for the average farmer to attempt to raise a crop of barley for hay in the hope of securing fodder to take the place of the lost hay crop? Any information of practical value that you can give us regarding these late substitutes for fodder, will be highly appreciated, and we would be glad to have you tell us just what you would do, prompted by your past experience, to secure a fodder crop this year in case your hay crop were destroyed.

In Doubt About Barley.

My experience leads me to adopt methods something as follows: Mow earlier than usual. We would be mowing to-day (June 16) a field of Alsike clover and Timothy if the outlook were favorable; as it is, we shall defer cutting until the sun shines again. True, this crop of mixed grass would gain some if we deferred harvesting it, but the gain would be so little, and the chances of making a partial second failure if the mowing be deferred, are so great, that we prefer to sacrifice a little of the present prospect for the greater future good for which we hope. A small portion of this field which gave prospects for only about one-half ton per acre, was plowed and planted to corn some days since. About one-half of the remainder of the field will be planted to corn in drills, cultivated for all it is worth, and the other half will be put into Hungarian grass. Last year we tried peas and oats, sowing them about August. They furnished only a small amount of green food late in the fall, which by no possible skill, could have been cured into hay, on account of the low sun and cold nights. One or both of two methods I am inclined to advise. All of that part of the hay field which can be cleared by June 25, or July 1, plant to corn. That which cannot be cleared until after that time sow to Hungarian grass. For the latter crop, the ground requires unusually good preparation, and by all means, it should receive a liberal application of commercial fertilizers containing a fair per cent of nitrogen and potash. I do not think that it would be safe to attempt barley raising so late in the season, for hay. On general principles, I am coming to believe that we are to trust less and less in the hay crop, and more in barley, oats, peas and corn, than we have done heretofore. In my experience, there has never been a year but a good yield of these forage crops could be secured by a little extra culture, skill and fertilizers; while with a Timothy meadow, nothing can be done to secure a crop if moisture is at all deficient.

I. P. ROBERTS.

Sixty and Ninety-Day Catch Crops.

Fodder corn stands first in the reserve list, as it will make the heaviest yield of good, coarse fodder. It is well, therefore, for the farmer, when he is sure that the hay upon the old meadows will be light, and growth stops, to hustle it into the barn, turn over the sod, and put on fodder corn. Plow well and harrow well. Do not take any chances with negligent preparation. At this season, commercial fertilizers are better to apply than coarse manure, because quick work is sometimes necessary to success. But if one has the manure, he will, probably, use it rather than buy. As fast as cleared, invert the worn-out meadows, and plant corn as long as you dare. Daring here is not so much a moral quality, as a cold calculation. I live in the latitude of New York City on the Connecticut shore of Long Island Sound. The latitude of Albany has a season some two weeks shorter. In one locality, haying is finished, or may be finished, in the neighborhood of July 4, although further north some are only beginning. This is partly latitude, partly promptitude on the part of the farmer, and partly the promptitude of fertile soil that pushes its crops. The lighted match test to see whether grass is ripe enough to cut, should go out of use

July 3, 1895, we planted a field of corn after oats and peas. This corn was cut for the silo October 10, and yielded from 10 to 12 tons per acre. The season, of course, was favorable. If there had been danger of frost, we could have cut one week earlier, or in 90 days. In my latitude, corn may be sown up to July 15, with a fair chance of 85 to 90 days' growth before damaging frosts, and will make more fodder, even though cut a little earlier, than any other crop with whose cultivation I am familiar enough to take chances in a crisis. Even further north, it would be well to chance it some with early frosts. But these risks should be taken in connection with thorough planting and frequent cultivation By frequent cultivation, once as it pricks through the ground, and at least weekly afterward, even with a rather small degree of moisture, corn is sent rapidly ahead in the hot, growing season.

Evergreen sweet corn is a standard fodder corn, compromising or striking the medium between the short season of growth or the early table corns, and the heavier growth of stalk of the field varieties. If one has no silo, corn can best be kept in snug stacks in the field, to be carted in as wanted. Experience will dictate the size of the stacks. The larger, within limits, the less weathering. Tie with two bands, one just above the ears, and another near the tips. If bands must be bought, tobacco twine is cheap and good for one year, although not very strong. Hay twine is stronger, but more expensive.

Another 90-day plant approximately, is German millet. It is good where hay is needed rather than corn fodder. It will yield, perhaps, two or three dry tons per acre, but requires rich soil, and is said to be quite exhaustive. Let me say here that it is uphill work to raise any of the catch crops without rich soil. So much depends on saving the minutes of warm, growing weather before cool autumn nights check vegetation. June 12, we carted the hay off from 1¼ acre of run-out grass. The horses were taken from the last load of hay in the barn; and went back to the field with the plow. This field is broken up and will be sown to German millet, as we have corn enough planted. It was top-dressed last winter from the stable for corn, and is, therefore, in good heart. Millet seed costs us $1.25 per bushel; we sow a bushel on the 1¼ acre, and cover with a light smoothing harrow or bush. It was previously gone over six times with a disk harrow, some of it being rather heavy and hard. Millet requires, like everything else, a fine seed bed. It is a slow starter, but under right conditions, grows rapidly at the end.

Of the 60 day catch crops, Hungarian grass or millet is well known Its habit and handling are like the German millet, but it is earlier and proportionately lighter. Favorable conditions will give about two dry tons in 60 days. In April, 1890, we sowed an acre with oats and peas. These were out of the way, and the ground plowed so that we sowed Hungarian grass July 1. September 1, this was harvested and rye harrowed into the stubble with a disk harrow,

which gave green fodder about April 1 the next season. I sowed three pecks per acre. The secret of this method of cropping is promptness, mellowness, fertility, and some luck regarding the weather.

I have not been successful with late sowed barley. August 10, 1893, one acre was sown with one bushel of Canada field peas and 100 pounds of barley. About October 20, there was a good crop on the land, seven or eight green tons, equal in every way to oats and peas. It withstood frost well, and in November, I cut green feed for the cows for a week upon ground that was frozen in the morning. The cows liked them. This crop was successful. Before and since, some five or six times, barley with and without peas, has been tried by us without success, and has been given up. The season of the year seems, in some way, to be unnatural, and the per cent of failures has been too large with us to make it a profitable crop. He who is unwilling to do prompt and thorough work would better leave catch crops alone. E. C. BIRGE.

An Old-Time Massachusetts Dairyman Talks.

I find, by looking back through my farm journal, that I have sown millet as late as August 4 but it was too late, and the crop was small. Millet, like corn, is a hot-weather plant, and does best sown not later than the middle of July. I have had good crops of it sown July 14 and 19. That sown July 19, was cut for hay August 31. Millet will not endure frost, neither will corn, and in this latitude (42 degrees) we may always expect some frost early in September. I would not plant corn for forage much after July 4, as late-planted corn is subject to rust, more so than millet sown at the same date. To help out the hay crop, I would plant corn all through June, millet up to the middle of July, and then barley to the middle of August. I have sown it as late as August 25, and cut a paying crop. Barley and oats are cool-weather plants, and thrive better in spring and fall than during the heat of midsummer; but neither spring nor fall are good seasons for drying fodder. The best hay weather is in midsummer, as a rule.

Summer droughts have been much to be feared in all my farm experience, and my plans have been such as to avoid losses on this account. Farmers who would be, in a measure, free from anxiety on this score, should look ahead more than a few weeks or months. Too many of us are at the mercy of the present year's elements. We could avoid this by always endeavoring to carry a surplus of a good year over to the next. I made it a rule to have several tons of old hay on hand at the time the new crop was ready to cut. To save hay, I grew winter rye to be cut and fed green in May and June, oats and barley for June and July, corn for July, August and early September, millet for August and September, barley, and barley and rye mixed for green feeding in October and November, always aiming for a full supply under favorable conditions. Then whatever surplus there might be which was not needed for feeding green, was dried for winter feeding. I have depended much less on common English grasses for cow food than on the other crops named, chiefly because I could raise more good food per acre in these than in the common grasses. On some kinds of land, it might have been different. My land was not the best grass land—a little too dry—but would produce well under frequent cultivation and liberal manuring. Under my system of farming, the land became so rich and mellow that a fair crop could be expected without any manure; yet I made a practice of applying manure or fertilizer liberally for each and every crop, and I have sometimes grown three forage crops in a year on the same land—winter rye, cut in June, millet cut in August, and barley cut in October or November. I have had very good success sowing barley and rye together in August and early September. Barley sown in August, will head out while the rye thickens up at the bottom, and together, they will turn out a heavy crop suited to green feeding in November, or till the ground freezes. Then the rye will make a good crop the next spring.

I have given my method of providing against losses from droughts, but one should not expect too much from the first experiments in this direction. An old grass field that has been mowed a dozen years, and pastured every fall after haying, as is too often practiced, is not only low in fertility, but will show a hard, tough sod on being plowed in July, and if one be not very careful to retain the moisture, it will be so dried out by the time it is made ready for sowing, that the seed cannot sprout unless a good shower fall at just the right time. Barley is valuable for growing fodder in the last half of the year, but I have known seasons so dry that it was almost impossible to get the seed to germinate. But these risks must be taken, or an empty barn is a certainty.

Were I in doubt about having hay enough to carry me through, I would cut what there is on a good field to plow, and then begin turning it over, and seeding to some forage crop as fast as possible. I would prefer using fertilizer instead of manure, because it could be applied quicker. I would try to get the plowing, pulverizing, fertilizing and seeding pushed along so fast that the moisture already in the soil would sprout the seed. To do this on a large farm with plenty of teams and men, would be easy enough, as the cultivator and roller could keep but little behind the plow. I use a swivel plow, and work from one side always, so the seeding may be but a few hours behind the plow. With but one team to work with, I would plow a strip and then harrow, fertilize, seed and roll at once, or before the moisture was dried out. I would sow millet till about the middle of July, and then barley for another month. I have had but little experience with peas for fodder, but I know that they will, sometimes, do well sown for late feeding; but I should not expect much success in making them into hay late in the season. Perhaps they could be cured successfully in a silo, but of this I cannot speak from experience. A. W. CHEEVER.

Massachusetts.

Good Lessons Taught by Drought.

A much larger acreage of corn than usual has been planted, but so far, weather conditions have not been favorable, and growth has not been rapid. In some cases, seed has rotted, and in others, cutworms have done much damage. Although corn for ensilage or to be cured for fodder, is the most important substitute for hay, still there are other grains that may be sown late in the season with a fair prospect of a paying crop. In several instances, I have known peas to be sown late in June, after worms had eaten the corn previously planted. In one case, a neighbor harvested nearly 40 bushels of peas to the acre grown under such circumstances. On my farm, corn was drilled in on a four-acre field late in the season, and wireworms devoured most of it. A little before July 1, it was reseeded with Canada peas. The vines grew to the height of three or four feet, and were fairly well podded. The scattering corn held many of them up from the ground. They were cut while the vines were partly green and the peas not hardened, with the mowing machine, partly cured and put in the mow while the peas were still soft. This crop was a perfect success in yield and in feeding value. I would not hesitate to sow peas on land adapted to the crop at any time before July 1, to be cured and fed in place of hay and grain combined.

I have had fair success with millet and Hungarian grass sown late in the season, and used the same for soiling and for winter feed—but never with so good results as with peas. The cost of seed, however, is much less. Late-sown oats are likely to rust; I have tried to raise them as a second crop for fall feed, but would not repeat the experiment. I have not tried barley as a late crop, but think that would succeed, as it grows rapidly, and is not so liable to rust as oats. I would not sow any kind of grain later than July 1.

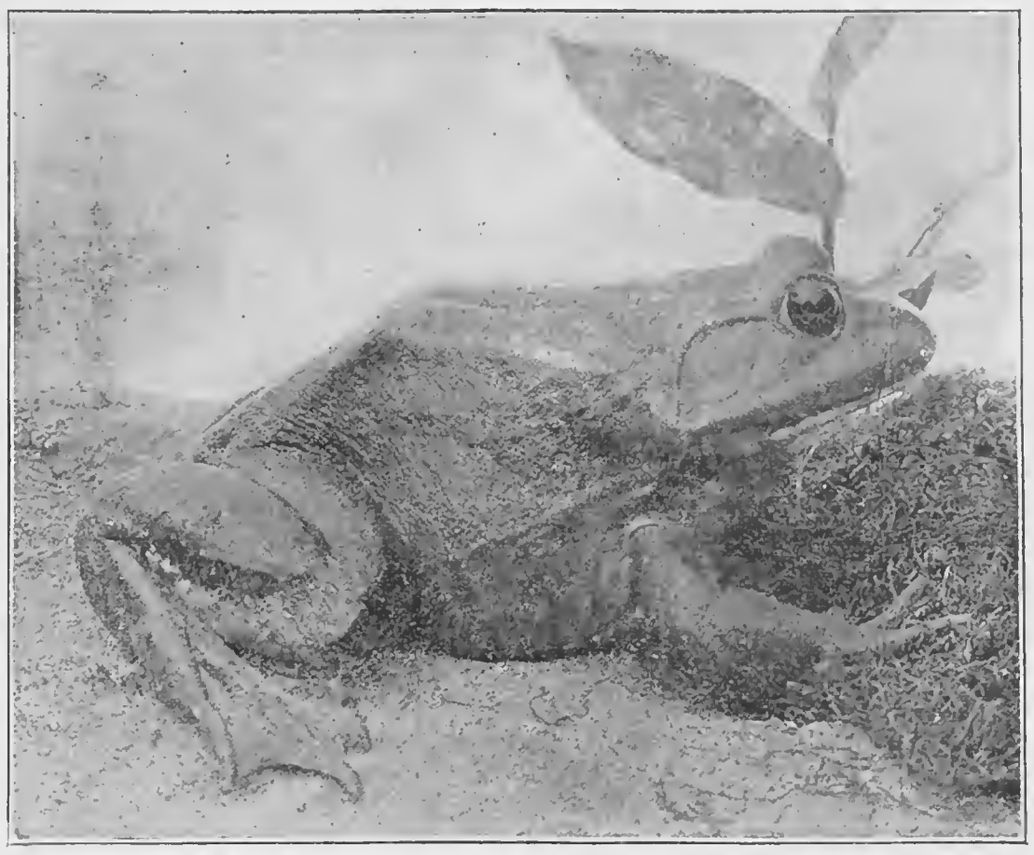
Oats, peas and barley, in this vicinity, now promise a good growth of straw. If the grain be cut before it is dead ripe, the straw will be of considerable value for wintering cattle and horses. My son wintered 15 one and two-year-old heifers last winter on straw, potatoes and bran; no hay was fed, and I never saw young stock do better, or go to pasture in better condition. The straw was from mixed grain, peas, oats and barley, and was eaten clean. The cattle were not out of the stable during the winter. We have generally used straw for bedding all farm stock, but last winter used sawdust and fed all the straw. As a result, some hay has been sold, and there is quite a large mow now in the barn. The price here now is $15 per ton. The best foundation for surplus hay is good corn land well manured, a good corn crop, and a first-class silo well filled. C. S. RICE.

Lewis County, N. Y.

THE BULLFROG; ITS USE IN THE WORLD.

The last issue of The Popular Science Monthly contains an interesting article on frogs by R. W. Shufeldt, M. D. Our picture, Fig. 145, is taken from the article. All farm boys know what the bullfrog is. They have heard him at night, bellowing in the neighboring swamp, and they have watched his wonderful leaps and dives as he hastened for safety into the nearest pond or stream. To some of our readers, the frog is a source of revenue, for his hind legs are considered a dainty dish by the epicures, who are often ready to pay $1 or more for a pair of them when nicely broiled and served. At the best city markets, you will be sure to find an array of frogs' legs offered for sale. These frogs are, for the most part, caught by hunters and fishermen in rivers and ponds, and sent to the city. The St. Lawrence River is a great breeding place for frogs, and a good many boys and men make their living hunting for them.

Half a dozen times during the year, we receive letters from people who ask why they cannot make a success of frog farming. Their argument is about as follows: 1. Frogs will grow and thrive in places where nothing else of value can be produced. They do not need any feeding. 2. They will breed so fast that no one can figure how many tons of legs may be produced from an acre. 3. They ought to sell at 50 cents a pair, at least, hence there is great profit in the business. The theory of this plan is perfect, but somehow, it does not seem to work out in practice. We have spent considerable time in hunting down reports of alleged "frog farms," but in every case, the only basis of the report was the fact that some one was catching a few frogs out of a swamp, and estimating what ought to be done if every frog would do its full duty in hatching eggs, and every tadpole would grow into a big frog. We do not believe that "frog farming" is practicable, chiefly for the reason that the large frogs eat up the smaller ones whenever they can catch them. It is a genuine case of the "survival of the fittest," and that never means a large population, though it may produce strong individuals.



THE COMMON BULLFROG. HALF NATURAL SIZE. FIG. 145.

But aside from all this, the bullfrog has a scientific value that has been put to considerable practical use. In its physical make-up, the frog presents some remarkable characteristics. Take the study of the circulation of the blood or processes of inflammation as seen under the microscope. There is no better medium for studying them than in the web of a frog's foot, and thousands of students everywhere owe to the bullfrog their practical knowledge of these important processes. What we know of the muscular and nervous systems, of the true action of various poisons, the more obscure actions of the heart, and of the cause of certain forms of paralysis, has mostly been learned from operations on frogs. In fact, this animal seems to have been especially designed by Nature as a living machine for demonstrating some of the most important truths of physiology. Thus the humble frog, with no dangerous faults, may be said to have contributed rather more than his share to the service of humanity.

It would take too long to describe the many curious physical traits of the frog. Put one into a tub of water, and watch it breathe and swim. It has no ribs, so that the chest cannot work as in the human. The air is literally pumped or swallowed into the lungs. Observe too, how the eye rolls up with little movement of the upper lid. Dr. Shufeldt says that a frog can be killed by tying him out in the hot sun, for the surface of the skin must be kept moist, or its functions will be destroyed. The frog has a sort of reservoir in which it holds water which it can excrete at will over the surface of the body. Another singular fact is that, at the lower end of the backbone, are two lymph hearts, which may be seen to beat or pulsate with considerable force. These hearts have nothing to do with the blood circulation, but pump the lymph into the veins. A student of natural history can spend many hours studying the frog.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Worms in Pigs; Catarrhal Fever in Steer.

F. M., Saint Clair, Mich.—1. I lost two pigs four weeks old. They began to get lame in the hind legs at first, and inside of 24 hours were dead. On opening their stomachs, I found worms about an inch long. They look much like cutworms. Another got lame in the same way, and I gave it one-half teaspoonful of turpentine in some water, and it is all right again. I gave the same remedy to one of the others, but it died. The sow was fed on sour milk, etc., with ground oats and shorts, and had the run of an old orchard. What causes the worms? What is the best remedy? 2. My neighbor had a yearling steer taken sick. For two days a yellow discharge came from his nose and eyes, and the eyes were swollen. His breath is short and quick. The third morning, the yellow discharge stopped. He froths some at the mouth. His horns both came off on taking hold of them. He is now broken out with pimples. The urine is sometimes as red as blood. What is the cause and remedy?

1. The worms result from the pigs taking in, either with their food or drinking water, the eggs or young embryos of the worms. The food or drinking water becomes contaminated through the droppings of the older, worm-infested hogs. The contamination can be largely avoided by cleanliness, and allowing only clean, fresh water for the young pigs to drink. Stagnant water is always favorable to the propagation and transmission of many intestinal worms, when present in the herd. Others are transmitted directly through the feces from pig to pig. Collect and remove the feces daily, and dust the pen or yard with dry, air-slaked quicklime. Have no mudholes or pools of stagnant water to which the pigs have access. The turpentine is as effective a vermicide as can be given; but it should be administered well shaken up in milk, oil or eggs, instead of water, with which it is not miscible. The dose of the oil of turpentine as a vermicide, should be about one teaspoonful for each 30 or 35 pounds of pig. It should be given as a drench, on an *empty stomach*, well shaken up in eight parts of milk or four parts of oil. The dose may be repeated once or twice at intervals of four or five days. 2. The steer, evidently, had a severe attack of catarrhal fever. Usually little treatment is necessary, beyond dry, comfortable quarters and a light, laxative diet. In the present case, a fresh sheep skin, or an application of ammonia liniment, over the loins, would be beneficial. If there is costiveness, give quart doses of raw linseed oil every other day until relieved.

Indigestion in a Cow.

R. B., Bourbon, Mo.—My cow began to fail in milk, looked stupid, and when raising her cud, would throw her head up and become weak. One evening, she gnawed the fence and slobbered. The next morning she was better, chewed her cud and ate her feed as usual. Last evening, she was weak and seemed stiff in the hind legs. We gave her lard, and this morning she is better, and feeds as usual again. She is six years old, and dropped her calf April 13.

Give the cow one quart raw linseed oil, and repeat every two or three days until the bowels move freely. Also give one large teaspoonful of powdered nux vomica in the feed night and morning. The diet should consist of grass and roots or other green food, with sloppy bran mashes. Boiled flaxseed may be added to advantage.

Skin Disease in a Cat.

W. M. B., Peace Dale, R. I.—I have a valuable cat, seven years old, a remarkable rat catcher. It is now covered with a kind of scurvy. Is there anything I can do to relieve it?

Wash with warm Castile soapsuds to break up and remove as much of the scurf as possible. Then sponge off with a one to two-per cent solution of creolin. Give one to two drops of Fowler's solution of arsenic on the food once daily.

Insects Found On Grapes.

E. B. C., Chase City, Va.—I send some insect eggs which I find deposited on some of my grape vines and trellis wire. Are they the eggs of a grape enemy or not? I also send a section of vine which seems to have been bored by some insect. I have cut into several vines, but I have never found the enemy. What is it, and the remedy, if any? I have a vineyard of 2,000 vines, and in pruning I found 100 or more vines more or less affected by this borer.

ANSWERED BY M. V. SLINGERLAND.

The eggs found on the grape vines, belong to two very different looking insects, yet both are members of the same order—the orthoptera, of which the grasshoppers are familiar representatives. One specimen consisted of a double row of large, oval, flat, brown, seed-like, overlapping eggs which were laid by one of the katydids. E. B. C. will, doubtless, recall the illustration of a katydid and her eggs so aptly entitled, "A katydid and what she did," in THE R. N.-Y. for February 2, 1895. It was, doubtless, the same kind of insect that laid the eggs sent in by E. B. C. The katydids feed upon foliage, but rarely occur in sufficient numbers to do noticeable damage.

The other eggs consisted of two long, thick masses, having no resemblance to eggs; but a critical examination would reveal many curious little embryos snugly packed away inside. The masses are the ootheca or egg-clusters of a strange and weird-appearing insect known as the Praying Mantes. They are large, long, slender insects found stretched out on a branch or leaf quietly awaiting their meal. "Certainly they are pious-looking fellows, with their front legs clasped together in front of their meek, alert faces, and it is no wonder that they are called Praying Mantes. But the only prayer that could ever enter the mind of a Mantes, would be that some unwary insect might come near enough for him to grab it with his hypocritical claws, and so get a meal. Devil-horses, rear-horses, and camel-crickets are other names applied to these insects, because of the long, slender prothorax which makes them look like tiny giraffes. They are also called mule-killers, from the absurd superstition that the dark-colored saliva they eject from their mouths (the 'grasshopper-molasses of our childhood days), is fatal to the mule. But they are absolutely harmless to man and beast. They are mostly tropical insects, and often have wings that resemble the leaves of trees. Our common species, Phasmomantis Carolina, is confined to the Southern States." (From Comstock's Manual for the Study of Insects). They are thus beneficial insects.

I do not know what insect it is that bores into the grape vines as indicated on the specimen sent. It looks like the beginning of the burrow of some small bark-beetle. It will be necessary to catch the insect at it, before one can say definitely just what is doing the mischief.

Insects That Work on Strawberries.

P. J. C., Red Cloud, Neb.—I send some worms and a sample of their work, as I find them in large quantities in my strawberry patch. What are they? I also send a strawberry partly eaten. I find them among the green berries as well as among the ripe, but have not been troubled nearly so much this year as I was last. What's to be done? How is kainit used most effectually in killing grubs?

ANS.—The specimens arrived in a badly crushed condition, so that I cannot diagnose the case with certainty. But the leaves showed the work of the common Strawberry Leaf-roller (Phoxopteris comptana), and one or two dead pupæ of this insect were found. The caterpillars of this insect, in some unexplained way, double the two halves of a strawberry leaf together, and live and feed within this fold. This method makes it impracticable to fight them with the poison sprays. In Illinois, where the insect is often very destructive, it is checked effectually by mowing over the field as soon as the crop is gathered, allowing the cut leaves to dry for a day or two, then spreading a thin scattering of straw over the bed and setting it afire. The eaten berry failed to arrive, so I cannot tell what ate it. We are not yet sure that kainit, used in practicable quantities, will kill grubs, so I cannot give any advice as to its use as an insecticide. M. V. S.

Peas and Oats in Ohio.

W. H. M., Canton, O.—Early this spring, I sowed some Canada field peas and oats, that are making quite a satisfactory growth on what I consider rather poor soil. I expect to cut them for feed during the fore part of July, then turn under the stubble, add some manure, and sow to corn, for fodder; cultivate the corn once or twice, and sow Crimson clover among the corn. Do you consider this a good plan to get the greatest amount of feed in a season? If so, will you tell how to cure the peas and oats, so as to make the best feed, and whether there is much danger of spoiling them in the curing? Is it advisable to follow with corn for fodder? What variety of corn shall I sow, and about how thick for the best results, so that I may have good fodder when cured? I had thought of using the Minnesota Early, believing that it would be likely to mature. Would you recommend some other variety? If so, what? Or would you recommend that I sow some other forage plant? If so, what? I wish to get Crimson clover on the same ground if possible. I have tried it the past two seasons, two bushels each year. I have never had anything like a good stand, but as it did grow—in spots—I purpose to try again. I attribute the lack of success to the fact that the condition of the soil was not what it should have been; neither has it been favorable in this neighborhood for the Red clover, so I do not purpose to condemn the new under conditions that have not given success with the old. Would you recommend sowing oats with the Crimson clover, or peas instead of oats? Would it be wise to sow turnips with Crimson clover?

ANS.—To cure oats and peas properly, so as to make the best feed, they should be cut before the leaves turn yellow on the peas, and the oats become woody. Cut early enough for the best feed; they are slow to cure, and need intelligent handling. I would not use the tedder unless very soon after mowing, but turn, if needed, by hand, and put into small cocks rather green, and after a day or so, open these to the sun and air again, and haul in as soon as dry. I do not think that the proposed plan of sowing fodder corn to be followed by Crimson clover, has a good chance of success. I have not seen much success with Crimson clover in this State when sown among corn. I would, rather, advise, if it is earnestly desired to get a good stand of Crimson clover, that it be sown alone as early as the land can be well prepared after the peas and oats are off. Be sure to firm the soil well with a heavy roller before sowing the seed, or after if it be dry. Should the land be so poor that there is reason for suspicion that that is the reason for the failure of the clover catch, I would suggest using, say, 300 pounds of good fertilizer to the acre, for I find it much easier to get a catch of clover where the land is fertile. I would sow nothing with the Crimson clover. It may seem strange to advise enriching the soil for growing a soil enricher; yet, consider, do we not give the hired man a substantial breakfast before we set him to digging potatoes? I have this year an illustration on this point: A very poor clay field was manured fairly well and planted to strawberries. One crop was taken off last year, a very poor one because of frost, and the land was then thoroughly cleaned out and a good, complete fertilizer applied at the rate of 900 pounds per acre. Without any seed being sown, the clovers—Red and White—have come in where that fertilizer was applied, so that they have made an excellent stand. My partner who manages the berries, does not think that he could see marked results in the crop of berries, but it is so difficult to say what might have been without the fertilizer. Perhaps it is more desired that the field return a large amount of forage this year, than that it get seeded to Crimson clover. In that case, there is nothing better to follow the oats and peas than corn. I have tried Stowell's Evergreen, with marked success for fodder corn, although it is difficult to cure for winter feeding. No doubt the Early Minnesota will do well. J. E. WING.

Canada and Cow Peas Compared.

E. H., Jerusalem Mills, Md.—Will M. H. Beckwith tell why the Canada pea is not so good as the cow pea, being as rich in nitrogen, and give an analysis of cow peas and Canada peas side by side? It would be a great satisfaction to me, and probably, to some others, as many of us can grow Canada peas with more success than cow peas.

ANS.—If E. H. desires the forage for use early in the season, then Canada peas will have to be used. They can be sown as early in the spring as the land can be put in suitable condition, and the forage will be ready for use early in June. The cow pea is a warm-weather plant, and must, necessarily, be sown when danger from frost is past, and, of course, the forage will not be ready for use until late in the season. The analysis as made by Prof. Penny, the chemist of this station, is as follows:

	Fat.	Muscle-makers.	Fat-formers.
Canada pea	0.76	3.83	3.86
Cow pea	0.79	3.49	14.06

From the above, there appears to be very little difference in the amount of musele-makers, while there is a great difference in fat-formers in favor of the cow pea. The Canada peas, when grown here, are sown with oats, and produce from six to eight tons of green fodder. As they can be grown as a second crop after Crimson clover, they make a very desirable crop to mix with corn when filling the silo. Much will, of course, depend upon the use to be made of the crops; but if grown for ensilage, I believe that the cow pea is a much more desirable crop. M. H. BECKWITH.

Delaware Experiment Station.

How to Build a Mushroom House.

J. R. C., Abingdon, Ill.—What is meant by a mushroom house? How is it built, and what is the cost?

ANSWERED BY W. VAN FLEET.

A mushroom house is, of course, a structure especially adapted for the culture of edible mushrooms. Though the growing of mushrooms has rapidly increased during the past five years, very few houses have yet been built for that sole purpose in this country, the supply still coming largely from beds formed under the benches of greenhouses, in cellars and outbuildings, or other odd corners. As the mushroom grows best in darkness, the essential conditions of culture being a friable soil full of fermenting vegetable matter, moderate moisture and a steady temperature between 50 and 65 degrees—it is apparent that an excavation in the soil of the proper form and size, covered with a tight roof, will best meet the requirements. Probably the least expensive form of mushroom house is modeled after the ordinary "even-span" greenhouse, substituting a board and paper, or shingle, roof in place of glass or sash. If the house is 10 feet wide inside the walls, it will accommodate two ranges of beds of the convenient width of four feet, leaving a passage of two feet wide between; or it may be made 18 feet in width, giving the two four-foot beds at the side an additional passage, and a center range six feet wide.

The mode of construction is as follows: On a well-drained site, dig out to the depth of three or four feet, an excavation of the required width and length, keeping the soil near at hand to bank up the structure to the eaves when completed. For the 10-foot house, use posts nine feet long of locust, cedar or chestnut, and set them at least 2½ feet deep in the bottom of the excavation, placing them about six feet apart along the sides. Along the tops, which should

be leveled off, a plate of 3 x 4-inch scantling is firmly spiked. The rafters are nailed to this plate, and should be cut about six feet long, which will bring the ridge in the middle something over three feet higher than the plate, thus securing ample pitch to the roof. Rafters should not be over four feet apart, and may be conveniently cut from 2 x 4-inch stuff. The roof may be covered with any material that will keep out water and cold. At intervals of 30 feet, it is well to insert a hotbed sash, to admit sufficient light for getting about, though the mushrooms will develop as well in total darkness. The sashes should be hinged or fitted to slide down for the purpose of ventilation when needed. From the surface of the ground to the eaves, outside, the building is best covered with two thicknesses of rough boards nailed to the posts, and then banked to the eaves with earth. A tight door at one end completes the building, after the opposite gable has been closed in and banked up.

A house of this height will accommodate three tiers of beds on a side; the lowest on the ground, the others above, like berths on a ship. The usual depth of mushroom compost is eight inches, on which are placed two inches of loam after the beds are spawned. This will give an available space of over 20 inches between the top of the bed when made up and the bottom of the next, if the benches are placed 30 inches apart. This will give sufficient room for making up beds and gathering the product. The benches are built in the usual manner of commercial greenhouse benches, of cheap 3 x 4-inch scantling, the bottoms being of inch boards, six inches wide, with a 10-inch board nailed in front. As the weight of a 10-inch layer of loam and manure compost is considerable, 4 x 4-inch uprights should be placed at four-foot intervals for the support of the double tier of beds.

While many elaborate plans, all more or less costly, of mushroom houses, both in frame and mason work, are offered in the treatises on the culture of this desirable esculent, it is doubtful if any are more practically adapted for the purpose than the cheap and simple structure above described. If well built, it ought to last eight or ten years, with but slight repairs, and need not cost more than $1 per running foot, if built in 50 or 100-foot lengths.

To grow mushrooms practically, it is necessary to maintain an average temperature of about 55 degrees. To maintain this during cold weather, when mushrooms are most appreciated, some heating system will be needed; nothing is better than hot water for this purpose. From four to six runs of two-inch pipe, according to the rapidity of circulation, will be needed. The cost of a heating plant will very much exceed that of the mushroom house itself.

How to Build a Potato Cellar.

C. E. B., Cambria, Mich.—I wish to make a potato cellar that will hold 3,000 bushels, and would like it frost-proof. My plan is to dig a cellar 14x50 feet, and about three feet deep; set posts to project about four feet above the surface of the ground. Board up on each side of the posts, and pack straw between, and then bank up with earth. How can I make a cheap roof that will answer the purpose? How shall I make the ventilators, doors, windows, etc.?

ANSWERED BY F. H. KING, WISCONSIN EX. STATION.

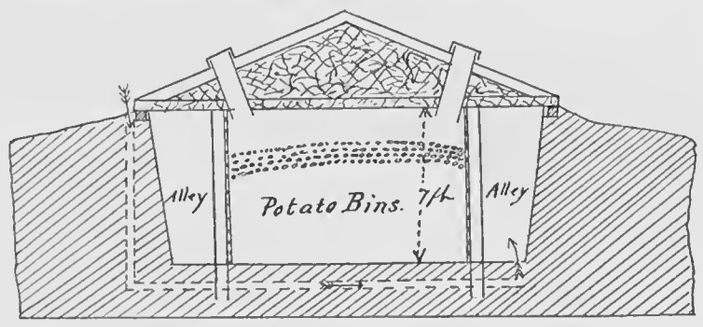
Let me state briefly, for the benefit of the many readers interested in potato culture, some of the essential features of rooms in which potatoes are to be stored for the winter: First, the room should be dark, dry, and so made that the winter temperature may be held between 32 and 40 degrees F. Second, it should be sufficiently ventilated, and so arranged that the potatoes may be inspected during the winter. Third, the potatoes should be in bins not in contact with the outside walls of the building. Fourth, the bins should be easily filled and readily emptied. These conditions may be secured in a variety of ways, either by separate cellars or buildings, or by basements or cellars under tool houses or granaries, or in connection with basement barns.

The plan which C. E. B. has in mind, suggests that he wishes to build cheaply as a matter of first cost, rather than permanently, and I will describe how the above conditions may be approximately realized in both a cheap, temporary outdoor cellar, and in one whose first cost will be more, but which would be permanent.

A TEMPORARY CELLAR.—The outdoor cellar may best be built on a side-hill or slope, and where the soil is of such a character as to stand alone, the cellar may be built without walls, as represented in Fig. 146. In this case, a pit is dug in the ground, having the proper depth and dimensions. In this pit, potato bins are constructed by setting posts in the ground far enough from the walls to leave an alley not less than two feet wide between the bins and the earth walls. The object of the alley is to keep the potatoes away from the damp, cold walls, to make easy access to the potatoes at any time, and to secure the necessary ventilation. The posts should be set close enough so that two-inch battens may be used for the sides of the bins, placing them so as to leave an opening between each two three-fourths inch wide. This open wall structure facilitates the needed ventilation, and lessens the amount of lumber used.

The roof of the cellar may be made as shown in Fig. 146, with a loose or tight ceiling, and with the space between the posts and roof filled with cut straw or cut corn stalks. The two chutes shown are used to introduce the potatoes into the bins, and one or more of them may be used for ventilators when needed. If a still cheaper roof is desired than the one shown, then it will be practicable to cover with straw or hay.

In order that the damp air produced by the heating and sweating of the potatoes may be quickly removed, it is necessary that fresh air may enter to take the place of that which it is desired to remove, and provision is made for this through one or more ducts made of six-inch drain tile extending, as shown in Fig. 146, from the surface at one corner down to and below the level of the cellar bottom, coming up at or near an adjacent corner. The object of carrying the air in in this way, is to warm the outside air by coming in contact with the ground below frost level, before it is allowed to enter the cellar. If the doorway to the



A POTATO CELLAR WITHOUT STONE WALLS. FIG. 146.

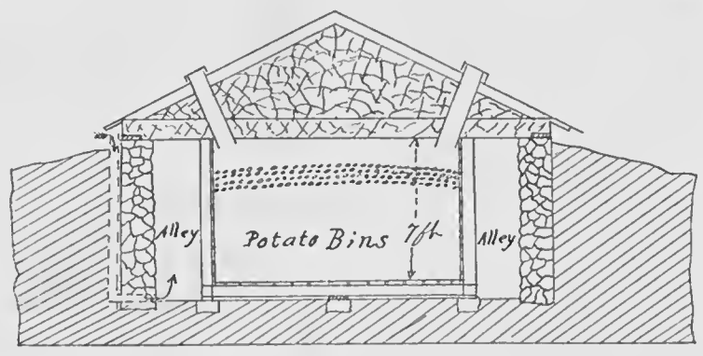
cellar is on a level with the cellar bottom, the cellar should be set back far enough into the hill so that a narrow hallway not less than four feet long, and more than three to four feet wide, leads to the cellar and is closed by two doors.

CELLAR WITH STONE WALLS.—If a better and more permanent cellar is desired, the same general plan may be followed, but using stone in the walls as shown in Fig. 147. In this case, the potato bins are represented as having a slat bottom, and the potatoes are thus raised entirely off from the ground in such a way that the air may easily rise through the whole bin, and keep the potatoes dry. The filling chutes may be closed in winter, except one or two needed for ventilation, by filling them with straw or other suitable packing. It will readily be seen that the fundamental plan of construction may be altered in detail in many ways to suit local and individual needs and conditions.

Why the Fertilizers Failed.

W. E. T., Evergreen, Ala.—About March 1, or about the time the first blooms appeared, I barred off a few rows of my strawberries, and sowed cotton-seed meal at the rate of about 600 pounds per acre; in a few other rows, blood and bone guano, and in a few others, I sowed on top of the plants, nitrate of soda at the rate of about 400 pounds per acre. The result was that all the plants thus treated soon began to turn a dark green, and began to grow very rapidly, so that one would notice the difference at quite a distance. Now the plants are much larger and more thrifty than those not treated; the weeds and grass in those rows are much larger and darker than elsewhere. But I have not been able to see any difference in the fruit. The berries on those rows were no larger, and there seemed to be no more of them, than where no fertilizer was applied. Why did not the fertilizers increase the growth of the berries as well as the leaves?

ANS.—This experiment brings out very clearly the



A POTATO CELLAR WITH STONE WALLS. FIG. 147.

fundamental principle of feeding plants. There are three elements of fertility that are called essential—that is, absolutely necessary to plant growth. These elements are called nitrogen, phosphoric acid and potash. The nitrogen stimulates the growth of tree or vine, phosphoric acid favors the formation of the seed or the frame of fruit or grain, while the potash largely determines the color, shape and size of the fruit. The cotton-seed meal contained nitrogen and small quantities each of potash and phosphoric acid; the blood and bone guano contained nitrogen and phosphoric acid, but no potash, and the nitrate of soda provided nitrogen only. Of the different rows that were fertilized, we feel sure that those which received the cotton-seed meal were the best, as they were the only ones that received both potash and phosphoric acid. As a whole, the results were just what one might expect from the use of fertilizers very strong in nitrogen, viz.: a heavy, rank growth of vine, but a poor formation of fruit. On land of only average fertility, you cannot expect to obtain extra fruit by the use of nitrogen alone. If you had mixed the cotton-seed meal, the blood and bone, and added enough cotton-hull ashes or muriate of potash to give eight per cent or more of potash, you would have had a fertilizer that would have surely increased the crop. A man cannot do good work unless he is supplied with abundance of food, water and fresh air; and no two of these things can possibly take the place of all three. Give a man all he wants to eat and drink, but keep him shut in a close, ill-smelling place, and he cannot do good work. Put him on the great plains with thousands of acres for breathing space, and all the food he can carry, and he will die of thirst. So it is with a plant. It must have abundant supplies of nitrogen, potash and phosphoric acid, or it will not thrive. That fact is the basis of the science of plant-feeding. After that, comes the art of making proper combinations of plant food, and knowing how different manurial substances act in the soil.

Estimating Butter by Babcock Test.

T. C. J., Watertown, Wis.—If the yield of butter is determined by adding one-sixth to the test, should creamerymen give, on an average, the same yield to the patrons? If not, why not? All machinery is supposed to be of the latest improved.

ANS.—The amount of fat required to make a pound of butter, depends upon the amount of water, curd, etc., contained in the butter, and also upon the amount of fat lost during the process of manufacture. In determining a constant for estimating the yield of butter from the amount of fat secreted by the cow, the latter element was ignored, because it was considered that the cow should not be charged with lack of skill in the buttermaker, or losses due to imperfect machinery. The results of the dairy test at the World's Columbian Exposition, showed between 85 and 86 per cent of fat in the butter. If, then, one-sixth be added to the amount of fat secreted, it will require the butter to contain 85.7 per cent (nearly) of fat, and this factor was, therefore, adopted at the last convention of the Association of American Agricultural Colleges and Experiment Stations, because of its convenience, and its very close approximation to average results already determined. In factory work, it will be found that this factor is slightly too large, because of the losses of fat already alluded to. The addition of one-sixth to the fat is equivalent to an "over run" of 16⅔ per cent, or a yield of 116⅔ pounds of butter from 100 pounds of fat. Factories that are well managed, should show an over-run of 12 or 15 per cent. Occasionally, with very careful management, and where the butter is made to carry all the water possible, 16⅔ per cent may be reached or even exceeded. If a less per cent is reported, there is some unnecessary loss of fat in some part of the process of manufacture. H. H. WING.

Duck Notes from a Western Farm.

G. A. D. B., Hartford, Wis.—I have read with much interest, "A Western Duck Farm," page 394. What breed of ducks has Mr. Moss? What make of incubator does he use? How does he regulate the heat in different parts of the machine? What kind of fencing does he use, if any, both for young and old ducks?

ANS.—I breed the Mammoth Pekin ducks. I have crossed two of the best strains in existence, and the result has exceeded my expectations. It seems to have imparted more vigor, and to have developed the desirable qualities requisite in birds whose final destination is the table—breadth and depth of breast, with the ability to consume and assimilate large quantities of food. My theory is that the more food I can get them to consume and assimilate over and above what is requisite to sustain life, the more profitable they become. They should weigh 10 pounds per pair when nine weeks old; I have some that exceed this.

I use the Reliable incubator. I use six machines with a capacity of 1,500 eggs. My experience with it has been very unfavorable, and it has ruined a number of hundreds of eggs for me. I soon discovered, by placing four thermometers in each tray, that while one read 103, the others read from 101 to 106, the end nearest the lamp being the hottest. As the makers insisted that this could not be possible, and could offer no suggestion to overcome it, I undertook the experiment, and it has resulted in an even temperature in all parts of the egg chamber. I removed the water pan which is suspended over the eggs at the lamp end, and put a shelf of one-half inch boards between the eggs and the heat pipes; this breaks the direct heat, and carries it to the opposite end before it descends. I also reverse the tray every time I turn the eggs; this helps to overcome any slight variation. Perhaps nine-tenths of the buyers and users of incubators place one thermometer—the one that comes with each machine—in it, regulate their heat by it, and when the hatch fails, they are unable to account for it. Several machines are made that do absolutely good work, so far as even temperature in all parts of the egg chamber is concerned, and if supplied with fresh, fertile eggs, and the proper amount of moisture, will hatch 85 or even 95 per cent.

For fencing, I use 18-inch No. 19 galvanized wire netting, two-inch mesh for old ducks, and those over four weeks old in the brooder house, and one-inch mesh around the pens of ducklings under four weeks old. Drive 1x2-inch stakes about 10 feet apart, and fasten with staples. Don't use No. 20 wire, as it will not hold its shape or position. H. E. MOSS.

Crimson Clover in West Florida.

C. K. M., DEFUNIAK SPRINGS, FLA.—I firmly believe that Crimson clover belongs more to the South than it does to the North, as winter before last was a very trying winter on it here. We had three hard freezes, and the mereury, on eaeh occasion, got down to 16 above zero, and it took my Crimson clover patch all its time to pull through that. I don't think that it ean be suecessfully grown where the temperature gets down to zero weather. But it is a very good thing to have wherever it will succeed, as it is the first green feed we get in the early spring.

It is an extraordinary plant to stool, and if even the least little bit of it is left alive, it is astonishing what an appearance it makes at the time of blooming. I consider a patch of Crimson clover in full bloom (early in April here) one of the most beautiful sights one can desire to see. It can be grazed until one would think that it is entirely eaten up, roots and all. It can be eut two or three times in succession, and it will still come up all smiles and blossoms, a thing of beauty. We must sow the seed in this latitude in September, later won't do. Generally at ripening time (May), it is very dry weather, so I never save any of my own seed, as Tennessee or Virginia seed does best in Florida. On our sandy soils, it has to be fertilized a little; potash and phosphoric aeid are what it needs, particularly potash. But I find that a little money invested in commercial fertilizers, generally pays good interest on the investment.

Stub Roots on Trees.

R. C, HUSTONVILLE, KY.—In THE R. N.-Y. of June 13, H. R., Fairmount, Ky., says, "Trees cut back as shown, planted in stiff clay soil, with no rain for six weeks after planting, would no more grow than pea sticks." We have apple, peach and plum trees planted this spring, with the roots cut to ½-inch stubs as advised by Mr. Stringfellow, planted at the same place and time as other trees with roots left on. The short roots are making as good a growth as, if not a better than, the long ones. Some of them are set in nursery rows; we shall dig them this fall, and can then tell just what they are doing. We did not have a rain to lay the dust for six weeks after planting. Some of them are in heavy, clay soil. Most of our soil is sandy loam upland, known to Kentuckians, as knob soil. If H. R. will plant a few trees with roots trimmed short beside others planted in the usual way, and give the same treatment, he will find them O. K.

More About White Grubs.

M. M, MEDWAY, MASS.—I have been mueh interested in the White Grub subject. In 1895, I set strawberries on sod, using fertilizer only. I knew the danger, took the risk, and had a hard fight, in which both the grubs and I got whipped. The grubs were about five-eighths inch long when I set the plants in spring; last fall, they appeared to be full grown, and I supposed that they would end their destructive work then, and appear as June bugs this spring. I have not found any June bugs, however, up to the present time, (June 22), but the grubs are still at work, and, apparently, cannot mature before the spring of 1897. The eggs must have been laid in 1894, so it would appear that the insect requires three full years to mature. Is this correct?

The supposition that the White Grubs of the June bug are carried to the fields in manure, is not eorrect, I think. The white grub, or dung worm, in manure, is different in appearance and habit. The dung worms are usually found several together, especially in their younger state, as though the eggs were laid in bunches, and direetly in their food supply. The mischievous White Grub of the June bug, is usually found singly. The dung worms are somewhat different in eolor and shape, and much less active. I send samples of the two kinds of grubs. My observations lead me to suppose that the dung worms mature in less time than the grubs of the June bug.

Keeping Potatoes.

C. S. H., WEEPING WATER, NEB.—Many potatoes are kept over in the Rocky Mountains. At one time, in August, I remember eating some fine ones which were grown in the high altitudes—about 8,500 feet above the sea level. I congratulated my host on his fine, new potatoes; said he, "These are old ones." I asked, "How do you keep them?" He said, "We pack them in a cave in dry, rotten granite." In those high altitudes, it is always cool, and I was informed that there was no trouble whatever to suspend vegetation in a potato for a year. It is simply a question of cold storage. With a suitable building, there would be no trouble whatever in keeping them for a year. But they should be kept dry and cold from the start. There should be no such thing as old, shriveled, sprouted potatoes. They should be kept new and fresh all the time. Every farmer can so construct his storage as to keep them in the best possible condition.

Japan Plums and Walnuts.

H., NICHOLS, CONN.—The Lincoln plum bears here only with the highest cultivation, then sometimes freely. The shape and size are similar to Bradshaw, color a dull red, freestone usually with a cavity next the pit. It is rather dry, of insipid flavor, not eommonly much injured by curculio, and not worth cultivation here. The Japan walnuts, both Sieboldi and Cordiform, are entirely hardy here, in southern Conneeticut. In a hedge row of about 25 Citrus trifoliata, set four or five years ago, all but four or five are growing, never having died back seriously.

Hot Water for Ants.

F. C. C., BATH, ME.—Referring to the query of H. M. S., page 417, as to what he can use to exterminate ants, I would suggest that, if the nests are not too deep or extensive, boiling hot water is instantly effeetive. Arrangements could be made to heat the water near the nests, and if it be at the boiling point when poured into the nest, he will be satisfied with the results. If he try it, let him report through THE R. N.-Y.

Killing Horns with Potash.

PROF. C. S. PLUMB, INDIANA EXPERIMENT STATION.—The use of caustic potash will be entirely satisfactory if a thorough application be made. It will be necessary to moisten about the embryo horn, and then rub the point of the potash stiek on it well. One should watch the head and make a second or third application if necessary. In the experience of W. H. R., page 411, it is possible that his potash was exposed to the air, and so lost its strength. It should be in a bottle tightly corked, and kept entirely from the atmosphere, except when in use, otherwise it will lose its strength. The amount of water in caustic potash as furnished by the ehemical supply houses, varies from 40 to 60 per eent. Notwithstanding this faet, I do not think that this would make any special difference in the success of destroying the embryo horn. I have found no difficulty, whatever, in killing the horns where the application was made with care.

Why Do Trees Split?

PROF. J. L. BUDD, IOWA EX. STATION.—The splitting of the bark, and sometimes the wood, of fruit trees, so far as I have had experience, is caused by the absorption of moisture in a moist time when the eireulation is feeble. With us, the hardiest known apple trees in nursery, often split in autumn, when the growth is checked by frost, and we have several moist days. Near the wet earth, the cambium layer is loaded with water by absorption, which swells the protoplasm to sueh an extent as to burst the inelastie bark. The eracking of eherries and other fruits is on the same principle. Often we have had heeled-in trees burst the bark at the points on the limbs just above their contact with the earth, late in spring, when we had moist weather

Winter Vetch in Michigan.

F. P., MUSKEGON, MICH.—In THE R. N.-Y. of June 13, S. D. asked about the winter vetch. In the spring of 1895, I bought some seed of what was ealled Sand, Winter or Hairy veteh (Vicia villosa). It was planted in good ground, came up all right, and although we had very dry weather, some of the vines made a growth of five feet by fall. I saved some seed, and sowed it in September with rye. This made some growth in the fall, and came through the winter all right. The vines at this date (June 14), average four to five feet in height, and are in full bloom. The plants from the sowing of a year ago, are yet alive this spring, and in full bloom, too. About the middle of May, I eut off some of the vines from last fall's sowing, which were then two feet high. They have made a second growth, and are going to bloom. It makes good fodder, and is liked by all kinds of stock.

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Office: Cor. William St. and Exchange Place, New York City.
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produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

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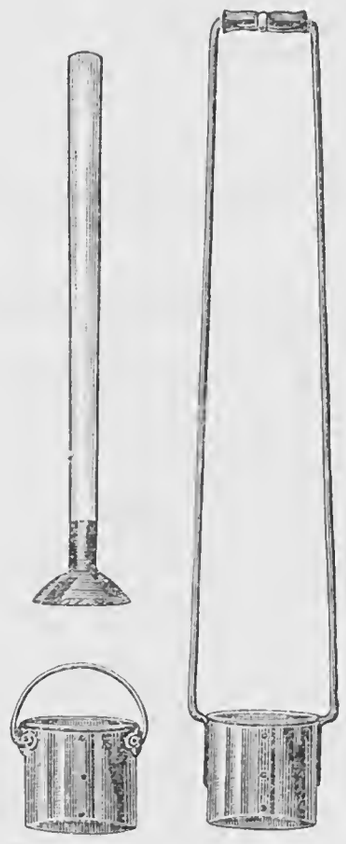
I. P. THOMAS & SON CO., Philadelphia.

THE NEW YORK FARMER pleases us with what we consider a just tribute to the first Rosa rugosa hybrid rose of which there is printed record. Georges Bruant followed it a year or more later. The editor of The Farmer, well known for his horticultural writings, says: "We are more than pleased with the Agnes Emily Carman rose now that we have it in full bloom. The rose is exquisite in color, and when the sunlight is on it, assumes a rich, velvety appearance that is excelled by no other. It is a marvelous bloomer. A bush set out in the spring of 1895, has now at least 100 buds and blossoms on it, and its foliage is as handsome as can be."

We can assure Editor Fowler that, as well as he may regard the rose now, another and still another season will further raise it in his estimation. Its peculiarity, as we have several times said to our readers, is that it does not show just what it is until the third year after transplantation. It will then have proved that there is no other rose with more charming foliage; that there are few others more prolific of bloom and, in so far as three years *can* prove it, there is no hardier rose.....

WE have been trying Richards's transplanting implements—see Fig. 148—which were sent to us for that purpose



RICHARDS'S TRANSPLANTERS. FIG. 148.

last spring. There are three devices. We may describe the transplanter as a little, sheet iron, galvanized pail without bottom and with a strong, galvanized iron handle. The pail is about four inches in diameter, and the same in depth. This is for removing plants, as we shall describe presently. The excavator consists of a bottomless pail of the same size, with an upright rod of iron 26 inches high on either side, and a wooden handle. The ejector consists of a concave disk of galvanized iron, with an opening to admit the stems of the plant to be removed.

The excavator is pressed into the soil by the foot up to the rim, and at once pulled out by the handle filled with soil, leaving a clean hole of the size of the excavator. We now place the transplanter over the plant to be transplanted, and press it down to its rim as with the excavator. It is now pulled out by the handle, and we have the soil, roots and plant complete as if they were in a flower pot. We now place the transplanter with its soil and plant into the hole made by the excavator. The disk of the ejector is now placed over the plant to hold it firmly in the hole, and the transplanter is pulled out by the iron handle.

In this way, we have transplanted fully-grown strawberry plants with so little disturbance to the roots that, after wilting for a time in the sun, the plants would fully recover. This without watering them. Melon and cucumber vines, beans, seedling fruits or small ornamental plants of any kind, may be transplanted in the same way in midsummer. It would seem to the writer, however, that these implements could not be advantageously used in a stony or even gravelly soil.

GOOSEBERRIES FROM SEED—CROSS-BREEDS.—Four summers ago, we crossed the flowers of the Carman and Dougal No. 2. The seeds were sown in flats during the fall, and the boxes were sunk to their rims in garden soil, and covered first with wire netting, to prevent injury from animals, and, second, with a mulch of straw to prevent heaving of the soil from alternate freezing and thawing. The flats (boxes three inches high and of any size as to length and width) were placed in the conservatory during February. As soon as the little plants had grown to the size of two inches or so in height, they were transplanted to three-inch pots, where they continued to grow until late May, when they were thumped out and planted where they are at this time. There are about 50, varying as much in habit, size, leaf, thorns, color of leaves, etc., as any varieties now in cultivation differ. We selected the Carman as one parent, because, all things considered, it is the best variety we have tried. The berries are as large as the average of foreign gooseberries, the plant is exceedingly productive (too much so, indeed), the berries ripen early, 10 days before the excellent Columbus, and neither bush nor berry has ever mildewed. We selected the Dougal No. 2 because of its upright tree habit; because of its few and small thorns, and, finally, because of the excellent quality of the fruit. Well, about 10 of the bushes are fruiting, but it is too early as yet (June 16) to judge either of the size or quality.

We choose this time to write about raising gooseberries from seed, because we would like to induce our friends to save and plant the seeds of the largest and best berries accessible to them. There is, as shown, no trouble about it, and one may just as well raise his own varieties at a trifling expense, with a chance—remote, it is true—of producing superior kinds, as to pay nurserymen from 10 to 50 cents per plant for the varieties, old or new, now offered for sale.....

SEVENTEEN or eighteen years ago, Dr. W. J. Beal of the Michigan Agricultural College, sent us about 20 ears of corn. We were, at that time, interested to know whether (positively) various roots of sweet and field corn would so mix the *first* season as to show the mixture in the kernel. For this purpose, 60 different varieties were planted in one field, each kind being true to name in so far as could be judged by the appearance of the kernels. The result was that many ears showed the effects of crossing. The ears sent by Dr. Beal were a curious lot. One ear was a mixture of variegated and pure yellow field corn. Another was a mixture of yellow and dark purple field corn. Another was a mixture of black and white sweet corn. Another a mixture of white, light purple and dark purple pop corn. Other ears were mixtures of field and sweet corn of various colors, and so on. A few days ago—we shall give the particulars later—a few kernels of each of the 20 ears were planted in the garden. Will they sprout and live? Our friends would oblige us if they would tell us how old they have *known* sweet or field corn, or both, to be and germinate.....

WE may now again allude to the new privet Ibota (Ligustrum Ibota). The bush, which is about four feet high and as many through, stood the winter without harm. The so-called California privet (L. ovalifolium) is always more or less cut back. It rarely blooms at the Rural Grounds because the bud-bearing wood is generally killed during the winter. The bush is now half white with its hundreds upon hundreds of close racemes which average a couple of inches long, each having about 50 little tubular white flowers shaped like those of a lilac. Bees are very fond of these flowers.....

ONE dozen seedlings of the Paragon chestnut, three years old and averaging five feet high, stood the past winter without harm, though most of them were injured by the tornado. Ridgeley, planted in 1894, was severely injured. Superb (Japan) from William Parry in 1894, was killed The stems of Alpha, (Japan) were killed back a few inches. Our old trees of the Paragon were not hurt.....

Miscellaneous Advertising.

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The New York Journal recently offered ten bicycles to the ten winners in a guessing contest, leaving the choice of machine to each.

ALL OF THEM CHOSE

Columbia Bicycles

Standard of the World.

Nine immediately, and one after he had looked at others. And the Journal bought ten Columbias. Paid $100 each for them, too. On even terms a Columbia is chosen

10 TIMES OUT OF 10

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PLEASE ask your Dealer for

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Hay Carriers, Forks, &c. The Largest Pump and Hay Tool Works in the U. S. Catalog free.

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Steel Posts, Steel Rails and Steel Gates; Steel Tree, Flower and Tomato Guards; Cabled Field and Hog Fence, 24 to 58 in. high; Poultry, Garden and Rabbit Fence; Steel Wire Fence Board, etc. Catalogue free.

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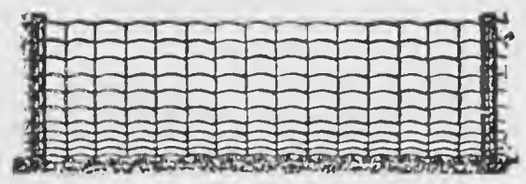

The Ten Year Test

This is attracting considerable attention among fence buyers. They realize that **all** wire fences are nice when first put up, but that very few are presentable after two or three years. After ten years service there is but one able to answer roll call—

The Page Woven Wire Fence, made at Adrian, Mich.

ADAM THE FENCE MAN

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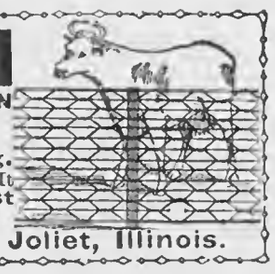

Get his 1896 catalogue. It tells all about The Best Farm Fence Made.

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Extra tubes furnished for orchard work, with each machine.

It will pay any farmer having one acre of potatoes or tomatoes in one season's use.

Twenty-four-page circular free.

Use LEGGETT'S FUNGIROID, a dry powder. Prevents blight. In one-pound boxes. Directions on each package. Ask for Leggett & Brother's Pure Paris-green.

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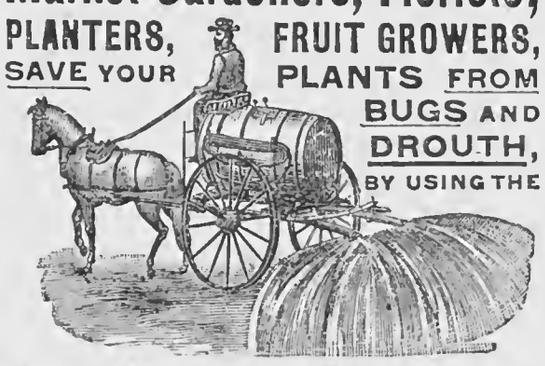
Market Gardeners, Florists, PLANTERS, SAVE YOUR FRUIT GROWERS, PLANTS FROM BUGS AND DROUTH, BY USING THE



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One Horse Farm, Garden, Flower-Bed & Lawn SPRAYER. (Capacity 150 gal., 4 in. tires). Most practical device for the DISTRIBUTION OF LIQUID MANURE, PARIS GREEN OR OTHER LIQUID MATTER, ON POTATO VINES, YOUNG TREES, ETC. FOR WATERING CELERY PLANTS. Can be readily adjusted to apply the stream directly on one or two rows at a time. Will not clog; Easy to operate. Flow of water regulated from driver's seat. SPRAYER PUMP hose and nozzle for spraying fruit trees, vines and shrubbery furnished at extra cost. Write, mentioning this paper, for illustrated catalogue and price to STUDEBAKER BROS. MFG. CO., South Bend, Indiana. (THE LARGEST VEHICLE MAKERS IN THE WORLD.)

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15 Years on the Market. Improved for 1896.

SPREADS any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. **Largest and oldest manufacturers of manure spreaders in the world.**

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The farmers' friend and producer of large crops. Every farmer should use it this fall if he wishes a large crop. If your storekeeper does not keep it you can write us direct. We want agents—probably we can make you one.

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The Rural New-Yorker.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, JULY 4, 1896.

SEE what the drought and low-priced potatoes taught on C. S. Rice's farm. Formerly straw was used for bedding. Last winter, it was fed and cheaper sawdust was used to bed the stock. Straw, potatoes and bran kept the yearlings in fine condition, and enabled the farmer to sell hay at a good price. That is the true science of business farming—utilizing cheaper products to create a salable surplus of higher-priced ones.

⊙

THE AMERICAN AGRICULTURIST for June 27 contains a picture of a Colorado haying scene which is redrawn from a picture originally printed in THE R. N.-Y. for July 21, 1894. It is too bad that our contemporary should go to the trouble and expense of having this drawing reëngraved, for we would willingly have loaned it the original engraving—asking in return nothing but fair credit!

⊙

IN THE R. N.-Y. for May 23, Prof. Thomas Shaw told us how, by rotation of crops, and sowing a variety of forage plants for pasture, he was able to obtain 550 pounds of lamb from one acre—besides the gain made by the old sheep. This was done by sowing quarter-acre plots to rye, rape, oats and peas, or sorghum, putting up a portable fence, and turning in the sheep to eat down the plants. At the Rhode Island Station, Mr. Samuel Cushman has pursued much the same plan in feeding geese. Geese are just as much graziers as is the lamb or calf, and this close feeding seems to suit them admirably. We shall have more to say about this experiment later. It may pay you to read Prof. Shaw's article over again, and see if you cannot, even now, make use of this method for pasturing hogs or sheep.

⊙

WE might carry the idea suggested on our first page a little further and say that, even in these hard times, a well-managed farm affords the best opportunity for a person of limited means to provide a comfortable home for a family. It is very evident that Mrs. Nelson could not, with her limited cash capital, have invested in any town business that would have supported the family. Even if she and the older children had taken up such work as they could find, it is doubtful if their combined wages would have enabled them to keep the little "nest egg" intact. Yet we can see how the farm has enabled Mrs. Nelson to hold her family together, give them an education and good home influences, and, also, add to the value of her property. Certainly, there is a strong argument for the farm home in this.

⊙

THE Connecticut Experiment Station publishes a valuable summary of the fertilizer trade for the spring months of 1896 Farmers who buy the raw materials and mix them in suitable combinations, are always interested in the price of nitrogen, for that is the most expensive element. Dr. Jenkins has made a careful comparison of the cost and analyses of different trade substances, and gives the following as the average retail cost per pound of nitrogen:

	COST PER POUND.		
Nitrate of soda	14.2c	Unhulled cotton-seed meal	15.5c
Sulphate of ammonia	16.2c	Linseed meal	12.9c
Prime hulled cotton-seed meal	12.7c	Castor pomace	17 0c
		Dry fish	14 5c

In some cases, nitrate of soda has been bought so low that the cost was little over 12½ cents, while cotton-seed meal, in one case, gave nitrogen costing only 11 1-5 cents per pound. The station experiments have shown that the nitrogen in cotton seed meal and linseed meal is fully as available as that in dried blood and more so than in tankage. Nitrate of soda and cotton-seed meal will give the desired combination of mineral and organic nitrogen at least cost. The more intelligent farmers seem to understand this, for immense quantities of cotton-seed meal have been used in bone mixtures this year. The bright yellow meal should always be used—the dark, unhulled meal is costly at any price at which it is now offered. In estimating the cost of potash in the same way, it has been found that muriate is, by far, the cheapest source—in some large lots falling below four cents a pound in price. The station has adopted a singular method of figuring the value of wood ashes. Five cents a pound are allowed each for potash and phosphoric acid, and the rest of the price—$11 per ton—is credited to the lime which thus costs two-thirds of a cent a pound, and is cheaper than the price paid for it in other forms. This idea of estimating the value of lime in ashes, is a new one, and seems to indicate that scientists are prepared to recognize the important part it plays in preparing some soils for crops.

⊙

MR. WILSON tells us on page 446, of his experience in using a steam engine for spraying. What an improvement that is over the old plan of working the pump by hand, or by means of gearing from the wheels! The work is done faster, the spray is driven with greater force, and the cost per tree is less. Mr. Wilson says that the common price for spraying by the old method was four cents a tree for each spraying. It made a big day's work to cover 150 trees by the hand method, while with the steam pump, they spray 500 trees and do a better job. It seems to us that this method of spraying is sure to be largely employed in the near future. The result will be that thousands of trees will be sprayed that were formerly neglected, and the general average of fruit from apple-growing districts will be greatly improved.

⊙

COMPETITION is sharp, and is continually growing sharper in every branch of business. Farmers are not the only ones who are feeling the stress of this. Business men take advantage of every opportunity to get and keep trade. Many of the city shoe dealers agree to polish free the shoes purchased from them. This is quite an item where a daily "shine" is a necessity, and where one costs five cents It costs the shoe dealer but little in reality, and is the means of selling many a pair of shoes. Besides, the customer is continually brought back to the store, and is thus brought into contact with other goods which he will purchase. No doubt, many are thus retained as customers, who might wander away. Are you thus coaxing up your customers, and treating them so well that you are holding them, and transferring more and more cash from their pockets to yours! If not, wouldn't it pay you to "shine 'em up" a little?

⊙

THE leading coal companies have decided to increase the price of coal, the Reading Company having added 25 cents a ton to the old rate. The other producers will soon follow, and it is probable that, before long, retail prices will be raised half a dollar or more. There is no good reason for this increase in the cost of fuel at this time. The coal companies want to make more money. They have combined to limit production, and thus shut off competition. It seems like a singular time, when labor is so unsettled, and prices of farm products are so low, for the coal men deliberately to cut down the fuel-purchasing power of a dollar; yet that is just what they evidently intend to do. We hear a great deal now about "sound money." We all want every dollar to be "a full dollar." When the Government makes a dollar worth 100 cents, and then permits a Trust to "degrade" it so that it buys only 85 cents' worth of coal—what sort of a dollar is that?

⊙

WHILE the hay crop is unquestionably a short one, all reports agree that an unusually large area is planted to corn, and that prospects, so far, are good. This will furnish a large amount of valuable forage if it be properly cared for. Sweet corn may yet be planted in the latitude of New York City, and make, not only a large amount of excellent fodder, but also furnish enough green corn to pay all cost. A neighbor tells us that he always plants his last Evergreen corn in the garden July 4, and that it always matures before frost. We planted the Mammoth, a variety, if anything, still later than Evergreen, about the middle of June last year, and it not only matured, but a few ears left on, ripened sufficiently for seed. We planted Evergreen and Mammoth June 22, this year, and expect both will mature fully. The advantage in this late planting, besides extending the season for this delicious vegetable, is that any surplus can be readily sold at good prices, as it matures after the market is well cleared of the bulk of the crop, and thus late, it often brings double and treble prices. So the threatened shortage in your hay crop, may be a blessing in disguise, if it incite you to raise a good-sized piece of late-planted sweet corn.

IT is singular how new trades are created by new demands. Twelve years ago, a few farmers were spraying apple trees with Paris-green, using crude and often wasteful appliances. Since then, pumps, nozzles, agitators and other devices have been perfected until spraying has become a regular trade. Mr. Wilson tells us this week how a farmer may take it up like thrashing, ensilage cutting or sawing wood by steam power. In the writer's town, are several hundred elm trees which have been more or less injured by the Elm-leaf beetle. It was impossible to get the town authorities to pay for spraying the trees, so a number of private citizens engaged a company from New Haven to do the work. This company provided everything and sprayed the large trees thoroughly at a cost of $3 per tree. It appears that there are a number of such companies that make a business of taking contracts for spraying, and they appear to have plenty of work.

⊙

FARMERS in England have been suffering from drought as well as Americans. In the early part of the season, English pastures and meadows were "full of keep," as they say. With April, came a drought that lasted two months, cutting down the pastures and nearly ruining the hay crop. Now it is raining again, but the rain comes too late to save the hay. Dairy cattle that are not kept up on grain, fell off in their yield, and will not be likely to recover, even though the rains bring up the pastures. The English farmers are not able to fall back upon our great American fodder plant, corn, for it does not grow well in their climate; but they are rushing in vast areas of turnips, cabbage, and similar plants, to take the place of the hay. American farmers are better off, for they can plow up the ruined meadows and stand a fair chance of securing a good crop of fodder corn, which, if properly handled, will yield far more nutriment to the acre than the best Timothy hay.

⊙

BREVITIES.

Good bye! Good bye! I wish that train would start,
An' git her out of sight—it 'pears to me
There's somethin' sorter grippin' at my heart.
My eyes has got so dim, I scarce can see.
No, Johnnie; don't ye cry—no that aint right.
Don't let yer mother set and see ye cry.
Wait till she starts an' gits 'way out of sight.
This here must be a cinder in *my* eye!
Good bye! She's off! See, Johnnie—see her stand
A wavin' from the winder 'way down there?
Don't cry no more! Take hold of father's hand.
She's out of reach of everything but prayer.
She couldn't live up here in sufferin';
Down yonder in the hospital, maybe
They'll find a way to save her an' to bring
The old time happiness to you an' me!
Let's go back home—back to the dear old farm
Your mother loves so well, and wait and pray
That He who keeps the sparrows safe from harm
Will send your mother back to us some day!

DON'T be guilty of *I dollar try.*

NATURAL cold storage—page 450.

DON'T let the cow shrink on her milk.

A CROP-BOUND hen has a "catch crop."

LOTS of new silos will be built this year.

THE Raines bill encourages *inn*-breeding.

LOOK out for raspberry rust—Bordeaux it.

A GOOD cow earns more than a poor horse!

SEE how the bugs run for the weaker plants first.

DRINK is the connecting link between float and sink.

DON'T let a clumsy breed of poultry run in the barnyard.

THREE years are long enough to keep the bull. No fourth term

A SURE thing! Timothy cannot make a crop without nitrogen.

LINSEED meal and sweet skim-milk will make the calf as fine as silk.

THINK of a farmer who does not know that a hog is a grass eater!

THAT scheme for marketing white grapes—page 453—gets rather a black eye.

MR. BIRGE alludes to the "match test" of telling when grass is ready to cut.

APPLICATION has been received from Barbadoes, West Indies, for the formation of a Grange.

YOU may make up your mind that nine-tenths of the Crimson clover seed offered for sale is imported.

IT is sometimes economy to spend a dollar—but not in the majority of cases, when inclination urges it.

YOU will never have a better time for testing the merits of oat hay. Cut it green and cure like ordinary hay. Ton for ton, it will equal Timothy for cows.

THERE is a rose bush in Hanover said to have been planted in 833. The bush you plant this year may not live 1,000 years, but try it for 1,000 days, anyway.

WE have a Vermont correspondent who has been trying to find a scrub calf that will make a picture showing how not to do it. He says, "Vermont pastures are so good that even the scrub cattle look fat and sleek."

YOUR feed is very short,
And your're likely to be caught
With a surplus of cows on your hands.
There are robbers in their ranks,
They don't give you even thanks;
Nip them off before their thievery expands.

EUROPEAN roads are excellent, but it is said that wheelmen find a danger there not found here. The roads are strewn with "hob nails" which fall from the shoes of peasants or farm hands, so that single-tube tires are little used.

CIVIL ENGINEERING FOR BOYS ON THE FARM.

PART VI.

We will assume that the line of levels of which the notes and figures were given in Part V., was run for the purpose of putting in a tile drain to carry of the water from a pond hole, and that the stakes were set 100 feet apart. Suppose that we wish to put the tile in at stake 0, three feet below the bottom of the pond. As the water was one foot deep at that point, the tile will have to go four feet below the top of the hub which was set there, and as we called the height of the hub 100 feet, the height of the tile will be four feet less, or 96 feet. Put that down opposite Sta. 0, in the fifth column (marked Grade Height). Now suppose that at Sta. 10, we find that we can put the tile down three feet below the surface and have an outlet for the water. We found the height of the ground at Sta. 10, to be 97 feet, and if we put the tile three feet lower, its height will be 94 feet. As the height of the tile at Sta. 0 was 96 feet, and at Sta. 10, 94 feet, there is plainly two feet fall, which is to be uniformly distributed through 10 stations of 100 feet each, or .2 foot per station. So we now commence with Sta. 0, height 96 feet, and subtract .2 of a foot for each fall station, and a proportionate amount for the half stations between stakes 6 and 7, and put each remainder in its appropriate place in the column for grade heights.

We now have in parallel columns, the surface height or elevation of the ground at each stake, and the grade height or height of tile (or bottom of ditch as the case may be) at the same points. All that is left to do is to find the differences between the respective numbers in these two columns, and put them down in the column marked, Cut, and the work is done. The last column tells just how far it is down from the surface to the grade line, or in other words, how deep you will have to dig at each stake to take the water off in that way. But what about that B. M.? Those letters stand for bench mark, which is the term used to indicate a permanent point of reference in leveling. If you had in reality been laying such a drain as we have been talking about, and had set workmen to digging it, one of the most likely things to happen would be that one or more, if not all, of the stakes you had set, would be removed, and unless you had some such permanent point to refer to, you could not tell whether the work was being properly done or not. Such points should be selected as are readily accessible and not liable to be disturbed. Wherever convenient to do so, the point should be marked B. M., and its height marked on it. Of course, the notes should show, not only the height of the B. M., but tell what it is on, and where it is, so that any one else having the field notes could find it readily.

We have supposed, in this case, that the leveling was for a drain, which is one of the most common and useful applications which a farmer boy can make of the work; but the method of taking the levels and figuring the heights of the various points, is the same whatever its object may be, whether for a railroad, a canal, a highway, or to find whether water can be brought to the house from a distant spring. Lastly, you will see that there is nothing in the computations beyond simple addition, subtraction, multiplication and division, including decimal fractions; nothing beyond what a boy 12 years old can do if he has a common school education. There is nothing about the tools to be used that a clever boy of 16 cannot make if he is any way handy with tools, and even if he had to hire it all made, it ought not to cost more than $2 or $3. Every boy, whose father's farm has places needing drainage, should fit up some tools and do a little civil engineering on his own account in the way of laying out drains. It will pay in more ways than one.

FRANK HODGMAN.

Michigan.

NIAGARA GRAPES IN VIRGINIA.

IS IT SAFE TO PLANT THEM?

Would a small vineyard of Niagara grapes be likely to prove a good investment, that is, if set now? This is a good grape country. I understand the growing of first-class grapes, and can put them on the market in No. 1 shape. Are the prices for Niagaras likely to be good in the future in the northern markets at the time our fruit will go on the market? From present knowledge, is there any white grape that would, all things considered, prove more profitable than Niagara? How is the Green Mountain or Diamond? The Niagara will turn out more pounds of marketable grapes than any other grape that I have seen grow South, is a good shipper, fine looking, and doesn't crack.

A. F. A.

Claremont, Va.

J. W. Kerr Gives an Opinion.

As A. F. A. understands how to grow "first-class grapes," and "can put them on the market in No. 1 shape," being situated in a "good grape country," he controls a majority of the indispensable requisites for successful operations in grape culture; but as to what prices are likely to be four years hence, he can tell with as much accuracy as anybody, for it is simply guessing. He would get Niagaras into northern markets before the glut of the northern crop, but not before Moore's Early and even Concord, grown at points between him and such markets. Hence, he would be compelled to cater to a select demand—a business proceeding that hinges its success upon shrewd, pointed energy. However fine may be his goods, and their condition on reaching market, a large per cent of the profit in the enterprise will be governed by the business tact, and the intelligently—I would say, shrewdly—directed, vigorous energy in management of the sales. Growing good fruit is an art of itself, and vastly different from marketing it to the best advantage. Combine the two in one individual, and he will succeed in growing grapes or almost any other kind of fruit. If there is anything in the "early bird catches the worm," why would it not be better for A. F. A. to divide his eggs and put a part of them in a Moore's Early basket, instead of confiding all to the Niagara? For a white, market grape, I doubt if the Niagara has a superior in the whole list of white varieties, outranking not only Green Mountain and Diamond, but all others that I have seen, in size of berry and cluster, and prolificacy as well.

A White Grape Not Profitable.

I think that if I were going to plant white grapes, I would select Niagara. But I do not believe that a white grape will, as a rule, bring more money than a good black grape. Having this in view, I have made my main plantings of Moore's Early and Concord. For a white grape, Niagara is, no doubt, the best-tested sort, lacking somewhat in flavor, but having most other desirable qualities. At the same time, Diamond may prove better, and A. F. A. may find it well to plant a few for trial. Green Mountain, so far as tried, is one of the very best early white grapes, and ought to be tested thoroughly; still, I would hesitate to plant these two sorts extensively until I knew what they would do in this particular locality.

CHARLES WRIGHT.

Virginia Grape Growing of Doubtful Profit.

A. F. A. appears to be well informed as to the character of the Niagara grape, and his opinion corresponds very closely with mine. I consider it one of the most valuable white grapes grown in the South. I doubt if we have a white grape that surpasses it as a general-purpose variety. The Green Mountain is a better grape, but not so hardy. Diamond is quite as hardy, larger and a trifle earlier, but I am not certain that it will bear as well. I do not see that I can offer any opinion as to the probable future profits of growing this or any other white grape in the South, as this question hinges entirely upon the competition which the fruit must meet on the Northern markets, and I am aware that grapes are very largely grown in the Carolinas for the Northern markets, and that they will come on the markets earlier than our Virginia grapes and, possibly, continue so as to affect the value of our crop. The last few years have not been years of success to grape growers in Virginia, and my advice would be to grow grapes in a small way, that is, a few hundred baskets, first, and try the markets, rather than to plant largely without experience as to results. A. F. A. lives in Tidewater Va., and will be able to ripen grapes much earlier than we can in this part of the State; and he is certainly favorably situated, so far as earliness of crop is concerned, if there is any favorable locality in Virginia. It is quite beyond my ability to predict what market conditions will prevail for our early grapes in the future.

WM. B. ALWOOD.

WHAT IS A "BARREL"?

Great trouble has been experienced by dealers, and loss has resulted to shippers, during the recent potato glut, on account of the small-sized barrels used by many. This is not a new difficulty, and losses are often experienced by shippers of different kinds of produce from the same cause. Neither is the trouble confined to this city, but other markets have been fighting the same trouble for years. Some shippers seem to think that a barrel is a barrel regardless of size, and that it makes no difference, so far as selling produce is concerned, whether it is packed in a regular, full-sized barrel, or in a small or "pony" barrel. Further, our conviction is that these small barrels are sometimes used with dishonest intent, the sellers vainly imagining that a small barrel will sell as quickly and for as much as a large one. But there never was a greater mistake.

The wholesale produce dealers of this city, Boston and Baltimore have recently sent out circulars explaining why the use of these small barrels involves them in loss, the gist of which we give. The outlet for shipments to these cities is, of course, to the retail dealers, many of them out of town. These dealers use the term, barrel, as a unit of measure, and they demand full measure. If they order 10 barrels of potatoes, they want 10 barrels, and to send them 10 of the so-called barrels which some shippers use, would be to give them, in reality, about nine barrels. This is about like giving the man who orders a ton of coal, 1,800 pounds. What farmer would consent to receive such a ton? The result is that the demand is greatest for the large barrels, and as demand controls price, the price of the barrels is relatively higher. It is estimated that, on the average, the small barrels contain about 15 per cent less than the large ones, but they usually sell for 20 to 25 per cent below the price of large ones. Is this profitable to the shipper? Of course, when there is a scarcity of anything on the market, the buyers are less particular. But, in case of an oversupply, the large barrels are in greatest demand, are sold first to the best trade, and the small ones must be sold later for what they will bring; or, as is often the case, are not sold at all, and are a total loss. In any event, delayed sales mean more or less deterioration, and reduced prices.

Another point against the small barrels is the fact that, in paying freight, cartage, and often commission, the charge is the same on a small as on the large barrel. The shipper cannot consistently object to this, for does he not insist on calling these diminutive packages barrels? The cartman who charges five cents per barrel for carting the potatoes, won't deduct anything for pony barrels. The railroads estimate the freight as so much per barrel regardless of size. The commission merchant will handle a large barrel of potatoes or other produce for the same price as a small one; in fact, he would sooner handle the large barrel, for it is less work to sell it. The small barrel is a source of annoyance, dissatisfaction and loss all around, and the loss must fall upon the user, whether he use it through carelessness, ignorance, or a deliberate intention to cheat. Isn't it strange that so many still cling to its use, when there is so much to be lost and nothing to be gained thereby? Some certain parts of the country are more culpable in this respect than others, and their products suffer in consequence. The standard barrel recommended by the produce trade of this city, measures 17 inches in diameter of head, 19¾ diameter of bilge; length of stave, 27 inches; length between heads, 25½ inches. This is what is known as the standard flour barrel.

BUSINESS BITS.

ONE of the most beautiful businesses in this world is that of Macbeth, the lamp-chimney maker, of Pittsburgh. Beautiful, because it has grown to great proportions and profitableness by satisfying the requirements of every lamp in use, whether known to its users or not.

IT has heretofore been thought that potato diggers would not work on sidehills; but the Hoover digger has been provided with spurs to put on the wheels, and reports state that the machine does excellent work on sidehills. The manufacturers, Hoover & Prout, Avery, O., will send information about this digger, than which there is no better.

T. J. DWYER, of Cornwall, N. Y., sends us his summer and autumn list of seasonable stock grown at the Orange County Nurseries. Mr. Dwyer is his own superintendent, and gives personal supervision, not only to the growing, but also to the selection, packing and shipping of goods. It is this painstaking care in all details of his business, that has earned for him a reputation second to none in the small fruit nursery business.

THIS is the season when the horse's neck and shoulders are likely to become chafed and galled. Every one of actual experience knows that this condition is not only very trying to the animal, but often involves much loss in the busy season from inability to use him. To effect a quick and sure cure, Moore Bros., Albany, N. Y., have put upon the market their famous gall powder, a remedy of undoubted merit. Moore Brothers are specialists in veterinary science, and in addition to a large personal practice near Albany, treat cases successfully by mail.

THERE are a host of uses to which a windmill may be put, when not employed in pumping water. It would seem that, when a man is purchasing a windmill, it would be well enough to secure one of sufficient size to meet all these uses; there are the shelling of corn, the cutting and grinding of corn, churning butter, sawing wood, turning the grindstone, etc., all of which labor might be performed while the mill is not employed in pumping water. The Perkins Windmill Co., Mishawaka, Ind., make a strong, durable mill, and also manufacture a full line of steel and wood house and stock tanks, pumps, etc. Their catalogue, which contains much valuable information along these lines, will be sent to any one interested in the subject.

THE R. N.-Y. has had a great deal to say about "corn hay" for the past several years, and it is glad now to see that it is meeting with favor from feeders all over the country. It is sure to have a boom in those sections of the East and Middle States this year, where the early droughts have rendered the hay crop so much of a failure. "Corn hay," of course, is nothing more or less than corn stalks torn into fine shreds like hay. This is done by machinery similar to the feed or ensilage cutters. In fact, they are ensilage cutters simply with a shredding cylinder instead of the knife cylinder. The Smalley Mfg. Co., Manitowoc, Wis., make cutters with interchangeable cylinders so that you can use one cylinder for shredding, and the other for cutting. The Smalley people will be glad to send catalogues free on application.

THE bicycle is going to help the free delivery of mail in country districts. At all events, it is going to make it easier for the boys and girls of the farm to dispatch and deliver mail matter. Where one would hesitate to walk two or three miles to the post office, or to hitch up and drive, even once a day, the boy or girl can make the trip twice a day on the wheel in the time required by the average man to hitch up and unhitch the horse. Besides, the spin to town on a wheel will be a restful, exhilarating sport in contrast with the ordinary labor of the farm. We believe that the time will come when a bicycle will be considered as much a necessity on the farm as a buggy. Take it all in all, just now we believe that the Hartford is the most economical wheel to buy. This is made as a second-price wheel by the Pope Mfg. Co., Hartford, Conn., the makers of the Columbia high-grade wheel. The price of the Hartford has just been reduced, and we believe that it is now the best wheel on the market for the money. Prices run from $45 to $65; and you have the advantage of the guarantee of one of the best houses in the country, which is no small item in a wheel at these prices.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

DON'T "sit down" on the enthusiasm of your neighbor, or even your enemy. Enthusiasm is a short-lived joy that is altogether too rare in this vale of tears. Don't try to kill it, no matter on what it is founded. If you can't rejoice with those that rejoice, get up a little enthusiasm on your own hobby.

*

SOME of us start out in life with an ideal in mind and, with more or less diligence, seek for the person embodying all that we desire. Sooner or later in life, according to our patience and obtuseness, and, perhaps, after some very bitter experience in being disillusioned, we begin to realize that it is far easier to adapt ourselves to the shortcomings of another, than to bring him up to our impossible standard.

*

SOME of the pretty, delicate colors of the summer materials will need to be "set" if they are to gladden our eyes all summer long. We must return to our grandmother's thrifty ways of setting the colors of all the wash goods by soaking them in strong salt water awhile before washing. Dry in the shade, as the sun is the cause of much of the fading.

*

ANOTHER item which must be remembered if one would have her wash dresses retain their freshness, is to starch and iron them so that they shall have the same finish they had when new. Do not make them stiffer than they were, and do not iron a gloss on material which had a lusterless surface when new. To this end, it will be found necessary to iron on the wrong side. It is a little more painstaking, but a comparison of the two methods will convince any one that it is worth while to do it, at least, on one's best summer dress, if time cannot be spared for more than that.

*

How stubborn a man is, sometimes, when some woman who deserves it, wishes a little praise from him. Yet on other occasions, he can be extravagant in flattery. What a blunderbuss he is to think that any woman doesn't know the difference between merited praise and flattery. She weighs them at their worth. The fine things a man says before marriage, and the compliments which he pays to other women, will not pay the debt of praise he owes to his wife. By the way, notice that phrase, "*pays* a compliment." We do not *give* a compliment. We owe it to the person who deserves it.

THE SOUVENIR SALE TABLE AT THE COUNTY FAIR.

THE idea was suggested by Mrs. Fairweather's complaint in regard to the usual attractions at the county fair. Mrs. Fairweather's ideas were not always practical, but her complaints were usually well founded, and generally coupled with an idea; for some said that she fairly bristled with ideas. So when she complained about the useless attractions often presented by the managers, and the swindling games and tables, Mrs. Rush listened, and agreed with her that it was a pity that people who must spend their money, could not find something useful to spend it for, instead of wasting it so. And then she inquired why some of the young people did not plan to have a table and sell souvenirs and fancy work, adding that many people who attend the county fairs would be glad to buy the fancy work on exhibition to carry home as souvenirs. But that is never for sale and they have to content themselves with peanuts and prize packages. Why don't some of the societies have a sale table, and make a little money in an honest way, instead of letting it all go into the swindlers' pockets?

Mrs. Rush exclaimed, "Why, that would be a splendid idea! Yes, I think that it would be practical too; for I have seen women trying to find something that they could carry home to friends or children, and they were unable to find anything very satisfactory. And I know of ever so many young people and old ones too, who would be glad to make pretty souvenirs for a sale table. There's little Hope Gay crocheting herself blind in order to earn a little money; crocheting pretty lace two inches wide for the store, where they retail it for 15 cents per yard. She is a cripple and dependent on her aunt, who works hard for a living. Then there is May Hurst, who paints lovely little things for the stores at Christmas time, and Johnny Farrell, the lame boy, who carves pretty brackets and frames, and hosts of others who would be glad to make things if you thought they would sell."

"Sell!" exclaimed Mrs. Fairweather. "Such a table would be the greatest attraction at the fair! It would not need any advertising; it would advertise itself!"

As Mr. Squeers said of his boys, when Mrs. Rush knew a thing, she went and did it, and she was never so happy as when she was able to give people a chance; and Mrs. Fairweather's idea bade fair to give several people a chance. That very afternoon, Mrs. Rush made up a list and started out, and when she returned, she had another long list of pretty and useful things pledged for the souvenir fancy table. Next day, she went to the fair managers to see about a place for the sale, and found them willing to allow her room for a large table in a pleasant corner of the hall, agreeing to let her make a free trial for the first year, with the proviso that, if it were a success, she might pay for the privilege every year after.

Two days before the fair, all of the articles were sent to Mrs. Rush's house, and priced and marked. Such a collection as there was! Mrs. Rush had stipulated for small articles that need not be priced too high. There were stacks of doylies, teapot holders, and holders of all kinds, mats and handkerchiefs, collars, aprons, tray cloths and bureau scarfs, sacques, shawls, afghans, and crochet work galore. Johnny Farrell sent beautiful brackets, frames, and book shelves, while May Hurst sent a quantity of lovely hand-painted articles from chamois penwipers and celluloid napkin rings and pin trays, to plaques, scarfs, and little panel pictures, so that Mrs. Rush said that she must have sat up nights to paint them. But May assured her that she did not, for many of them were her holiday goods left over. Old Mrs. Nicholson made some pretty rugs, and poor, rheumatic Mrs. Whitman sent several pairs of knit socks.

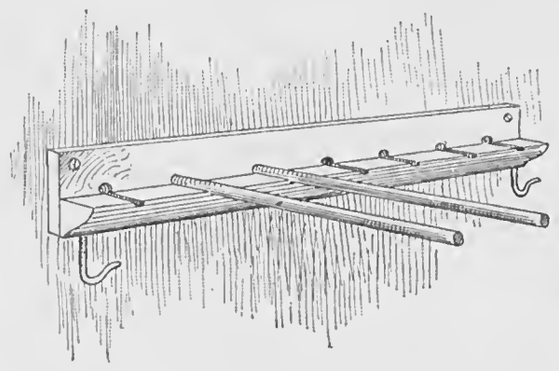
What a time Mrs. Rush had arranging them! She had to press several of the consignors into her service, and those who were able were appointed to take charge of the sale during alternate hours of the three days' fair. But they were all as happy as larks over their table, and when Jared Talbot sent in two dozen camera photographs of familiar places about town, they put the finishing touch to a most attractive exhibit. Hope Gay was installed as cashier, and the girls laughingly declared that her sweet face, crowned with its golden hair, attracted more visitors toward the sale table than the articles did. But, if so, it was fortunate for them all, for, before the close of the fair, not a single article was left on the table, and the visitors were trying to buy some of the articles on exhibition upstairs.

All those who had profited by the fancy table, unanimously agreed to thank Mrs. Fairweather for her idea, as well as her liberal patronage, while Mrs. Rush discovered that she had endeared herself to them all by simply giving them a chance. The venture was so complete a success, that the managers voted to allow it to be continued every year at a low rent, and even went so far as to allow many of the larger articles on exhibition to be marked for sale, with the proviso that the articles sold should forfeit the premiums awarded by the society.

ALICE E. PINNEY.

A HOMEMADE CLOTHES RACK.

FIG. 149 shows a very serviceable clothes drier, to be screwed to the wall above the kitchen stove, or elsewhere. It is a plain strip of inch-thick board, with a thick strip of wood screwed to its front at the lower edge. Holes are bored in the back piece with corresponding grooves in the front piece, and into these round sticks are inserted as desired, the sticks being kept in the wire hooks below when not in use. Old broom handles may be sawed off and used for this purpose, or broken rake handles. This drier is easily and quickly



A HOMEMADE CLOTHES RACK. FIG. 149.

made, and will be found equally as useful as the patented articles sold in the stores.

W. D.

CARING FOR THE BABIES.

THE majority of children are healthy when they are born, and may be kept healthy if they receive the care and attention which all mothers should give. A baby loves warmth, and he needs plenty of good, nourishing food. During the first few months of his life, he will sleep all night and about one-third of the day. He soon becomes a creature of habit, and it is very important that the habits first formed are good ones. Decide upon certain hours for sleep, make his surroundings all that they should be, and leave him to enjoy his nap undisturbed. If he be treated in this way, it will be but little trouble to get him to sleep when the time for his nap arrives.

The watchful mother can soon decide whether a child cries because he is "spoiled" or whether he is in pain. If he is suffering from an attack of colic take off all his clothes except the band, which should not be disturbed if he is crying very hard. Wrap him in a large, soft, woolen shawl, and rub his little limbs, stomach and bowels with the hands. A drink of water as warm as he will take it, is often beneficial. When he is thoroughly warm, he will usually stop crying, and nestle down into the shawl, for a long, comfortable sleep. Warm the blanket and pillow of his crib, fold the shawl closely around him, and place the crib in a corner where the draught cannot strike him. When he wakes, he will be as bright and fresh as ever.

All authorities agree that, if the mother is healthy, her milk is the best diet for the baby. But if, for any reason, a mother cannot nurse her baby, she will find among some of the prepared foods, an excellent substitute. Give the child a regular amount at a regular time, and see that he feeds steadily until the supply is exhausted. Wash the bottles and rubber nipples immediately after using, and put in the sun or over the stove, where they will dry quickly. If this be done promptly, soda water to correct the acidity of the bottle, will be unnecessary. Have, at least, two bottles and two nipples, and use them alternately. The rubber nipples that are stretched over the mouth of the bottles are best. Up to the age of six months, feed him every two or three hours during the day, and once or twice at night. At this age, babies begin to want a little more variety of food, and a little well-boiled rice, seasoned with salt and butter, may be given in addition to the lactated food if desired. Nicely cooked sago and tapioca are usually liked, and if given in small quantities, can do no harm. Add other articles of diet gradually, giving a very little of each kind until the child becomes accustomed to it.

A daily bath is not only necessary for cleanliness, but it is strengthening also. Provide a bath tub, and pour the water, which should be heated until it is as warm as new milk, into it. Set the baby in the tub, and allow him to splash water to his heart's content. Then wipe him dry with soft linen, and dress him quickly. If baby is suffering from a cold, do not imagine that a bath will make him worse. Have the room warm, and give him a sponge bath, keeping him uncovered as little as possible. Put on his clothing, which should be warm; he will feel refreshed, and the bath will be a positive help towards his recovery.

He should spend an hour or two every afternoon or evening, in a cozy baby carriage, in the open air, unless the weather is damp or stormy. If you are so fortunate as to have time to go with him, do so, by all means, for it will be almost as much benefit to the mother as the child. But if you cannot do this, see that he is confided to careful hands, for all jolting or rough driving should be avoided.

E. J. C.

TWO WHISTLING LITTLE MAIDS.

WHEN I was a little girl, my father bought a small farm. He was a clergyman in one of the towns among the hills of Connecticut, but he was very fond of outdoor life, and a great believer in its health-giving properties. He was very fond of fruit and vegetables, and enjoyed planting them, for his own family's use and others, whose more extensive farming gave them very little time, in those days, to plant gardens of their own. The farm was about 1½ mile from our home proper, although we had a good deal of ground there, with a garden and orchard full of good things to eat, and flowers of all kinds to enjoy. There had been a house on the farm at one time, but it had been burned, and only the cellar was left to tell where the house had once been. The barns were left, and there was a fine old garden, a complete tangle of vines and old-fashioned flowers which my mother loved. There was fruit in abundance, and we liked to go with my father as he made his daily visits there to see that everything was in order.

One afternoon, my father said to my sister Katie and myself, that the grapes were ripe at the farm and we could ride up with him and gather them. We were ready in a moment, and on reaching the place, we ran down into the orchard, which was just back of the garden, and picked my hat full of luscious ones, and then we climbed up and seated ourselves on the top rail of the gate which was

built into the wall surrounding both garden and orchard. As we sat there resting and enjoying our fruit, we whistled a great many tunes, my sister the soprano and I an alto. We liked to whistle very much, but my mother did not like it; so we could not indulge much our whistling propensities at home; but here, with the blue sky above us, the soft green grass, the sweet flowers all around, we were quite in a whistling mood, and trilled out tune after tune.

All at once, I chanced to look down, and there were snakes, attracted by our music, probably, and only striped ones at that; but just as terrible to us as if they had been anacondas—for we were not much accustomed to seeing them; 11 snakes were drawing nearer and nearer, their heads erect and waving from side to side. My sister saw them, too, and we gave a wild jump into the street, and ran as if our heads were afire, to the wagon, and hardly dared to breathe till we saw my father coming. He saw us running, and hurried to see what was the matter. With a stout stick he dispatched them, and told us that they had their nest, probably, in that corner of the garden, and our whistling had charmed them, and that they were harmless little things. But it was a long time before we dared to go there again, and even now, we find ourselves looking askance at that corner of the garden. SARAH ISHAM COIT.

HOMEMADE CORDIALS.

DURING the early summer months, while berries are plentiful, a good supply of cordials should be made, says the Home Queen. No housewife, who has once tested their medicinal qualities, will be content to pass a year without them. Our grandmothers were better versed in this art of preparing home remedies than the housekeepers of the present day, and we are forced to admit that our "more advanced" ideas do not offer any home recipes to take the place of these strengthening and nourishing cordials for the family medicine closet; and now is the best time to test these recipes which have been handed down through many generations of practical housewives.

The medicinal qualities and curative properties of fruits are great, and many calls for the doctor might be avoided by their proper use. In making cordials, the purest and best sugar should be used; the spices should be strong and pure. No liquor of any kind should be added. Blackberry, raspberry and dewberry cordials are old and reliable remedies for bowel complaints. Strawberry, currant and grape cordials are excellent stomach tonics; and cordial made from ripe elderberries is said to be almost a specific for dropsical affections.

BLACKBERRY CORDIAL.—To one quart of blackberry juice, add one pound of good white sugar, one tablespoonful each of cloves, cinnamon, allspice and nutmeg. Boil until a rich syrup is formed, then put in bottles and seal while hot. Give in teaspoonful doses to children of five years or over, several times a day, less to younger children, and tablespoonful doses to an adult. Dewberry cordial, prepared in the same manner, is also very efficacious in obstinate cases of diarrhea and dysentery.

STRAWBERRY CORDIAL.—Mash a quantity of ripe strawberries, and let them stand several hours. Strain and add two pounds of the best white sugar to each quart of juice. Boil 15 minutes, and add one tablespoonful each of cinnamon and nutmeg. Bottle and seal while hot.

CURRANT CORDIAL.—To one quart of ripe currant juice, add two pounds of white sugar, a tablespoonful each of nutmeg and cinnamon, and boil 20 minutes. Bottle and seal while hot. This cordial is excellent to clear the system of impurities. Put one tablespoonful in one-half tumbler of water and drink.

PRINTED PATCHWORK.

Oh, never from thy tempted heart
Let thine integrity depart;
When disappointment fills the cup,
Undaunted, nobly drink it up;
Truth will prevail, and justice slow,
Bear on—bear bravely on! —*Anonymous.*

....LIFE: "If people meant everything they said, the complications would be nearly as great as if they said everything they meant."

....HARYOT HOLT CAHOON: "Doubt is a very sickly quality of the mind. It crowds out hope and enthusiasm, and only depression and despair fill their places."

....MARION FOSTER WASHBURNE IN THE ARENA: "We are far from being a self-governing people. We are governed largely by moneyed interests and political machines. We do not solve our questions of state with thinking, every man with his own brain, but by votes bought, sold, and exchanged."

....BOSTON HERALD: "From the earliest records of mankind down to the present time, the disposition to take to one's self credit for not committing offenses that one had no opportunity to commit, and in this way contrasting one's virtues with the obvious faults of others, has been a favorite means of self-satisfaction."

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's patterns, send age.

6783. Ladies' Skirt.

This skirt is of moderate width, measuring only about four yards at the foot.

6783—LADIES' SKIRT

The style is commended for summer wear, its straight back breadth adapting it specially to wash fabrics. The sides display the fashionable ripple effect on each side of the gored front, the straight back breadth falling in graceful folds from gathers at the top. Pattern No. 6783 is cut in sizes for 22, 24, 26, 28 and 30 inches waist measure.

ODDS AND ENDS.

SUMMER HINTS.—Wild black cherry wine, or better still, jelly, is a specific for bowel trouble, and we find nothing better. Put a teaspoonful of the jelly into a cup, pour on two tablespoonfuls of boiling water, stir until dissolved, and drink. It may be repeated in two or three hours, if needed. We find the wild cherry phosphate one of the best of drinks, and very healthful, cooling and invigorating. We think it more economical than lemonade, equally as good, and it has the merit of always being prepared with the addition of sugar and water. We got a $1 bottle early last summer, and during the hot weather, often made no other drink for entire meals, often gave a glass to a thirsty caller, and we still have half of it. Indeed, it was so satisfactory that we shall invest in another when this is gone.

C. R. D.

A FLY PORTIERE.—Now that fly time is here, an ingenious contrivance for keeping out the troublesome pests, is described by a writer in the Household. She says: "Persian insect powder used at night in the dining room, will rid it of those flies that are already in there, and a mosquito netting portiere in the doorway leading to the kitchen, will keep out many that want to get in. This portiere will need about 2½ yards of mosquito netting, enough for the entire length of the doorway, with something to spare for a deep hem at the bottom, and a running at the top. Into the hem, sew at regular intervals, small marbles, enough to weight it sufficiently to keep it in place. Run a shirr at the other end wide enough to take in a curtain stick, run the stick through this, and arrange the gathers evenly. Tack the stick over the doorway on the side where the door does not open. This portiere is also useful for a bedroom."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

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there is no need for you to contemplate a wig when you can enjoy the pleasure of sitting again under your own "thatch." You can begin to get your hair back as soon as you begin to use

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NOTICE NAME THUS Stewart Hartshorn ON LABEL AND GET THE GENUINE HARTSHORN

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Made only by The Charles E. Hires Co., Philadelphia. A 25c. package makes 5 gallons. Sold everywhere.

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THE RURAL NEW-YORKER, New York.

As We Go To Press

"GREAT SECRETS."

We have all heard of the goose that laid the golden egg, and got herself into serious trouble by laying it. We have often thought that no animal besides a goose would be foolish enough to go into sueh a business; but it appears that there are human geese who think that they can improve upon the business methods of Mrs. Hen.

A party in this city who wants to sell eggs on eommission, has sent out the following circular:

PRESERVE EGGS AND GET RICH.

DEAR SIRS: We have a recipe for keeping eggs that has been used in this city for many years with perfect success. Several fortunes have been made by the great seeret. Like all things of big value, it is easy enough after you know how.

Eggs will keep sound and nice as long as they are kept in the solution; the eost is less than one eent per dozen. You buy eggs in summer for seven to eight cents, and sell them in the fall for 35 to 40 eents. Do you ask a straighter road to fortune than this? Five hundred dollars this summer in eggs means $2,500 in December. Invest this latter amount next summer, and in December you will be independent for life.

Nothing pays so well as eggs. Make your own figures and you will be eonvinced. "Fortune knoeks at every man's door onee in his life." This may be the last knoek at your door. Will you let him in?

Sign the inclosed note and send to us with a self-addressed envelope (to avoid errors) and we will mail you the great seeret that will make you rich in a short time. We ask no pay until Deeember. No proposition can possibly be any fairer than this.

If you don't wish to avail yourself of a lifetime opportunity, please hand this letter to some one who wants to get rich quick. We await your favor. Very truly yours, —— ——

Our opinion is that there are, at least, 15,000,000 able-bodied people in this country who would like to get rich, and it won't hurt their feelings a bit to say that the hen and this famous reeipe laid the foundation of their wealth. The "inelosed note" binds the shipper to send the egg-preserving man four eases, or 120 dozens of eggs before December 1, and these eggs are to pay for the recipe.

The New York Produce Review tells us that the address given in the eireular is that of a small lodging house, on the door of which is this sign:

"Furnished Rooms to Let!"

Certainly those who are eaught by this common and flimsy bait, will show that they have "rooms to let" in the "upper story." It is quite possible that there are solutions that will piekle or preserve eggs. Salt will do it fairly well, and so will lime water; but it is nonsense to suppose that this party has diseovered any great new secret in advance of other people who are in the egg trade. If you were to sign the note, and then have this man tell you to put the eggs in strong brine, there would be no escape for you—he could claim 120 dozens of your eggs, and make you deliver them, too. You would simply lose a whole year's work of 15 or 20 hens, and know just about as much as you did before.

Now what we wish to say is that the world is erowded with people who want to sell these "great seerets." Every one of these propositions is baited with a promise of great wealth. You are going to make something out of nothing, or come pretty close to it, if you only follow instructions. Every scheme is a plan to cut aeross the corners and reaeh results over previously unexplored ground. One man wants to tell you how to take nitrogen right out of the air and save your fertilizer bills. Another wants you to double the yield of butter in a given quantity of milk. Another ean tell you how to lift yourself by pulling on your boot straps, and so on. The sharpers understand that most people want to make money and, therefore, they don't advertise a recipe for happiness or good nature. Cash talks, and it is cash they are after.

In the present circular, they draw it a little too strong; still they will, probably, get a good many eggs if we may judge from past experienees. There are many people left in the world who believe in luek. Some of them see or read about people who beeome rich in a short time. They don't know how it was done and, therefore, ean't realize that there was a fixed and certain rule of action that led up to it. There are lots of great "seerets" locked up by Nature that the world is patiently waiting for. When they come, they will not be given to the world through any such eireulars as the one we have quoted, and responsible men will be able to prove and explain them.

If you desire to keep up with all the great agricultural secrets that are to be made plain, we advise you to keep your name right on THE R. N.-Y.'s subscription list. In that way, you will get them all, and you will, also, see the wind let out of many humbugs. We make no secret of the fact that we have four excellent books to give away as rewards to those who send us new subseriptions. It is, also, an open secret that we offer agents as favorable terms as does any other agricultural paper.

Some seerets that are plain as a pike staff to one man may be a perfect blank to another. Here is a note from a subscriber:

I would like to give you a eonversation between myself and a member of the Grange, which oeeurred last fall. Seene: Potato field—tops dead with rust. I asked him why he did not use Bordeaux Mixture. His reply was that he used hog manure, and no boughten manure.

That is a fair sample of it. That man didn't know that the Bordeaux Mixture would cure the rust, because he had not been let into that "great secret." Such a man might give 120 dozen eggs for that preserving reeipe.

The following from the New York Produee Review, a publication devoted specially to the markets, so indorses what we have many times told our readers, that we are glad to give place to it: "We wish to advise shippers not to take up with a new eoneern until very satisfactory references are secured. A man who cannot furnish these, is not to be trusted. It is always safe to steer clear of any one who either, by eirculars or personal letters, quotes a price considerably above the market reports that are published every day. Trade here is so adjusted that no receiver has much advantage over his neighbor, and it is simply impossible to realize much of a premium on consignments."

Miscellaneous Advertising.

When a young couple runs away to get married half the world says: "How Romantic!" the other half says: "How silly!" But you can't tell either way until the "honey-moon" is over. When this young couple get settled down to the regular hum-drum of life, they'll manage all right and find solid happiness in any case, if they have good hearts and sound health. All depends on that.

It's wonderful how much health has to do with married happiness. Sickness affects the temper. You can't be happy nor make others happy if you're ailing. When you find yourself irritable, easily worried, beginning to "run-down" it's because your blood is getting poor. You need richer blood and more of it. Your blood-making organs need to be vitalized by Dr. Pierce's Golden Medical Discovery. It imparts new power to produce an abundance of the healthy, red corpuscles, and gives you a fresh supply of pure, rich blood. It's a blood-creator; it is for everyone whose blood is impure or in a poor, "run-down" condition. It prevents the germs of disease from getting a hold on your system. Even after disease is settled on you, it is driven out by the blood-creating properties of the "Discovery." It is a perfect cure for general and nervous debility, catarrh, malaria, eczema, erysipelas, scrofula and every form of blood-disease. It is'nt called a consumption-cure but even consumption,—which has its roots in the blood—is driven out by the "Golden Medical Discovery" if taken in time.

The "Discovery" is the prescription of one of the most eminent physicians and medical writers in this country.

THE WAY THE "U. S." "WHIPS" THE "POOR" "BABY."

"U. S." people sued Mrs. Rowland because she chose the "Baby." She beat them in both trial and appellate courts, and then sued them for expenses and the "storage" of the U. S. Machine.

FIVE CORNERS, Cayuga County, New York.

"We have used a 'Baby' No. 2 Separator twice a day for nearly two years. It is very easy to clean, not taking 10 minutes to take it apart and wash it. It is much easier and quicker washed than the U. S., and easier kept clean. Has no sharp flanges to cut your hand on. It is easily turned by hand power. With the De Laval we can make a pound of butter from 16 pounds of milk any month of the year, while with the U. S. it takes 22 pounds of milk for a pound of butter. We gave both a fair trial, and decided we wanted the "Baby." There were quite a number of people near me who tried both, but all took the De Laval after a few days' trial. No one need be afraid to try the De Laval. We would give up our dairy if we had to do without the separator now. We separate as soon as it is milked and then the milk is warm to feed, and with some meal makes good calf feed." MRS. GEORGE ROWLAND.

Send for new Hand Catalogue No. 246, Separator Comparison Pamphlet, and "Facts From Users," constituting a complete education in "separatorology."

THE DE LAVAL SEPARATOR CO.,

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A DIGGER THAT DIGS.

IMPROVED POTATO DIGGER

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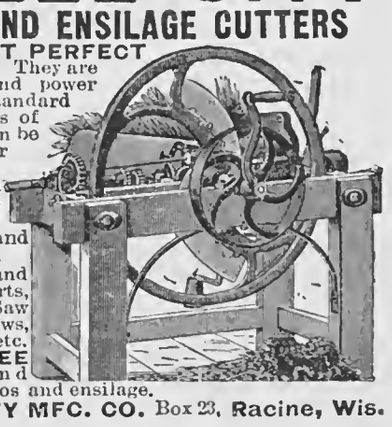

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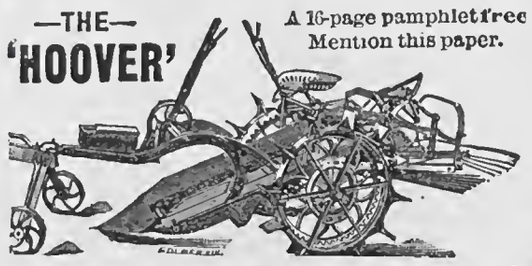

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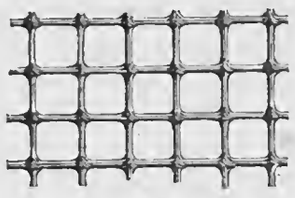

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Worcester, Mass. Chicago, Ill.

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USE the GEM Wrench

When oiling your spring wagon and keep your hands clean. Do not need to touch the nut during operation and do it all with one hand. Is the BEST selling article ever offered AGENTS. Sample 60c., two for $1,00 by mail, postage paid. Get sample at once and secure territory. Big profits.

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Strong, Handsome, Low-priced Goods. Fully warranted at prices which **make money** for you by **saving one-third to one-half.** A substantial top buggy, **$44.25**; an elegant family carriage, **$67.50.** **We pay freight** to points mentioned in our **new Annual Catalogue,** sent free. Write **Miami Manufacturing Co.,** 115 **W. 4th St., Cincinnati, Ohio.**

STEEL HANDY WAGONS.

The labor savers of the age. Only 28 and 34 inches high. You save the lift, that saves your back. **Wheels have 4-inch tire.**

JUST THE THING for hauling over the farm. Is the **BEST** for Logs, Fodder, Wood, Manure, etc. **We Make Metal WHEELS FOR WAGONS AND TRUCKS.** All Sizes—fit any skein....

Our handy wagons are **GUARANTEED to carry 2 tons.** We tell more about them in our **FREE** catalogue. Write us and get one

HAVANA METAL WHEEL CO. Havana, Ills.

THE FAMOUS

QUINNIPIAC FERTILIZERS

Are universally used with wonderful results. They are great wheat producers. Before ordering your fertilizers for fall use, inquire for the Quinnipiac. If not sold in your town, write us direct.

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THE QUINNIPIAC COMPANY,

27 William Street, New York City

CONDENSED CORRESPONDENCE.

DRY TIMES IN SOUTHEASTERN PENNSYLVANIA.—Our strawberry crop was an utter failure with drought last fall and this spring; the streams are lower than I ever remember at this season of the year (June 14). A rain yesterday morning wet the ground furrow deep, the first since early April. E. T. I.

OTSEGO COUNTY, N. Y.—Owing to copious rains (June 8 to 10., the grass crop will be better in some localities than last year. As a general thing, however, the hay crop will be light, and it will consist chiefly of weeds and daisies. A very large amount of corn has been planted, but it does not look at all well, though the most of it came up all right. The weather has been against it, for June has been characterized by very cool nights. Hops, as a general thing, also look poorly, and they have, for the most part, tilled poorly. Grasshoppers are not so thick as they were a year ago, which does something towards counterbalancing the dampened prospects of so many other things. Moreover, oats are looking exceptionally well, being of good height and of a dark, rich green color. Fruit trees look promising, and there is an abundance of field strawberries; some meadows are literally red with them. Thousands of quarts have been picked, a large per cent of which have found their way into the local markets. They brought, at first, 15 cents a quart when looked over, but of late, only 10 cents have been paid. The cultivated berries are just beginning to get ripe. The vines, in most cases, are well loaded with the developing fruit. F. O. S.

STEUBEN COUNTY, N. Y.—A four-acre field of oats, "mudded in" about the middle of April, on rather poor soil, now look as though they would by far outyield those sown when the ground became dry enough to harrow well. I feared the hot, dry weather which immediately followed, would bake the ground and ruin the crop. The field was pasture sod turned under in December last; the catch of clover and Timothy is fine. A surplus of large tomato plants were plowed in; the plants were dropped in every fourth furrow, so as to leave six or eight inches above ground. The ground was leveled and firmed with a two-horse land roller. A neighbor did a first-rate job covering potatoes with an Iron Age cultivator, using the leveler attachment in the rear, which regulates the depth, and takes the weight from the operator's arms. He talks of putting in a rigid pole for two horses. Carrots, sown May 20, made a poor stand; some were washed out and others washed in by dashing showers. The Sweet German turnips, under the same conditions, stood this severe treatment all right. The carrots were harrowed up and the ground sown to turnips June 12. June 16 we had a shower which swept away bridges and washed out roads, but the turnips came up in good shape. W. B.

ENCOURAGING PROSPECTS IN WESTERN NEW YORK.—We had severe winter weather all through the month of March and the beginning of April; then summer weather came with a rush. We had no spring, and no frosts through the last half of April and the first of May, as is usual in this latitude. The soil was in fine condition during seeding time (a little dry). All vegetation is fully 10 days ahead of the average season. Haying is well under way. With the frequent rains of the past three weeks, the hay crop has made a wonderful growth; fully 75 per cent of an average yield will be cut. With no grasshoppers to eat up the second crop, and the present growth lodged in places, it begins to look like farming again. A large acreage of oats was sown, and they never looked better. Clover and grass seed are a good catch; with sufficient rain, we are in hopes to see a fine stand again. Corn is a much better stand than last year, very little troubled with cut or wireworms, is good color, and promises a big harvest. Fully 25 per cent more than an average acreage of potatoes has been planted, which is 20 to 30 per cent less than last year. Early-planted are in excellent condition; they came up quickly, and have not been checked in their growth. New potatoes are reported large enough to eat. Beetles have been very numerous, but for some reason unknown to me, there have been no slugs. I do not know of any one having to spray this season. When we think of the two past years, with drought, grasshoppers, and potato bugs, and contrast them with the present year, it begins to look more encouraging for the future. L. D. GALE.

CROP AND MARKET NOTES.

Dressed calves are in large supply, and prices tend lower.

Maple sugar is selling at seven to eight cents per pound.

New potatoes are selling at ruinous prices, while old ones can hardly be given away.

The acreage of wheat and barley in California is said to be considerably larger than last year.

The Chicago market for bran is reported very dull, fine bran selling at $7.50, and coarse at $7.25. Shorts at about the same figure.

The big hay warehouse of the Lehigh Valley Railroad, which was burned last month, is to be rebuilt and with double the capacity of the old one.

The peach crop in Maryland and Delaware is likely to be a heavy one this year. The peach basket business is having a boom in consequence

W. H. Jordan. of the Maine State College and Experiment Station, has been elected Director of the New York Experiment Station. Charles D. Woods, of the Storrs (Conn.) Experiment Station, has been elected Professor of Agriculture of the Maine State College, and Director of the Experiment Station. Hereafter the address of Mr. Jordan will be Geneva, N. Y., and of Mr. Woods, Orono, Me.

The area devoted to oats last year in the United States was 27,878,406 acres; number of bushels raised 824,443,537, against 662,086,928 the previous year.

Galveston, Tex., is fast becoming a great grain exporting port. Two new elevators with a total capacity of 600,000 bushels are now being constructed.

The old bugaboo of an inspection law for export meat, has again been laid on the shelf by a further postponement of its provisions until March 15, 1897. It isn't likely ever to be put in force.

Reports from Minneapolis and the Dakotas, indicate that the outlook for the spring wheat crop is good. The acreage is about up to the average. It is said that 7,000,000 to 8,000,000 bushels of last year's crop are still in the farmers' hands.

It is said that the acreage of cotton this year, is larger than that of last year, though less than that of 1895. The number of acres planted, according to reports, approximates 20,000,000. The crop is well advanced for the season, and is, generally, in excellent condition.

Shipments of wheat and corn to South Africa, which have been a feature of the export grain trade from New York for some time, have been exceptionally heavy during the past few weeks. Over 1,000,000 bushels of corn have been shipped since June 1, and several steamers are now loading or chartered to sail within the next few weeks. The bulk of the grain shipped has been corn. There has been considerable wheat, however, and several car-loads of this grain have also recently been shipped from San Francisco. The cause of these heavy shipments is the shortage of the wheat crop in Australia and Argentine, and the failure of the corn crop in Africa. This condition of affairs is thought to be only temporary, and is not likely to continue in its present proportions.

Officials of the Southern Railroad estimate the Georgia peach crop to be moved during June and early July, at 500 car-loads, each containing 550 three-fourths-bushel crates; one-fourth of this entire output is expected to come from the great Hale orchard at Fort Valley. This orchard has over 100,000 trees in one solid block. It has 17 miles of drives through its straight rows of well-kept trees, and its own railroad direct from the packing sheds in the center of the orchard. It also has a hotel to accommodate 200 extra people during the rush of the fruit season, when over 500 people are employed, and is the largest peach enterprise anywhere in the world. J. H. Hale, the Connecticut peach man, is president and general manager, and the entire crop will be marketed in New York, Hartford, Springfield, Providence, Worcester and Boston, none going to western points.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 15	@	—
Medium, 1895, choice	1 05	@1	07
Pea, 1895, choice	1 05	@1	07
Medium or pea, common to good	90	@1	00
White Kidney, 1895, choice	1 25	@	—
Red Kidney, 1895, choice	1 00	@1	02
Red Kidney, common to good	80	@	95
Black Turtle soup, 1895	1 20	@1	25
Yellow Eye 1895, choice	1 20	@1	25
Lima, Cal., 1895 (60 lbs)	1 80	@	—
Green peas, bbl., per bushel	72	@	75
Bags, per bushel	67	@	70
Scotch, bags	70	@	72

BUTTER—NEW.

Creamery, Western, extras	15	@	15½
Western, firsts	14	@	14½
Western, seconds	12½	@	13
Western, thirds	11	@	12
State, fancy	15	@	15½
Common to prime	11	@	14½
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	14
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	12	@	12½
Seconds	10	@	11
Western dairy, firsts	11	@	12
Seconds	9	@	10
Thirds	8	@	9
Factory, fancy	10½	@	11
Factory, firsts	9½	@	10
Factory, seconds	9	@	—
Factory, thirds	8	@	8½
Old butter	7	@	10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾	@	—
Colored, good to choice	6¼	@	6½
Fair to good	5	@	6
Fancy white	6⅝	@	6¾
White, choice	6¼	@	6½
Small, colored, fancy	7	@	—
Small, white, fancy	7	@	—
Small, good to choice	6½	@	6¾
Small, common to fair	5½	@	6¼
Light skims, choice	5	@	5¼
Part skims, good to prime	4	@	4½
Part skims, common to fair	2	@	3
Full skims	1½	@	2

EGGS.

Near-by, new laid, fancy, per doz	13	@	13½
State, fresh gathered	12	@	12½
Penna. and Md., country marks, fancy	11½	@	12
Western, closely graded, fancy	11½	@	12

Our Readers who are in want of a Thresher, Horse-power, Engine, Dog power, Ensilage-cutter, Saw machine, Feed mill, Fanning-mill or Land-roller, will, we believe, be **sure to get the best,** and at the **lowest price** consistent with quality and value of goods, if they deal with the old and reliable manufacturer, MINARD HARDER, Cobleskill, New York; who sends free his beautifully illustrated and plainly and clearly descriptive catalogues to all applicants mentioning this paper

N. Ohio, Ind., Ill. and Mich., prime	11½	@	12
Other Western, northerly sections, prime	11½	@	12
Western, fair quality	10½	@	11
Southern, fresh collections, good to prime	9	@	10
Western and Southern, poor, per case	2 40	@2	85
Western culls, per case	1 50	@2	00

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼	@	6½
Choice, 1895, per lb	5⅜	@	5¾
Prime, 1895, per lb	5	@	5¼
Common to good, per lb	3	@	4¾
N. C., sundried, 1895, sliced, fancy	3½	@	3¾
Southern, sundried, common to choice	2	@	3¼
State, sundried, quarters, hhls	2½	@	3½
Western, sundried, quarters, bbls	2½	@	3½
South-West'n, sundried, quarters, hbls.	2½	@	2⅝
Southern, sundried, quarters, hhls	2	@	2½
Southern, sundried, quarters, bags	2	@	2¼
Chopped, 1895, per lb	2	@	2½
Cores and skins, 1894, per lb	2	@	2¼
Peaches, Sundried, 1895, peeled, per lb	3	@	6
Cherries, 1895, per lb	9	@	10
Blackberries, 1895, per lb	5½	@	6
Raspberries, evaporated, 1894, per lb	16	@	—
Sundried, 1895, per lb	15	@	—
Huckleberries, 1895, per lb	5	@	5½
Plums, Southern Damsen, 1895, per lb	4	@	4½

FRUITS—GREEN

Apples, Va., green, per half-bbl basket	1 00	@1	50
Md. and Del., per crate	75	@1	25
Blackberries, N. C., large, sound, per quart	10	@	12
Small or soft, per quart	7	@	9
Md. and Del., cultivated, per quart	13	@	15
Md. and Del., small early, per quart	9	@	11
Cherries, extra large, dark, per lb	9	@	10
Medium, dark, per lb	7	@	8
Medium, light colored, per lb	8	@	9
Small and inferior, per lb	3	@	5
Currants, per quart	6	@	7
Per lb	5	@	—
Gooseberries, green, per quart	3	@	4
Prime green, per bushel	1 00	@1	25
Extra large, per quart	6	@	10
Grapes, Fla., Niagara, per case	75	@1	25
Huckleberries, N. C., per quart	9	@	10
Md. and Del., per quart	9	@	11
Jersey, per quart	10	@	11
Mountain, Penn. and State, per quart	11	@	12
Muskmelons, Charleston, per bushel-basket	50	@1	25
Florida, per half-bbl	50	@1	00
Peaches, N. C., early sorts, per carrier	1 25	@2	50
S. C., early sorts, per carrier	1 50	@2	25
S. C., early sorts, per flat case	75	@1	25
Georgia, Tillotson, per carrier	2 25	@2	75
Georgia, Early Rivers, per carrier	1 50	@2	00
Georgia, unsound, per carrier	1 00	@1	25
Md. and Del., per basket	30	@	75
Md. and Del., per crate	50	@1	00
Florida, as to size, per carrier	1 00	@4	00
Plums, S'n, Wild Goose, per carrier	1 75	@2	00
Wild Goose, per flat case	1 00	@	—
Chickasaw, per 6-till carrier	75	@1	25
Botan, per carrier	2 00	@2	50
Pears, LeConte, per bbl	3 00	@5	00
Raspberries, blackcap, per pint	3	@	5
Blackcap, per quart	6	@	9
Red, Up-River, per ½ cup	6	@	7
Red, Md. and Del., per pint	5	@	7
Strawberries, Hilt'n & Irv., ex. fancy, per qt.	15	@	16
Hilton & Irv., fair to choice, per quart	10	@	14
Up-River, per quart	10	@	18
Western New York, per quart	8	@	18
Watermelons, choice, large, per 100	20 00	@23	00
Small to medium, per 100	13 00	@18	00
Per car-load	175 00	@225	00

GRASS SEED.

Clover, per 100 lb	6 75	@ 8	25
Timothy	3 50	@ 4	00

GRAIN.

Wheat	68	@	83
Rye	59	@	45
Barley	38	@	41
Buckwheat, silver	40	@	42
Buckwheat, Japan	—	@	—
Corn	33	@	38
Oats	23	@	28

HAY AND STRAW.

Hay, No. 1 Timothy	90	@	—
No. 2	75	@	85
No. 3	60	@	70
Clover, mixed	65	@	70
Clover	55	@	60
Salt	45	@	50
Straw, long rye	85	@1	10
Short rye	70	@	75
Oat	50	@	60
Wheat	45	@	50

HONEY.

State, white clover, comb, per lb	—	@	—
Buckwheat, comb, per lb	7	@	8
White clover, extracted, per lb	5	@	6
Buckwheat, extracted, per lb	4	@	—
California, comb, fair to prime, per lb	10	@	12½
Extracted, per lb	5½	@	6
Southern, in bulk, per gallon	45	@	55

HOPS.

N. Y. State, crop of 1895, choice	7	@	8
Medium to prime	5	@	6½
Crop of 1894, fancy	4	@	4½
Prime	3½	@	—
Medium	3	@	—
Common	2	@	2½
Old olds	1½	@	2½
Pacific Coast, crop of 1895, choice	6	@	7
Prime	5½	@	—
Medium	4½	@	—
Crop of 1894, common	2	@	2½
German	14	@	20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	6	@	6½
Fair to good, per lb	4½	@	5½
Com. to med., per lb	4	@	4½
Small, per lb	4	@	5
Buttermilks	4	@	4½
Pork, country dressed, light, per lb	5½	@	6
Medium, per lb	4½	@	5

NUTS.

Peanuts, Va., h. p., fancy, per lb	4¾	@	—
H. p., extra, per lb	3¾	@	—
Shelled, No. 1, per lb	5	@	5¼
No. 2, per lb	3¾	@	4
Spanish, shelled, No. 1, per lb	6	@	6¼
No. 2, per lb	4¼	@	—
Pecans, ungraded, per lb	3½	@	4

POTATOES.

Southern Rose, fair to prime, per bbl	1 00	@1	50
Chili red, fair to prime, per bbl	87	@1	12
Seconds, per bbl	50	@	75
Culls, per bbl	30	@	40
Old, per barrel or sack	35	@	50

POULTRY—LIVE.

Spring chickens, per lb	12½	@	16
Fowls, local, per lb	11	@	—
Western, per lb	11	@	—
Southwestern, per lb	11	@	—
Southern, per lb	11	@	—
Chickens, yearlings, per lb	11	@	—
Roosters, old, per lb	6	@	7
Turkeys, mixed, per lb	8	@	9
Ducks, local, per pair	80	@1	00
Western, per pair	70	@	90
Southern, per pair	60	@	65
Geese, local, per pair	1 25	@	—
Western, per pair	1 00	@1	25
Southern, per pair	75	@	85
Pigeons, old, per pair	35	@	—
Young, per pair	20	@	25

DRESSED POULTRY.

Turkeys, average, hens, per lb	10	@	11
Average toms, per lb	9	@	10
Chickens, Phil., broilers selected, per lb.	22	@	—
Phila., broilers, ordinary, per lb	16	@	20
L. I., broilers, scalded, per lb	16	@	18
Pennsylvania, broilers, per lb	18	@	20
Western, dry-picked, broilers, per lb.	15	@	17
Western, scalded broilers, per lb	15	@	16
Western, small, per lb	13	@	14
Fowls, Western, dry-picked, choice	10	@	10½
Dry-picked, fair to good, per lb	9	@	10
Scalded, choice, per bbl	9½	@	10
Old cocks, per lb	5	@	5½
Spring ducks, Eastern, per lb	15	@	—
Spring ducks, L. I., per lb	15	@	—
Squabs, tame, white, per doz	2 25	@	—
Mixed lots, per doz	1 50	@2	00
Dark and poor, per doz	1 25	@	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 50	@1	75
Prime, per doz bunches	60	@1	25
Culls, per doz bunches	25	@	50
Beets, per 100 bunches	1 00	@1	50
Cabbage, L. I., per 100	2 50	@3	00
Carrots, per 100 bunches	1 00	@1	25
Cauliflower, L. I. and Jersey, per bbl	1 00	@3	00
Celery, fancy, large, per doz	—	@	—
Average, prime, per doz	40	@	50
Small, per doz	20	@	30
Cucumbers, Charleston, per basket	40	@	50
Savannah, per crate	20	@	25
N. C. and Norfolk, per basket	25	@	40
Egg plant, Southern, per bbl	3 00	@3	50
New Orleans, per box	1 50	@	—
Charleston, per basket	1 50	@	—
Green corn, N. C., per 100	75	@1	00
New Jersey, per 100	75	@1	00
Green peas, Jersey, per basket	—	@	—
Jersey, per bag	—	@	—
Long Island, per bag	1 50	@2	00
Lettuce, per bbl	50	@	75
Onions, Bermuda, per crate	75	@	85
Egyptian, per bag	1 00	@1	10
New Orleans, per bbl	1 75	@	—
New Orleans, per bag	70	@	75
Southern potato, per basket	50	@	75
Radishes, per 100 bunches	25	@	75
Rhubarb, per 100 bunches	1 00	@1	25
Spinach, per bbl	25	@	50
Squash, Southern, white, per bbl crate	75	@1	00
Southern, yellow, per bbl crate	75	@1	00
Southern marrow, per bbl-crate	75	@1	00
String beans, Jersey, per basket	1 00	@	—
Marviand, per basket	75	@1	00
Baltimore, per bushel basket	60	@	75
Norfolk, wax, per half-bbl	50	@	85
Norfolk, green, per half-bbl	50	@	80
Tomatoes, Fla., prime to extra, per carrier	75	@	85
Florida, poor to good, per carrier	40	@	60
Mississippi, per case	60	@	90
Savannah, per carrier	75	@1	00
Norfolk, per carrier	50	@	75
Turnips, new, white, per 100 bunches	1 00	@2	00
Watercresses, per 100 bunches	1 00	@1	50

WOOL.

XX and above, Ohio	18	@	19
X, Ohio	15	@	16
Other grades	20	@	22
Washed combing and delaine	18	@	23
Unwashed combing	17	@	20
Texas, medium to choice	10	@	13
Fine and medium, fall clipped, Texas	9	@	10
California	9	@	15
Oregon	12	@	13½
Territory	7	@	14

MILK AND CREAM.

The total daily supply has been 19,675 cans of milk, 206 cans of condensed milk and 2,077 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

Miscellaneous Advertising.

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Live Stock Matters

"THE AMERICAN HOG."

Now that the poets have taken hold of the hog, we may expect to see that animal root his way still further into popular favor. In the Swine Breeder's Journal, Mr. Geo. W. Franklin has the following:

The American hog surpasses venison,
Bear meat, coon or fowl,
Goat meat, mutton or 'possum,
Or from turkey down to owl.
We long for a plate of quail
On toast and other things we see,
But the delicious breakfast bacon
Is good enough for you or me.

Retired farmers who've moved to town,
Live on codfish and macaroni,
Old cow beef, mackerel and halibut,
Or terrapin and dried bologna,
They are invited back to our farms,
They are welcome as they can be,
And they'll find broiled hams
Good enough for them or me.

A TALK ABOUT TUBERCULOSIS.

THE R. N.-Y. is, undoubtedly, aware of the almost absurd proportions which the tuberculin fad has acquired among veterinarians and physicians, of whom the latter especially are backing up the theories of the former. An illustration of this has recently come to my notice. Having purchased a herd to go to the State of Vermont, whose emblem is "Freedom and Unity," the authorities call a halt on introducing a valuable lot of cattle for the improvement of their dairy stock, by saying that the same must be first subject to the injection of a poisonous fluid in their delicate, sensitive bodies, and if, after such test has been made, certain degrees of temperature suit the board of "untuberculin" commissioners, they will, in their vast knowledge of the inner portions of the animal's body, allow, or not allow, them to pollute the State. All of which is, of course, under the head of "freedom."

I am as much opposed to disease in animals as it is possible to be, and my "hobby" is to breed only those that have the strongest possible constitution. Nevertheless, I fail to find many of the best breeders who are in favor of this test. Would it not be possible for your influential paper to advocate that all tuberculin commissioners or veterinarians, also physicians, when receiving their diploma or appointment, be first subjected to a "tuberculin test" or some kind of lymph, yet to be found, to ascertain if there is anything contained in the hollowness of their skulls which is supposed to hold what are termed "brains"?

It is not my intention to ridicule the tuberculin test or its uses, but the manner in which it is, at present, used on healthy animals. Would it not be well to have a discussion, and ask the best veterinarians to give their views, together with well-informed breeders and others who have, in any way, become connected with this matter of cattle diseases? It would seem that if, on physical examination by expert veterinarians, cattle show any indication of tuberculosis, it is then time enough to use the test; and I would ask if the surgeon can prove that a small tubercle, probably the size of a pea, which has become encysted and is in some portion of the body other than the mammillary, probably the throat glands, will affect the milk.

Again, it is also possible to ascertain if bacteria of tuberculosis is in the milk by examination, and if it be found that such product is diseased, of course, it should be kept from use by either humans or animals. It would seem to me that theories have been jumped to without practical knowledge, and it is time to call a halt. Instead of each State having independent laws, the Federal Government should take up the matter, and make the laws conform to each other and eradicate tuberculosis, if possible.

Many things are to be overcome before this is done, unless the tuberculin test is applied to the human race and they are treated the same as the poor animal is, because the disease, tuberculosis, has increased more by the germs which float in the air from the sputum of the diseased persons who walk through our streets, and travel in our public conveyances, and also eat and drink at the public restaurants and hotels, than from milk. Let us hear from all sides, for and against, and THE R. N.-Y. do the summing up. A. C.

THE HORSE TRADE OUT WEST.

A writer in the Iowa Homestead gives the following account of a visit to a horse auction:

At our elbow, stood a man who bid on nearly every horse weighing 1,000 to 1,100 pounds that was offered, but he invariably stopped at $50, finally securing an animal at $47.50. To our inquiry, he replied that he wanted a horse for a baker's delivery wagon, but that he was limited to $50. Other horses sold at auction we learned were for butchers' wagons, and a painter and paper hanger was overheard remarking that his business was such that he had concluded to purchase a horse; but his views of values were of the lowest kind and he, too, was after a cheap animal. Buyers shipping both east and south were also among the bidders, but $75 or $80 was their limit for the best offerings.

Passing to another barn, we found a buyer looking for a team for an eastern rolling mill. Nothing less than a weight of 1,900 pounds, he stated to the salesman, would be looked at, and 2,200 would be much more desirable. There were no such weights in the barn, and the buyer passed on and we followed. As we caught up, we inquired, "What price would you pay for such a team as you wish?" Without stopping, the reply came quickly, "Price, price is no object if I could only get what I want;" then followed a burst of language somewhat too strong to be reproduced in print. As we walked on together, the buyer gave expression to his feelings, and evidently felt better afterwards, for he had been in every horse barn and could not find what he wanted. Then the farmers were scored bitterly for raising such scrubs as the market afforded, and our new-found friend, becoming talkative when he had found a good listener, informed us that size, and he emphasized the word when he added, "big heavy horses are what is wanted." Having had a somewhat hard experience in the stock yards that morning with some cattle averaging close to 2,000 pounds, we timidly suggested that heavy steers were not in demand, and when farmers raised horses of that weight and had them ready for market, the chances would be that buyers would want something else just as they did with cattle, hogs and sheep. "Never, never," repeated the horse buyer; "the day has passed for heavy-weight cattle and hogs, but you can never get horses too strong or too heavy."

The next buyer we met was of a different class, for, armed with a commission to buy a carriage team, he, too, was giving vent to his feelings because he could not get what he wanted. "I am authorized to pay $500 for a team," he said to a horse salesman, "but I can't fill the order." He was assured that a consignment of choice drivers and carriage horses would soon arrive, and a letter was produced that was received that morning, evidently verifying the statement. As the buyer of carriage horses was leaving, he called out, "Telephone me as soon as they get here, for I have a number of customers for both single and double drivers, and they can't be too good. Mind and let me have first chance; my orders are urgent and I want nothing but the best." He again circled around to the auction sale, and here amidst the cracking of whips, shouting and yelling, the auctioneer was calling, "50 I have, 50 I have, make it 55, make it 55, 52½ I have, sold for 52½."

THE ORIGINAL PLYMOUTH ROCK POULTRY.

In the Poultry Monthly, Mr. H. S. Burdick gives the following account of the origin of this popular breed of fowls:

Some time 'way back in the sixties, when the "poultry industry" was in its infancy, receiving but little attention except from a few men who bred principally for the eastern and New York markets, when the name "poultry fancier," in its present sense, was unknown, a New England breeder had, in his yards, two distinct and dissimilar breeds of the few breeds then entitled to the distinction of thoroughbreds. They were the Dominique, now known as the American Dominique, and the Black Java. They were either accidentally or designedly crossed, the product being of the color of the Dominique, with its desirable yellow legs, beak and skin, but with the size and general shape of the Java, improved by the more blocky Dominique. Finding these birds so well adapted to the demand existing for a general-purpose fowl, he bred them together, selecting the most desirable specimens, and he soon had in them a distinct breed, which bred reasonably true to his ideal type. Being a descendant of the Pilgrim Fathers, in commemoration of the spot where those sturdy pioneers first set foot on New England's "rock-bound coast," he called his new creation "Plymouth Rock," and in 1867 first exhibited the new breed at an organized poultry show.

The Plymouth Rocks, thus made and introduced, at once had what we now call a "boom," and this boom has continued ever since, and bids fair to continue, from present appearances, till the "crack of doom." The originator, a very modest man, is still living at Wilsonville, Conn. His name is D. A. Upham. His name should be written in largest capitals, and have a place among the names known and honored as benefactors of their country. As the originator and introducer of the Plymouth Rock fowl, the best fowl in America for utilitarian purposes, his name should be known and his foresight honored, as long as this noble bird or the original indestructible rock endures.

(Continued on next page.)

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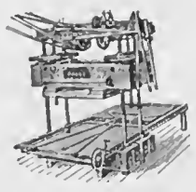

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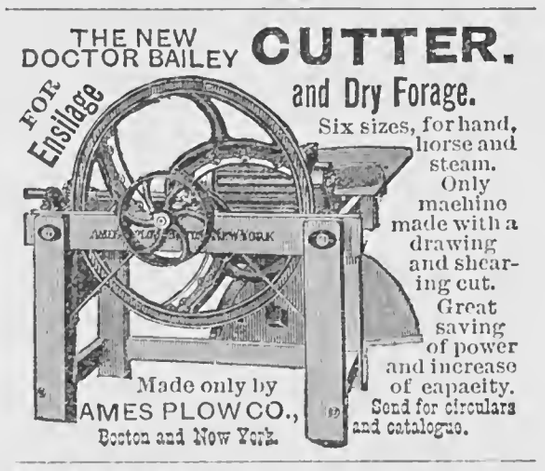

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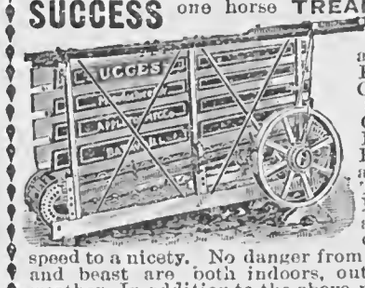

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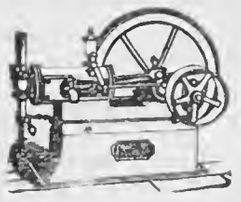

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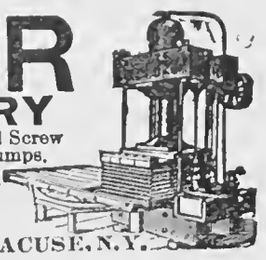

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LIVE STOCK MATTERS.

(CONTINUED.)

The Plymouth Rock fowl is, to-day, known, admired and profitably bred from the inhabitable limits of the British possessions on the north, to the boundaries of the United States on the south, from the Atlantic coast on the east to the Pacific coast on the west, and it has crossed the waters, finding a welcome in the countries beyond the seas, and on the islands thereof, until to-day in America there are more Plymouth Rocks bred than there are of *all other* so-called "thoroughbreds" combined.

It is pertinent to inquire *why* this is so. The answer need require but few words—it is preëminently an all-purpose fowl, adapted, from its hardiness, to all climates, and equally at home and ready for business in any of them. It is a universal hustler, aud the best market poultry bird ever known—having the size, shape and habits that everywhere, other conditions being equal, return the most dollars and cents for feed and labor given. As a general proposition, all domestic fowls end, if profitable, by "going to the pot." The Plymouth Rock pays as well as any, performs its mission living as well as any—better than most—and pays better than auy other breed when it goes to market, its earthly career ended. This last quality is the secret of the success of the Plymouth Rock.

In another paper we find the following statement by Mr. Upham: "I originated, named and first exhibited the Barred Plymouth Rock fowl of to-day, and first exhibited them at Worcester, Mass., in March, 1867. They were produced by a first cross of an old-fashioned, hawk-colored, barnyard, single-comb cock, on an Asiatic Black Cochin hen, progeny of Cochins imported by John Giles, of Putnam, Conn. Second cross was by me, progeny of first cross bred to a Gray Chittagong male, which was hatched from eggs purchased of G. P. Burnham, of Boston, birds imported by him, which he called Gray Chittagong, or Brahmapootra, very large, handsome, smooth-legged fowls. The progeny of this cross were bred in and in by me, until I showed the first three pairs of what I named Plymouth Rocks, as above stated. This is a true statement of the breeding, naming and first exhibiting of the modern Plymouth Rocks of to-day."

THE PARTRIDGE COCHIN FOWL.

This is an old-established breed and, therefore, needs no description. To me, they are the most beautiful of the Cochin family; the rich, brown plumage of the hen, penciled with a darker shade, is certainly pleasing to the eye. And the cock with his red or orange-colored hackle, and saddle feathers striped with black, and his solid black breast, metallic green and bay on his wing, bright-red comb and wattles, and his stately carriage make a picture of beauty. For town or city, this breed will not fail to please, as the plumage does not become soiled. They stand confinement better than any other breed I know, and are very hardy, seldom showing any signs of being out of perfect health. Their eggs usually hatch well, the chicks are strong and healthy, and mature very fast for a large breed. I now have a pair of chicks hatched March 16, making them 14 weeks old, that weigh six pounds, and have never been on the grass.

The Cochins are large eaters if given all they will eat; that is where so many make a mistake in thinking that because they are large, they must have all they will eat. They take on fat very rapidly, consequently do not lay much. I feed very little to my Cochins, keeping them hungry all the time, and they prove to be good layers. I started January 1, with 10 pullets, let eight of them hatch, and lost two through carelessness. To May 31, they laid 439 eggs, or 36 7-12 dozens. I took the chicks from the hens as soon as hatched, as I raise all my chicks in a brooder. I had a pullet hatched in 1894, that commenced to lay at seven months, and in 140 days laid 120 eggs; but they do not all lay as well as she did.

I cannot say how they would suit on a farm, but I think that if they were yarded and not left to run in the barn yard among the cattle and other stock, as they are a little clumsy and likely to get crippled, they would do very well. But as a cross with the Brown Leghorn, they make a fine and profitable fowl for the farm. I have two friends who have tried them, and they speak highly of them as layers; and then they breed all one color. The P. C. was my first choice of purebred fowls, and I have been breeding them for 20 years. I have tried many others, but discarded them all, and stick to my first choice. Not that the breeds that I have tried have not their good qualites, also, but they did uot suit me and my limited quarters so well.

H. WILKINSON.

FORKFULS OF FACTS.

NO SCIENCE, BUT EGGS.—I have read your articles on the hen, with a good deal of interest. You called some time ago for practical experience, I think. I will give you something different from the theories. An old Scotchman had about 100 of auy or no breed. A few seemed to have a little of the old English Dorking—plump bodies, short legged. He always got plenty of eggs; all the year 'round some, during the heavy laying season often as many as 40 dozen per week. Most of these heus had no shelter at night, beyond that a bare apple tree gave, and were fully exposed to western and northern blasts, winter and summer. Now for the feed. Corn meal and what is called here, brown stuff, half and half by measure, mixed with boiling water, very dry and allowed to cool, twice a day, as much as they could eat up clean. No bones, no meat, plenty of oyster shells, and the milk, perhaps a gallon, after skimming, when the cow was in milk. Sometimes, in very cold weather, a little corn was given at night when the means would allow. I tried to get him to keep an account of the eggs so as to judge the number from each hen, but could not do so. One thing I do know, he would be getting eggs when none of his neighbors had any, and always topped me, though I fed more muscle-making foods, including meat and bone. I should say the hens were very active and great foragers—having unlimited range over a good thick sod containing a good many wild leguminous plants.

J. C.

Henrico County, Va.

DO DOGS REASON?—About eight weeks ago, I bought a St. Bernard puppy to amuse my little ones, and they named him Tacho, a Spanish name, the name of a favorite mastiff of theirs that we had left behind us in South America. Its mother is called Diana. She did not see me when I took away her puppy, but as we live less than a mile from the place, a few days ago, she saw the puppy aud instantly recognized it as hers. She tried every device in reason to entice Tacho away, but he could not be induced to accompany her farther than the road. He was too large for her to carry. Every moruing for a week, the same programme was enacted, but Tacho could not be prevailed upon to desert his new home and master. I was surprised one morning to see Diana with a piece of raw meat in her mouth, waiting outside for Tacho. Supposiug, naturally, that she had brought it to give him to eat, I let the puppy out, to see what would be done. It never occurred to me that she could have reasoned, or had any design further than her natural instinct in the matter. Judge my surprise, when, instead of giving it to him to eat, she only allowed the puppy to smell of the meat, and then raising her head out of his reach, slowly walked off, and thus "his appetite overcame his judgment," and Tacho followed her off. Three times I called him back, and three times she returned and enticed him off, the last time graciously allowing him to have a taste of the meat. I then locked Tacho up, much to the disgust of Diana. Now did Diana reason out this method to entice her puppy back home? She denied herself of the meat, and came here from her own home for the evident purpose of enticing Tacho away. I confess that I cannot explain it upon any other hypothesis, but that Diana reasoned.

G. D. COLEMAN.

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I pressed a kiss upon her hand,
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She blushed and softly murmured,
"There's a place for everything."—*Puck.*

EVEN the most impulsive women have their good traits. An Irishman, mourning his late wife, tearfully remarked: "Faith, and she was a good woman. She always hit me wid the soft ind av the broom."—*Modes and Fabrics.*

INEXPERIENCED RIDER: "What! you wish me to pay in advanee? Are you afraid I sha'n't eome baek with the horse?" Proprietor of Livery Stable: "Ahem! it is just possible the horse will eome baek without you."—*Modes and Fabrics.*

SHE was a smart and pretty girl. She wrote the advertising for a large dry goods eoneern in town. Her mind used to run so mueh upon her business that one day when she wrote to her lover to meet her that night at home she unconseiously added as a postseript: "Come early and avoid the rush!"—*Printer's Ink.*

"CERTAINLY," said the farmer's wife to Meandering Mike, "I'll give you your breakfast." "Thank you, ma'am, fur ever an' ever." "Suppose," she went on, with a glanee at the wood-pile, "that you start in with a chop?" And he turned haughtily away with the remark to the effeet that nothing was so offensive to a man of taste as an untimely and unseemly jest.—*Washington Star.*

"FATHER," he began, after taking the old man out baek of the barn, "your years are many." "Yes, my son." "You have toiled early and late, and by the sweat of your brow you have amassed this big farm." "That's so, William." "It has pained me more than I ean tell, to see you at your age, troubling yourself with the eares of life. Father, your deelining years should be spent in the old arm chair in the ehimney corner." "Yes, William, they should." "Now, father, being you're old and feeble, and helpless, give me a deed of the farm, and you and mother live out your few remaining days with me and Sally." "William," said the old man, pushing baek his sleeves, "I think I see the drift of those remarks. When I am ready to start for the poorhouse, I'll play fool and hand over the deed, William." "Yes, sir." "In order to dispel any illusion on your part that I am old, and feeble, and helpless, I am going to knock down half an acre of eorn with your heels!" And when the eonvention finally adjourned William crawled to the haystack and cautiously whispered to himself: "And Sally was to broaeh the same thing to ma at the same time. I wonder if she is mortally injured or only erippled for life."—*New York Telegraph.*

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NO TAR **FAY'S MANILLA ROOFING.**
CHEAP STRONG **WATER PROOF,** Not affected by gases.
No RUST nor RATTLE. *Outlasts tin or iron.*
A Durable Substitute for Plaster on walls. Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c.
The FAY MANILLA ROOFING CO., CAMDEN, N. J.

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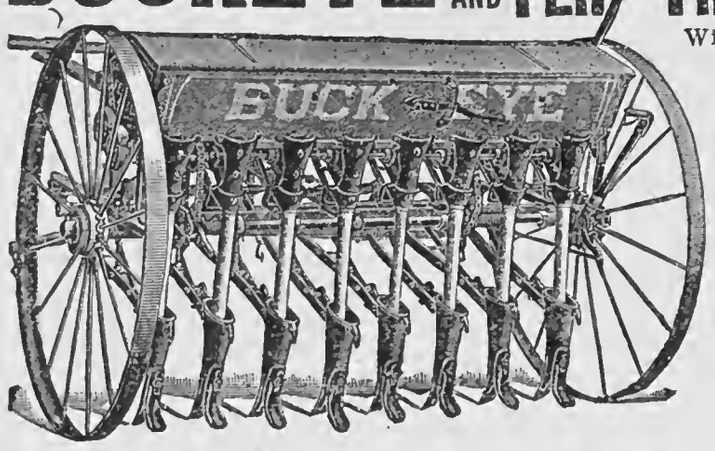

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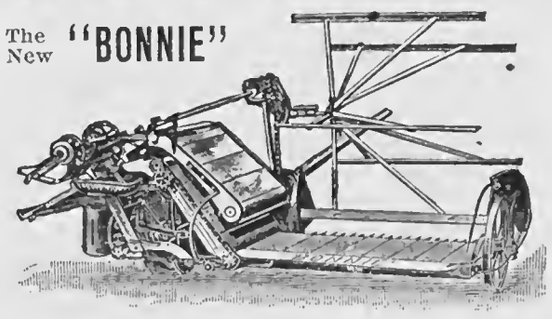

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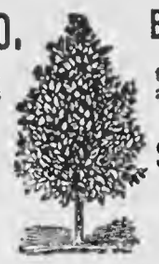

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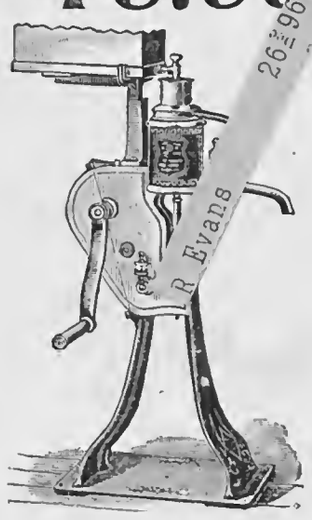

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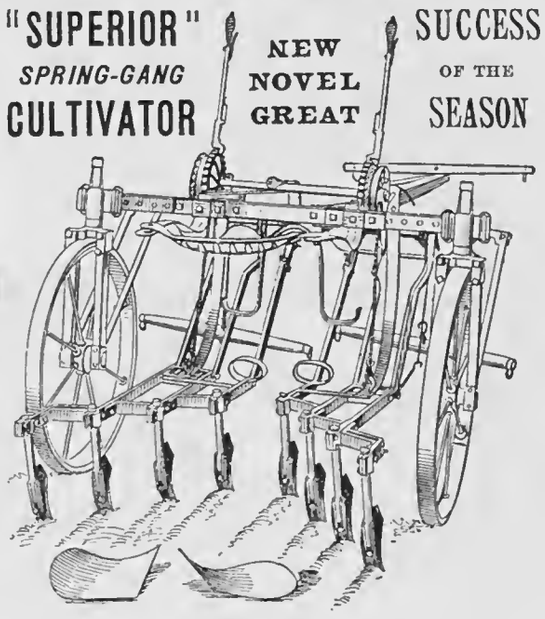

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2424. NEW YORK, JULY 11, 1896. $1.00 PER YEAR.

AN OLD-TIME OHIO FARMER.

RECORDS OF A BYGONE GENERATION.

Old-Fashioned Farming Brought Up To Date.

Mr. Peter Porter, of Ross County, Ohio, was born November 3, 1811. He has always been a farmer, and now owns 1,600 acres of land located in his native county. At the age of 85, he still mounts his horse, makes the rounds of the farm, and claims that he can do a better job than any of his hired men. His 1,600 acres have been paid for with money made at farming. He still makes the farm pay while following nearly the same methods in vogue 57 years ago!

Mr. Porter has outlived all his children except one daughter. Years ago, he divided his farm into four parts, and made his will. Three parts he still works himself, while a son-in-law controls the fourth. Mr. Porter's wife has been dead 13 years. All through her life she was a real companion and helpmeet, giving council in all important matters of business and farm work. I have thought that a story of Mr. Porter's farming, told in his own words, might be interesting to R. N.-Y. readers in these days when we hear so much about the "good old times" of our fathers.

AN OLD-TIME OHIO FARMER, WITH HORSE AND TOOLS. FIG. 150.

"The Good Old Times."

In speaking of his boyhood days, Mr. Porter says: "There never were much poorer people than we were. I can remember when my brother and I could cut only seven shocks of corn in a day. I went to school, all told, about one year. When 23 years old, I went to school 38 days, which was worth more to me than all the rest of my schooling together. Those 38 days' schooling have been worth to me $10,000."

"Do you remember the first money you earned?"

"Yes; I rode one horse and led three on the thrashing floor, for which my brother paid me one cent a day. I cut cordwood for use in a distillery, for 25 cents per cord. I can remember when young, strong men worked for $5 per month, and took their pay, as I call it, in chips and whetstones; that is, tobacco, meal, or articles from the store; plates, knives, forks, etc."

"What kind of a harrow did you first use?"

"My first harrow I made from a forked stick, boring five quarter-inch holes for the teeth, and making locust pins for the teeth. When they got dull, I turned the harrow over and sharpened them with the drawing knife. I think that I must have now on my farm of modern make, $150 worth of harrows. In those days, we plowed with the wooden moldboard plow with a cast point and coulter. My father died before I was 10 years old. When 20 years old, and starting for myself, my mother had an old black mare that she let me have. I bought another horse for $30, the man waiting on me one year for the pay. About two years after, I bought another for $50 on a year's time. Two years after I bought another for $65. I then thought that I was getting to be pretty well off. I was married at 29 years of age; my wife being 27 years old. I then owned two horses and five cattle. In the thirties, I bought of one man a wagon for $115, a breaking plow and two seven-pound axes. I have parts of that wagon yet."

How the Farm was Bought.

"When did you buy your first land?"

"In 1844, I bought 188 acres, and was to pay for it with 30,000 pounds of pork, 20,000 feet of first-class poplar lumber, and $100 worth of butter at 12½ cents per pound. The pork was to be delivered in three yearly installments of 10,000 pounds each. The lumber also was to be in three yearly installments of 6,666 feet each. The butter was delivered at the rate of about $1 worth per week for two years My wife milked the cows, made the butter and delivered it on horseback at Chillicothe, seven miles distant, starting after her morning's work was done, and returning in time to have dinner on time. Nor did she fail to do it during the two years. I have paid, in all, principal and interest, for land, $70,000. One claim of $14,000, when paid, amounted to $21,000. It is easier to make money now than it was then. I have sold hogs at $1.50 per 100 pounds; I can get $3 now. I could buy a heifer a little before starting for myself, weighing 400 pounds, for $4, and milch cows for $7 each. I have hauled corn to Chillicothe over hills and mud roads, seven miles, 18 bushels at a load, and sold for 12½ cents per bushel. I can get 25 cents now at home. Wheat sold for from 31 to 40 cents per bushel in the twenties. We ought to live better now than then and make more money. I have receipts to show that, at one time, myself, four brothers and two sisters paid $250 taxes per year. A few years ago, when building a pike through my farm, I paid $1,200 a year for three years.

"For 30 years I have been growing 125 to 130 acres of corn; one year, I grew 200 acres. One year with another, it would average 35 bushels per acre. I have been on this farm 48 years, and have aimed to rotate crops as follows: Corn, two years, followed by wheat one year; then clover and Timothy two years. If the Timothy was extra sometimes I let it run three years. Several times during the past 35 years, I have had sawmills on the farm. In fact, I paid for a part of the land with the lumber taken off from it. During the 48 years, my average sales of stock and wheat from the farm, have been $3,300 per year, a sum total of $158,000. This does not include what was grown and consumed by the family and working stock on the farm. In the rotation of crops, rye has been used to a small extent.

The Live Stock; Its Profits.

"How many hogs do you sell each year?"

"I am scarcer of hogs now than I have been for 30 years; having, at present, 95 head. I have sold, the past year, 130. I usually keep my hogs till about one year old or a little over. For the last 30 years, counting stockers and feeders, I have had on the farm, ex-

cept for a short time after the fat hogs were sold, 200 hogs big and little. One year, I had 400."

"How about your cattle growing?"

"I grow most of the cattle that I fatten. My books show that I have paid for stock cattle, in the past four years, $1,250. I have on the farm now, 70 cattle, consisting of cows, stockers and feeders. I aim to sell a car-load of fat cattle each year. I never had much liking for sheep, but one of my sons liked to handle them; since he has gone, I have kept them, and now have 140 stock ewes and 115 lambs. They are death to the blackberry briers, and save a great deal of seythe and mattock work. About 650 acres of my 1,600, are not tillable. Four years ago, I was in debt $4,000, but now I am practically out of debt, and in better shape financially than I ever was before."

"As a matter of interest to poultry raisers, how about the chicken house you built out of sassafras to get rid of lice?"

"The building is 10 by 16 feet, all sassafras but the roof; but the vermin-ridding property of the wood was all a hoax, for it takes as much whitewash and other washes to rid the building of lice as any other kind of wood. My expenses for hired help run from $900 to $1,100 per year. My son-in-law controls, of the 1,600 acres, 172 acres."

The Financial Side of It.

Mr. Porter has eight account books commencing with 1839, and in these books, can be found all his business transactions since that time. To show the price of labor and farm produce at that time, here are two statements found in his first book:

LABOR ON THE FARM FROM MARCH TO JULY, 1841.

Lot Porter 9 days	$4.50
Wm. Gossard 1 day	0.50
Solomon Ely 4 days	1.50
Thos. Sharp 3 days	1.12½
Jas. Ely 3 days	1.25
Rolen Foster 3 days	0.92
Elisabeth Spong 5 days	1.25
Solomon Ely 3 days mowing	1.12½
By one half-day plowing	0.18¾
S. Ely 4 days cutting corn	2 50
Jacob M. Porter by 1 day cutting corn	0.62½

It seems that they had a running account, and I give it as found in the book:

Received on the above account, by 2½ months' pasture	$2.50
By one watch key	0.12½
October 9, by cash for trace chains	1.50
By two bushels wheat	1.50
November 1, by cash $1.75	1.75
November 30, by beef	6.00

The price of beef then was five cents per pound as we learn by other entries. The woman mentioned dropped corn the five days. The Lot Porter mentioned could shoulder, in a sack, four bushels of wheat. Mr. Porter paid him for working in the clearing, double wages, on account of his great strength.

Here are Mr. Porter's sales of stock and grain for the past five years:

1891	$3,960.09
1892	3,071.80
1893	4,098.37
1894	3,161.88
1895	2,531.48

For a young man, these figures may seem low, considering the fast work done now. But we must remember the age of the workman and manager. Others of nearly the same age have accumulated more, but have settled where the land was better, and had better natural advantages. I doubt whether a score can be found, of his age, that still do so much and can show the books of farm operations for 57 years.

Some Old and New Friends.

Fig. 151 shows some of Mr. Porter's old friends in the shape of tools that still stay by him; other friends of his younger days have nearly all passed over and joined the silent majority. The wooden moldboard plow in the group is, at least, 58 years old. The spinning wheel is 60 years old, the wooden scoop shovel 66 years old, the wagon bed 52 years old. He bought his last lot of hand sickles in 1850, buying 15 in a lot. There is also represented a part of a bedstead with holes bored in the railing for cord. The ox yoke, Jumping Jack (corn coverer), and single-shovel plow, will be recognized by all. The plow in the weeds is an old east plow that has, probably, been lying in the grass there for years.

"There is a Sycamore gum in the basement of my grain house, that I cut 60 years ago, that holds 56 bushels of wheat," said Mr. Porter. "It was a prong of a tree cut 12 feet from the ground. A man had a hole cut in the root of the tree, and fed his hogs in there."

At Fig. 150, we see Mr. Porter on the gray horse, Fred, 23 years old, with a mattock and double-bitted ax on his shoulder, with a cane in his right hand that he carried to the World's Fair. Standing in front of the back wheels of the buckboard, are a pair of hand-made scales that weigh 1,400 pounds. Hanging on the front wheels, are a pair of steelyards that weigh 400 pounds, are over 100 years old, and at one time were used as standard weight in Chillicothe, O.

Mr. Porter can still mount old Fred from the ground, as well as dismount, and much prefers to ride him instead of in the buckboard. This illustration shows the rear view of the house. The buckboard is standing under a large locust tree in full foliage. His house, for the last 48 years, has been 12 miles west of Chillicothe. Since the death, quite recently, of his oldest son, a grandson has aided him in the management of the farm.

JOHN M. JAMISON.

A FEW OF MR. PORTER'S OLD-TIME FRIENDS. FIG. 151.

MORE SUBSTITUTES FOR HAY.

CORN, MILLET AND BARLEY.

In the event of threatened shortage in forage, there are several courses which might be followed, even at this comparatively late date. I will outline a few, based upon personal experience and observation. Last year, a field of six acres, mostly Kentucky Blue grass, not having been broken for 12 years, was cut about June 15, the yield being about two tons per acre. It was plowed June 20, 21 and 22, and lightly top-dressed with cow manure; 925 pounds per acre of wood ashes were put on broadcast, manure and ashes were thoroughly wheel-harrowed in, and Longfellow corn was drilled in June 24 and 25, 300 pounds per acre of Bradley's corn fertilizer being put in the drill. Grass and clover seed were sown in the corn about August 1, and to-day (June 23) this is one of the finest fields of grass on our farm, where our average hay crop varies from about two to three tons per acre, in different years. The corn was cut about September 20, and the crop, amounting to nine tons per acre, was put into the silo. This corn was well eared, and many of the ears were at the glazing stage.

Another field was, last year, treated as follows: It had been in grass four years, and the yield was not over two tons per acre. It had been my purpose to plant the field to corn this year. Bad weather caused delay in securing the hay crop last year, and we did not get the field cleared until July 20. It was at once plowed, manure at the rate of five cords per acre was spread and harrowed in, and Cock's foot or Barnyard grass (Panicum Crus galli) at the rate of one-half bushel of seed to the acre, was sown July 26. The crop was cut about September 20, and put into the silo, all being weighed as hauled. The yield was at the rate of 12 tons per acre; the nutritive value being practically the same as that of good ensilage corn. Of course this crop might have been fed green. The heads were just coming into sight when it was cut. This crop will not endure frost.

I have used barley and peas, and barley alone, with considerable satisfaction as crops for late fodder. Barley is very hardy, but the peas will not stand heavy frosts. Up to about August 1, I would sow peas with barley—about two bushels of barley and one of peas per acre. Later, up to about August 15, barley alone at the rate of 2½ bushels per acre may be sown. Either the barley and peas, or the barley alone, make excellent feed for milch cows. I have never attempted to cure them, and think that, with the cool weather and short days which are common at the time these late-sown crops mature, it would be found difficult to do so. They would much better be ensiloed.

We have raised Hungarian grass as a late crop, after oats and vetch for fodder, with fair success. In 1893, a field from which the oats and vetch had been removed, was plowed on July 21, and on July 23, the Hungarian grass was sown. The season was very dry, and the crop was injured thereby. It was cut and fed green from September 25 to October 16, the total weight obtained being about two tons per acre.

Either rape or Crimson clover, sown now, would produce a large amount of fall feed. The rape can be especially recommended for sheep, as it is so hardy. In conclusion, I would say that, if short of fodder, I would build a silo or increase my silo capacity, if not already large. Then, if it can be done at once, put in an early corn, or later, millet, or barley and peas, or even barley alone; and put these into the silo. Then, in addition, I might sow rape or Crimson clover for fall pasturage, if situated so as to need it. In the case of all these crops, it should be remembered—but this is especially important in the case of the corn—that they must be made to grow rapidly, as the period for growth is short, and manure or quick-acting fertilizers should be applied unless the soil is already rich.

[PROF.] WM. P. BROOKS.
Massachusetts Agricultural College.

A JAR OF JELLY.

HOW IT IS MADE AND SOLD.
PART I.

The Beginning of a Business.

I have been asked to give to women who wish to be self-supporting, a few ideas along the line of making table delicacies. Woman's education from her birth, has been that she must be supported instead of self-supporting, and this education has made us timid about reaching out for ourselves, except in certain lines. I have no admiration for the "new" woman, but I am heartily glad that our boys and girls may be educated in the same colleges, and have the same intellectual standing, and that all avenues for advancement are open alike to both. For the young, and those who have the command of their time, it is very easy to decide what they may do; at least, they can follow their inclination to work in certain directions to secure certain results. Later in life, so often our inclinations are the servants of necessity or circumstance, and just here it is so hard to know just what is best. Very often, I think that we are thrust into our places, doing our work blindly as regards results, until we, finally, awake to find our business has developed our capacity instead of our capacity developing some business.

This line of business will recommend itself to many, as it may be carried on in one's own home, and so escape much outside criticism. As to the work I have chosen (for it is my choice, and, usually where the heart is, success is quite sure), I feel that I may be justly proud of the success achieved, inasmuch as it had the smallest possible beginning. The amount of stock on hand was a thorough knowledge of the business, a very small capital to invest, a pair of willing hands, and a strong determination to succeed; but not an order for a dollar's worth of fruit, or any knowledge where I should secure one. Surely, no one could begin with smaller prospects of success; but I knew that I could put up nice table delicacies, and I felt quite sure that there were people somewhere who would want them, only I must find them.

But let me say to others, that they cannot sail on "unruffled seas" in this business any more than in

some other. But care and anxiety, with unremitting vigilance, are the only guarantees of success. There must be courage to brave the darkest disappointments, and see many cherished plans fail; for these times will come. But, never mind, sometimes these are our very best educators. There are other avenues open to those who have the necessary energy, and the will not to say, "give up." I tried teaching for some time, but this necessitates one's absence from home, and, too, the supply is greater than the demand, while, in this business, the physical desires, both of necessity and luxury, will be gratified. I have found, by giving to the public just what I advertise, that the public is appreciative; and, by strict adherence to right dealing, I have so far been successful. Then, too, there is the independence; one need not ask the good man of the house for a few pennies, but put one's hand in one's own purse for the dollars.

For three years I worked at the business as superintendent, under the direction of the woman who had so successfully carried it on for a number of years. I had no thought of making it a permanent business of my own. But on her removal to a distant city, there seemed to be a favorable opening, and I decided to try what I might do for myself. A thorough search for orders was necessitated. But, before soliciting any orders, I put up both strawberry and cherry preserves, pickle preserve cherries, and currant jelly, in order to have them as samples. I put up such an amount, that I considered that I might feel greatly flattered, if, at the end of the season I had disposed of most of it. Then I induced my husband to visit a neighboring city, taking samples with him to solicit orders. I awaited his homecoming with fear and trembling. I hardly dared think that he would succeed; but to my surprise and great pleasure he reported the sale of all that I had on hand of these early fruits, to the largest dealer in that city. I think that if my orders reach well up into the thousands, none can ever bring me such real gratification as did this.

With this encouragement, I put up a satisfactory amount of late fruits, pears, peaches, plums and quinces. From a friend in Chicago, I obtained the addresses of a number of large firms in that city—grocers and dealers in fine goods. I wrote these firms, inclosing a price list, soliciting orders, and sending samples if desired.

A suggestion to beginners might be well just here: In nearly all large cities, there are exchanges for women's work, the design of which is to help those who wish to help themselves. The fee is different in different cities, $1 being the usual amount. One consigns to them the articles with the price attached, paying the transportation. They sell it, deducting 10 per cent for their trouble. This is an advantage to beginners in getting goods before the public. In my next, I purpose to give a few practical facts in relation to small fruits, and the variety of ways in which they may be used. MRS. O. P. HOWLAND.

HORTICULTURAL NOTES ON THE R. N.-Y. OF JUNE 20.

Ruralisms says that Caryopteris Mastacanthus has been totally winterkilled. There are many plants of it hereabouts, and I do not know of one that has been killed. About one-third of the tops go every winter. I am undecided whether to think that this is because it may be of a half shrubby nature, only, or whether it is that the cold hurts it. Nicholson terms it a herbaceous plant. Citrus trifoliata is not injured with us after it gets thrifty and large; but while it is small, it does. Young plants of two to three feet in size, lose a portion of their tops, but strong ones of four to five feet, do not. In the Philadelphia Zoological Gardens, are two quite large ones which have borne fruit, certainly for five or six years past, and these are not hurt at any time. I think that it could be safely used for a hedge hereabouts; the little killing when young would be a benefit to it, making it bushy.

The Climbing hydrangea is beautiful when it has covered something. There is one here, covering a post which was set for its support years ago. It is much admired now, both for its large, green leaves and for its flowers. But how its slowness to start when young, does disappoint one! Fairly well rooted layers or cuttings will almost stand still for a year or two. Nothing seems capable of starting it to grow save a support of some sort for it to climb. This sometimes does seem to entice it to make a start, and then it is all right. JOSEPH MEEHAN.

Pennsylvania.

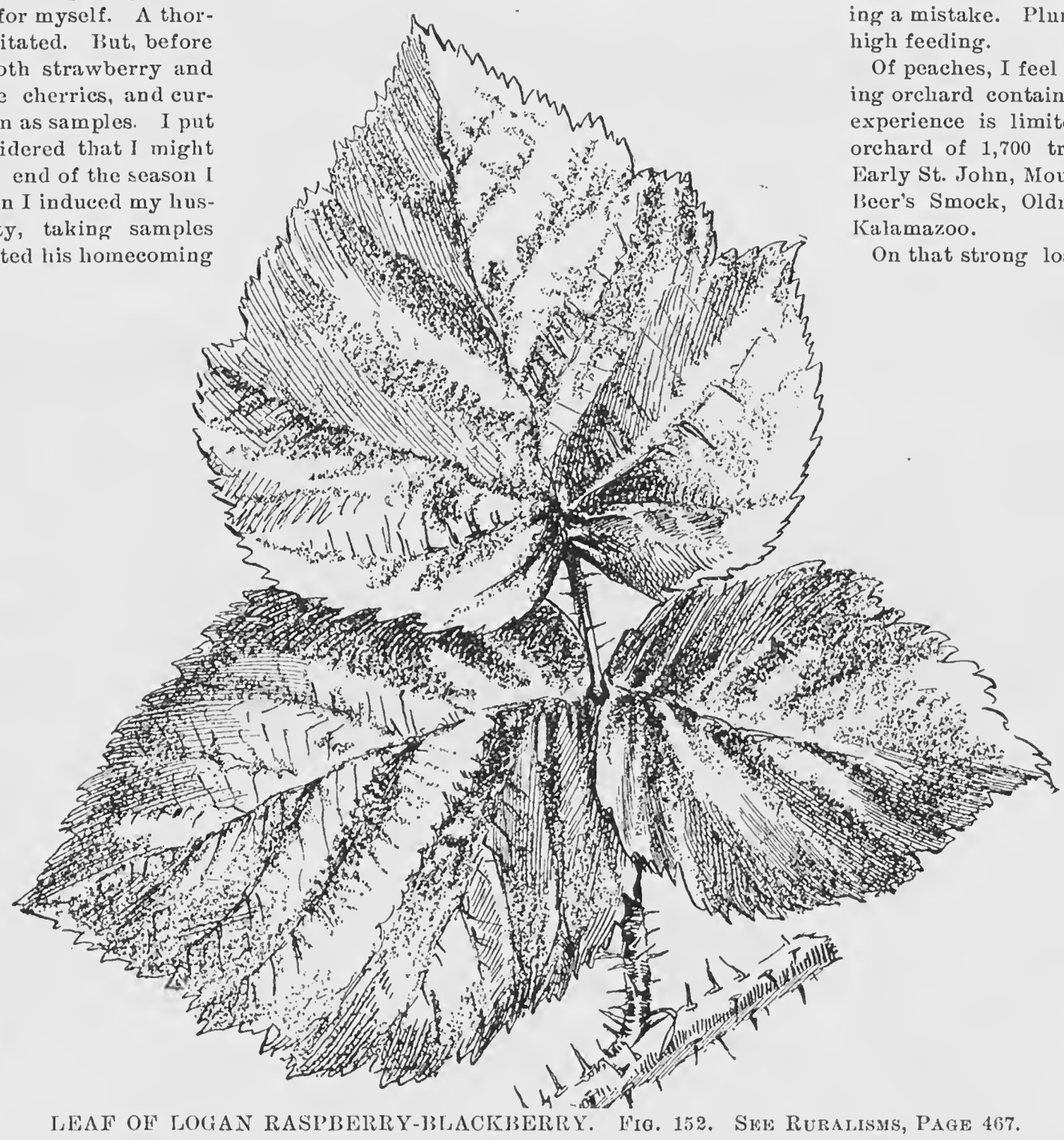
BRINGING RYE LAND INTO FRUITS.

WHAT IS THE BEST COURSE TO PURSUE?

I am asked to answer the following note from a reader in Jackson, Mich.:

I have just bought 14 acres of land, high, even and strong loam soil, now in rye, which is to go to the former owner. I wish to get this land into good condition for fruit trees and berries. What would be the best course to follow, where stable manure cannot be obtained? What pears, plums, peaches, strawberries, raspberries or blackberries will be suitable for this location, for market, including early and late varieties for a succession?

I take it for granted that the land is well drained, either naturally or artificially. If not, then thoroughly underdrain it some time this fall or winter. As soon as the present crop of rye is off, plow and fit the ground well, and sow to buckwheat. If you cannot obtain stable manure, I would experiment with commercial fertilizers, as I doubt whether you can attain a very great degree of success without some other fertilizers than green manures, such as clover, rye, buckwheat, etc., valuable as they are. I would use some fertilizers on the buckwheat, and if frost do not cut it down before seed forms, I would mow it and let it lie as a mulch to protect and enrich the soil during winter, and to add humus to the soil when plowed. If the soil is rather heavy, it will be an advantage to plow this fall; if not I would leave the buckwheat on top till spring.



LEAF OF LOGAN RASPBERRY-BLACKBERRY. FIG. 152. SEE RURALISMS, PAGE 467.

I shall, this year, sow rye with buckwheat on part of a field which is now in wheat, and which I expect to plant to strawberries next spring. I have plenty of stable manure, however, and, therefore, shall manure the ground, either before plowing for buckwheat, thus plowing it under to be plowed up next spring when plowing for strawberries, or, if short of time then, I shall apply it in early winter as a top-dressing to rye, and plow under in the spring. That part of the land which was not to be planted next fall or spring, should have been seeded to clover this spring. In short, the requisites are, thorough drainage, plenty of humus to be obtained by green manures or stable manure, or a combination of the two. Fertility to be obtained by the use of green manures, stable manures and commercial fertilizers, as surrounding circumstances may dictate, and a good mechanical condition of the soil, which is obtained by drainage, green manures and thorough tillage; so that the answer to the problem resolves itself into three words: *Drain, Feed, Till.*

Avoid working or tramping the soil while too wet, whether sand, loam or clay. This is more essential in truck or fruit growing, than in farming, because we travel over an acre so much oftener than the farmer.

As to varieties, the kinds that are most profitable here, in northern Ohio, will, probably, succeed at Jackson. For pears, Clapp's Favorite is the earliest market pear I have tested, and is profitable if one doesn't have too many, as the fruit is perishable. Next are Bartlett, Flemish Beauty, Howell, Duchess, (Dwarf) Keiffer, Anjou and Lawrence. I have found these to be the most profitable of about 75 varieties. A few others are good, also, but I have named enough. In plums, I find Niagara (or Bradshaw), Lombard, Genii, Reine Claude, Moore's Arctic, Duane's Purple, and Reagle's Union Purple, profitable. The last is very liable to rot, but mine, last year, were not troubled much, and sold readily as California plums at high prices. In my young plum orchard, I have, among other kinds, planted largely of Fellenberg, Yellow Egg, Purple Egg, French Damson and Coe's Golden Drop, but have not fully tested them yet. I am not planting very many of the Japan varieties, for fear of their early blooming. Possibly, I am making a mistake. Plums must have high culture and high feeding.

Of peaches, I feel rather loath to speak, as my bearing orchard contains only about 25 trees, hence my experience is limited. I have planted, however, an orchard of 1,700 trees, consisting of Early Toledo, Early St. John, Mountain Rose, Hill's Chili, Stump, Beer's Smock, Oldmixon Free, Crosby, Elberta and Kalamazoo.

On that strong loam soil, currants would be a paying crop, if the correspondent can feed them well. In strawberries, the great market berries of Ohio are Crescent, Haverland, Greenville, Warfield, Bubach, and Gandy, in about the order named. For pollenizers, we use Lovett or Cyclone (not so well tested yet). On strong loam soil, Haverland may do better than Crescent. On my sandy loam, Crescent is the better. I have 40 or more new varieties that may prove better than these, and may not; probably, the latter.

In raspberries, Palmer and Gregg are the standard early and late blackcaps, and Turner and Cuthbert the standard early and late reds. Many object to Turner, for lack of firmness; but this may, to some extent, be avoided by careful picking and severe thinning of the canes. In blacks, I feel sure that the Eureka, a variety originating in Ohio, will supersede all the old varieties, and if any one doubt it, I invite him to see them and be convinced. In new reds, Miller's red for early, and Loudon for late, bid fair to be an improvement on the older kinds. But depend on well-tested kinds mainly.

In blackberries, Taylor and Snyder are the main reliance, although, if one is in the peach belt, the Erie may be better, as it is larger, but not so hardy. It will pay the inquirer well to visit a few of the most successful fruit growers in his vicinity, and question them. Join the State and county horticultural societies, for the successful horticulturist must labor with his mind as well as his hands. It is an occupation that demands, and richly repays, the best efforts of mind and body. W. W. FARNSWORTH.

TWO POINTS ON DUCK CULTURE.

Ducks Ahead of Broilers.

Duck raising is something that 99 out of every 100 farmers know little about. Many of them have a few common puddle ducks that eke out a scant living on what they can pick up out of the feed thrown to the chickens, which, while it may be abundant, is of such a kind and in such a condition that the poor ducks almost starve amid plenty. In six months, they are sent to market. If not big enough or fat enough, they are surely old enough. If the right breed of ducks was raised and fed on the proper food, the profits over broilers and chicks would compare like this: To-day, I sold young Pekin ducks in this market at 15 cents per pound, live weight. They were nine weeks old, and weighed about nine pounds to the pair, bringing 67½ cents each. The feed bills show a cost of about three cents per pound of duck to bring them up to this condition. I also sold broilers to-day, weighing 19 pounds per dozen, at 13 cents per pound, the chicks being just the age of the ducks—

nine weeks; one duck weighed as much as three chicks, and sold for two cents more per pound. Of course, the chicks consume less food, but the mortality is greater, and the labor in keeping ahead of lice, vermin and disease among them, is much greater. If there is any other fowl or animal raised on the farm that will take on the same amount of flesh on the same quantity of food in the same time, I have failed to find it. H. E. MOSS.

Kansas

Only White Ducks Are Wanted.

It ought to be impressed on the general farming public, or that part of it which raises ducks, that it should weed out all dark-colored ducks, and breed only from white ones; I don't care from what breed, or no breed at all, but they should be white, as they dress so much better. A white duck can be picked at any time, while a colored one will not pick off smooth until November. You can always command one to three cents per pound more for dressed white ducks. I have bought duck eggs on the market as they run, and the larger proportion would be colored. I believe that I lost money on every one of them I have also fattened a good many western ducks. The white ones paid a fair profit, but there was a loss on all the colored until after November. The colored ducks are not desirable, the shippers work them off by putting 10 or more in each coop of 50, and to be able to buy the whites, we must accept a lot of miserable dark pinfeathers. As this is the season to select breeders for next year, this point should be now fully understood by the western duck men. The East want all the ducks they can raise, but we want white ducks, and take the colored ducks only under protest. WM. H. TRUSLOW.

Pennsylvania.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

THE BEST LATE STRAWBERRY.

WHAT SOIL FOR PARKER EARLE?

What is considered the best late strawberry? What soil is best adapted to the Gandy, and what is considered a good yield of that variety? Will the Parker Earle do well on a moist, sandy bottom land, when well fertilized? The soil is quite gravelly, and never dries out—is always moist from below. I have, also, a clay bottom land equally moist, naturally very strong soil, will grow heavy crops of roots without manure, and is absolutely free from stones or gravel. Which soil would be best adapted for successful high culture of Parker Earle? J. W. W.

Stow, N. Y.

Yale, Brandywine, and Parker Earle.

The Gandy will do best on a moderately heavy soil, as most very late varieties do. The Parker Earle, I have never fruited, so I cannot say to what kind of soil it is best suited; but it has a good reputation, and I have no doubt that it will do well on almost any good, rich soil. The moist, rich soil described by J. W. W. would be best suited to the Yale. We have found this variety the best late sort we ever cultivated, when grown on such soil. It is later than the Gandy, very large and prolific, perfect in blossom, good for the table or market, and has no superior for canning or making syrup. The soil must be heavy and rich. The Gandy is not, with us, a heavy bearer or profitable to grow for market. EDWIN HOYT.

Connecticut.

Gandy, Brandywine, and Parker Earle are the three best late varieties, on my grounds. Gandy does best on heavy clay loam, not wet; I have picked at the rate of 1,600 quarts to the acre on such soil. Parker Earle does not do as well, but will do well on a moist, sandy bottom land if well fertilized.

New Jersey. T. C. KEVITT.

Gandy Best Under Right Conditions.

The Gandy, on strong, moist soil and under thorough culture, I consider to be profitable, and the best very late variety that has, so far, been introduced. A more beautiful berry, when well grown, was never placed upon the market—very large, uniform in size, very firm, and of the most brilliant color which contrasts strikingly with the very large, double, dark-green calyx. The most serious objection to the Gandy, urged by growers in general, is that it is not sufficiently productive. While this is true, to a certain degree, as regards the number of bushels that it will produce to a given area, the Gandy will prove itself as productive of dollars and cents as many of its more lauded and really inferior relatives. Under favorable conditions, there are no small berries among the Gandys. Nature has done for it just what careful growers of choice fruits recommend to be done by hand if we would secure the finest specimens possible—it has thinned the fruit just right to bring to greatest perfection those which remain.

The plant is perfection itself—very vigorous, large, healthy and hardy. It produces plenty of thrifty young plants upon long-jointed runners, and naturally forms a thinly set fruiting row—"just right," according to my method of culture. With good care, a plantation of Gandys will be more productive the second, and in many cases, the third season of fruiting, than the first; this is another desirable characteristic of this fine variety. While I have never kept a record of the Gandys by themselves, to ascertain just what they would do in bushels and quarts, I will give my experience of the present season which has just closed. It is briefly told and, I believe, sufficiently significant: With the proceeds from the sale of ten quarts of Gandys, as I sold them wholesale, I could have bought in our market, during the busy season, one bushel of ordinary strawberries as grown and handled by those who do not make a specialty of the business of growing high-grade fruit. From my experience with the Gandy, I can sincerely recommend to J. W. W. this variety, with the assurance that the strong, moist clay bottom he mentions would, with the necessary care, bring to perfection paying crops of this fine variety of the most beautiful fruit under cultivation.

I will leave others to give their experience with the Parker Earle, as mine is limited to the ordering of a few plants when it was first introduced, and which came to hand so badly heated that not one of them grew. There is no doubt in my mind that J. W. W. could successfully grow the Parker Earle, as he seems to have plenty of moisture, without which it is generally reported to be a grand failure. F. H. BALLOU.

Ohio.

Moist, Strong Soil, with Clay Bottom.

The best late strawberry for those who place quality first, is the Gandy. The most profitable late strawberry, where quantity is desired, is Parker Earle. A good, moist, heavy, rich, loose, soil is best adapted to Gandy. The different seasons influence the yield of all varieties of strawberries to such an extent, that it would be misleading to talk about the expected crop from any variety. The Parker Earle will do exceedingly well on a moist, sandy, bottom land, provided it is rich with plant food, and will do much better on a clay bottom land, equally moist and good strong soil, provided, of course, the ground does not bake. The latter is the soil best adapted for successful high culture of Parker Earle, and on this land with proper care and cultivation, it will give astonishing results, and will, probably, outyield any other variety now under general cultivation. T. J. DWYER.

New York.

Gandy on Heavy, Moist Bottom Land.

I consider the Gandy the best late strawberry on my soil. As to the soil best adapted to its growth, I would prefer heavy bottom land, naturally moist, yet I have had good success on both heavy upland loam, and black soil on a clay subsoil. But few, comparatively, make a success in growing the Gandy. If not well grown, it is a poor berry. One hundred bushels per acre are an average yield; yet I have had, some seasons, over 200 bushels. I have not had sufficient experience with the Parker Earle to speak positively about it, except that it requires more water to perfect the fruit it sets than our seasons, of late years, furnish. We got some fine berries, this year, from a row so situated, that I ran a hose from the barn tank to it, and gave it a soaking. I would conclude that the bottom land, naturally moist, would be preferable. I have set quite a piece of them this year, and, therefore, hope to know more of their particular requirements than I do at present. I have not as high an opinion of the Parker Earle as many profess to have; it lacks firmness, and is not rich enough to suit my taste, though a fine-looking table berry.

New York. WALTER F. TABER.

INSECT AND FUNGOUS FOES OF FRUIT.

ANSWERS BY M. V. SLINGERLAND.

Rose Beetles; a New Apple Pest.

R. C. B., Niagara, Ontario.—I send by this mail, some bugs, and samples of partly destroyed apples. These bugs have appeared in some of the apple orchards, and are doing great damage.

The insects proved to be that dreaded grape pest, the Rose Chafer beetle, which sometimes attacks fruit trees, and has been found eating young fruits. I know of no practicable method of fighting these beetles on fruit trees; they do not readily succumb to arsenical sprays. Is R. C. B. sure that the Rose beetles were the culprits which ate into the young apples? Throughout New York State this season, apples have been eaten into in the same manner, but not by beetles. The culprits, in every case, have been large, green caterpillars with yellow stripes. They look like, and are closely allied to, cutworms; and they develop into moths much like the moths from cutworms. I am now breeding, at least two distinct kinds of these green fruit worms, and hope to issue an illustrated bulletin from the Cornell Experiment Station this fall on the pests. The arsenical sprays are not effectual against them, but the caterpillars are easily shaken or jarred off into sheets or curculio catchers where they can be quickly destroyed. Their work is now over for the season. These green fruit worms have not been serious in our New York apple orchards since 1877, until this year. They are attacked by several interesting parasites which have, doubtless, been very efficient aids in holding them in check during the past 19 years.

More About Dung Worms.

F. W. V., Milton, N. Y.—Noting the comments of Mr. Slingerland, that the genuine White Grub does not hatch in manure, I send a sample. I dug it out of the ground three inches from the top. It was plowed under as deeply as possible about the middle of April. If this is not the White Grub, I am very much mistaken. One thing I do know, is that it grows up with an appetite for strawberry plants.

F. W. V. is certainly mistaken, for the specimens sent are not White Grubs, but are nearly full-grown grubs of the Aphodian dung beetles which I discussed in detail in THE R. N.-Y. for January 4, 1896, page 2. If F. W. V. will put some of the little grubs in a box of manure, he will soon find that they will develop into little beetles about one-third of an inch in length, doubtless with red wing-covers and black heads and thorax. They have never been seen feeding upon living vegetation of any kind. The dung worm question is getting decidedly interesting, and we are now getting down to facts. More dung worms wanted.

"Plum Rot." What Is It? How Cure It?

J. A. G., Courtney, Pa.—I am a new beginner in growing or, rather, trying to grow, plums. Every year, I am troubled more or less with plum rot. I want to know how to detect the first appearance of this fungous disease.

The rotting of plums, peaches, and cherries is due to a fungous disease known as the Brown Rot (Monilia fructigena). It is the most destructive fungous enemy of the stone fruits, and is very prevalent in the eastern fruit-growing sections. The life cycle of the fungus begins in early summer, when a microscopic spore falls upon a green fruit where, under favorable conditions, it begins to grow; a little water left by rain or dew on the fruit, or between two fruits that touch, forms an ideal germinating spot for the spore. Warm, moist weather greatly favors the development of the disease. The little spore sends out a germinating tube or rootlet, which penetrates the skin of the fruit. Once inside, it grows very rapidly, pushing branches all through the pulp, with the result that the tissues of the fruit are disorganized, causing the so-called rot. An affected fruit at first turns brown in one or two spots, and these gradually enlarge until they take in the whole fruit, making it become brown and rotten. Soon after this stage is reached, it becomes covered with a brownish or ash-colored, velvety coating, consisting of vast numbers of microscopic spores. These spores are readily dislodged and blown about by the wind, and when one of them lodges on an unaffected fruit where sufficient moisture is present, the disease is again started. The rotten fruits continue hanging on the tree, gradually shriveling up, until finally, they become dry and hard, forming the so-called "mummied" fruits so often seen on the trees after the leaves have fallen. These "mummies" remain on the trees during the winter, and on some of them, there are spores adhering which retain their power of germinating until spring. But the most danger lurks in the interior of these "mummies," for the mycelium or rootlets of the growth of the preceding season remain dormant during the winter, and during a damp, warm spell of weather in early spring, they start into growth and produce a new crop of spores. These spores are scattered everywhere, and many of them develop in and destroy the blossoms and young leaves. Serious losses are sometimes occasioned by the attack on the blossoms.

The fruit may be attacked at almost any stage in its growth, but the disease is most destructive about the time the ripening period begins. It first becomes visible to the naked eye when the brown spots appear on the fruit. The conditions are sometimes so favorable that it increases with astonishing rapidity, and the whole crop may "rot" in a few days. When the disease reaches the point where it can be seen with the eye, it is usually too late to check it with the spray; the spore has its rootlets too well established in the tissues of the fruit. Remedial work against this disease must be begun early. As we have seen, the "mummy" fruits are a great source of danger, so the first move to make is to pick off and burn all of these before growth begins in the spring. It would, also, help much if all the rotting fruits which drop in the summer and fall were burned or fed. The disease has also been greatly checked by spraying thoroughly with the Bordeaux Mixture soon after the fruit has set;

then follow this with applications of the ammoniacal carbonate of copper solution, using one ounce of copper carbonate to 12 gallons of water, beginning about two or three weeks after the first spraying with the Bordeaux, and repeating the application every week or 10 days until the fruit is harvested. The ammoniacal solution does not stain the fruit as would the Bordeaux if used during the ripening period. The disease is a very difficult one to contend with, and only thorough work will bring results. Combine the burning of rotting and "mummy" fruits with thorough spraying.

Seventeen-Year Locusts Not Poisonous.

M. M., Breckenridge, Mo.—We have 17-year locusts, and some think that small fruits will be poisoned by them. Is there any danger?

Although the adult 17-year cicadas may live for two or three weeks after they emerge from their 17 years of underground existence, they feed comparatively little, and seem to exist principally for the propagation of their kind. What feeding they do, is done by means of a long, slender beak with which they puncture the bark of trees and shrubs, and suck out the sap for their food. They have never before been accused of poisoning fruits, and I do not believe that there is any cause for apprehension. These curious insects have been accused of many alarming crimes which, upon investigation, proved to be entirely without foundation.

Twig Blight and Apple Rust.

J. M. J., Joppa, Ala.—The twigs of many of the apple trees here are dead. The people call it twig blight. What causes it? How can we arrest it? Can we prevent it? In some sections, the foliage of apple trees is covered with orange-colored rust, which greatly retards the growth. Most of the trees injured by the rust are near cedar trees, though not all of them. Can this rust be destroyed or prevented? What causes it?

I have seen the "twig blight" on apple trees in several localities this season. So far as I know, it has not yet been satisfactorily explained. It may be the genuine pear-blight or fire-blight which sometimes attacks only the tips of the twigs; this blight sometimes attacks apples, but is usually more severe on pears. In the Year Book of the United States Department of Agriculture for 1895, which has recently appeared, there is a good, popular article by Mr. Waite on Pear Blight. He has been making very extensive observations on this bacterial disease, and he concludes that the microbes are carried from tree to tree by the insects which visit the flowers; the blossoms are the first part of the tree to be attacked. A few of the germs survive the winter in some of the blighted branches, and these few are the source of contagion for the succeeding season. The only sure way to exterminate the disease is to cut out and burn the affected parts, and the best time to do this is just before the leaves fall.

I discussed the fungous disease causing the orange-colored rusty spots on the leaves, in THE R. N.-Y. for December 21, 1895, page 841. One stage of this curious fungus occurs on the cedar, forming those apple-like bodies known as cedar apples. In the spring, the spores from these cedar apples are carried to the apple trees, and there produce the apple rust on the leaves. In midsummer, the spores from this apple rust reach the cedars and produce the cedar apples. These spores may be carried for eight or ten miles. The first thing to do, then, is to annihilate the cedars in the neighborhood. Follow this with thorough work on the apple trees with the Bordeaux Mixture, in May, especially. If the spraying be thoroughly and frequently done, the rust may be controlled to a considerable extent on the apple, even though the cedars are not removed.

Alfalfa in New York State.

J. P., Viewmonte, N. Y.—Can THE R. N.-Y. or any of its readers give me any information in regard to Alfalfa for a permanent pasture with other grasses? I have a fruit and dairy farm lying in New York State, about 100 miles north of New York City, in the Hudson River Valley. The high ground is limestone soil, there having been, years ago, two limekilns on my farm. The high ground is a clay loam in a good state of cultivation, and stands drought better than any other land in this section. The low ground is a black, mucky soil, produces good crops, but Timothy and clover freeze out in the winter or early spring. Will Alfalfa make a good permanent pasture on either the high or low ground? When should it be sown? About how much to the acre? What other grass should be sown with it to make a good, permanent pasture?

ANSWERED BY PROF. I. P. ROBERTS.

Alfalfa clover has not been used to any extent in forming permanent pastures. It starts slowly, requiring one year, at least, before its roots are established. It does not stand tramping well, therefore is seldom used in permanent pastures. It is in common use as a soiling crop, and may be cut, under favorable conditions, two to four times a year. It may be made to produce a large amount of forage, and animals thrive wonderfully when they receive one feed a day of Alfalfa and secure the rest of their ration in the pastures. The failure of pastures and meadows leads to the conclusion that we must, sooner or later, practice partial soiling and the cultivation of crops which require interculture or annual or semi-annual fitting of the ground. By raising oats, peas and corn, the severest droughts may be successfully tided over. The advice would be not to devote any large area to permanent pastures. A little Alfalfa seed might be used with the other grass seeds, still no great success is likely to come from the experiment, so far as it rests on the Alfalfa. Seed the low land to a mixture of Festuca elatior (Tall Meadow Fescue), Glyceria nervata, (Nerved Meadow grass), Red-top and a little Alsike clover. Timothy, Festuca elatior and Alsike clover may be used advantageously on the uplands.

It is not yet too late to sow Alfalfa. Prepare the ground thoroughly and deeply, make it rich, and sow from one to two pecks of seed per acre. Harrow so that the seeds may be covered thoroughly, and roll the land. One acre (if the plants will withstand the winter at Viewmonte, and they are likely to do so), will furnish more forage than five acres of permanent pasture. Once the land is well set to this drought-resisting plant, and cared for, it is likely to last for 10 or 12 years. The plant thrives well on sandy land if the surface is made rich so that it may get a good foothold. It does not thrive with "wet feet," that is, on undrained, water-logged land.

Oats and peas should also be sown freely as early as possible in the season, and at intervals of about two weeks until June 1. With these provisions for partial soiling, one may restrict the pastures greatly with the most satisfactory results. Wherever the plants above mentioned have been fairly treated, and the soil intelligently prepared for the reception of the seed, I have yet to note a single failure by reason of dry weather. Alfalfa does not make a good hay plant in this climate, because it is so succulent that it is difficult to cure it. As a hay plant, it flourishes only in its highest usefulness in the arid and semi-arid regions, but it grows nearly as well in the naturally watered districts of the East as in the irrigated districts of the West. For the permanent pastures, if they cannot be avoided, and soiling cannot be practiced to any extent, the first step is thoroughly to prepare the land. Sow in the spring, or better, the first days of September, three pounds of Festuca elatior, three pounds of Glyceria nervata, two pounds of Blue grass, two pounds of Alsike and four pounds of Timothy per acre. On the black, mucky land, Orchard grass might be substituted for Glyceria nervata.

Grass in an Asparagus Field.

R. R. B., Dutchess County, N. Y.—Recently, I purchased a farm in this county which contained an asparagus bed of about one-half acre, completely grown up with grass. I have tried plowing between the rows, but without success, as the roots are so matted together that it is impossible to plow. Some advise salt, but others say that salt will not kill grass.

ANS.—I never saw an asparagus bed grown up as R. R. B. describes that would pay for taking the grass out; but it would make some difference if it was of recent growth or an old sod. Plowing so cuts the asparagus roots that it would injure their growth too much. R. R. B. would better, this fall, prepare a piece of ground, get some thrifty two or three-year-old—preferably two-year-old—roots, and start even with the grass and weeds. If the ground is already fertile, commercial fertilizers are used, as they contain no seeds. In two years, he would have a better bed than it is possible to get from the old grass plot. Salt *will* kill the grass if put on in sufficient quantity, but an old, stiff sod takes a heavy sprinkling. Kainit will do it, and add potash to the soil. Salt will be cheaper simply to kill the grass, but planting a new plot is the cheaper. N. H.

Recruiting Land With Green Crops in Kentucky.

J. W. H., Payne's Depot, Ky.—On page 137, you advised me to sow cow peas on a piece of land, and then sorghum, and plow the last crop under this fall. As my first object is to improve my land, would it be better to cut the peas for hay, or let them mature? When should sorghum be sown (to plow under)? How much seed per acre, and what variety?

ANS.—In this case, I would advise, as soon as the cow peas begin to ripen, to turn hogs on to the field and let them eat off the crop, feeding a little corn with the peas. Then plow all under together, and if it be not later than August 1, I would harrow until I got a good seed bed, then sow broadcast about one bushel of any strong-growing sorghum to the acre; let this grow until about two feet high, or until touched by frost, plow under and let it lie until spring. If the hogs are not through with the peas by August 10, I would sow it to rye, let it grow through the winter, and turn it under the last week in March, when I would immediately fine the ground and set the strawberries. In the climate of Kentucky, cow peas are an uncertain quantity. Some varieties ripen by mid-summer, and some grow on until frost. Cow peas are a valuable recruiting crop for worn land, if the notion for improvement takes possession of one in the spring, and the land is bare of any crop. They add nitrogen and humus to the land, but should be pastured on the land and the residue all turned under. If the notion for improvement takes possession of one at harvest, clear a grain crop off from the land as early as possible, plow and work down to a good seed bed and drill or broadcast sorghum, and turn it under at the approach of frost. Rye may then be sowed on the land, which will grow during all open spells during the winter, and in spring, make a heavy sod which may be turned under in time for a corn crop. Chemists tell us that the rye and sorghum can add little to the land except humus; but if the land be kept full of humus, the sun and air will penetrate deeper, and the summer showers which sometimes contain three per cent of nitrogen, will more readily find the feeding roots. J. A. MCKEE.

How Onion Seed is Saved.

S. H. M., Pulteneyville, N. Y.—I set out a number of bushels of onions for seed this spring. How shall I harvest, thrash and clean the seed for market, and test it so as to know whether it will grow or not?

ANS.—It is our custom, and that of others in our vicinity, to set out onions enough to raise seed for our own use, though a few raise it on a larger scale—if there be a few pounds left after sowing in the spring there is generally a market for it. The best time to cut the seed is just as the kernels commence to harden from the milky stage; the seed balls are then cut and spread one deep on old newspapers in an attic room or loft, and it is our plan to leave it there till spring, taking care that mice do not get access to it. For cleaning, we take some wet day in March. A sack is filled with seed balls and thoroughly pounded; it is then dumped into a tub of water and stirred, when the good seed will sink to the bottom; this should be hung in a bag to drain and dry. It should, however, be worked over every day till dry, when it can be fanned. To test the seed further sow a certain number in a box in a window of the house, but the sinking is generally considered a sure test. In sowing onion seed, one cannot be too particular, both in selecting the bulbs, and caring for the seed. I have described the method practiced by us. To raise seed on a large scale, there are, probably, machines for cleaning.

JOSEPH ADAMS.

Keeping Strawberry Plants for Hothouse Culture.

P. L. B., Dresden, O.—Is it necessary that strawberry plants intended to raise hothouse berries, should be frozen during the dormant period? If not, how low a temperature would be sufficient for good results? How long a period would they need to be kept dormant?

ANS.—It is not necessary that the plants be frozen while dormant, although, under certain conditions, they might be without injury. They are simply to be grown in pots, sunk to the rim in a bed or frame, and left fully exposed until the end of the growing season. During the summer and early fall, they need plenty of water, but it must be gradually diminished later in the season so that the plants may mature the better. At the end of October, an inch or two of cut straw or leaves should be put on to prevent the hard frosts from injuring the roots, but not to cover the foliage. At the close of the growing season, they may be covered with straw or leaves sufficient to keep out frost. They may remain thus until wanted for forcing. It is not necessary to keep them in a dormant condition any length of time. If the plants are properly matured, they may be removed to the greenhouse before winter, and they must be to have berries for the holidays. M. CRAWFORD.

What Pears for the Mississippi Bottoms?

R. A., Arkansas.—1. Would you advise planting the LeConte pear in the Mississippi River bottoms as high as latitude 36 degrees? 2. What pear would you advise planting that ripens in the fall? 3. Name three pears for us to plant with the intention of making money from them.

ANS.—1. No. The LeConte will grow and bear well enough in the Mississippi bottoms, if well underdrained; but the fruit is of such poor quality, and keeps so poorly, that, at the present time, it would seem to me unwise to plant that variety. 2. Garber and Keiffer. They are poor in quality, but will keep and sell well. 3. The two named are enough. H. E. V. D.

Questions About Pekin Ducks.

A. W. B., Thomaston, Me.—1. How many eggs will an average flock of Pekin ducks lay? 2. Do the large breeders keep over the old ducks, or kill them and keep only young ones? If they keep old ones, how many seasons?

ANS.—1. The number of eggs from a flock of Pekin ducks, depends on the feed and management. With proper feed and care, a flock should average from 120 to 140 eggs each. 2. We usually keep our breeding ducks three or four years, keeping part young birds each year, and dispose of the older ones. They will do all right and lay well for four or five years. We usually send our four-year-old ducks to market alive when nearly through laying. J. E. STEVENSON.

Asparagus in the Fall.

A. E. R., Vernon, N. J.—I desire to plant an asparagus bed of an acre or so. Is the fall as safe a time to plant as the spring? Is it better to purchase one or two-year-old roots?

ANS.—Yes, we think so for your locality. We would choose two-year-old roots.

Sulphur for the Woodchucks.

J. H. R., PORTLAND, ME.—We had so many woodchucks last year, that grain, cabbages and grass were injured so seriously that traps were quite inadequate; so we tried a plan of our own. With a spade, we deepened the mouths of the holes, and placed therein an old solderless pan or vessel; a small box made of wood that would stand fire, answered just as well. Then from a fire of small pieces of wood built near by for the purpose, we placed coals in the pan or box. On the fire, we put pieces of broken sulphur, equal to about one inch, broken from an ordinary stick of sulphur, and covered the mouth of the hole and burning sulphur together with short pieces of old board, leaving a little room so as not to stifle the fire; boughs covered with leaves answer as well. We then covered earth over all. Woodchucks never disturbed us afterwards. The whole time taken was not ordinarily longer than usually consumed in setting a trap. There is not one hole this year where there were twenty last.

Black or White Grapes.

PROF. J. L BUDD, IOWA.—All the desirable white varieties of grapes I have tested, have failed in our climate; but I do not believe that the color of the fruit has anything to do with it. All of them have had more traces of European parentage than such hardy sorts as Concord, Worden, and Moore's Early. Even the Delaware shows foreign blood to those who have studied the grapes of Hungary, especially when we grow seedlings from it. That the color of fruits has nothing to do with hardiness, is shown by the fact that some of our hardiest apples are light colored, as are the fruits of some native plants, such as the Indian snowberry and our native Cornus.

Asparagus for the Farm Garden.

C. S. RICE, LEWIS COUNTY, N. Y.—Why does not asparagus more generally find a place in the farmer's garden? No product of the garden is more easily raised, and it is the earliest and best of spring vegetables. I have a row five rods in length in my garden. It is a continuation of a row of currants and gooseberries, and the ground on both sides is cultivated as a garden. It is not as much work to care for this row of asparagus as for one of potatoes of the same length. Our family is large, but has been well supplied from this row for six weeks past, and quite a quantity has been given away. I suspect that coming to the table direct from our own garden, it is better than the half wilted product sold in our market. At any rate, we do not tire of it any more than of strawberries.

Nut Culture in Connecticut.

F. T. S., SHAKER STATION, CONN.—THE R. N.-Y.'s statements about the prospects of chestnut and other nut culture, induced me to set out an experiment plot, in the spring of 1895, with the result that three of the Paragons are full of bloom, and look as though we would have nuts this year. Another Paragon has a few blooms. All the Paragons stood the winter without damage. Of Numbo, some were killed by the winter, and some bloomed. Some of the Ridgeleys were killed by the winter; none bloomed. Of the Japanese, some were killed by winter; none bloomed. I planted several pecans; two Russell from Mississippi, were killed down by the winter, but are starting up from the bottom; we shall protect them next winter. The Japanese walnut is flourishing; the winter did not harm it in the least, but there will be no nuts this year; it is one of the thriftiest trees I planted. I would like to ascertain if the nuts of this variety are a good commercial article. The Persian walnut lived through all right, but is small and does not seem so thrifty as the Japan. Those that died I expect to replace next spring, and if you can suggest any variety of nut tree that it would be desirable to try, I shall set some out.

I am greatly interested in this nut question, as we have a great deal of land which is now altogether unprofitable, which I fully expect to plant to chestnuts and other nuts as soon as I can determine the best kinds to plant. The objection I have to Paragon is that it is greatly injured by weevil, and that spraying does not reach the weevil; I have seen statements to that effect. To sum up, Paragon and the Japan walnut are the hardiest and thriftiest trees, but will their nuts be commercially successful? Where is Luther Burbank? If he can get us a good chestnut that the weevil will not damage, it would be a boon to us.

Columbian Fails in Iowa.

H. A. T., CRESCENT, IOWA.—In the spring of 1895, I bought 25 plants of the Columbian raspberry which, in spite of the dry weather, made so vigorous a growth, that I increased my plants to about 200 by fall. Most of the tips were quite strong, and, as I supposed, were quite capable of enduring the cold of winter. Last winter was a mild one, so that peaches went through without much injury; but my Columbians, both old plants and tips, killed to the ground, and many of them were killed "root and branch," so that I had no more plants this spring than I started with last spring. Possibly, the drought last season may have had something to do with this, but I fear that the Columbian is not sufficiently hardy for the Iowa climate. Shaffer and Muskingum both went through the winter in better shape than Columbian. We also have a western variety, the Redfield, which is quite hardy here and the fruit is of about the same size and quality as that of Columbian.

Ensilage and Cows' Teeth.

A. L., GHENT, BELGIUM.—On page 389, you ask about ensilage destroying cows' teeth. I have used ensilage as well of corn, as of clover and Timothy, since 1884. I have sold cows which have had 10 calves, and have some left (very good milch cows) which have had their 10th and 11th calf. If the teeth had been eaten by the ensilage, I would certainly not have them left. But does not G. V. B. give only very sour stuff, unfit to be put in a manger? Does he not give other acid stuffs? Or have his cattle such hard things to eat that the teeth are worn out? My herd has, from October to May, given 22 pounds a day—60 to 80 cattle.

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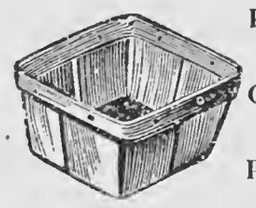

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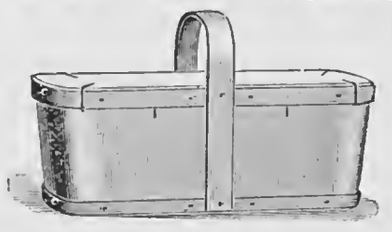

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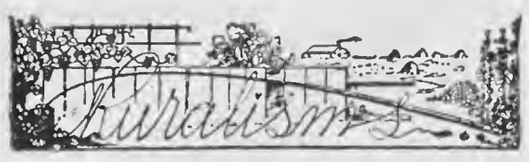

OUR two plants of the Columbian red raspberry were killed back last winter over half, the old canes being now from three to four feet high. The bushes, however, will bear a fair crop. Our old plant of Shaffer's Colossal was killed. So, too, old plants of the Loudon were killed back, though young plants sustained no injury.

GOLDEN JAPAN MAYBERRY.—It will be remembered that we ordered one plant of this from J. L. Childs, the introducer, in the spring of 1894. This plant was dead the next spring. We then—spring of 1895—received a plant from A. Blanc, which was carefully protected during the winter by a barrel in which loose straw was placed. At the same time, two plants were received from The Storrs & Harrison Co., and these were *not* protected. They were placed, however, in a somewhat sheltered position. These latter plants were not hurt much, and are now, June 24, about two feet in breadth and 18 inches in height, while the protected plant is scarcely a foot in breadth, and not over 18 inches in height.

Again, a Logan blackberry-raspberry from A. Blanc, received in April, 1895, was, after cold weather set in, protected in the same way. This plant is now only five inches high. Another plant from William Parry, received at about the same time, and set in a fully exposed position, is now nearly four feet high and growing finely. This was not protected in any way. It would seem that the protection, in both cases alluded to, did not protect at all, but rather, served to render the plants more susceptible to the changes and severity of the past winter .....

THE Logan Raspberry-blackberry originated some years ago, as our readers have been told, in the garden of Judge J. H. Logan, of Santa Cruz, Cal. It is assumed that it is the product of the red Antwerp raspberry, and a California wild blackberry known as Aughinbaugh. Our vines have not fruited yet. The prickles or spines of the canes are small, rather soft, red in color and close together. The leaflets are always in threes, as shown by the illustration (Fig. 152). If left to themselves, they creep upon the ground almost like a melon. The canes of our own plant are tied to stakes, so that the test as to hardiness, was severer than if they had been allowed to grow in their natural way. The berries, we are told, are much the shape of blackberries, equaling those of the largest in size, and of a dark red color, firm and somewhat acid, ripening with early raspberries. The seeds are small, and it is said to excel all other small fruits for jellies and canning purposes. One report from California tells us that "raw with sugar they are richer than any strawberries.' The vines will propagate from tips like black raspberries, and also from cuttings .....

NOTT'S PERFECTION (this is the first mention of it in print, is it not, Mr. Nott? We were the first to mention Nott's Excelsior), gave us the first "mess" June 19. The vines averaged nearly twice the height of the Excelsior. In shape, the pods are much the same. It is as prolific as the Excelsior, the peas maturing before the Excelsior goes out. June 22 we made the second picking of Perfection and the last of Excelsior. The peas (seeds) average larger than those of Excelsior, and the quality is the same.

Guided by this season's trials, we would choose, first, Station pea; next for succession, Nott's Excelsior, and, third, Nott's Perfection. For home use, we would discard the smooth First and Best, no matter how careful the selection .....

WE have told our readers about the large quantity of sap-water that accumulates in the stalks of that close relative of Saghalin, Polygonum cuspidatum, a plant of which has been growing in the Rural Grounds for about 20 years. A few days ago, a friend greatly interested in such vegetable peculiarities, asked to cut one of the stalks that he might himself see how much water each joint holds. We told him, as the stalk was cut, that each lower joint would contain about one tablespoonful. There was not a particle of water in any of the joints. A second large stalk was cut with the same result—no water. We have had abundant rains during the past 10 days, and the writer assumed that, probably, there would be more water in the internodes than on occasions when we have examined them before when, as we recall it, rain was greatly needed. Now, do these stalks accumulate the water only in periods of drought?.....

ELLWANGER & BARRY write us that Crimson Rambler has exceeded their expectations. Last winter was very severe in Rochester, the mercury falling to 15 degrees below zero, thus giving the plants a very fair test as to their hardiness. "It is a great acquisition," is the concluding remark of the letter.

As our readers have been told, the mercury at the Rural Grounds fell as low as 18 degrees below zero, and we think lower by a degree or so. We are positive as to the 18 degrees below. No portion of any one of our six plants, growing in different exposures, was harmed. So soon as the plants have passed their season of bloom, we shall tell our readers all that we know of the Crimson Rambler rose from our two summers' experience with it.....

WE want to speak a few words of praise of the new lettuce, Mignonette, seeds of which were sent to us by Peter Henderson & Co., the description of which in their catalogue is just about right. We do not think that it will prove to be a popular market variety: First, because of the smallness of the heads, and second, because of the color of the outside leaves, which is varying shades of bronze and green. The heads, which measure about half a foot in diameter, are compact, and the outer leaves cling as in cabbages, closely. The interior portion of the head is of a yellowish-white color. In quality, it is tender and crisp. It is claimed that it is a wonderfully hardy variety—resisting both drought and excessive moisture....

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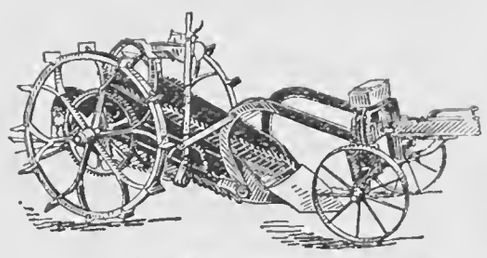

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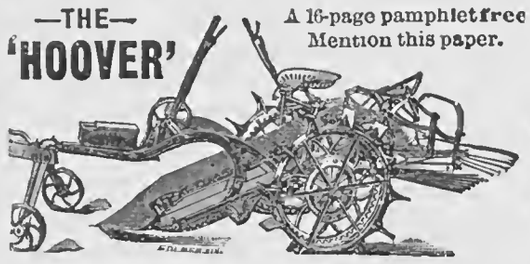

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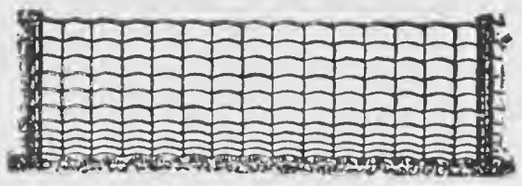

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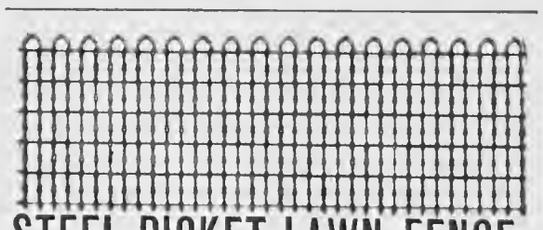

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SATURDAY, JULY 11, 1896.

A LIST OF BOOKS.

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The Business Hen	.75

Do you want one or more of these as a present? You can have any or all. How? Get your neighbor to subscribe to THE R. N.-Y. Send us the dollar for a year's subscription. Let us know which book you want. It's yours at once. Enough *said*. Now act!

⊙

Who will be first to adapt the tricycle to such farm work as dragging a light cultivator or "weeder"? We believe that a tricycle can be made that will enable a stout man to harrow or cultivate successfully on light and smooth fields, and we shall not be at all surprised at the first report of an attempt to work this plan out in practice. It is not half so improbable as spraying by means of portable steam engines seemed 10 years ago!

⊙

IN discussing the hen's moult on page 474, we have not touched on the cruel plan of plucking out the feathers in early summer, as is practiced by some poultrymen. The birds are plucked while alive, the idea being that they will recover and put out their new coat of feathers in time for fall laying. We consider this a cruel operation, though its advocates claim that it is, on the whole, no more disagreeable to the hen than to let the feathers fall out by the slow process of moulting. We would not practice it anyway.

⊙

THE best of pasture grass is a perfect "balanced ration" for the cow. For about six weeks, under ordinary circumstances, the grass is at its best. After that, it fails, and is not a perfect food any more than hay in winter. It is a mistake to suppose that the hard or dry grass in the August upland pasture is a perfect food for cows in milk. It will keep young stock, but a cow cannot give a large mess of milk on such pasture alone. You must feed grain or green fodder—corn, millet or peas—in order to keep up the yield.

⊙

AT a recent live stock show in England, a few specimens of a breed of sheep known as the Ryeland, were exhibited. They were classed as long-wooled sheep, and one ram was so fine that he beat the best specimens of Cotswold sheep that were exhibited. The Ryeland breed seems to be limited to one county, Herefordshire, and it was quite a surprise to breeders of the standard old breeds to see these forgotten animals coming out for recognition. It is claimed for the Ryelands that they yield a greater proportion of lean meat than any other breed. This very fact is against them, for a tendency to fatten quickly goes with early maturity, and that is what breeders desire in mutton sheep.

⊙

OUR readers will remember articles in recent issues written from Germany by Mr. J. F. Sarg, a German farmer and dairyman. Mr. Sarg has now come to this country and located on a dairy farm in Virginia, where he is preparing "artificial mother's milk." This is made from absolutely pure cow's milk, Pasteurized and put through various manipulations which are covered by a German patent. As a result of this preparation, the cow's milk is made into a form almost exactly like human milk, and suited to the tenderest stomachs of infants or invalids. Mr. Sarg believes that there will be a demand for such milk in this country, and he has started in to develop it. This milk seems to be different from anything we have had in the country heretofore.

A CHILD was taken seriously ill, and the attending physician said that the cause of the trouble was in the milk that the child had been drinking. The cow was investigated. It was found that she had discovered a pail of paint; had eaten enough of it to make her sick, and the veterinarian had prescribed linseed oil. The paint and the oil, together with the sickness of the cow, rendered the milk totally unfit for use; yet it was sold just the same, with disastrous results. Such business ought to be made a criminal offense. The wonder is that more sickness and deaths do not result from the carelessness of such individuals. Human life seems to be of little account to them in comparison with the loss they would suffer by throwing away the milk from a diseased or ailing animal.

⊙

ON page 430, a Connecticut subscriber told us about his unfortunate experience with milk. Four young heifers, out of a herd of 30 Jerseys, suddenly began to give milk that tasted like "strong soapsuds," while four others gave milk not quite so bad. None of the old cows was affected, though all the cows were fed from the same pasture and bin. Our friend now informs us that the trouble has about disappeared, the milk from only two heifers showing the bad taste slightly. He is convinced that the cause was turning the cows from high, dry feed to flush pastures. This complete and sudden change of feeding disarranged the cows' systems—the heifers, probably, gorging worse than the cows. The lesson is to turn the cattle into pasture gradually—a few hours at a time only, at first.

⊙

PROF. BROOKS gives us, on page 462, an interesting account of his experience with certain hay substitutes. The Cock's foot or Barnyard grass has given excellent satisfaction at the Massachusetts Agricultural College as a late fodder crop. On good land, with a fertilizer consisting of 100 pounds of nitrate of soda, 200 pounds dissolved bone black, and 100 of muriate of potash per acre, this millet sowed in drills 15 inches apart, grew to a height of seven feet. Another crop, sown July 26, after hay, yielded 12 tons per acre. As a green crop for soiling, it gave better results than good fodder corn. It is better for green food or for ensilage than for hay, unless cut early in its growth, and the late crop is best for the silo. This millet requires rich land and quick-acting fertilizers, and will not endure drought well.

⊙

IN 1867, the population of this country was 36,211,000. The revenues in the post-office department amounted to 42 cents for each person in the country, while the expenses were 53 cents. In 1895, the population had increased to 69,753,000, while the post office revenues were $1.10 per capita, and the expenses $1.29. In 1882, the department actually paid expenses, and gave four cents excess of revenue for each person in the country. In every other year, the expenses exceeded the revenues. The greatest cost to the department comes in carrying the immense bulk of papers, books and merchandise classed as second-class matter, and in free matter carried for the public departments and for Congressmen. A good deal of this stuff might well be thrown out or charged at higher rates, so as to make the department self-sustaining.

⊙

SOME months ago, we stated that the Wisconsin State Horticultural Society seeks to encourage a love of fruits and flowers in children by supplying strawberry and raspberry plants to pupils in the public schools. In a number of communities, private citizens follow much the same plan and distribute plants among the scholars. In Wallington, N. J., one of our subscribers recently gave 90 chrysanthemum plants to as many scholars in the public school at that place. Next fall prizes will be given to the pupils having the best plants. The prizes are to consist of collections of 50, 30 and 20 tulips, and a committee appointed by the Board of Education will judge the plants. We like to see such things encouraged. It is a worthy project, and is sure to benefit the boys and girls who take part in such a contest.

⊙

The interesting account of the farming operations of Mr. Peter Porter, found on our first page, will start many a train of reflection in the thoughtful mind. It is a long span of time from the beginning to the end of 85 years of active life. During that time, nearly three complete generations have walked on and off the stage, and the changes that have taken place in society and industry are fairly bewildering. The "old friends" shown on page 462 are almost pathetic in the picture they present by the side of the improved machinery of the present day. In the "good old times" of 50 years ago, it is evident that people worked harder than do we of this generation, and it seems evident that it required more of their labor to secure a dollar in cash. Mr. Porter says that he can make more money on the farm now than he could then. Possibly that is true and, perhaps, the reason is that he has retained the old habits of working without picking up the newer habits of living that younger people now consider necessary. It is pretty generally admitted that, if one is satisfied to live just as our grandfathers did, he can still make a living on the farm. The modern farmer's tastes and desires have been cultivated (?) to such an extent that the old methods of soil cultivation will not answer. In other words, modern ideas of living are too expensive for old-time methods of farming, because the modern farmer has a greater need of cash in his business. The grandfather was able to supply many of his wants by barter or exchange. The grandson must turn his labor into money before he can secure the articles he needs. It was, evidently, safer for Mr. Porter to pay for that farm in given quantities of pork, lumber and butter, than it would have been to take the risk of turning these products into cash, and then paying so many dollars. Take the case of a Western farmer who, years ago, when wheat was worth $1 a bushel, mortgaged his farm for $1,500. If, instead of that sum of money, he had agreed, at that time, to pay 1,500 bushels of wheat, it is quite evident that he would be much better off to-day, and it can hardly be denied that the dollar in that mortgage has appreciated. If we were to go on and ask why these old times were "good", we might run upon some curious and thoughtful things. Mr. Porter started with a $30 horse, and has earned 1,600 acres of land, and sold products which brought $158,000. This has not been done by what we call "scientific farming," neither has the cultivation been changed much to suit the times. It is a remarkable record, take it any way you will, and a dozen different lessons might be drawn from it.

⊙

BREVITIES.

Old Uncle Sam is a funny old scamp,
Just hear him brag of his doings in camp.
Just hear him crack up the soldiers in blue,
Brag up his navy, and yell for each crew.
When it's a question of paying his men
Off in big slices of glory, why, then,
Old Uncle Sam will be heard from all day,
Wind and hurrah make the cheapest of pay.
But when the soldier, grown crippled and lame,
"Government pauper!"—a horrible name—
Comes to the "Old Soldier's Home," you will find
Old Uncle Sam's economical mind
Figuring shrewdly to keep his board down
Half of his face has a terrible frown
When he hears farmers attack "oleo".
'Tother half grins, for the price is so low,
That he can save many pennies a head
Making vets use "painted lard" on their bread!

MAKE haste with the hay.

SHEEP are death to sprouts.

ALL about cutworms next week.

DUCKS moult several times a year.

READ Mr. Cottrell's article, page 475.

THE silver men strike a Populist chord.

BROOD over your symptoms and you'll hatch out a sickness.

THE dairyman's money can't talk when the cows "dry up."

THE Early Adams sweet corn has made a remarkable growth this season.

NOT too late to sow fodder corn in order to sew up that hole in the hay mow.

WHAT's the difference between hay and straw in the oat plant? Early cutting.

WAR beats slavery, but peace beats war. Peace is made up of little pieces of self-denial.

WE have picked Parker Earle strawberries this year from Decoration Day to June 26.

THE English soldiers are using barbed-wire fence in protecting their encampments in Africa.

THE number of people who put on whitewash or paint with a pump, is among the thousands.

THE best way to treat cane borers of any kind is to cut the canes and burn them as soon as the trouble is discovered.

WINTER oats from Virginia survived the winter at the Michigan Agricultural College. Ordinary oats sowed at the same time all died.

OUR chemists should analyze certain brands of "condensed milk." It is possible that they will find a mixture of skim-milk and a cheap fat like lard or tallow.

THE latest stove attachment is a "garbage carbonizer," in which swill is burned over the kitchen stove so that it helps out the heat and avoids all use of the swill barrel.

AT an English prize contest among cider makers, all but three were disqualified because their cider did not contain, at least, four per cent of alcohol. Whew! There's hard cider for you!

AT the last meeting of the American Jersey Cattle Club, an effort was made to compel breeders to mark registered animals by tattooing the registration numbers on the ears with ink. The plan failed.

THE latest disease is the "bicycle eye," which occurs in "scorchers" or fast riders. It is a trouble of the optic nerve caused by straining the eyes by fixing them on the ground ahead of the wheel.

IT is reported that De Laval, whose name is linked with the invention of the separator, has devised a practical milking machine. Before we hope the report is true, let us reflect that, when cows can be milked by machinery, the small dairyman will be worse off than he is now. It is the necessity of hand work in dairying that gives him individuality.

REDUCED RAILROAD RATES FOR FARMERS.

THE R. N.-Y. has several times called attention to the way in which railroads in New York State have dodged the law which orders them to sell books good for 1,000 miles travel at the rate of two cents a mile. Some of the railroads disregarded the law so deliberately that the matter came up in the last legislature, and resulted in the passage of the following law:

AN ACT to amend Chapter ten hundred and twenty seven of the laws of eighteen hundred and ninety five, entitled "An act in relation to the issue of mileage books by railroad corporations," Became a law May 22, 1896, with the approval of the Governor.

Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section one of chapter ten hundred and twenty seven of the laws of eighteen hundred and ninety five is hereby amended so as to read as follows:

Section 1. Every railroad corporation operating a railroad in this State, the line or lines of which are more than one hundred miles in length, and which is authorized by law to charge a maximum fare of more than two cents per mile, and not more than three cents per mile, and which does charge a maximum fare of more than two cents per mile, shall issue mileage books having one thousand coupons attached thereto, entitling the holder thereof, upon complying with the conditions thereof, to travel one thousand miles on the line or lines of such railroad, for which the corporation may charge a sum not to exceed two cents per mile. Such mileage books shall be kept for sale by such corporations at every ticket office of such corporation in an incorporated village or city and shall be issued immediately upon application therefor. The holder of any such mileage book shall be entitled, upon surrendering, at any ticket office on the line or lines of such railroad, coupons equal in number to the number of miles which he or any member of his family or firm, or salesman of such firm, wishes to travel on the line or lines of such railroad, to a mileage exchange ticket therefor. Such mileage exchange ticket shall entitle the holder thereof without producing the mileage book upon which such exchange ticket was issued, to the same rights and privileges in respect to the transportation of person and property to which the highest class ticket issued by such corporation would entitle him. Such mileage books shall be good until all the coupons attached thereto shall have been used. Any railroad corporation which shall refuse to issue a mileage book as provided in this section, or, in violation thereof, to accept such mileage book for transportation, shall forfeit fifty dollars, to be recovered by the party to which such refusal is made; but no action can be maintained therefor unless commenced within one year after the cause of action accrues.

Section 2. This act shall take effect immediately.

This seems to be about as clear as it can be made; yet when a representative of THE R. N.-Y. applied for a mileage book from the Erie R. R., the agent refused to comply with the law, and declared that the books were not for sale at that office. They evidently expect to go through the old process of annoyance and delay in order to deter people from buying these mileage books. This matter will be tested in the courts, and we shall see whether this selfish corporation cannot be forced to obey the laws of the State. This wholesale rate of two cents a mile would prove a great boon to thousands of farmers in New York State, and would tend to increase rail road travel as nothing else would do. It seems as though the Erie managers ought to have sense enough to see that it is to their interest to make these books as accessible as possible, and thus increase their long-distance passenger traffic. It is evident that the courts must rub this sense into them if they are ever to have it. We believe that it will cost the Erie R. R. $50 for every refusal to sell a book on demand!

HORSE SHOE FARM NOTES.

AN EXPERIENCE WITH ENSILAGE.

Search for Succulence Ends at Silo.

On page 293, S. C. H. says that it will not pay to build a silo for eight cows, and then gives directions to convert corn, by steaming, into something that "comes near being ensilage, if not better, and, I think, is cheaper." I suppose, from the article, that he has no silo, and I know that his method is a great deal more work, and, therefore, costs more. No one can afford to winter cows on hay; and while his method is an improvement on dry fodder, I have not found it equal to ensilage. Even if it were, but few can find room to store successfully sufficient corn to feed the stock from November to June and during hot weather in July and August. Many people are deterred from using a good thing, by advice given by those who have never tried what they condemn.

For years, I have been trying to get a supply of food which would keep the cows from drying up after calving, before they could get grass. When once the mess is reduced from any cause, it cannot be fully restored by any system of feeding. For that reason, fall calves were impossible, and we had a constant struggle to counteract the shrinking effect of dry hay and corn meal. Beets were grown, but that means a good deal of hard work, and our cows give more milk from four bushels of potatoes than six of beets. Potatoes are, usually, too expensive to feed. Turnips are easily grown, but the greatest care is required to prevent harm to the product. Some succulent, milk-producing food—something palatable—must be provided. The cutting of corn fodder, heating of water, etc., for eight cows, make a slave of a man, and do not fill the bill, or pay the added cost. The silo is the only source of which I know, which provides the food needed to keep up the milk supply, cheaply, and as long as needed. The cheapness is, now, I believe, conceded by all well-informed men. The whole cost of harvesting the corn and filling the silo is less than the cost of husking and cutting the dry fodder. Where several siloes are built in the same neighborhood, a small sum from each owner will buy a cutter, and an engine to run it may be hired for $3 per day. By changing works with each other, the entire crop is disposed of in a few days, and gives no further trouble. It is in out of the wet, secure from freezing, and will not rot or mold.

Last year, we had a heavy freeze, and much corn was nearly ruined. The stalks were black, and the leaves were slippery on corn grown on low ground. Such foliage, if cut and shocked in the ordinary manner, would spoil. The stalks only would be left, and they would be woody, unpalatable and wasted. It was my first year, and I was assured by every one that, in three weeks, it would be nothing but a manure heap. This badly-frozen corn was put in the bottom of the silo, and made about 10 feet in depth. On top of this was some good field corn, well eared, and last, some eight feet of late-sowed, immature dent corn just in tassel. As this was frosted, too, the most of the ensilage was a pretty poor lot of roughage before it went in.

The silo is 13x14 feet, and after settling for four weeks, the ensilage was 14 feet deep. I fed eight cows from November 1 to March 25, and not a particle was left in the mangers; they did not need cleaning out once in that time. For a long time, no other coarse food was given, and I did not feed a ton of hay or straw in the whole time. I have enough hay now to sell, to pay twice for the silo, or enough to buy the whole outfit—cutter, carrier and silo.

By this method of covering, feeding and filling, there was not a bushel-basketful of waste. The cows began to improve in appearance and milk yield at once. Being kept in a warm barn continuously, and gaining in flesh, they shed their hair early, and were as smooth in hair as a race horse, in March. They were milked 11 months, and gave larger messes of milk than ever before. When the ensilage was gone, the amount of milk kept decreasing in spite of a ration of beets, potatoes, oil meal and clover hay. Just why rather poor corn fodder will produce such good results, after being cooked tender in a silo, I can no more tell than I can tell why two quarts of strawberries (mostly water) per day give me more ability to work than baked beans. There is a saying that "From nothing, nothing comes." Yet I know that we have more butter, stock in better condition, and wintered at smaller cost, than ever before from a quality of corn that, ordinarily, would be almost worthless. It does not seem reasonable!

I did not believe half that had been said and printed in favor of ensilage, when I built my silo. I see now that more ground must be planted to corn, and less to grass; that more stock can be kept, as much by reason of change of crops, perhaps, as from the silo, and that I cannot afford to grow root crops for cattle. I would not sell the silo for any reasonable amount, if I could not get another. The cost was about $75 and some labor for the silo; a No. 13 Ohio cutter and carrier cost about $100. So much more food value can be stored in a silo, that, in many cases, it can be built in part of the bay, and in many others, the expense of building a new barn for additional storage, can be avoided.

C. E. CHAPMAN.

SOME HORTICULTURAL NOTES.

WILL WINTER AND SUMMER APPLES MIX?

1. Will the pollen of summer apples affect the keeping qualities of winter apples, if the tree is surrounded by summer apple trees? 2. Is it better to keep summer and winter apple orchards separate, or to mix them? J. L. HOGE.

Pennsylvania.

1. No. This brings up the same old theory that has been advanced over and over, in which it is affirmed that the pollen of one variety of fruit transfers the peculiarities of that variety to the fruit of another. The supposed examples given in evidence are usually so far fetched or lacking in exactness, that they are of little service in determining the matter one way or the other. On the other hand, the careful experiments made by some of our most thorough students of plant life, have invariably failed to show any signs of "the immediate effects of pollen" in transmitting varietal peculiarities. A thing of this kind that is supposed to happen in nature, ought, if true, to be done under the hands of the most skillful and painstaking scientists. The series of experiments conducted by my friend, M. B. Waite, of Washington, D. C., in which he clearly proved the impotency of the pollen of certain pears, the Bartlett for one, and the potency of the pollen of others, and, in many such cases, the positive proof that there was an "immediate effect" upon the fruit, is in no whit pertinent or confirmatory of the contested theory. He did prove, that a Bartlett pear, as it is when produced by Bartlett pollen, *is not a perfect Bartlett pear*, because its seeds are usually, partially or wholly imperfect, and the fleshy part of the fruit partakes, in a measure, in quality, size and shape, of the imperfection; but, if the other and potent pollen had come in contact with the stigma at the right time, there resulted a perfectly developed Bartlett pear. It, therefore, had a larger size, broader shape, and, in some degree, richer flavor than one which lacked perfect or truly normal development. Mr. Waite determined, to the satisfaction of himself and many others of us who watched the matter, that the pollen of several widely different varieties that were alike potent upon the flowers of another infertile variety, did not cause the fruits to follow or partake of their peculiarities of color, size, shape or flavor. However, the seeds did, doubtless, contain the germs of some of these peculiarities, which could only be determined by growing them into bearing trees. This part of the disputed question is more easily settled by noting the variations in the size, color, etc., of grains of corn on an ear that has been grown near another variety, or the seeds of a melon grown under like conditions. But the cases of pears and the grains of corn are not correlative, because they are not the same parts of the plant, hence the lack of corresponding effects.

2. Nothing that I have ever seen or heard that was entirely reliable, would deter me from mixing summer and winter apples in an orchard, if I wished to do so. Neither will be affected in the keeping qualities, so far as I now know. H. E. VAN DEMAN.

BEST LATE STRAWBERRY.—The Brandywine is, in my opinion, the most desirable late berry now before the public. It succeeds on any soil, needs no special culture, and is fine for home use, for market or for exhibition. The Gandy has done well here on both light and heavy soils, but it is not, usually, a great yielder. It seems to me that the Brandywine will produce one-half more with an equal chance. The Parker Earle, if grown in hills or very narrow, matted rows, will do well on any land that is deep, rich, and moist. I would prefer the clay land because of its fertility. It is not likely to fail just when the crop needs an abundance of plant food. On the other hand, a lack of winter covering is much more serious on clay. On account of late frosts in low land, it is advisable to leave the covering on as late as possible to retard the blooming. It must, however, be removed before much growth takes place under it. M. CRAWFORD.

BEST GRAPES FOR VIRGINIA.—In answer to A. F. A., Claremont, Va., page 453, we have had experience for the past 15 years shipping Concord, Hartford, Moore's Early and others of the dark varieties of grapes, to the Pittsburg market, with good results in former years, but not so good later, as the competition is becoming greater each year and prices are dropping lower. Three or four days often diminish the price one-half, so that it is of great importance to get the grapes in very early to secure a high price. High-priced grapes have a limited market, as but few want them. If A. F. A. is so located that he can get his grapes ripened very early, puts them up in five-pound baskets in the best condition, and the express charges are not too great from his place to market, he may make it pay very well. We would set the Niagara in preference to any of the others, for a market grape, as it is a good producer, well known in market, and quite a showy grape when properly grown.

Holliday's Cove, W. Va. T. S. C. & SON.

BUSINESS BITS.

FRUIT evaporators will be glad to know that they can get a supply of galvanized wire cloth of superior quality, and of any size, direct from Wright & Colton Wire Cloth Co., Worcester, Mass.

BELLE CITY is an ensilage and feed cutter that always gives satisfaction. It is made in all sizes, and for hand or power. The manufacturers also supply the powers when needed. Their full catalogue will be sent on application to Belle City Mfg. Co., Box 23, Racine, Wis.

THE spring gang cultivator, made by John Moore's Son Company, Raritan, N. J., seems to possess many desirable features. We have not seen it in practical operation, but from description, and information received, we are inclined to think it a most desirable implement, and one that will be extremely popular. They will send illustrated catalogue on application.

WE have refused to run an advertisement sent us, with cash in advance, for an implement called the Queen Butter Maker, which, it is claimed, will make butter in two minutes. The butter may come in two minutes as claimed; but we do not believe that the quality would be good enough to justify the purchase and use of the churn. It is made in Cincinnati, O. We see that other farm papers are running the advertisement.

THE consensus of testimony of those who have ever used a manure spreader, is that the spreader does better and cheaper work than can be done by hand. The Kemp spreader has now been in use 15 years, and having kept up to the times in improvements, is to-day used successfully in all parts of the world. The Kemp & Burpee Mfg. Co., Box 38, Syracuse, N. Y., will send catalogue, and they will do just what they say they will do.

WE suppose that all R. N.-Y. readers know that the purpose of "Business Bits" is to call special attention to some features of goods or machinery, or to the goods or machinery themselves, that are advertised in other columns. It is frankly a courtesy to our advertising patrons, though we hope and try to make it a source of reliable information to readers. Such houses are always glad to send catalogues of their goods to intending purchasers, whether the inquirer mention the paper in which the address is found or not, though some papers seem to want readers to believe that they can get the catalogues only by mentioning the particular paper in which the address is found. We would be glad to have inquirers mention THE R. N.-Y., and advertisers are always anxious to have the paper mentioned; but the reader will get the catalogue just the same if he mention no paper.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THINK over that plan for a fair attraction described last week. It is something which ought to interest the women folks, particularly those who wish to earn a little money. If money is to be spent at the fairs. why shouldn't it go into the pockets of the farmers' families, instead of the sharpers' pocketbooks ?

*

WOMAN suffrage has been established for some time in New Zealand. It is said that it is quite common in the ladies' gallery of the House to see ladies engaged in sewing while listening to the debates. So, you see, that the privilege of voting is not going to unsex women. Nor are they going to settle down content to be ignorant of the responsibilities which go with the privilege of suffrage.

*

A HUSBAND and wife who disagreed on the subject of the husband's authority, took their case into the courts of this city. Justice Williams, of the Appellate Court, said that while the husband was legally the head of the family, practically, the wife should have her way at home, and be allowed to manage and control the details of housekeeping and servants. In the Judge's opinion, "an intelligent woman should, certainly, not be subject to humiliation by her husband, by the assertion that he is master and she must obey him." Wise Judge, to see that some things which are legal are not practicable in this age !

*

ONE of the working girls' clubs in New York has, for some time, had a circle composed of married women who were formerly members of the club. Necessarily the topics which interest them are somewhat different from those the working girl usually discussed. But in both cases, the questions which they discuss are, usually, the practical problems of every-day life. It is rather significant that one of the subjects under discussion among those wives and mothers was, "What is to be done when the head of the house shows a disposition to shirk the support of the family ?"

BASKETS OF WIRE NETTING.

FOR USE AND ORNAMENT.

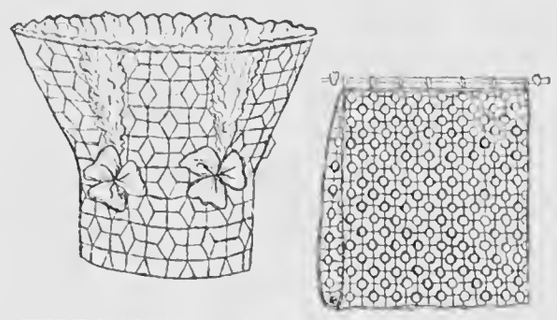
HAVE you considered the merits of wire netting for decorative and useful household articles? The hardware stores of any city keep wire goods by the yard in great variety of weights and patterns. A very unique waste basket was made from the kind used for a vine trellis—one of the finer patterns. It was shaped like a length of stovepipe, only larger, say, 10 or 12 inches in diameter. It was seamed up one side by the aid of a pair of pincers, the clinching being done on the inside to save raw edges on the outside. A circular piece of strong mill-board was wired into the bottom for a foundation. A bit of sandpaper smoothed the edges of the millboard after it was cut. The top of the basket was slashed down in five places, and the netting bent outward as represented in Fig. 153. The rough edges were covered with a wide red tape, a shirred lining of turkey-red calico was put inside, and big bows of the same ornamented the outside. The bows were set at the angles formed by the slashes. A stout wire covered with red tape stiffened the top of the basket, and kept it in shape. This basket might be made much handsomer by substituting silk and ribbon for the calico lining and bows.

The sling newspaper case was made of a piece of steel wire netting 36 inches in length by 15 inches in width. A large cord of steel-colored silk was whipstitched to the edge. The ends were then brought together, and loops added of a size large enough to slip over the steel rod by which it is suspended from the wall. See Fig. 153.

A wire basket for flowers is really very pretty and easily made from a piece of wire netting large enough for the bottom and sides of the basket. Cut from the corners squares corresponding to the depth of the sides. Lace the corners together, fill with damp moss or bracken, and set flowers into the moss. These wire baskets are a simple and serviceable decoration for the cemetery on Memorial Day, or for the tables at a lawn party A funnel-shaped wall basket would hold dried flowers and grasses or, filled with gray moss, would support a bottle of water to nourish a German ivy vine.

Wire netting of the heavier kinds makes admirable foundations for large floral designs such as "Gates Ajar," lyres, steps, ladders, drums, etc. The hardware dealer will be able, generally, to cut it for you, and with broom wire or the raveled wire from window netting, and plenty of leaves and flowers, the foundation may be satisfactorily covered.

At a May party this year, there was a unique decoration in the center of one of the tables. It looked like two palm-leaf fans covered with Maidenhair fern, and lying crossed on a bed of apple blossoms. The palm-leaf shapes were,



WIRE BASKET AND PAPER HOLDER. FIG. 153.

in fact, cut from window screen, covered with Maidenhair, and laid upon a platter of water, and the spaces around them filled with apple blossoms.

CHARLOTTE WHITCOMB.

THE HOUSEWIFE'S TIME.

NOTWITHSTANDING the fact that there are so many improvements and inventions at the present day which have a strong tendency to ease the ruggedness of the different walks of life, and especially that of housekeeping, it is nothing uncommon to hear of a housewife complaining that she has no time for this or that pleasure or recreation. There is no time for reading ; no time to call on her neighbors, not to mention the visiting of her friends ; no time to play, even with her children ; in fact, no time for anything but the same old drudgery, day after day, without cessation. What is there to justify the plea that such a woman should be a domestic drudge ? Is it necessary, or does it follow as a consequence, that she must be dull, dowdy and old-fashioned, simply because she is a housekeeper ? Of course, it does not. Moreover, for her to think so, is not only absurd, but is something worse ; she is doing herself an injustice, a wickedness, when she sacrifices her whole life in caring only for bodily wants, and completely ignores the needs of the higher nature.

To preserve communications with the world by the perusal of good papers, to acquire better thoughts and purer purposes by reading the works of our best authors, to maintain sociality with old acquaintances by visiting as well as by letter writing, and, above all, to retain her youth and beauty as much as possible, ought to be the duty, as well as the desire and pleasure, of every housewife.

How is such a thing attainable, do you ask ? Simply by having the housework so arranged that an hour a day, at least, can be secured for reading, or for a walk or drive. Incessant labor of nearly one nature, is not desirable. It not only has a tendency to age a woman before her time, but she is hardly ever the gainer by it as far as the work itself is concerned. Therefore, it is not a waste of time if she stops each day for a while.

Many women, however, will assume undue drudgery, make slaves of themselves, as it were, that their children may have pleasures and advantages which they, for their part, never enjoyed. Sometimes this is all right enough, but more often it is wrong. A colt may be taught to be driven when very young, although it is not made to pull any load to speak of. It is much the same with children. Moreover, when they have once been broken to the harness, duties will be much easier assumed by them when they come to join the throng in life's pathway, than if they had always "run wild ;" while the mother herself will have chances more often to case up in the traces a little, and enjoy something of the "world beautiful."

FRED. O. SIBLEY.

SOMETHING ABOUT ROSES.

ONE cannot select roses, hit or miss, from a florist's list, and have them come up to expectations. They will come very much hit or miss, with a great overlapping on to the miss side, let me assure you. I put out 12 everblooming roses four seasons ago, and of that collection, there are six survivors, the others having been frozen out, or suffocated, or something or other. It is a very fine point to give them just the proper protection during the winter. The "noble six" are the Meteor, Antoine Verdier, Souvenir de Wootton, Papa Gontier, Hermosa and Queen Scarlet. The last named is always classed in the catalogues as one of the finest crimson bedding varieties, and is sure to be sent with all $1 collections. I've found it a poor little red rose, the outer petals blighting before the buds open fully, and such is the experience of my neighbors. "Oh, yes," they say, "Queen Scarlet is always full of buds and never dies out, but what does it amount to ?" On the other hand, the Meteor comes right up to its glowing description which is as follows : "A rich, dark velvety crimson everblooming rose, as fine in color as the best perpetuals. The flowers are of good size, very double and perfect in shape, either as buds or when fully opened. The plant is vigorous and remarkably free flowering, retaining its color, even in the hottest weather." It is, indeed, a beautiful rose, and the buds coming on long stems are excellent for bouquets or to wear, and will last several days.

The Antoine Verdier is a bright, silvery rose color, and a strong grower, blooming constantly from June until frost ; very showy, indeed, but lacking the sweet perfume for which so many love roses. Souvenir de Wootton is almost as vigorous as the Antoine Verdier, a little darker in color, and very sweet-scented. Don't fail to put it on your list.

It is true that Papa Gontier belongs to my noble six, but for some reason, it has never been quite satisfactory. The buds are beautiful, but few and far between, and the plant is a very shy grower. Hermosa is a lovely cup-shaped pink rose, always in bloom, and sure to do well anywhere, I think. The Augusta Victoria is another lovely Hybrid Tea I put out last year, and is the only survivor of another collection of 12. It is a pale, canary-white just as lovely and sweet as we expect a rose to be. It also grows on long, stiff stems, and the foliage is a beautiful, dark green, while the buds will last several days and are deliciously fragrant.

I put my faith in Hybrid Teas this year, and set out the La France, Mad. A. Veysset (Striped La France), Mad. Pernet Ducher, Viscountess Folkestone, Duchess of Albany, Triumph de Pernet Pere, Hippolyte Barreau and The Bride, which was sent marked, gratis. The florists praise this rose very highly in their catalogues, but I've had it before, and could make nothing of it. One of my neighbors said the other day, "Ah, you have The Bride, I see ! Well, I hope that you will succeed with it. I've had it three or four times, and it always dies away." I am hopeful for The Bride, and all the others are doing nicely.

In regard to culture, the bed was dug out to a depth of 12 to 18 inches, and filled with as rich soil as we could get in the place, and manure water is poured around the plants twice a week during the summer. I give them plenty of water, and spray with kerosene emulsion for the aphis or green fly, and put insect powder on the leaves to kill slugs. I also spray occasionally with the Eau Celeste mixture—the same that vineyardists use for mildew. I cut the roses as soon as they are full blown always, and, of course, often cut the buds and cut them with good long stems. This keeps the plants in good shape, and insures a growth of new wood, and a succession of buds. I have seen many fine rose bushes at a standstill on account of the roses having been allowed to wither and drop, the strength of the plant going into the seed pods instead of producing new buds. In July, the bed is mulched lightly with hay to keep it cool.

Some people have good success in putting just a little straw over their roses for winter protection, and then turning a big box over the bed. Others put grape brush on, then straw—the brush prevents the straw from packing—then a few rails or boards to keep the straw in place, leaving the tops of the bushes sticking out. There seems to be more danger in giving too much protection than in not giving enough, as roses seem more liable to smother and rot out than to freeze out. A few more tea roses that have done very well in my neighbor's bed, are Catharine Mermet, Bon Silene, Marie Van Houtte, Marie Guillot, Rainbow and Souvenir de la Malmaison. The last-named is a great fall bloomer. I hope that these notes may help some one to one of the greatest of summer's charms, a bed of roses. DOCIA DYKENS.

Ottawa County, O.

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VS.

Don't Know

Simply a question of knowing what you get, or guessing at it.
Price of Columbia bicycle certainty, $100.

Pope Mfg. Co., Hartford, Conn.

SENSE AND SENTIMENT.

"To-morrow," I said, "I'll cleanly live."
  But I spoke with a drunken mind:
"To-morrow," I cried, "to the poor I'll give."
  As I scattered my wealth to the wind.

But to-morrow came, and her smiles were sweet,
  And the wine was sparkling and red;
And my wishes were rolled in a winding-sheet,
  And the poor had to beg his bread.

"To-morrow," I cried, "I will go to Christ,
  For Tophet's too hot to-day!"
But to-morrow came, and the Styx was iced
  And the devil there was to pay.

And all my good is in after-now,
  And the present is always here;
And I know how the voice of my present vow
  Will sound in to-morrow's ear.

For to-morrow will ever a prospect be,
  Unborn, in the future's womb,
Till I see it stand in God's chancery,
  My judge at the crack of doom.

—*G. S. Layard in Temple Bar.*

....DOROTHEA LUMMIS IN THE CHAP-BOOK: "It's a great pity to see so many people without any children to educate them."

....JUNIUS HENRI BROWNE IN LADIES' HOME JOURNAL: "A man seeks and demands a woman's first love. A woman feels most secure when she feels that she has a man's last love."

....MARY H. KROUT IN THE INTER-OCEAN: "Endowed with energy and talent which, in a man, would find a healthy and natural outlet in a congenial profession, women are expected to put behind them as they would the wiles of the evil one, any whisper of ambition that may tempt them from the seclusion of domesticity into public life. What they would do, what they themselves would like to undertake or to become, does not enter into the exhortations of these self-instituted mentors."

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's patterns, send age.

6572. Boys' Russian Blouse.

This is an easily-made, stylish, comfortable and serviceable suit for boys'

6572—BOY'S RUSSIAN BLOUSE SUIT

play or general wear. The knickerbockers close at the sides, the lower edges being gathered into bands of the plain cloth that fit closely below the knee, and are buttoned on the outside of the leg. A band is provided with buttonholes to adjust to the waist, or suspenders may be attached to outside buttons, as preferred. The blouse is simply shaped by shoulder and underarm seams, slight fullness being gathered at the neck on the right front. The lower edge is finished with a narrow facing through which elastic is inserted, and droops in regular blouse style over the tops of knickerbockers. Buttons and buttonholes close the blouse in Russian fashion on the left front. Pattern No. 6572 is cut in four sizes, for boys of four, six, eight and ten years of age.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

ODDS AND ENDS.

A PRETTY NEEDLE BOOK is made of crocheted rings; get 14 brass rings all of one size, which are sold for fancy work; crochet them with Victoria or Hamburg knitting silk. Cherry color makes a very handsome one, and 2064 is a good shade. When finished, fill the center of the rings with a cobweb, and fasten six in a circle with one in the center; then use the remaining seven for the other cover. Cut leaves from cherry-colored cashmere, the size and shape of the cover. Finish the edge with button-hole stitch. M. J. ASHTON.

PICKLES WITHOUT VINEGAR.—We have received replies regarding making pickles without vinegar, and think that the following is, probably, what the inquirer desired: One pint of coarse salt dissolved in 10 quarts of cold water. Cover the cucumbers with this brine and weight them down. Keep in a warm place until sour, and then put in a cool place to keep. It will take them two or three weeks to get sour. A little dill or sour cherry leaves put in among the cucumbers, will give a good flavor.

UNBLEACHED MUSLIN.—The practice of buying unbleached cotton is growing fast, and it has much to commend it, for not only is the material cheaper, but also, far pleasanter to work, and it has the advantage of having been spared the bleaching, which is a decidedly rotting process. The "undressed" material will soon wash white, and those who live in the country can quickly bleach it by leaving it out in the sun and rain for a few days.

This is from a late number of the Home Magazine, and I would add my bit of advice which, of course, applies to those whose supply of strength is not over-abundant. Don't wear yourself out washing and ironing the thick, heavy muslin with the idea that you are practicing economy inasmuch as it is going to last longer—it won't! I use the five-cent quality for night gowns, night shirts and short skirts; the six-cent quality supplies the sheets and pillow cases. It is real fine, bleaches so much more readily than the heavy, and as it is soft, it is so much easier to launder.

SWEET FERN.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

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are fit only, for naked savages. Clothes are the marks of civilization—in pills as well as people. A good coat does not make a good pill, any more than good clothes make a good man. But as sure as you'd look on a clothesless man as a mad one, you may look on a coatless pill as a bad one. After fifty years of test no pills stand higher than

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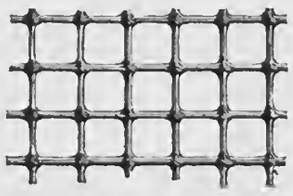
Of Superior Quality.



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Equipped with side lift, heavy square tubes, strong joints, glass oil pot; clean and never leaking; shows when oil is needed; heavy wire guard, best globe and burner, securely locked down; a typical **DIETZ LANTERN.**

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WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

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Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all he greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

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The American Watch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

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No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

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Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Bregnet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90
No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case 37.00
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Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

"LESS STEM."

A few weeks ago, we overheard a dialogue between a Long Island market gardener and two strangers. The gardener had a large field of peas. The later varieties, like Telephone and Champion, were in rows, quite wide apart, with vines sprawling all over the ground. The strangers knew little about growing peas except as they grew a few rows in the garden where it paid to stick brush for the vines to run on. They began to argue with the gardener to show him that it would pay to put wire netting along all those rows, and train the vines over it. They could easily prove that the vines would yield double the crop if trained up—away from the ground. Then they showed how easy it would be to stretch the wire netting, and roll it up at the end of the season, while the cash outlay for netting enough to cover an acre would be only $150, and it would last, at least, five years. Thus, according to this good logic, by an outlay of $50 per year, the crop could be increased by, at least, $100!

But the gardener shook his head and couldn't see it. It might pay, but all the habits and traditions of pea culture were against it, and that outlay of $150 was altogether too much. He knew the pea vines were too large for the amount of pods they produced, but it would cost too much to give this heavy growth a full chance to develop.

Now these men had not considered another way out of this trouble—viz., that of cutting off some of that useless vine. What's the use of growing a vine four or five feet long when a vine a foot or 18 inches long will produce more than half as many peas? Another gardener took a variety like Nott's Excelsior, and planted the rows close together. The vines grew but little over a foot high, but they were loaded with pods, and produced far more to the acre than the long-legged kinds that needed three or four feet of ground to sprawl in. Instead of trying to spread out that great vine to its fullest length, the smarter men cut the vine down to, at least, one-fourth its size, raised more peas to the acre, and had more peace while doing it. Who would spend $150 to coax up a lot of useless vines when smart dwarfs stood all ready to save that money?

Now there is a useful lesson to many farmers in that incident. Many of us are paying too much for useless stem or standing room. A man might have a herd of immense great cows in his barn. He figures things out and finds that he must increase his yearly output of butter in order to make the farm pay. The barn is crowded now. Shall he go to the expense of building a new barn to accommodate more of those big cows? Some one comes along and tells him that if he will enlarge his barn so as to give every cow a big box stall, the cows will surely give more milk, and it certainly looks reasonable. Along comes another man and says, "What do you keep those great big elephants for, anyway? These monstrous great heads and legs and tails and flanks don't help make butter! What's the use of keeping a 1,200-pound cow when one weighing 750 pounds will make more butter? Breed down these great elephants by using a good Jersey or Guernsey bull!" Our friend would find that, by breeding blood instead of beef into his herd, and cutting off their horns, he could so reduce the size of his cows that his old barn would hold enough of them nearly to double his old-time butter yield.

We might go on and give numberless illustrations to show this point up. We get the idea of doing business on a big vine, and it takes all we can earn to keep that great vine growing. We are too far away from our work—we don't get close enough to it. How it does open our eyes some day to find that some one else has devised a scheme for saving the money and force we have been feeding to that great vine! He has beaten us because he knew a thing or two that we didn't comprehend.

Enough said about that! How is one to learn how to cut down the big vine? Let us be frank about it, and say that, if our gardening friend had made a study of THE R. N.-Y., he would have known about this dwarf pea that can outwork the giant. That's the point exactly! You don't want us to sit here and brag about our own paper. Let this Rhode Island man have a chance:

> I do not take the paper, but father does, and since we have had it, the other papers receive a wide berth until I have thoroughly read it. S. B. S.

A "wide berth" is too much like the big vine on the pea. THE R. N.-Y. likes to crowd in close, and make every foot count. We want to crowd into your neighbor's family. What are your terms for helping us get there? That's business! Let's have your answer!

CONDENSED CORRESPONDENCE.

CRIMSON CLOVER IN MISSISSIPPI.—I tried Crimson clover this year; sowed two acres September 4 1895. The ground was plowed, harrowed, seed sown and harrowed again; in two days we had a shower, and it came up finely. Then it kept dry for a long time, and I expected every plant to die, but several lived through. I sowed four acres October 10; two acres had oats on it which were mowed and raked, then sowed to peas, and the peas turned under with a three-horse plow, and harrowed like the first piece. The other two acres were plowed and harrowed both ways, seed sown and covered with a plank drag lapped like weather boarding, which left a bed of dust on top. It was some time before we had rain. I had a good stand on the last two pieces, and I thought it made a very good growth for the land, which was all poor. It was the first I ever saw in bloom, and it, certainly, makes a pretty flower garden. I think that it will do well on good ground, or that which is fertilized. My land is a sandy loam, with a clay subsoil.

W. O. P.

CRIMSON CLOVER IN OHIO.—Here is the result of my experiment with Crimson clover, on a small scale: The seed was sown the middle of August, on sod ground plowed early in spring and frequently harrowed. The soil is a rich, sandy loam. It did not suffer from the frost, although a worse winter for heaving out I never saw. It started to grow early in spring, and was over a foot high May 1, when it began to blossom. A single plant taken up May 20, had 53 stalks and 63 blossoms. The length of the stalks was 29 inches; length of root, 10 inches. It was allowed to go to seed, and every blossom had its full seed. I fail to see from this experiment why Crimson clover should not prove a success in this part of Ohio. E. B. C.

SOME CRIMSON CLOVER EXPERIENCE.—Not long since, I read an article written by one of the associate editors of one of the leading agricultural papers, in which he said that, in his opinion, Crimson clover would not succeed in north latitude 41 degrees. As it was THE R. N.-Y. that influenced me to give it a trial, I give you the results of my trials. August 8, 1895, I sowed clover on 10 acres of vineyard, about 5½ quarts to the acre, and harrowed it in. The season being very dry, it did not get a heavy growth in the fall, but most of it lived through the winter. This spring, it grew nicely, and was plowed under about May 18, some of it being over two feet high. This I consider a complete success; but I plowed nine acres of clover sod, fitted it well, and sowed about 15 pounds of clover seed to the acre, and, instead of harrowing it in, I rolled about one-half the piece, and was stopped by a heavy rain storm which I thought would cover the seed sufficiently. The result of this was a total failure. The rain sprouted the seed very quickly, and the hot sun killed it; therefore, I conclude that rolling is not the proper way to cover the seed. I shall, this year, sow Crimson clover on 30 acres of vineyard, and also on some more sod ground. I think that, for this latitude (42 degrees), it ought to be sown July 15 to August 1, and one must not expect it to do well on poor soil. Our soil varies, some of it being gravel, and some a clay loam. The past winter was more severe than common; the mercury reached 12 degrees below zero. G. E. P.

North East, Pa.

MCKEAN COUNTY, PA.—Two weeks ago, the hay crop looked very thin, owing to the continuous dry weather; but, during the past two weeks, we have had an abundance of rain, and it has increased the hay one-half. Oats look fine. I drilled 750 pounds of bone meal with nine bushels of oats, and one can almost see them grow. Last year, we had no fruit, not even wild blackberries, owing to hard frosts and dry weather; this year we have an abundance of apples and all fruits that grow here W. W. E.

DON'T DEPEND ON GRASS.—These dry years are teaching one lesson, that is, that we have relied altogether too much on grass meadows and pastures for keeping our stock. On very fertile and moist soils, such as are found in England and in spots of the mountains of North Carolina, grass may well be made the staple food of animals both summer and winter. In semi-arid regions, as all the Middle and Western States are liable to become on short notice, it is out of the question to try to get the most profits from any system of grass growing. By grass, I do not mean to include corn, or the sorghums or oats. Here, in central Ohio, we once had the "Blue grass era." Large areas were kept perpetually in Blue grass, which was pastured by cattle and sheep. It was fairly profitable when the competition of the great ranges was not so severe; but now the pastures are, one by one, being plowed and made into farming lands.

As to the very small return of profit of some of the old pastures in contrast with other forage plants, I see from my window a two-acre field of rape that has not been above ground one month, yet is nearly two feet tall, covering the field completely; 12 large Dorset lambs graze on it, and I cut it for the cows, yet it does not seem to be touched. Just over the fence, is a strip of the original Blue grass that has not been grazed or mowed for three years; yet it would not average one foot high, and taking the season through, the rape would return 10 times the amount of food that the Blue grass would. This may be an exceptional case as the land is loose and black, not perfectly adapted to pasture grasses, but the home of rape.

Last year, I had a yet more striking illustration of the advantage of cultivation. A bottom pasture that was noted for its small return, was plowed and planted to corn, and although the

Miscellaneous Advertising.

When a little one is expected in the family how lovingly the parents plan together for its future welfare. They sometimes even forecast its education and career. Does this seem too early to anticipate while the child is yet unborn? It isn't. The child's destiny has already been partly mapped out by Nature according to the disposition and habits of the parents. The best plan a mother can make for the future happiness of her unborn child is to maintain her own cheerfulness and health while her child's undeveloped being is still a part of hers. Her health at this critical period is of tremendous consequence to the little one's whole future existence. Every prospective mother will find direct nourishment, comfort and sustaining strength, in Dr. Pierce's Favorite Prescription. It will maintain her vitality both bodily and mental; shorten the period of confinement and make labor easy and almost painless. It imparts strength and elasticity to the organs concerned in parturition, invests the mother with recuperative energy against any after period of weakness and depression, and aids in the secretion of healthy nourishment for the child. It is the unfailing cure of all "female weaknesses."

Dear Doctor—Your "Favorite Prescription," is the best medicine to take before confinement that can be found. It proved so with me. I never suffered so little with any of my children as I did with my last, and she is the healthiest we have. When I began your treatment I could not stand on my feet long enough to wash my dishes without suffering almost death; now I do all my housework, washing, cooking, sewing, and everything for my family.

(MRS.) Dora A. Guthrie
Oakley, Overton Co., Tenn.

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but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. **Agents Wanted.**

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QUINNIPIAC FERTILIZERS

Are universally used with wonderful results. They are great wheat producers. Before ordering your fertilizers for fall use, inquire for the Quinnipiac. If not sold in your town, write us direct.

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The Nursery Book.
L. H. Bailey. It tells, plainly and briefly, what every one who sows a seed, makes a cutting, sets a graft or crosses a flower wants to know. Paper 50

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James Morton. An excellent and thorough book, especially adapted to the culture of Chrysanthemums in Ameriea. Paper, 60

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American Grape Training.
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Onion Culture, New. Greiner. Paper 50
Onion Raising. Gregory 30
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Uncle Tom's Cabin. Stowe 30

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THE RURAL NEW-YORKER, New York.

grass at the margins of the field did not grow more than three inches tall, yet the corn was tremendous, in fact, the very best corn that I ever raised. Perhaps, I should not say that this was an illustration of the advantage of cultivation, however, for reasons that I will give: This field was plowed and fitted very carefully, the Cutaway harrow and roller being used until it was like a garden; then the corn was drilled in, and after it was about three inches tall, it was cultivated once with a gopher cultivator that simply stirred the top soil about an inch deep. No after-cultivation whatever was given except to go through the field and remove the weeds, which never became very numerous. This was not done until late in the season, after the crop was made. The result was 77 bushels of corn per acre, and over three tons of stalks. The yield of corn might have been much larger had it not suckered tremendously, giving a heavy yield of stalks to corn. This season, I came very near duplicating the experiment. I have one field of 15 acres of Blue-grass sod that has had but one working; yet at this date, June 27, the corn stands seven feet high, and is tasseling. I feel sure that cultivation is always unnecessary and a damage to a growing crop of corn, if one can keep the weeds down and the land mellow without, Jethro Tull and T. B. Terry to the contrary notwithstanding.

Ohio. J. E. W.

CRIMSON CLOVER IN NORTHERN OHIO.—July 29, 1895, I sowed Crimson clover in an acre of standing corn, using a Cahoon seeder and putting on a peck of Delaware-grown seed. The seed was cultivated in with an ordinary walking cultivator with board leveler attached. The ground was dry, and the weather hot. The next morning, we had a light shower, not enough to pack the ground. August 6, it rained again, the heaviest rain of the two months previous. August 8, the clover was coming up nicely. From the first to the middle of September, there was plenty of rain, but the rest of the fall was terribly dry. The soil is a heavy, wet clay loam, with a hard-pan subsoil. It would be excellent ground if it were tile drained. A Timothy sod covered with 15 loads of barnyard manure per acre, was plowed under for corn. The Timothy had commenced to grow in clumps, and plowed up in great chunks which were hard to get in proper condition for corn. The drought helped us to get and keep it there. The corn yielded 95 bushels of ears per acre. The winter was a bad one on clover, not from extreme cold, but from freezing and thawing, and the absence of snow. We had but one day's sleighing during the entire winter. Several times the thermometer went to 10 or 12 degrees below zero, but for only a night or two at a time. The clover kept its green color all of the time, but was badly heaved by frost. I thought that the month of March would surely end its existence; but about half of it yet remains, distributed very unevenly over the field. At this writing (May 10), it is about 18 inches high, and will be in full bloom in 10 days. It is within full view of the road, and is greatly admired by those who are interested. A narrow strip sowed on a sandy gravel soil did not heave at all by frost, and I think that not a single plant winterkilled.

Portage County, O. G. M. B.

CRIMSON CLOVER IN INDIANA.—Crimson clover has been tried in this county for two seasons, and, although the latter part of summer and early fall were very dry, some have had good success. One man a few miles from me, sowed a piece in the corn in 1894; in 1895, he cut a fair crop of seed, and enough shattered off to seed the ground well, and without any cultivation whatever, he has another good crop this year. I sowed a piece September 3, just before a shower, and the seed came up nicely; but there was no more rain for two weeks, and some of it perished. A good stand of small plants went into winter, however, and came through all right; but a freeze late in March, heaved a great many of them out, except where well protected by volunteer rye, where the plants are now 18 to 20 inches high, and have been in bloom for more than 10 days. I had my ground in order, and would have sowed several weeks sooner, but was waiting for the drought to be broken. Owing to the lateness of my sowing, the wonder is that a single plant lived through the winter to tell the tale. I shall try again this fall, but if we do not have rains so that I can sow in August, I shall keep my seed in the bags. J. P. K.

Wabash County, Ind.

CRIMSON CLOVER IN EASTERN PENNSYLVANIA.—My Crimson clover was sown in corn about August 18, just after some heavy showers had compacted the surface that had, till then, been kept mellow. The seeding was followed by a diamond-tooth cultivator (the teeth fine and sharp), once in a row. The seed germinated, but only a little in moist spots could be found after the corn was cut. I believe that, had the cultivator been run before the seeding as well as after, I would have succeeded better. My neighbor across the road sowed three weeks earlier, and had a fine stand when winter set in. Another neighbor plowed sod in July, and seeded to Crimson clover the middle of July, used no fertilizer, and had a good growth by December 1. The last mentioned neighbor covered with manure, the former did not. Both pieces were almost entirely winterkilled. The season has been an unusually hard one here on winter crops. The soil of all these pieces is a good clay loam, with clay subsoil. Would not sowing one-half bushel of rye to the acre with Crimson clover, act as a better early spring protection than even a coat of manure? My most successful crops have been on rye stubble, where the grain had shattered a good deal. For ensilage, the rye would, probably, be an objection. Another neighbor tried two acres of winter oats, sown in September. They wintered well till March, when they were almost entirely killed. F. L. M.

Bucks County, Pa.

GOOD ROADS IN PENNSYLVANIA.—The Department of Agriculture of Pennsylvania is collecting facts about country roads. Prof. John Hamilton, the deputy secretary, at Harrisburg, has sent the following questions to every township in the State. Very likely you will like to answer them for your own township:

1. How many miles of public road are there in your township?
2. How much of this road is piked?
3. Are stones abundant?
4. What kinds do you have?
5. Does your township own a stone crusher?
6. Does your township own a road machine?
7. Does your township own a roller?
8. Do you use a harrow to level ruts?
9. How many mills of road tax do you levy?
10. Should the road tax be paid in cash?

CROP AND MARKET NOTES.

Hay prices are lower.

The pop-corn market is dull and prices low.

Prices on poultry, both alive and dressed, are somewhat lower.

The Fourth of July holiday breaks up the markets for the last of the week. No business is done here on holidays, still some people will persist in shipping perishable goods to arrive on such days.

Potatoes are selling at ruinously low prices. The receipts from southern points have been excessive, and dealers were forced to make low prices to move the stock. It is to be hoped that the situation will improve.

A meeting of the executive committee of the American Guernsey Cattle Club was held at the office of the club in Peterboro, N. H., on June 16 and 17. Appreciation was expressed of the valued services of the late Silas Betts, president of the club, and resolutions of regret were passed. Mr. James M. Codman of Brookline, Mass., a member of the executive committee from the establishment of the club, was chosen acting president until the next annual meeting of the club. It was found that the work of the office of the club, which showed a gain last year, has still kept gaining this year. The prospect for the future of the breed never seemed more encouraging.

The 20th annual session of the Georgia State Horticultural Society will be held in Griffin, Ga., August 5, 6 and 7. The object of the association is, first of all, to promote the progress of horticulture in the State. The re-union is expected to be composed of working members, looking towards the material interests of the commonweath. All horticulturists, fruit growers and progressive agriculturists are earnestly and cordially invited to send such articles for exhibition as will make the display of Georgia-grown fruits, flowers and vegetables creditable to the skill and progress of its people. Reduced fares have been secured from the railroads. Hotel rates have been reduced. Annual membership fee $2. All applications for membership should be made to the treasurer before July 15. A most attractive programme of essays from eminent scientists and successful horticulturists is being prepared, and will be issued later. G. H. Miller, secretary, Rome, Ga.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 15@	—
Medium, 1895, choice	1 05@	—
Pea, 1895, choice	1 05@	—
Medium or pea, common to good	90@1	00
White Kidney, 1895, choice	1 20@1	25
Red Kidney, 1895, choice	1 00@1	02
Red Kidney, common to good	80@	95
Black Turtle soup, 1895	1 20@	—
Yellow Eye 1895, choice	1 20@	—
Lima, Cal., 1895 (60 lbs)	1 75@1	80
Green peas, bbl., per bushel	72@	75
Bags, per bushel	67@	70
Scotch, bags	70@	72

BUTTER—NEW.

Creamery, Western, extras	15 @15½
Western, firsts	14 @14½
Western, seconds	12½@13
Western, thirds	11 @12
State, fancy	15 @15½
Common to prime	11 @14½
State dairy, half-firkin tubs, fancy	14½@15
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14 @14½
Welsh tubs, firsts	13 @14
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @12½
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9 @10
Thirds	8 @ 9
Factory, fancy	10½@11
Factory, firsts	9½@10
Factory, seconds	9 @—
Factory, thirds	8 @ 8½
Old butter	7 @10

THE FEARLESS.

The records show this Threshing machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

CHEESE—NEW.

State full cream, large, colored, fancy	6¾@—
Colored, good to choice	6¼@ 6½
Fair to good	5 @ 6
Fancy white	6⅝@ 6¾
White, choice	6¼@ 6½
Small, colored, fancy	7 @ 7¼
Small, white, fancy	7 @ 7¼
Small, good to choice	6½@ 6¾
Small, common to fair	5½@ 6¼
Light skims, choice	5 @ 5¼
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1½@ 2

EGGS.

Near-by, new laid, fancy, per doz	13½@ 14
State, fresh gathered	12½@ 13
Penna. and Md., country marks, fancy	12 @ 12½
Western, closely graded, fancy	11½@ 12
N. Ohio Ind., Ill. and Mich., prime	11½@ 12
Other Western, northerly sections, prime	11½@ 12
Western, fair quality	10½@ 11½
Southern, fresh collections, good to prime	9½@ 10½
Western and Southern, poor, per case	2 40 @3 00
Western culls, per case	1 50 @2 00

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼@—
Choice, 1895, per lb	5⅝@ 5⅝
Prime, 1895, per lb	5 @ 5¼
Common to good, per lb	3 @ 4¾
N. C., sundried, 1895, sliced, fancy	3½@ 3¾
Southern, sundried, common to choice	2 @ 3¼
State, sundried, quarters, bbls	2½@ 3½
Western, sundried, quarters, bbls	2½@ 3½
South-West'n, sundried, quarters, bbls.	2½@ 2⅝
Southern, sundried, quarters, bbls	2 @ 2½
Southern, sundried, quarters, bags	2 @ 2¼
Chopped, 1895, per lb	2 @ 2½
Cores and skins, 1894, per lb	2 @ 2¼
Peaches, Sundried, 1895, peeled, per lb	3 @ 6
Cherries, 1895, per lb	9 @10
Blackberries, 1895, per lb	5½@ 6
Raspberries, evaporated, 1894, per lb	16 @—
Sundried, 1895, per lb	15 @—
Huckleberries, 1895, per lb	5 @ 5½
Plums, Southern Damsen, 1895, per lb	4 @ 4½

FRUITS—GREEN

Apples, Va., green, per half-bbl basket	1 00@1 25
Md. and Del., per crate	60@1 00
Jersey, per bbl	1 75@2 00
Blackberries, Jersey, per quart	6@ 8
Md. and Del., cultivated, per quart	5@ 8
Md. and Del., small early, per quart	4@ 5
Cherries, extra large, dark, per lb	12@ 14
Medium, dark per lb	8@ 10
Medium, light colored, per lb	7@ 9
Small and inferior, per lb	3@ 5
Currants, per quart	5@ 6
Per lb	4@ 4½
Gooseberries, green, per quart	3@ 4
Prime green, per bushel	1 00@ —
Extra large, per quart	6@ 8
Grapes, Fla., Niagara, per case	75@1 50
Huckleberries, N. C., per quart	6@ 8
Md. and Del., per quart	5@ 9
Jersey, per quart	8@ 9
Mountain, Penn. and State, per quart	10@ 12
Muskmelons, Charleston, per bushel-basket	50@1 25
Charleston, per bbl	1 00@2 50
N. C., per bbl	1 00@2 00
Peaches, N. C., early sorts, per carrier	1 25@2 25
S. C., early sorts, per carrier	1 50@2 50
S. C., early sorts, per flat case	75@1 25
Georgia, Tillotson, per carrier	1 50@2 50
Georgia, Early Rivers, per carrier	1 50@2 00
Georgia, unsound, per carrier	1 00@1 25
Md. and Del., per basket	30@ 60
Md. and Del., per crate	50@ 90
Plums, S'n, Wild Goose, per carrier	1 50@2 25
Wild Goose, per flat case	75@1 00
Chickasaw, per 6-till carrier	75@1 25
Botan, per carrier	1 50@2 50
Pears, LeConte, per bbl	2 00@4 00
Raspberries, blackcap per pint	3@ 5
Blackcap, per quart	6@ 9
Red, Up-River, per ½ cup	4@ 5
Red, Md. and Del., per pint	3@ 5
Strawberries, Up-River, per quart	10@ 15
Western New York, per quart	8@ 16
Watermelons, choice, large, per 100	14 00@15 00
Small to medium, per 100	10 00@13 00
Per car-load	75 00@150 00

GRAIN.

Wheat	68 @83
Rye	59 @45
Barley	38 @41
Buckwheat, silver	40 @42
Buckwheat, Japan	— @—
Corn	33 @38
Oats	23 @28

HAY AND STRAW.

Hay, No. 1 Timothy	85@ 90
No. 2	75@ 80
No. 3	60@ 70
Clover, mixed	65@ 70
Clover	55@ 60
Salt	45@ 50
Straw, long rye	95@1 05
Short rye	65@ 70
Oat	40@ 50
Wheat	40@ 45

POTATOES.

Southern Rose, fair to prime, per bbl	87@1 00
Chili red, fair to prime, per bbl	87@1 00
Seconds, per bbl	40@ 75
Culls, per bbl	25@ 35
Old, per barrel or sack	25@ 40

POULTRY—LIVE.

Spring chickens, per lb	10½@ 14
Fowls, local, per lb	10½@ —
Western, per lb	10 @ 10½
Southwestern, per lb	10 @ 10½
Southern, per lb	10 @ —
Chickens, yearlings, per lb	10 @ 10½
Roosters, old, per lb	6 @ 6½
Turkeys, mixed, per lb	8 @ 8½
Ducks, local, per pair	75 @ 80
Western, per pair	70 @ 75
Southern, per pair	60 @ —
Geese, local, per pair	1 12 @1 37
Western, per pair	1 00 @1 25
Southern, per pair	75 @ 85
Pigeons, old, per pair	30 @ —
Young, per pair	20 @ —

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ —
Average toms, per lb	9 @ 10
Chickens, Phil., broilers selected, per lb	20 @ 22
Phila., broilers, ordinary, per lb	16 @ 18
L. I., broilers, sealed, per lb	16 @ 18
Pennsylvania, broilers, per lb	17 @ 20
Western, dry-picked, broilers, per lb	14 @ 16
Western, sealed broilers, per lb	14 @ 15
Western, small, per lb	12 @ 13
Fowls, Western, dry-picked, choice	10 @ —
Dry-picked, fair to good, per lb	9 @ 9½
Sealed, choice, per bbl	9½@ —
Old cocks, per lb	5 @ 5½
Spring ducks, Eastern, per lb	14 @ —
Spring ducks, L. I., per lb	14 @ —
Squabs, tame, white, per doz	2 00 @ —
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @ —

VEGETABLES.

Asparagus, extra, per doz bunches	1 50@ —
Prime, per doz bunches	60@1 00
Culls, per doz bunches	25@ 40
Beets, per 100 bunches	1 00@ —
Cabbage, L. I., per 100	2 50@3 50
Carrots, per 100 bunches	1 00@ —
Cauliflower, L. I. and Jersey, per bbl	1 00@3 00
Celery, fancy, large, per doz	—@ —
Average, prime, per doz	30@ 35
Small, per doz	20@ 25
Cucumbers, Charleston, per basket	75@1 00
Jersey, per basket	1 00@ —
N. C. and Norfolk, per basket	25@ 40
Egg plant, Southern, per bbl	3 00@ —
New Orleans, per box	1 50@ —
Charleston, per basket	1 00@1 25
Green corn, N. C., per 100	75@1 00
New Jersey, per 100	75@1 00
Green peas, Jersey, per basket	—@ —
Jersey, per bag	—@ —
Long Island, per bag	1 00@ —
Lettuce, per bbl	75@1 00
Onions, Bermuda, per crate	75@ 85
Egyptian, per bag	90@1 00
New Orleans, per bbl	1 75@2 00
New Orleans, per bag	75@ 85
Southern potato, per basket	60@ 65
Peppers, S. Jersey, per crate	1 50@1 75
Radishes, per 100 bunches	25@ 75
Rhubarb, per 100 bunches	1 00@1 25
Spinach, per bbl	25@ 50
Squash, Southern, white, per bbl crate	50@ 75
Southern, yellow, per bbl crate	50@ 75
Southern marrow, per bbl-crate	50@ 75
String beans, Jersey, per basket	75@ —
Maryland, per basket	60@ 75
Baltimore, per bushel basket	30@ 50
Long Island, per bag	75@1 00
Tomatoes, Fla., prime to extra, per carrier	65@ 65
Florida, poor to good, per carrier	40@ 50
Mississippi, per case	70@ 90
Savannah, per carrier	50@1 00
Norfolk, per carrier	50@1 25
Jersey, per crate	75@1 00
Turnips, new, white, per 100 bunches	1 00@2 00

WOOL.

XX and above, Ohio	18 @19
X, Ohio	15 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

MILK AND CREAM.

The total daily supply has been 20,419 cans of milk, 310 cans of condensed milk and 822 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

Miscellaneous Advertising.

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5 Years Cured: J. W. GILLESPIE, Black River, N. Y.

5 Years Cured: WM. E. WELLER, 164 Cherry St., Burlington, Vt.

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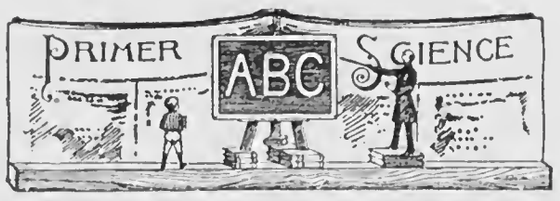

FEEDING A HEN.

PART XIX.

The Moulting Hen.

1. Do you recommend any special food for moulting hens, and, if so, what have you found best suited to their needs? 2. Have you ever had hens that continued laying to a greater or less extent right through their moult? 3. Do you consider it profitable to give them this extra care for the extra eggs and condition thus secured? 4. Is there any way of shortening the moulting period or hastening it so that the fowls will be fully feathered before cold weather? 5. Would it be worth your while to adopt such a practice if you were sure that it would give the desired results? 6. Do you notice, in your flock of hens, that some moult naturally easier and quicker than others, and, if so, do you think that this habit would become hereditary, so that chicks from these birds would have the same characteristics?

Meat Is a Tonic.

I find plenty of fresh meat or green bone the best tonic that can be given to help hens through the moult; thus fed, they will shed quicker and come out in better shape. I have had hens lay all through their moulting, but I think it just as well for them to rest through that period. It pays to get hens through with their moult before the cold weather sets in, and a yearling hen will always moult earlier than a two or three-year-old. I do not think early moulting could be made hereditary; it is in the condition of the fowls, more than in anything else. I take no stock in condition powders to help; I have found them worthless. JAMES H. SERLY.

"J. A. W." Has His Say.

1. I do not. In my opinion, hens that are well cared for and not forced, need no special foods or tonics to carry them through the moulting season. I am an ardent advocate of an extensive range for fowls. The exercise they get in grazing, and hunting for insects, is very beneficial. Contentment is the great desideratum, and fowls at liberty, if well fed and kept free from lice, are generally contented, and in good condition to bear the strain of moulting. 2. I have. Last year, more than 90 per cent of my hens went through the moulting process so gradually that I did not notice, either by the looks of the feathers, or the number of eggs, when the change took place. 6. Yes. I have no doubt that these characteristics would be transmitted to the offspring if selections were made with that end in view, though I will confess that I have not tried the experiment. I believe that the Mediterranean breeds moult easier and quicker than the large breeds; also, that all breeds moult easier and quicker the first time than they do afterwards, and for that reason I believe that the most profitable plan is to renew half of the stock every year, allowing none of the birds to moult more than once.

Younger Fowls Moult Easiest.

1. I recommend increasing the proportion of nitrogenous food in the ration. More cut fresh bone, or meat-meal, or beef scrap, and a handful of linseed or cotton-seed meal to each pen of fowls. 2. My hens always continue laying through the moult when so fed. The egg yield drops off 50 to 75 per cent, but they continue laying. 3. Most certainly. Not only do the eggs pay for it, but the fowls come through the moult in so much better condition, and so promptly that we get doubly paid for the extra care. 4. Yes. The above method will substantially shorten the moulting period. The period can be hastened by short rationing the birds for two or three weeks, to check laying; then push them as above to induce moulting quickly. 5. Yes; most certainly. 6. Yes, fowls in "high" condition and well fed, moult more easily and more quickly than others, and young (one-year-old) fowls moult more easily, and earlier, than two, three or four-year-old fowls. As a rule, the older a fowl gets, the harder and later will she moult. By "selecting" such as moult easily and quickly to breed from, the habit can, no doubt, be transmitted to the progeny. A. F. HUNTER.

Linseed Meal is Good.

For moulting hens, I recommend food rich in feather-growing properties, which is the same as egg-producing. I usually feed plenty of meat and linseed meal, together with as much of a variety of foods as I can get. This is one of the most trying times of a hen's life, and she should have good care and nourishing foods. I have always had some eggs through the moult, though, of course, less than at any other time. I have had hens lay when they were practically bare of feathers, nothing but pin feathers showing, having shed all their feathers at once. The moulting period will be shortened by giving rich food and good care, and the fowls will surely come through in better condition for winter laying. I am sure that it pays to give them special care at this period, for the extra egg production at this time, as well as after results. I have always noticed that some hens moult much earlier and quicker than others, but could not say whether it would become hereditary, and an early-moulting breed could be established or not. But I am inclined to think it results more from the fowls' individual dispositions and inclination to range and hunt their living. The more they range, the better their health, and the stronger and more vigorous they are, the quicker and easier their moult. The main point is to get the old feathers out of the way, as it is an easy matter to feed for the growth of new feathers. I would like to hear from others on the moulting question, also from any one who has had experience with any method of coaxing fowls to drop their old coat of feathers early in the season. J. E. STEVENSON.

Opinions by P. H. Jacobs.

1. As hens moult, usually, in warm weather (though sometimes during other seasons), it is not advisable to supply carbonaceous food. Hens will often come out of the moulting process somewhat fat, due to the greater demand for the nitrogenous and mineral elements, the excess of carbonaceous matter being stored on the body as fat, although the hen may be weak. Cut bone, meat, and clover are the most suitable foods; sulphur is also beneficial, as the feathers contain quite a proportion of that substance. 2. Some hens continue laying well into the moulting period, though the cases are exceptions. Much depends on the individuals and their characteristics. 3. It is profitable to give the extra care, as the process of renewing the feathers is a heavy drain on the system, often being fatal to weak hens, or to those which do not receive food rich in nitrogen and mineral matter. They are also liable to succumb to dampness, and should have dry quarters. In summer, the risk is less than during very late in the season. 4. Oily foods, such as linseed meal, sunflower seeds, etc., tend to hasten the process. It usually requires about three months; but a gain of two or three weeks is possible with balanced foods. 5. It is well worth the time and labor to bring the hens into laying condition as soon as it can be done. 6. No two hens are alike, and differ as do human individuals; hence some will moult quicker, easier, and with no indications of debility, while others in the same flock, and receiving the same treatment, require a longer time to moult, and do not endure the ordeal so well. I do not believe that moulting can be controlled so as to secure hereditary tendencies in a flock, unless by careful selection for many years; and it is doubtful whether it is even then possible to have such fixed characteristics. The food, breed, location, season of the year, and general management, are important factors in the matter.

C. H. Wyckoff Talks.

I do not use any special food for moulting fowls, but feed with a view to their best general health and condition, the same as if laying; but find that they will not take so much food. I have had hens that lay, to some extent, nearly through the moulting period; but they will usually stop for a time when the new feathers are making the most growth. I find it most profitable to give the best care and attention at all times. I do not believe that there is any practicable method of hastening or shortening the moulting period of hens, except so to care for them at all times, that they are kept in that bright, active, happy and comfortable condition commonly seen only in the spring and early summer. I notice that there is a great difference in hens about moulting; some moult very gradually, dropping a few feathers at a time, and having many new feathers full grown before all of the old are dropped. These

(Continued on next page.)

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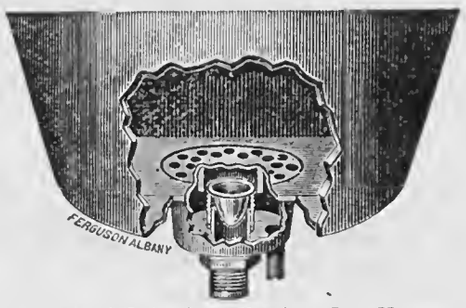

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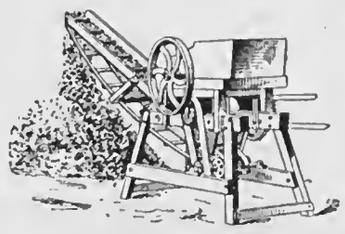

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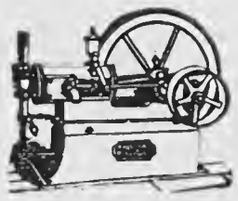

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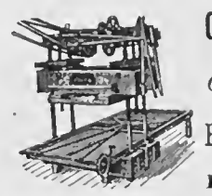

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FEEDING A HEN.

(CONTINUED.)

will lay some while moulting, but do not finish the moult nearly so quickly as those that shed the old coat all off in a few days' time. It is a somewhat more trying time with this latter class until they get fairly covered again, which they very soon will, if in good, robust condition to begin with. I do not feel sure that either one is more desirable than the other, but am inclined to favor the one that moults quickly, as, although she stops laying altogether for a time, she is generally found to be the best layer when she starts in again after her new coat is complete. The slow-moulting hen would, probably, be best for those who want a fowl to stand neglect, and I am sorry to find that there are many who are looking for such. As for myself, I cannot afford to keep hens for that purpose.

A TALK ABOUT "MOULTING."

In studying the subject of "moulting," as it relates to poultry, it is well to bear in mind that the whole animal creation regularly sheds and renews its outer coating, whatever may be its form or nature. Cuticle, hair, wool, scales, nails, and horns, all of which are analogous growths, conform to the rule without exception, though not all in the same way. The cuticle, as in the human species, is worn or cast off constantly, but so gradually, and in such fine particles, that the change takes place unnoticed. Horns are, in some cases, shed entire, but usually changed by wear and growth only. Hair and wool, as a rule, are changed with the seasons; the winter coat being shed as summer approaches, while that of summer, in due course, is replaced by a growth designed, by its length and closeness, to retain the animal heat. Some of the lower orders of the animal creation, as serpents and crabs, shed their outer coating all in one piece, from nose point to tail tip, not even excepting the eyes; much as a man might unbutton his coat and throw it off whenever he found it too tight, too warm, or too much worn.

Moulting is, no doubt, brought about by some change in the circulation of the skin; the change being effected by the action of the nerves controlling the capillary circulation of the skin. In effect, I presume, it amounts simply to a cutting off of the regular supply of material for the formation of the feathers. A similar change, in some instances, takes place from disease, as, for instance, the peeling of the skin after scarlet fever, the falling of the hair after typhoid fever, etc. There is another illustration of the process that cannot, properly, be said to be brought about by disease; yet it very closely simulates it. I refer, of course, to the shedding of the feathers during incubation. The abnormal heat of the skin may contribute toward the results by the too rapid drying and condensation of the epithelial cells, of which all the varieties of the outer investments of animal bodies are built up. These cells, at first round and soft, as they are forced outward by the formation of other cells below them, gradually part with their moisture and become flattened into scales. These scales, so to speak, constitute the building material, like so many bricks, out of which hair, feathers, etc., are formed. In the case of the sitting hen, as in scarlet fever, there is, actually, a larger quantity of blood in the blood vessels of the skin than usual; but that may be from its being delayed there in the venous capillaries, while less blood really is being carried there by the arterial system, and consequently, less material in a state available for growth.

Bearing in mind, then, this general fact, we may safely conclude that moulting is a physiological, and not a pathological, process; or in other words, that it is the normal, regular and natural course of things, and not an effect or indication of any disordered or diseased action. Hence it directly and inevitably follows, providing only that the bird is in good health, that it is a process that may be pretty much left to take care of itself. Common prudence, however, would teach us the propriety of taking more than the usual care to protect the bird, while partially denuded of its clothing, from the cold and wet. The sudden call for a supply of material unusual in amount and composition, would seem to indicate a necessity for meeting it by a corresponding change in the diet. Wool, hair, and feathers, all, I believe, contain a notable proportion of sulphur in their composition, as the smell they emit when burning would seem to show, and that, perhaps, should be regarded as a call for the use of articles of food containing sulphur, as cabbage, peas, etc.

I am not aware whether any attempt, by practical observation or direct experiment, has ever been made to throw such light upon the subject as would bring into view a sufficient number of facts on which to base reliable rules of practice for the correct dieting and care of the occupants of the poultry yard at this trying period. The human animal, we know to be especially liable to suffer from a great variety of derangements at corresponding times of great physiological activity, as, for instance, at the time of teething, puberty, the menstrual period, and the change of life.

There are some general rules of conduct that may be mentioned as applicable for our guidance in the preservation of sound health at all such times of increased vital activity, or change of condition or habit. Whatever tends to exhaust the general vigor of the system should be avoided; while everything that assists in maintaining it should be attended to with care and regularity. The use of any fancy compounds of secret composition, is urgently to be deprecated. If the health is really good, that is, free from disease or disorder, nothing of the kind can improve it. Quietude and moderation in all things are to be enjoined; stimulants of whatever nature forbidden; care should be taken to see that all the outlets (or drains) for the excreta (waste material) should be kept in good order, such as the skin, liver, bowels, kidneys, etc., by avoiding or removing everything which might serve to clog or hinder their proper and efficient working. In health they can, if fairly treated, be depended upon for doing their work honestly without any spur or stimulant. A sufficient, not excessive, supply of good nutritious food with plenty of pure water should be secured, while exposure to hurtful influences or disease-producing poison in the air, the food, the drink, the sleeping or the nesting apartments, should be guarded against during the period of moulting with even more than the ordinary care.

W. O. E.

WINTERING COWS WITHOUT HAY.

On account of the prospect of a very short hay crop, and having five extra fine Jersey cows, could I winter them on corn stalks, buckwheat straw, turnips, wheat bran, corn meal, and linseed meal, and still have them give milk through the winter? Four of them will be fresh in milk by the middle of January. How should sowed corn fodder be sold, by the bundle or the ton? What is a fair price for it? What is buckwheat straw worth per ton?

E. A. S.

Tioga, Pa.

I knew of a herd that, several years ago, was kept all winter on, practically, grain alone. Grain was cheap and coarse fodders dear. They belonged to a milkman, gave nearly their average yield, and the owner saved money by his method of feeding. I know nothing about buckwheat straw. With either corn stalks, oat straw or wheat straw, and a good grain ration, a moderate milk yield can be obtained. For a foundation grain ration, use 1,200 pounds of bran, 700 pounds of linseed meal, and 100 pounds of corn meal. The corn meal is used chiefly as an appetizer. Feed each cow what she can profitably consume of this mixture, varying the proportions of the different feeds to suit the needs of each cow. If the cow have a tendency to be constipated, increase the proportion of oil meal in her ration. If her bowels become too loose, decrease the oil meal and increase the bran. If the cow have a tendency to put on too much flesh, decrease the corn meal or discard it altogether. If she get too thin, give her more corn meal and less of the other feeds. If straw and corn fodder are high, limit the feed to 8 or 10 pounds a day. If these rough feeds are cheap, give 20 to 25 pounds a day to each cow, and use what is uneaten for bedding.

E. A. S. says that four of his cows will be fresh by the middle of January. The yield of these cows will depend very much upon the treatment they receive before calving. Many feeders fail to get profitable returns from generous feeding of milch cows, because they do not feed properly before the cows calve. These cows should be fed up to calving so that they will keep in good flesh—not too fat—with their bowels open so that their droppings will be like those from pastured cows. For a grain ration before calving, feed bran and oil meal only. If new-process oil meal be used, it will be safe to feed equal parts of each. If old-process be fed, use three parts of bran to two parts of oil meal. If this ration does not keep the bowels sufficiently loose, give occasional doses of salts—1½ pound at a dose. Right feeding before calving pays as well as afterward.

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Day in and day out some satirical churl
Is flinging a jest at the fair bloomer girl;
But there's this to be mentioned—deny it who can—
She's sightlier by far than the bloomer young man. —*Washington Star.*

"DID the kitty hurt you?" asked papa, seeing his little boy's puckered face. "Yes," answered Charlie, "that kittie has got teeth in her toes."—*Youth's Companion.*

"I CANNOT marry you," he remarked sadly to the leap year girl; "but I will be a parent to you. I accepted your widowed mother last night."—*Philadelphia Record.*

"I REALLY think, John," said Mrs. Severe, "that you smoke too much." "Well, my love," said John, "if you'd occasionally give me a chance to talk, I might let my cigar go out."—*Harper's Bazar.*

"DID you fall?" said a man rushing to the rescue of a woman who had slipped on the pavement this morning. "Oh no," she said. "I just sat down to see if I could find any four-leaf clovers."—*Atchison Globe.*

PARVENU HOSTESS (to stable boy attired as waiter for the occasion of a dinner party): "James, why do you not fill Mr. De Gluttonne's glass?" James: "Lor' ma'am, what's the use? He empties it as fast as I fill it."—*Credit Lost.*

ONE Sunday morning not long ago a certain young boy was playing with a small step-ladder. His mother saw what he was doing and asked him what he was playing. "Oh," he said, "I'm playing this step-ladder is my bicycle." "But," replied his mother, "don't you know that it's wrong to ride a bicycle on Sunday?" "I know, mamma, but I'm playing I'm a Jew."—*Life.*

FLOSSIE is six years old. "Mamma," she asked, on Christmas day, when the guests had assembled, "if I get married will I have to have a husband like pa?" "Yes," replied the mother with an amused smile. "And if I don't get married, will I have to be an old maid, like Aunt Kate?" "Yes." "Mamma," (after a pause), "it's a tough world for us women, ain't it?"—*Modes & Fabrics.*

JAMIE, three years old, had a sore throat and mamma had to paint his tonsils. She told him to say "Ah" when she was ready with the brush, and soon the disagreeable task was over. Soon afterward little sister was telling him his a phabet and he was saying it over after her. When she came to "R" Jamie shook his head. "No," said he, "Don't want to say 'R' 'cause mamma will paint my froat."

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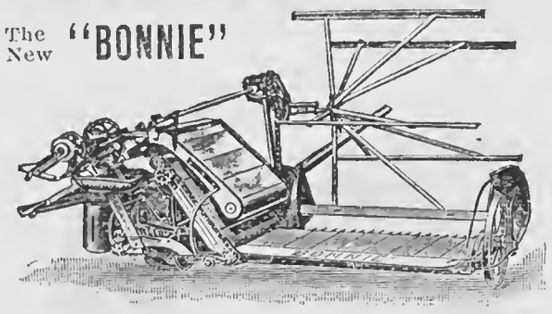

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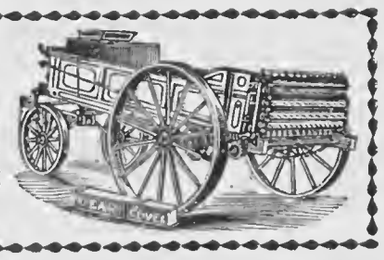

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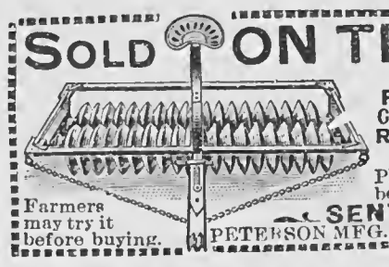

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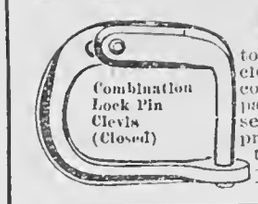

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2425. NEW YORK, JULY 18, 1896. $1.00 PER YEAR.

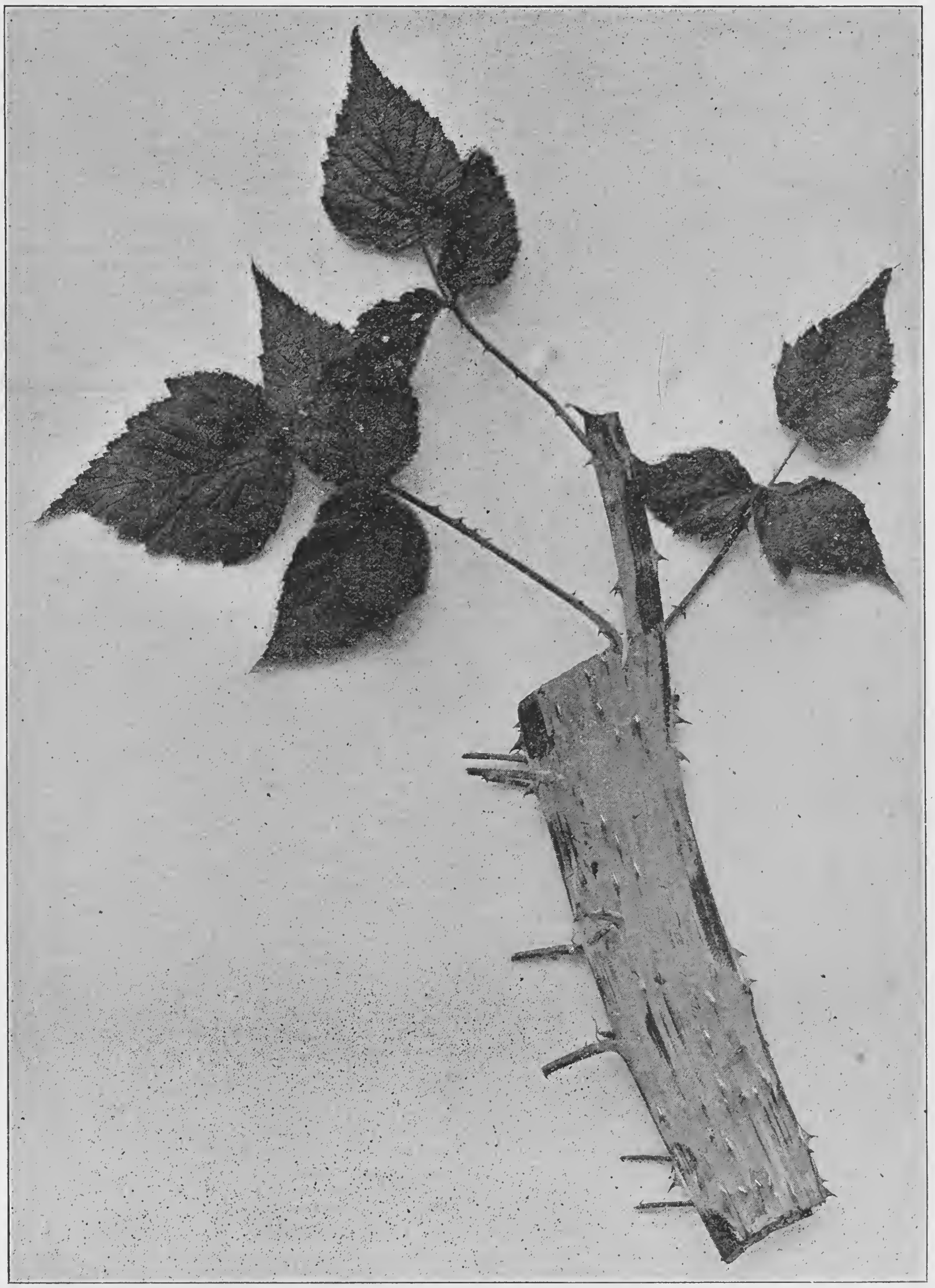
A COUNTRY DOCTOR'S MEDICAL NOTES.

PILLS AND PRESCRIPTIONS FROM ACTUAL PRACTICE.

Notes on Ivy Poisoning.

My experience as a practicing physician with ivy poisoning, may be worth relating, as it illustrates some practical points of general interest to country residents. My first case was in the person of a lawyer living in a house partly surrounded by a vine-covered veranda. This vine had been growing there for a number of years; but the lawyer had only recently come into possession. On the occasion of his first attack, I was unable to identify the disease. It was severe, affecting the face only, and passed for erysipelas. The next year, about the same time in the early summer, I was called in again to treat him for a similar attack. I had felt much dissatisfied with my former diagnosis, and was now convinced that it was a mistake. But what could it be? I asked myself, when the answer came like a flash of light, "He looks just as James Adair did when he was poisoned with ivy." James Adair worked for my father, and had suffered from an attack about ten years before while I was still at home. But how did this patient get poisoned? There was no history of any exposure. He had been nowhere that it seemed likely that he could have been exposed. There was this vine growing over the veranda; but it had been there many years, and it did not appear that any one living in the house had ever before been poisoned by it Even the lawyer himself had not been molested at any other time of the year, though he passed close by it every time he went in or out by the front door. However, when the suggestion was made that it might be the cause of the mischief, he said that he intended to take down the veranda, and would have the vine grubbed up. This was done. The lawyer never had another attack; but several of the men who assisted in taking up the vine, were poisoned by it. A week or two after, I was called to see a boy, and was able on sight to pronounce the case one of ivy-poisoning. Once you become acquainted with its appearance, you have no difficulty in recognizing it, it is so characteristic. "Ah, but," said the mother, "that cannot be; he has not been anywhere that he could have been exposed." And so it really seemed; but I was so sure that I was right, that I persisted in my cross-examination until, at last, she said that he had brought in some sticks from the commons that he thought might answer for pea-sticks. When, at my request, these were shown to me, what were they but portions of the lawyer's ivy vine that had been thrown out! They looked so dead and dry that one could hardly believe them capable of doing any harm. Several times since, on giving this diagnosis, I have had some difficulty in tracing the poison to its source; but have always, in the end, succeeded in confirming my opinion.

One distinctive and striking feature of the disease, so far as my experience goes, is the well-defined limitation of the diseased surface, which terminates abruptly at the line to which the clothing reaches. If the patient be a man who was working with his sleeves rolled up, as was one of mine who told me that, while plowing, he had to stop a number of times to clear the plow of a troublesome vine that was growing in the grass, you will find the skin of the hands and arms affected just so far as they were uncovered; while immediately above the appearance will be perfectly



FASCIATED STEM OF THE GAULT EVERBEARING RASPBERRY. FIG. 154. SEE RURALISMS, PAGE 483.

natural. A covered part, it is said, may have the poison conveyed to it by the hands; but I have never seen an instance of such infection. A few weeks since, I was attending a boy whose face, hands, legs, below the knees, and even the soles of his feet were badly poisoned. He could scarcely see out of his eyes for the swelling, and the skin, as he recovered, peeled off from the soles of his feet. Yet others of the family had hunted after a lost knife through where the vine that poisoned him was growing, without being affected in the least. The boy was barefooted and bare-legged at the time of the exposure.

As already noticed in THE R. N.-Y., the tincture of grindelia robusta diluted with water, or preferably, the fluid extract of the same, from a dessertspoonful to a tablespoonful to a pint of water, applied on cloths kept wetted with it, is one of the best applications.

How to Treat a Wound.

Three useful things to have in the farmer's home as a provision in case of wounds not sufficiently serious to necessitate the calling in of the medical attendant, are a spool of adhesive plaster, some iodoform gauze, and a package of carbolated absorbent cotton. Cleanse and dry as nearly as may be, the cut surface with a wad of the cotton using moderate pressure, and elevating the part if necessary to check the flow of blood. Do not apply any water. Bring the cut surfaces together as accurately as possible, and retain them there with as few and as narrow strips of the plaster as will suffice, cutting them of a good length. Then cover the wound with a dozen or so thicknesses of the iodoform gauze which should extend an inch, at least, beyond the wound. Over the gauze, apply a liberal layer of the absorbent cotton, allowing it, in turn, to extend beyond the gauze. The cotton may be kept in place by a bandage of cheesecloth, or where suitable, a part of the leg of a stocking may be drawn over it. Moderate pressure, if evenly distributed, is helpful. The pressure of a string is hurtful. Keep the part moderately elevated, and take care that there is no constriction of the limb above the wound, by a garter or otherwise. W. O. E.

WHAT SAY?

COAL ASHES ON CLAY.—My garden of very stiff clay has been greatly improved by spading in old wall plaster, pounded fine, and sand. I saw in a paper that nothing is so good for making such ground friable as sifted coal ashes. Have any of THE R. N.-Y. readers ever made an actual experiment with coal ashes?

Watertown, N. Y. Q.

TO HULL COW PEAS.—I would like to learn through THE R. N.-Y. how to make some kind of machine to hull cow peas. Some of the readers are likely to have them. I know of one, made with an octagonal box about two feet deep, with pegs on the inside, and a shaft down through the center, that is full of pegs and revolves by turning a crank. It has a fly wheel.

Columbus, Miss. W. O. P.

WHAT STRAWBERRY VARIETIES?—Will some of the experts in the northern States give their opinions of the leading varieties of strawberries, such as Brandywine, Rio, Marshall, and the much lauded, in the South, Lady Thompson. State for what soil and latitude they are adapted, vigor of plants, size of berry, productiveness, and season of ripening. How do the Lovett and Beder Wood compare with the old Wilson when at its best? What is thought of the Jessie and Leader? What would you recommend as the best good-sized early berry? The best medium early? The best late? I want large, firm berries, productive, healthy, vigorous plants. My soil is clay upland.

Poestenkill, N. Y F. O.

WHAT THEY SAY.

COTTON-SEED MEAL FOR CUTWORMS.—I have found that cutworms are very fond of cotton-seed meal, and that it is the best medium for the administration of Paris-green. I use it on potatoes for the beetle, and thus get it and the worms. Grasshoppers are just as fond of it. Plants may be protected from the worms by mixing Paris-green with the meal, and placing it close to the plants; even the meal alone will do the work. W. H. A.

Thompson, Tenn.

SPRAYING WHEN IN BLOOM.—On page 430, B. Buckman under the heading, Spraying for the Curculio, asks this question, "Does it do any good to spray when the bloom is on?" I am an earnest advocate of spraying, having applied about 750 gallons of Bordeaux Mixture this year with Paris-green; but we must consider that, without bees, many of our choicest varieties of fruits are utterly worthless, and would have to be disearded but for the cross-fertilization by them. It is conceded that the curculio does not eat the fruit but simply punctures it for the purpose of secreting its egg. Therefore, since it does not subsist by gnawing the fruit, and as the young grub, upon hatching, is secure from the poison on the outside, and immediately burrows to the center, no good is derived by applying poison for this pest at any season. The best way of combating the pest is illustrated on page 137, that of jarring off on to a sheet; or, better, have a good flock of chickens to follow around and pick them up as they fall. Knowing that Mr. Buckman can do nothing but confess that honey gathered from poisonous flowers must itself be poisonous, and that it would simply be the means of ruining one great industry and, possibly, of poisoning a whole community, while no good in the least is obtained, how can he insist upon "Spraying while the bloom is on"? It would simply be robbing Peter and, in the end, not paying Paul. S. B. S.

Chepachet, R. I.

"BLACK PEPSIN" BUTTER ONCE MORE.—On page 372 is a note about offering a bait to dairymen who wish to make something out of nothing. A short time ago, such a party called here and claimed that he had a preparation, a tablespoonful of which added to the cream, would produce one-third more butter. He also claimed that he could take rancid butter, soften it (not melt it), and add as much sweet milk in weight as he had of butter, then add a tablespoonful of his preparation to every five pounds of butter, churn them together, and the butter would take up all of the milk and leave double the amount of sweet butter in weight, or the combined weight of milk and butter. He asked $5 for his recipe. I obtained one from him for a dinner—here it is:

Sulphate 'D. alumine et de potasse	2 ounces.
Pula gum accie	1 ounce.
Sugar of milk	3 ounces.
Pure pepsin	150 grains.

I found afterwards that he had sold for any price from 25 cents to $5, and had given everybody the exclusive right to use the preparation which, he claimed, was patented. He claimed that the materials named in the recipe could be obtained of a druggist for 30 cents.

Oklahoma Territory. C. H. LITTLEFIELD.

A LITTLE "KICKER."—The Jersey Bulletin prints the little picture shown at Fig. 155, and says that it

A LITTLE "KICKER." FIG. 155.

is a young Jersey heifer, daughter of Rioter of St. Lambert 16501. She is engaged in the vain task of trying to kick an ear mark out of her ear. She is a foolish heifer thus to try to destroy this evidence of her identity. The exercise will not hurt her any, however—it will help her grow up into a strong and healthy cow whose performance at the churn will be a credit to her ancestors and owner.

THE "BEST LATE STRAWBERRY."—In my opinion, there is no best late strawberry There are a number that are particularly valuable for certain qualities, and some that are particularly adapted to certain soils. Among the best, I would name the following: the Eureka, which is a large, firm, and productive berry; the Parker Earle which, if properly grown, is one of the most productive and profitable varieties, but it requires a rich soil and good care; the Timbrell, which is, according to my taste, the best flavored of all the late strawberries, and for home use, cannot be excelled. It is also grown for market to a limited extent. The fourth variety that I would name is the Atlantic; this is an especially firm berry, of excellent quality, but has the disadvantage of not growing well upon all soils. I have seen it grown most successfully upon comparatively low and rich sandy loam The Gandy is a favorite among berry growers, but it has the great disadvantage of being a shy bearer. The soil upon which I have seen the Gandy strawberry do the best, is one that is composed of sand and gravel, with considerable humus. It was upland, and at certain times, suffered for want of water; but in ordinary seasons, the land contains sufficient moisture for maturing a strawberry crop. I would say that a good yield of the Gandy strawberry would be about two-thirds that of any other productive variety that is adapted to the soil that produces good Gandys. It is not a prolific bearer.

The Parker Earle will do well upon sandy soil that is not too wet. I think that the shipping qualities of the Parker Earle are seriously affected by giving it too much moisture. It is the common notion that giving this variety an abundance of water will cause it to mature all the fruits that the plants set. I think that the watering can be overdone, and the value of the variety injured by having too much of it. If potash fertilizers are used upon low land, I think that the firmness of the berry would be increased. Many experiments are now being made by the Cornell Station to test this point. I would give the preference to a sandy rather than a clay soil, to obtain the best results with the Parker Earle, provided, of course, the sand does not dry out too much.

Cornell University. E. G. LODEMAN.

GUINEAS AND GRASSHOPPERS.—Many farmers are having their crops injured by cutworms and grasshoppers. I think that, if they would keep a flock of guinea fowls, they would have no loss in that way. I have a flock, 80 acres of land, 10 acres of market garden, and am not troubled by either cutworms or grasshoppers, or by hawks carrying off chickens, or by chicken thieves. The guineas are up in the morning, wander all over the farm, travel quite fast, and live on insects. The noise they make when disturbed, will scare hawks and thieves. A. J. T.

Franklin, Mich.

R. N.-Y.—The largest guineas would die of overeating if they tried to handle the grasshopper crop on some farms.

HOW TO MAKE A SHEEP PASTURE.

FROM BRUSH TO GRASS.

I have a piece of sprout land from which the timber was cut about 15 years ago, and which I am now clearing to seed for a permanent sheep pasture. The brush, thrown in wide rows together with the leaves on the ground, will cause it to burn over fairly well. We shall not plow it, but can run a spring-tooth harrow over it. The location is rolling upland, soil good loam, and Kentucky Blue grass thrives in a field adjoining. What is my best plan to get it seeded to grass for permanent pasture? What kinds of grass seed and how much of each shall I sow? Shall I sow any rye with the grass seed, and how much? I expect to turn the sheep in as soon as possible to aid in keeping down the sprouts. H.□

Dauphin County, Pa.

Harrow Over and Burn.

I have cleared pasture land similar to that described. I infer that there is a good deal of open space between stumps. I would advise H. to cut and pile the brush about August 1, then, after a few days of drying, burn over. He should make the piles as small and scattering as possible, and try to cover as many stumps as possible. The more he can scatter his fire, the fewer sprouts will appear later, and the ashes will be more evenly distributed over the field. If first burning over do not clean up the larger sprouts and fag ends, rake the debris together and burn again. I think that he would succeed best in seeding to Red-top, White clover and Blue grass. He should sow, at least, eight quarts of the mixture to the acre. Rye might be added to advantage, by sowing three or four pecks to the acre, but he should be careful about turning in the sheep. Give the grass a fair chance.

Vermont. C. W. SCARFF.

From Experience in Ohio.

From experience with a tract of similar character, I wish to emphasize that it is very important to cut the sprouts below the surface of the ground Even this will not kill all of them, especially the hickory if there be any. No kind of stock will eat hickory leaves, but most other varieties of sprouts will be eaten off if the field be stocked as heavily as it should be. To avoid injury to the stock, change them frequently, putting in a new lot. This getting rid of the sprouts is the first consideration. Late this summer, turn the piece over as proposed. This will leave the ground in good shape for seeding. If Blue grass is indigenous to the locality, it will not be necessary to sow it. Doubtless it already has a foothold. It grows very slowly from the seed. Early this fall, soon after a rain, harrow and, if the ground can be put into fair condition for seeding, sow one bushel of rye and four or five quarts of Timothy seed. But if the ground be found to contain Blue grass roots, as I suspect that it will, I would not harrow, and would defer sowing seed until spring, omitting the rye entirely. At the usual time in the spring for sowing seed upon wheat ground, sow four quarts each of Timothy and clover. If there were low, moist, or shady places, I would add Orchard grass. The native grasses will come in rapidly. Considerable care will need to be taken the first summer, not to depasture the young grasses too closely. Frequent changing of stock is important. H. P. MILLER.

Ohio.

A Talk About Blue Grass.

I cannot speak authoritatively on these questions, never having made a specialty of either sheep or grasses; yet I have been in a position to observe something of both, through a long, outdoor life. For a permanent grass, in the climate of Pennsylvania (and in its more humid region, near its widest river), there is, probably, no sort preferable to the most

common of our native grasses, the Kentucky Blue grass, known as the June grass, from its earliness, and Spire grass, from the form of its erect panicle. Its creeping rootstocks, beneath the surface, secure it from material injury by drought or cold, or the feet of animals, and enable a plant of it, within two or three years, to cover a space all around it with a thick growth of blades that are a first choice of all grazing animals. Its greatest trials are from shade and from hot sun. If sown just before August rains, its natural habit will be most nearly followed, using fresh seed. In early spring, however, there is most assurance of the needful, cool, damp weather. It will then have a safe start before the next crop of sprouts appears; and sheep, turned on them, would not kill it; but they would cripple it, and a sprouting off in August, with a heavy, hoe-handled chisel, would be the best recourse for the first summer. As this grass abhors shade, rye sown with it would be an injury. The sown seed needs little or no covering unless birds are numerous, or the soil is very dry. The grass known as Sheep's fescue (F. ovina), has very numerous, fine blades, more or less wiry in its different varieties. It endures our climate well, and does not lose its greenness soon either in heat and drought or during winter. But it grows in compact little tufts, and has no capacity for spreading otherwise than by tuft enlargement and by seed. W.

Pennsylvania.

Feed Bran with the Sprouts.

Put a fence around the field that will hold the sheep in and the dogs out, and turn on the field twice as many sheep as it will support. Do this so as to have them eat every sprout as soon as it starts. Of course, it should be cut over so that no bush is left of which the sheep cannot reach the topmost branch. Another thing is very essential in a permanent sheep pasture: they must be provided with plenty of good, fresh water. Sheep will live with a short supply of water, and, possibly, with none except what they can get from dew and wet herbage after rains; but they must not be expected to thrive very well. To do their best they must have all they need, and if H. has no spring convenient, he can furnish this from wells by having a large trough, and using a windmill, and letting the overflow back into the well. The sheep must be fed something supplemental to the pasture, and this he can furnish now in wheat bran very cheaply. There is no better pasture for sheep than Kentucky Blue grass; but I would advise seeding with Blue grass, Orchard grass, White clover, Meadow Fescue and Redtop, and put on seed in plenty. This may be sown immediately following the harrow, and if he wishes quick feed, he can sow oats and rye before the harrowing—two bushels of oats and one of rye. Many will object to the Orchard grass, but if turned on early in spring, it makes a very fine pasture grass, and sheep are fond of it; and, besides, it grows rapidly and persistently, but if left in spring until it has got a good start, it becomes coarse and woody, and the sheep will not eat it at all. In cutting the brush, care should be taken to scatter evenly over as much space as possible, but avoiding any spots now well set with grass. H. can make a fence with wire and pickets very cheaply, that will shut out the dogs. I know of no other way in which the weeds and bushes can be so quickly subdued, and good grasses so soon established as by the use of extra fed sheep.

New York. J. S. WOODWARD.

PRETTY PERENNIALS OF THE SEASON.

SOME OLD BUT GOOD FLOWERS.

Passing through a large collection of perennials recently, so many pretty ones attracted my attention, that I made note of a dozen or more of the hardiest of them for the use of those who wish some of these beautiful plants around their homes. They are not new, at least, not all of them; but they are showy and good. One of the first noted was the showy Centauria macrocephala, bearing large golden yellow heads of flowers. It grows two or three feet high, makes a fine display, and would please almost every one. There were three groups of prickly pears or Indian figs in flower—opuntia, vulgaris and Rafinesqui. The first named has very spiny stems, and bears large, light-yellow flowers. The other two could not be told apart by the casual observer. They are less spiny than the first named, and the flowers are much deeper yellow. These are just the plants for dryish, barren places. This season, they are uncommonly full of flowers. As is generally known, the kinds named are natives and entirely hardy.

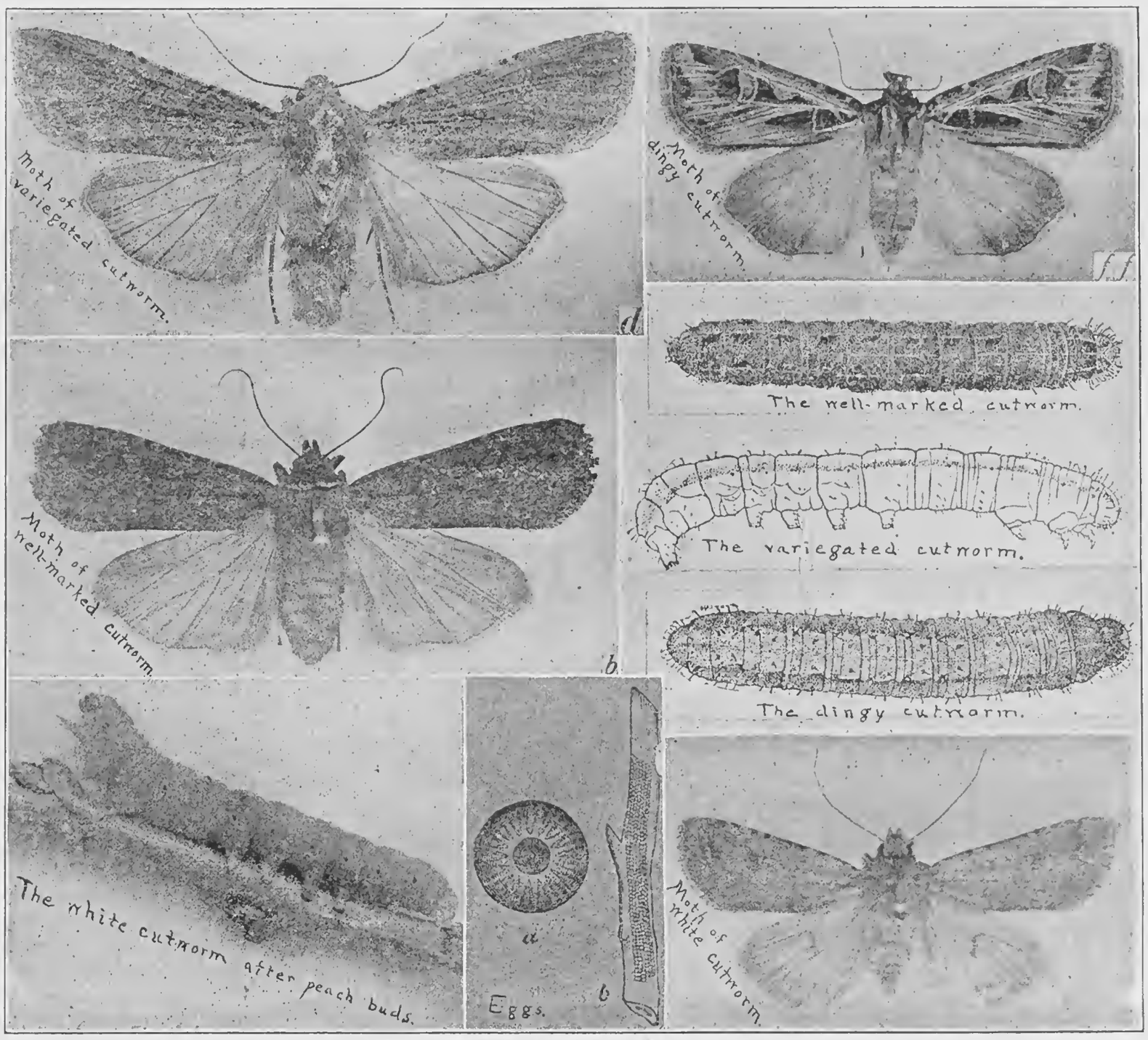
Thermopsis Caroliniana is not well known. It is not unlike a lupine in general appearance. The plant grows to about three feet in height, and produces a showy spike of yellow flowers. It will be a popular perennial, I am sure.

Another tall grower is the old but beautiful loosestrife. From seeds self-sown, there are some semi-wild plants in a meadow near by, and these are very much larger than those in cultivation. The large spikes of rose-colored flowers attract a great deal of attention. The common alum root is known to most persons hereabouts, as it is by no means scarce in our woods. There is a species now in cultivation, from northern Mexico, called sanguinea, which is a decided acquisition. From a base of pretty leaves, flower scapes a foot in length arise, well filled with bright red flowers, gracefully set along the stem. It continues in bloom for a month or more. It should not be omitted from a collection. Most collections contain the yellow Chamomile (Anthemis tinctoria) and Coreopsis grandiflora. The former has light yellow flowers, the latter, golden yellow and large ones. Their long stems and the lasting qualities of the flowers make them valuable for cutting for the adornment of the house.

Two columbines—Aquilegia chrysantha, and A. Skinneri—are flowering now, after all others are over. The first-named is the well-known yellow, the other is red. Both are desirable. Betonica officinalis is an old inmate of gardens, but rosea is not nearly so well known. Its spikes of rose-colored flowers stand very erect, many of them together, forming a mass which attracts from some distance away.

Japanese irises should be in all collections. Besides being prettier than a great many other sorts, they flower in late June, when all others are nearly or quite over. For a low-growing, almost prostrate plant, bearing red flowers all summer long, the Geranium sanguineum may be planted. It makes so many leaves and small shoots, that it forms a green mat, as it were. JOSEPH MEEHAN.

Pennsylvania.



SEVERAL CUTWORMS AND THEIR ANCESTORS (TWICE NATURAL SIZE.) FIG. 156. SEE PAGE 480.

"CHEMICALS AND CLOVER" HOLD OUT

THROUGH THE AGRICULTURAL DEPRESSION

With Some New Features Added.

PART I.

Eight years ago, THE R. N.-Y. began to talk about "Chemicals and Clover," or the system of farming conducted by D. C. Lewis and others near Cranbury, N. J. The theory of this system of farming is that chemical fertilizers and grass sod, used in a five-year rotation, will fully take the place of stable manure. This theory was certainly well worked out in practice, for, year after year, large and increasing crops of wheat, grass, potatoes and corn were grown and sold from the farm—no stock being kept but a few hogs and the horses and cows needed for work and the home dairy.

This system has been fully explained in a pamphlet. It is enough to say here that four crops are grown — potatoes, corn, wheat and grass. The potatoes are planted after corn, with 1,500 pounds of high-grade fertilizer to the acre. After digging, the potato ground is worked over and seeded to wheat with Timothy, and clover is added in the spring. After two years or more of grass, the stable manure is hauled, and spread on the sod. This is all plowed under in the spring, and the ground is planted to corn—to be followed by potatoes, and so on through the rotation. The large dressing of fertilizer on the potatoes is supposed to carry through the wheat and grass. In case it is evidently needed, extra fertilizer is applied to these crops, but generally speaking, the fertilizer used on the potatoes answers for potatoes, wheat and grass. A quantity of fertilizer is used in addition to the manure, on the corn.

The former stories about Mr. Lewis's farm were written in comparatively "good times," when prices for potatoes were much higher than now, and before the past few seasons of severe drought. The unfavorable conditions since then have proved a severe test for chemical fertilizers. They represent a cash outlay for fertility, while stable manure, obtained in stock-farming, represents labor rather than cash. It is also claimed against chemicals that they fail in time of drought. The money crop of this rotation is potatoes, and the low prices of recent years have made many farmers weaken on the question of high fertilizing, and cut down the amount of fertilizer used on the potato crop.

This season is, therefore, a good one to see how "Chemicals and Clover" have held out through these hard and trying seasons. On June 22, I visited Mr. Lewis's farm after five years' absence, and had a chance to compare crops and figures. The fiscal year

on this farm ends April 1. The farm sales for the year ending April 1, 1895, are as follows:

Pork, calves and beef	$179.31
Corn	130.26
Miscellaneous sources	28.62
Wheat	333.78
Potatoes	779.03
Hay	748.75
Estimate, cows, eggs, etc.	175.00
Total	$2,374.75

Remember that this farm contains 100 acres—with 90 acres only under cultivation. The sales for the last season (ending April 1, 1896), were a little heavier, as will be seen from this table:

Potatoes	$1,035.43
Wheat	297.93
Sundry sources	46.32
Corn	215.83
Cattle, calves and pork	99.54
Hay	802.74
Estimate, from cows and poultry	175.00
Total	$2,672.79

"Now, Mr. Lewis," I said, "you will remember that your sales for the year ending April 1, 1889, were $3,116.73, which was, on the whole, under the average at that time. Have you not cut down your fertilizers on account of the hard times?"

"No, sir; there was no falling off in the amount of fertilizers applied in 1895. Our total outlay for fertilizers in 1895, was $681.11, or an average of $6.81 for each acre on the farm. You will notice that the total gross income was $26.72 per acre."

"But have you not used a lower grade fertilizer?"

"No, I use the same brand that I always have. This is no time to cut down on quality. If the high-grade goods are cheapest in good times, they are even more desirable in hard times. My reason for keeping up to the mark with fertilizers in these hard seasons, is that I cannot afford to take any chances on poor crops. My wheat will run from 25 to 30 bushels per acre, and, even in this dry season, I have grass that will cut 2½ tons per acre. If I had dropped off on fertilizers for the past two years, my grass would have been poor stuff. At present prices for hay, an acre of grass is one of the most profitable things on the farm. You might say that we might have saved by putting less fertilizer on the potatoes, and then applying more directly to the wheat and grass. All that I can say is that our plan of crowding it upon the potato crop has always given us the best general satisfaction."

"But how did you manage to sell $1,000 worth of potatoes last year at those awful prices?"

"I sold them as fast as they were dug, and took my chances. Prices seemed low then—30 and 40 cents per bushel—and many farmers laughed at me for selling. I knew, however, just about what potatoes cost me, and felt sure that any price above 25 cents was profit. This is a time for small profits, and I took what I could get. Some of those who held potatoes for higher prices, are holding them yet!"

"Do you use any home-grown potatoes for seed?"

"No, it does not pay. I would rather sell them at 30 cents a bushel, and pay 60 cents for northern-grown seed. The northern seed is superior, and we buy it every year regularly."

"Then you still believe in 'Chemicals and Clover'?"

"Yes, indeed; so long as potatoes can be made to average 40 cents a bushel, this rotation will pay. You have seen what we have sold during these hard years. I would like to know how our sales compare with those from other 100-acre farms conducted on different systems. After nearly 20 years' experience with fertilizers, I will make this proposition. Take any soil you like, and let me select a brand of fertilizer to suit it. You or any one else, take similar soil and use all the stable manure you want. I will use the same amount of money in fertilizers that you spend for manure, and in a five-year rotation, I am satisfied that I can clear more money!"

"But have you not thought of changes in your system that will add to its value?"

"Yes, we have established a creamery in our town"—but we will tell about that next week.

H. W. C.

FEEDING MILK TO POULTRY.

From your experience in feeding skim-milk to poultry, would you prefer to feed it sweet, mixed with dry food in the form of a mash, or solid, in the form of a curd? There seems to be some difference of opinion in regard to this matter, some poultrymen claiming that they have obtained better results by allowing the milk to stand until it forms a thick curd, and feeding it in this form, rather than to mix it before it sours, with the mash.

We Prefer a Curd.

We always prefer to feed the milk in the shape of curd when the weather is warm. In winter, when it is difficult to thicken it, we use it in the mash.

Massachusetts. J. RANKIN.

I have tried skim-milk in nearly every way, and have secured the best results when I let it form a curd; the fowls seem to like it better and thrive better on it than when fed to them sweet. I like it sweet to mix the feed with, but this takes only a small quantity, and when fed in curd, one can feed all they will eat of it. It will physic them a little, but this can be overcome by giving them dry charcoal. They will eat large quantities of it, and it does them good, for it is a great cleanser. JAMES H. SEELY.

New York.

Reason for Feeding it Sweet.

It would be preferable, in my opinion, to feed the skim-milk sweet. The milk sugar which constitutes one-half of the total solid matter in the skim-milk, would be retained in the curd only in insignificant quantities. Although only a portion of the sugar has been changed into acid at the time the sour milk is generally used, this could not be utilized without feeding too much of the sour milk. The sweet skim-milk can, apparently, be fed in almost unlimited quantities, except in winter weather. We have fed rations of which over 50, and sometimes 60 per cent was skim-milk, to fowls, with no unfavorable results. We have grown chicks to maturity with no drink other than sweet skim-milk. Of course, special attention was given to scalding the drinking fountains, and to cleanliness generally. If the desire is to have a "narrower" ration, I would prefer using dried blood or some other highly nitrogenous food, rather than waste part of the value of the skim-milk. If the milk could not be all fed sweet, I would prefer to feed only the curd. This I have often fed to good advantage, as many do when growing chicks on the farm. WM. P. WHEELER.

New York Experiment Station.

I very much prefer feeding it as sweet as I can have it after the cream has been removed. I usually mix it with dry food, and feed it in the form of a mash, and I can always see a great difference in the number of eggs when I can have milk.

New Jersey. D. A. MOUNT.

HOW TO PLANT CHESTNUT TREES.

A reader in Connecticut has bought a number of new varieties of chestnuts—Paragon, Numbo and Ridgely; also Japan and Persian walnuts. He asks this question in regard to planting: "Would it be advisable to plant the trees closer than it is intended to leave them, say, if they are to stand finally 40 feet apart, why not plant them 20 feet and then cut them out when they begin to crowd?" What would you advise if you were in this man's place, starting out in the culture of nut trees? Is his plan of setting them nearer together, and then cutting them out as they crowd, the best under the circumstances?

H. M. Engle's Opinion.

This plan of planting chestnut trees is just what we practice, and advise other inquirers. I am not prepared to advise on walnuts, since they may not produce sufficient to pay before thinning out will become necessary. As to Paragon chestnuts, if they succeed at all, they may be planted 20 feet apart each way, and by the time three-fourths require removal, they will have paid as well as if planted further apart. Where peaches succeed, I have advised planting three-fourths of them, which will be played out by the time they will crowd the chestnuts.

Close Planting for Fruit Trees.

I have found it profitable to plant twice as many apple and pear trees as were to stand permanently, and cut out half when they began to crowd. I would expect to get similar results from planting early-bearing nut trees in the same way. The only drawback is that it hurts the feelings to be obliged to destroy so many fine trees. It then seems as though they ought to have been planted where they could remain. A. J. COE.

H. E. Van Deman's Advice.

If suitable land be selected in Connecticut, there is no good reason why any one in that State may not make a success of chestnut culture, and also of some other nuts. He is on the right track when he plants Paragon, Numbo and Ridgely. Of the three, I think Paragon the best, because it has size, quality, productiveness, and all the good points of the others, and in addition, a peculiarity of ripening, the nuts all dropping out of the burr within a short period, which is a most important point. It enables one to gather nuts quickly and cheaply. Also, its pollen is potent upon its own stigmas, which is not entirely the case with Ridgely and some other kinds. It is best to mix them in the orchard. As to the distance apart to set the trees, I would confidently advise that they be planted thickly, and, when they crowd each other, cut out to not less than 40 or 50 feet. Let me say to any who may be going to graft over sprout lands of the wild chestnut, to follow the teachings of experienced persons in several States, which is, to graft several sprouts on each stump where they exist, and, where stumps or sprouts are as near as six or eight feet apart, graft them. They may be thinned out in case too many of the grafts grow. It is remarkable how quickly and heavily these grafts bear. Those that must come out after a few years will soon pay for the whole outlay.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

A LECTURE ON CUTWORMS.

WHERE THEY COME FROM; HOW TO KILL THEM.

F. P. D., Griffith, Ind.—What shall I do to prevent cutworms cutting off corn? The ground is completely alive with them.

W. W. G., Newburgh, N. Y.—The gray worm is making havoc with our gardens in this locality, cutting off our melons, cucumbers, tomatoes, lettuce, beets, etc., about clean, just below the surface. I have used coal tar and tobacco stems soaked in water; also sulphur and airslaked lime dusted on them, without much effect. Are there any other remedies I can try?

W. M. A., East Toronto, Canada.—I would like the life history of the cutworm. Are there any means of destroying it when it is in the moth stage? Where does the moth lay its eggs, and what kind of a moth is it? The depredations of the cutworms are something fearful this year. Do they have any enemies that prey upon them in the insect world?

ANSWERED BY M. V. SLINGERLAND.

Among the most destructive of our insect enemies, are the cutworms. Most gardeners and farmers are too familiar with these sleek, fat-looking caterpillars ranging from one to nearly two inches in length, and usually of some dull grayish or greenish color. All of these caterpillars have the peculiar habit of cutting off the plants upon which they feed, near the surface of the ground, thus destroying much more food than they can eat, or need; they also feed only at night, usually lying concealed just beneath the surface of the soil near the plant during the day. They are not at all fastidious in their diet, but usually prefer the succulent crops of the garden, especially corn, cabbages, etc. Some of them have acquired a great liking for tobacco and onions, while others climb fruit trees and feed upon the tender buds.

Cutworms are the caterpillars of, or they develop into, the insects known as owlet-moths. Most of the moths or "millers" that fly into our houses at night, attracted by the lights, are owlet-moths. These parent moths mostly appear during June, July and August. One moth may lay from 200 to 1,000 eggs on the leaves of trees or bushes, or on the grasses. The young caterpillars, soon after hatching, make their way to their favorite food plants, where they usually get about half grown by fall, in which condition they hibernate without feeding. In the spring and early summer, they come forth hungry from their long winter's fast, and their work of destruction begins upon the growing crops of the garden and field. There is, usually, but one brood of the caterpillars a year.

These pests are destructive for only about a month during the cutworm stage, and, usually, noticeably so only after they attain about two-thirds of their growth. This short period of destructiveness is a very important consideration. There is no doubt that many of the so-called "successful remedies" for cutworms were a "success" because they were applied at about the time the worms were maturing and disappearing into the ground for pupation; the "remedy" was applied, and the cutworms disappeared, hence it was a success, and the fact that they may have disappeared in obedience to Nature's laws is not taken into account. From what little we, therefore, know about the life-histories of the different cutworms, the cutworm stage is their most vulnerable point. The trapping of the moth by means of trap-lanterns or baited traps, involves more labor and expense than their doubtful results can repay; besides, they may be a positive detriment by destroying certain beneficial insects.

Preventive measures against cutworms: Cabbages, tomatoes, and similar plants that are set out in gardens, and which are very liable to be cut off by the worms, may often be protected by simply wrapping a piece of smooth, stiff paper around the stem when the plant is set; we have seen the tinfoil from tobacco pails or packages used for this purpose with much success. Cylinders of tin put around such plants often serve as perfect protectors. It is doubtful if any bad smelling substances placed in the soil around the plants will keep away cutworms. They will also burrow in dry salt, lime, and ashes as readily as in the earth.

Usually none of the preventive measures just discussed, will afford complete protection from cutworms, and destructive measures have to be resorted to. I do not believe that commercial fertilizers, gas-lime, salt, or any similar dressings applied at any time to the soil in practicable quantities, will have any destructive effect on cutworms. In some cases, they may stimulate the plants to such an extent, as

to enable them quickly to get beyond or outgrow cutworm injuries. Applications of any kind to the plants are not often successful. Probably the method most often practiced in gardens, and which cannot fail to be effective when faithfully carried out, is hand-picking with lanterns at night or digging them out from around the base of the infested plants during the day. Bushels of cutworms have been gathered in this way, and with profit. When from some cause, success does not attend the use of the poisoned baits, discussed next, hand-picking is the only other method yet recommended which can be relied upon to check cutworm depredation.

By far the best methods yet devised for killing cutworms in any situation, are the poisoned baits; hand-picking is usually unnecessary where they are thoroughly used. Poisoned bunches of clover or weeds have been thoroughly tested, even by the wagon-load over large areas, and nearly all have reported them very effective; lamb's quarters, pepper-grass, and mullein are among the weeds especially attractive to cutworms. On small areas, the making of the baits is done by hand (the bunches being dipped in a strong Paris-green mixture, one pound to 50 or 100 gallons of water); but they have been prepared on a large scale by spraying the plants in the field, cutting them with a scythe or machine, and pitching them from wagons in small bunches wherever desired. Distributed a few feet apart between rows of garden plants at nightfall, they have attracted and killed enough cutworms often to save a large proportion of the crop; if the bunches can be covered with a shingle, they will keep fresh much longer. The fresher the baits, and the more thoroughly the baiting is done, the more cutworms one can destroy. Many of the worms will often be found dead or dying beneath the baits, and they will have been their own sextons, and have attended to their own burial in many cases.

However, it may sometimes happen that a sufficient quantity of such green, succulent plants cannot be obtained early enough in the season in some localities. In this case, and I am not sure but in all cases, a poisoned bran mash can be used to the best advantage. It is easily made and applied at any time, is not expensive, and thus far the results show that it is a very attractive and effective bait. It is made by thoroughly mixing sufficient Paris-green with dry bran to give it a distinct greenish tinge (a pound to 25 or more of the bran, or two or three pounds of the cheaper white arsenic may be used); then add enough water to form a mash sufficiently soft to be dipped out with a spoon without dripping. A tablespoonful can be quickly dropped around the base of each cabbage or tomato plant, small amounts easily scattered along the rows of onions, turnips, etc., or a little dropped on a hill of corn, cucumbers, etc. The worms seem to be attracted to this mash, and feed upon it greedily. J. A.'s testimony, given in THE R. N.-Y. for June 27, 1896, page 434, should be read in this connection. The best time to apply these poisoned baits is two or three days before any plants have come up or been set out in a garden. If the ground has been properly prepared, the worms will have had little to eat for several days, and they will thus seize the first opportunity to appease their hunger upon the baits, and wholesale destruction will result. Always apply the baits at this time wherever cutworms are expected.

But it is usually not too late to save a crop after the pests have made their presence known by cutting off some of the plants. Act promptly, and use the baits freely. Keep all domestic stock out of the way of the baits. I do not believe that the soaking of corn in any solution before planting, will have any deterrent effect on any cutworm which may choose for a part of his menu the shoots growing from such soaked seed.

Where a short rotation of crops is practiced, cutworms rarely do serious damage in the corn field. The methods I can suggest by which they may be killed in such locations, are digging them out by hand, and by the use of the poisoned baits of clover, weeds, or the bran mash. A spoonful of the poisoned mash on each hill would, doubtless, soon furnish a deadly meal for most of the worms in or near the hill. Hand-picking has been practiced in corn fields of many acres, with success and profit. It is not such a tremendous job as it seems if one only goes at it systematically.

To any one who may be further interested in the subject of cutworms, especially in those that climb trees for their food, I shall be glad to send a copy of Bulletin 104 of the Cornell Agricultural Experiment Station, in which these destructive pests are discussed in detail with many illustrations.

There are, in Canada, probably, at least 50 different species or kinds of owlet-moths, whose caterpillars are cutworms; one cannot, therefore, specify any one of these as *the* cutworm. Furthermore, usually in an outbreak of cutworms, there are two or more species at work. Fig. 156 illustrates some of the most common kinds of cutworms and the parent moths. As I have stated above, there is no practicable method of combating these insects in the moth stage. Torches, bonfires, lanterns, and the like would attract and kill but a very small percentage of them, and these mostly males. We know definitely but very little about the egg-laying habits of cutworm moths. The eggs of some kinds are laid on the leaves of fruit and forest trees; one kind. has been found on a currant leaf, while a very common species lays its eggs on the trunk or twigs of fruit trees; others are said to oviposit upon grasses and, occasionally, on stones. Some are laid in midsummer; one kind may winter over as an egg, while others lay their eggs in the spring. Cutworms have many enemies, both predaceous and parasitic, which often do good service as natural checks to their increase. Several birds, toads, spiders and mites, and several insects like ground beetles, wasps, ants, and the spined soldier-bug, wage incessant warfare against cutworms. They also have many parasitic foes among the ichneumons and tachina flies.

Clover and Chinch Bugs.

W. M. E., Amherst, Va.—I have a creek bottom which I could irrigate; it is now in tobacco, I wish to get it in Alfalfa. Will it do to sow in August at the last working of the tobacco, or in September after it is cut? How would it do to mix Crimson clover with it to help check the weeds in spring? Or would Red clover be better? Will Chinch bugs eat clover? They have destroyed the wheat crop in this section, and have attacked the oats and corn. We plowed wheat and bugs under for fertilizers; the bugs ought to be good for that.

ANS.—I would not advise W. M. E. to sow Alfalfa on his land until next spring, when the ground should be thoroughly prepared and the seed sown as soon as all danger from frost has passed. It would be a good plan to sow Crimson clover seed at the rate of 15 pounds per acre on the land as soon as the tobacco is cut. The seed should be lightly covered by harrowing the land immediately after sowing. The growth of Crimson clover would make a good covering for the land during the winter, and produce a valuable crop of green material for turning under before sowing the Alfalfa seed. I know of one field of Alfalfa in this State which was seeded in the spring of 1895, from which four cuttings of the hay were secured during the same season. The Chinch bug does not feed upon clover; it confines its attacks to the cereals such as wheat, corn and Timothy. M. H. BECKWITH.

Chicks Die in the Shell.

Reader, Tompkins County, N. Y.—What is the cause of chicks dying in the shell when full grown, instead of breaking out? Ours do so this year, under hens, and in the incubator. Turkeys die the same. What is the trouble when they break through, and the sticky fluid dries them fast to the shell, and also smothers them? The substance is as sticky as mucilage.

ANS.—There are many causes, and it happens when hens are used as well as incubators. The fact that some of the chicks hatch shows that the fault is with the eggs. Eggs differ, and those used for incubation are from almost as many different parents as there are eggs; hence they are from immature pullets, fat hens, debilitated hens, inbred fowls, etc. Turkeys, especially, are inbred. When a hen "steals" her nest, the fact that she "steals" it is proof that she is at liberty, and if one egg hatches, all usually hatch; but when we place eggs under a hen, we take all sorts and without knowing anything of them. The sticky fluid shows lack of heat. For instance, a hen having eggs with strong chicks, is assisted by the animal heat of the eggs, the temperature being kept well up, frequently driving her off the nest. If but two or three eggs are fertile, she sits closely, and not having the assistance of a whole clutch of fertile eggs, with their animal heat (or containing weak chicks), she fails to have sufficient warmth, and the chicks die. There are strong chicks and weak ones, only the strongest surviving, and the "first cause" is the parents of the chicks. As long as we use eggs without knowing anything of them, except the fact that they are eggs, there will be losses, both before and after hatching.

P. H. JACOBS.

A Swarm of Business Bees.

C. T. S., Wilmore, Pa.—A few weeks ago, I noticed a great many bees flying over a dry, sunny bank in an orchard. An examination showed that a space eight feet wide and fourteen feet long, was honeycombed with holes. The bees were working on apple blossoms and carrying pollen. The holes were about seven inches deep, with a cell at the bottom containing a ball of pollen the size of a pea, and a small egg. The bees looked very much like honey bees, but were smaller, darker, and stingless. Hundreds of them were flying over the bank, and they made as much noise as several hives of honey bees. What are they, and what is their life history? Are they injurious or beneficial?

ANS.—The bees were so badly crushed when they reached me that it is impossible to say whether they were a species of Andrena or Anthophora; both of these genera have members that burrow in the ground as C. T. S. describes. There are many species of these small, wild bees that make these perpendicular tunnels in which they store up pollen for their young, which hatch from eggs laid near by; some species make side cells off from the main tunnel. Warm, sandy spots are favorite places for these insects to work in. None of these ground-burrowing bees is injurious so far as I know; and they must be decidedly beneficial where they work on fruit blossoms. Of course, the females take away some pollen to use as food for their young; but as they flit from one flower to another, and work around among the fertilizing organs, they are very efficient pollenizers for the fruit grower. The little busybodies are astir early in the spring and both sexes visit the blossoms.

It is said that the males are the aristocrats, and do the idling of the family, though, in some cases, they aid the female in the work of building the nest. Yet even though the males simply disport themselves among the flowers, and feed upon the nectar contained in them, they are even of more advantage as pollenizers, for, like their more industrious mates, their clothing is made up of compound hairs that hold, and becomes, without any effort on their part, covered with, pollen grains; and these grains are not carried to the nest for food, but are distributed in other flowers, thus insuring the fruitfulness of the bloom. Thus such a busy lot of little creatures as C. T. S. has in his orchard, are nearly as beneficial as so many honey bees—the greatest pollenizers we have. M. V. S.

What Is a "Complete Fertilizer"?

W. C., South Euclid, O.—I have a bed of strawberries set last spring; the ground was manured with stable manure before being plowed. Having read that nitrate of soda and powdered phosphate of lime make a complete fertilizer, I would like to know whether that is so, when to apply them, and how much of each to the acre.

ANS.—We suppose that the "powdered phosphate of lime" is the ground phosphate rock of South Carolina. This, with nitrate of soda, does not make a "complete fertilizer." The statement you have read is, probably, from A. H. Ward, who has argued for some years that soda will take the place of potash in our fertilizers, and thus save the cost of the latter substance. Mr. Ward's assertions are not supported by experience, or the opinions of our leading scientists. In some cases, soda seems to have increased certain crops; but the best evidence goes to show that, in these cases, the soda acted like lime—to "sweeten" the soil and thus enable the plants to grow in it to better advantage. Unless your soil is rich in potash, you will make a mistake to use nitrogen and phosphoric acid alone. The "powdered phosphate of lime" will be practically useless on strawberries, as it is not readily available. We would use wood ashes or ground bone and muriate of potash. A "complete" fertilizer must contain nitrogen, potash and phosphoric acid—all three.

Preserving Okra; Cheap Evaporator.

"*Sperno*," *Lyndon, Ky.*—When is the best time to cut okra pods for keeping for winter use? What is the best method of saving them?

ANS.—Okra pods should be cut when about fully grown, but while yet tender. They may be canned in small cans, and be kept for winter use, or be sliced and dried in a small evaporator or with care about the stove, or in a shallow box covered with glass and set in the summer sun. The last arrangement, with a little cross ventilation, is an admirable way to dry many things of which we have but little at one time to care for. A handy case may be made about eight inches deep with a smooth bottom, insect tight, with one or more ventilating slot holes made just above the bottom at the south end and corresponding openings near the top at the north end, all covered with fine wire cloth. Berries may be prepared and set in here, and dried with very little trouble. Apple leather may be made from sweet apples, cherries may be seeded, cooked down, sweetened a little and partially dried in this way, to preserve them for winter use, and the child that will not steal these things is no kin to Adam. J. A. MCKEE.

Are Seedlings of Budded Peaches Hardy?

J. L. H., Sparta, Pa.—Will seedlings of budded peaches be any hardier in fruit bud, than their parents? Or, in other words, will trees raised from the seed of budded trees, have a natural tendency to become hardier in fruit bud?

ANS.—Seedlings of nearly all varieties of peaches vary greatly. There are a few strains, such as those of the Smock, Heath Cling, and Indian, or Spanish types, that come rather true from seed, but even these cannot be depended upon to be exactly like their parents in character of tree or fruit. The notion prevails that the poorer the quality of the fruit on a peach tree, the hardier the bud; but while there may be some truth in this, there are so many notable exceptions that we cannot accept it as a fixed law. My experience with thousands of seedlings leads me to say no to the query. H. E. V. D.

Something About Endive.

F. E. L., Jeffersonville, Ind.—1. Is endive an annual? 2. How much frost will it stand compared with other vegetables? 3. How should it be stored for winter?

ANS.—1. Yes. 2. It depends upon the vegetables with which it is compared—perhaps about as much as cabbage. 3. Take up carefully at the approach of winter, with a ball of earth to each plant. Pack close together in a cold frame or in the cellar. Keep dry and give plenty of air or the plant will rot.

Breeding Desired Sex a Fallacy.

H. R., FAIRMOUNT, KY.—Recent issues of THE R. N.-Y. contain artieles on the produetion of the desired sex by breeding for it. Various instruetions as to how to proeeed are given, and to sustain theories advaneed, examples are offered, ranging from pollywogs to humans. This may be an interesting subject, and probably, will be an endless one, as ocular evidence to sustain, or disprove theories cannot be had. In their eagerness to write, the authors overlook the axioms that dominate Nature in the produetion of animal life. Nature is not influeneed by mereenary motives in the produetion of sex. Nature produees sex solely as the means to the reproduetion of species. Nature has fitted the male organs of generation to give, the female to reeeive. Nature ereates in the male, the animalculæ which, entering the female, develop into the eomplete animal. Nature creates these animaleulæ, male and female, and has not given to man eontrol of her processes of reproduetion, and no feeding or fussing, praying or eussing, on the part of the female, or any one else, ean make them other than they are.

The theory that the weaker or the stronger, the younger or the older animal imparts the sex, or that it is eontrolled by the age of the moon, or the duration of the uterine fervor, is common; but sueh a theory is too flexible for a law of Nature. Nature's laws are not like twigs that ean be twisted to any desired shape, neither has Nature made a ereator of man by giving to him the power to ehange or establish the sex of her creatures. The student of natural history who says that he nursed a brood of tadpoles, that by high feeding developed more bull frogs than females, ean learn that the little wigglers are hateheel male and female, and that swapping their soon useless tails for a quartet of legs, does not transmogrify their sexual organs.

August-Set Strawberries.

EDWIN HOYT, CONNECTICUT. — Strawberry plants of the present season's growth, set in August and well eared for, will bear a half erop next year. Of eourse, however, the plants should be earefully set on well prepared ground, and kept thoroughly cultivated. Muleh with eoarse stable manure as soon as the ground is frozen hard, taking care not to put the manure on too thiekly, as they are liable to be smothered if the manure eovers the plants. The ground can be sueeessfully enriehed by the use of eommereial fertilizer, if of a high grade. When the ground is prepared in August, put on at the rate of 1,200 pounds to the aere, and in the spring, spread it about the plants at the rate of about 800 to 1,000 pounds per aere; this, with the horse manure put on in the fall as a mulch, will make the plants vigorous, healthy and produetive, and give satisfaetion. If the weather is dry when the plants are set, water well and stir the ground frequently, as sueeess depends very mueh in giving the plants a fine start before freezing weather.

Beds set last season, whieh have produced a good erop this season, may be made quite productive another year by mowing the tops off as soon as the fruiting season is over, eleaning out all weeds or grass and fertilizing well as above, both when the plants are eleaned out, and in the spring. Muleh well in the fall with horse manure, if at hand, and work into the soil in the spring with the fertilizer. No fruit will pay better for good feeding and eare than the strawberry. Have all work done about the plants before any blossoms appear. Muleh the plants to keep the fruit elean; this should be the last work done, just before blooming begins.

Citrus Trifoliata in Virginia.

J. C. S., ORE BANKS, VA.—The experienee of THE R. N.-Y. with the Citrus trifoliata, as set forth in Ruralisms, page 419, eoineides with my own. In 1889, I set out a thriving plant of whieh I had great hopes; but it eame out of the following winter in such a deplorable eondition that I again took it up in order to be able to give it more eareful attention. But there it stands among my flowers and shrubs, with small leaves and large thorns or spikes, a plant scarcely four feet high, small in diameter, and with no indieations of ever intending to bloom. I, certainly, even in this latitude, would never undertake to make a hedge of it (for which purpose it has been recommended) even though the plants were given me. For indoor eulture, it serves a good purpose for dwarfing other members of the Citrus family. I have now both oranges and lemons hanging on little bushes, scareely more than a foot tall, that were budded on trifoliata stock. Where one does not care to have edible oranges or lemons, but enjoys the fragranee of orange blossoms, the little Otaheite orange will, probably, serve the purpose better than any other variety for northern latitudes. Owing to its small size, it requires but little room, is a profuse bloomer and bearer of tiny oranges, in themselves attractive, but where not wanted may be rubbed away as fast as formed, and in this way we sometimes prolong the season and profusion of bloom.

Late Fodder Crops.

G. W. H., ROCHESTER, MASS —I would prefer Hungarian grass to barley for a fodder crop. Eaeh has been put in as late as the middle of July, and given a good erop; but it's mueh better to put either in earlier. If the hay erop is a failure or nearly so, it may be eut before that time, so as to make way for the millet. If too late, frosts may come in time to injure it.

How to Treat Ivy Poisoning.

My experienee with poison ivy, poison oak, and poison sumac—the last I dread the most—has been very simple. Put sweet eream on a eloth and cover the affeeted part; renew as soon as it begins to get dry. This will draw all the poison out in a few days, put the skin in a healing condition, and the poison will never return. Simple as this remedy seems to be, it is, nevertheless, unfailing.

H. A. W., SHERMAN, WYO.—In my experience and observation of over 30 years, I have found a safe and sure remedy for poison ivy in toad plantain. Bruise thoroughly the leaves of the green plant in a mortar, and rub the juiee over the parts where the poison from the ivy or sumae has begun to show its effeets. I have never known a ease where the seeond applieation has not effeeted a permanent eure. This toad plantain is found very abundantly in the States east of the Mississippi, and in many plaees, beeomes a very persistent plant to spread.

W. H. L., MENOMINEE, WIS.—If any one affeeted by poison ivy, will swallow two fresh leaves of the ivy, he will be free from its effeets thereafter. By getting some one who is not suseeptible to

(*Continued on next page.*)

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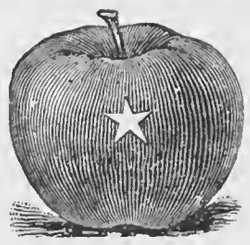

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

it to roll the leaves into compact pellets, convenient to swallow, no bad effects will be noticed. For several years, I was a great sufferer from its effects (having to work where it abounded); but after taking the remedy which was advised by an old California miner, I have never felt the slightest inconvenience, although I have frequently handled it. For those who are afraid to swallow the leaves, the best application I ever tried was volatile liniment, two or three parts olive oil to one part spirits of ammonia, the stronger the better, if the parts affected are not too tender. Apply every hour. But a little bit of prevention is worth a heap of cure.

Great Success with Millet.

A. L. W., CORRY, PA.—I have had no experience with barley, but have often sown German millet after July 4, and secured a good crop. I have also found that it made excellent ensilage when cut into the silo, but does not pack closely enough when put in whole. Last season, I mowed what grass there was on a six-acre piece, made hay of it, then plowed and got a good crop of millet, and no better feed grows than that, if cut before it gets too ripe. I sow three pecks to the acre.

Killing Young Horns.

S. P. K., BRUSHTON, N. Y.—Punch a round hole in one edge of the top of a can of Babbitt's potash and get out enough to make a paste as large as a five-cent piece. Shear off the hair over the horn, and put the paste on; no horn will grow and one can't tell them from mulleys. Whittle a plug of pine, and plug up the hole, and the potash will be all right for another year—or use it to make soap.

THE CARMAN PEACH.—Again Mr. J. W. Stubenrauch sends us a box of the Carman peaches. They were shipped from Mexia, Tex., on June 26 and reached the writer July 1. Every peach was ripe and perfectly sound. There were upwards of 50 in the box, the average circumference being 7¼ inches either way. They were beautifully colored and of excellent quality for so early a peach. Mr. Stubenrauch writes:

This peach is apparently indestructible. They received first, a sound thrashing with hail a few days previous to the Sherman cyclone; and we have had no rain, with weather unusually hot, for over six weeks. This is the fifth regular crop which the original tree of this kind is bearing. It is maintaining its characteristics as from the first, ripening with Early Rivers; in fact, we have this day some Alexanders yet on trees. The only change, and this is but slight, from what the fruit appeared at first is, that it now inclines more to the round and not so much to the oblong shape, which you will readily perceive by examination.

ON June 26, we received from Wm. Parry, Parry, N. J., a Koonce pear, well colored with red on a bronzy-yellow ground. In size, it would equal a Seckel at its best. The pear was overripe so that we could not judge of its quality. It is not claimed that it is of high quality, except as it is compared with the quality of earliest pears like Lawson. Mr. Parry has testimonials from good men to the effect that the Koonce is a first-rate shipper, and in quality and appearance the best of its season. It is claimed that the tree is free from blight, comes into bearing very early, and is immensely productive.....

DR. VAN FLEET, of Little Silver, N. J., sends us (June 26) two berries of the Logan raspberry-blackberry. In size, they were as large as a Kittatinny blackberry, though more conical. The color was a dark red. The flesh to our taste, was distinctly that of the raspberry—somewhat acid, but agreeably so. With sugar, used as with strawberries, we think it would be a very palatable fruit.

MATURING nearly with Nott's Perfection (June 26), is Burpee's Quality pea. We tried this and Burpee's Quantity in 1888, when first introduced. The vines grow two feet and over in height, and are vigorous and branching like Bliss's Everbearing and Abundance, which were tried at the Rural Grounds in 1884. This variety is thoroughly selected—not a rogue appeared in our trial row. We know of no other kind that will give a larger quantity of pods, but the pods and peas are small. It is fine for home use, as the peas are tender and sweet and the vines need no support, but it is not a valuable market pea.....

CARTER'S UP TO DATE (Gregory), is evidently some other variety as the vines are at least four feet high. The pods are as large as those of Stratagem, straight, the seeds large. First picking June 26. Mr. J. J. H. Gregory says that the vines grow with him but 15 inches high. The Duke of York begins to mature at the same time. The vines are not quite so tall, but fully as prolific. Pods large and well filled, seeds large to largest; but the quality is not so good as Stratagem, Telephone, Nott's Excelsior, Quality or the Station, owing to a less tender skin.....

DAISY, from James Vicks' Sons is but a day or two later than Quality. Vines grow two feet high; leaves large, pods large and broad and well filled with about eight large seeds. Vines productive. We regard this as the best dwarf or half dwarf pea in our present collection. Quality is less satisfactory on account of its small pods.....

THE first ripe berries on the Gault Everbearing blackcap were picked June 30. The plants came to us from The Storrs & Harrison Company, April, 1895. A peculiarity of this variety is that most plants have one or more broadly fasciated or flattened stems such as we often see in asparagus shoots, lily stems, etc. See Fig. 154. A side view would show the stem to be but one-quarter of an inch thick.....

JUNE 30, the highest stems of Saghalin were seven to eight feet high. This is the second season, as will be remembered.....

WE have this season about 30 different kinds of sweet peas. Blanche Ferry—seed from D. M. Ferry & Co., Detroit, Mich.—is by far the earliest of all. It began to bloom a week ago, the only variety that has bloomed up to this date—June 30. It is a wonderful bloomer. The flowers are rose and white, very sweet, and endure well after being cut...

LAST season, the vines of our best seedling potatoes were frequently dusted with Fungiroid. As the vines were less injured by the flea beetle than usual, we suggested that it might be owing to the Fungiroid. This season, we are using the Fungiroid with plaster and Paris-green. Perhaps it is owing to the Fungiroid, perhaps to the cool, wet weather; certain it is that the vines are less punctured by this destructive insect than they have been in many years.....

SEEDS of the American Wonder pea were given to us by the introducers, B. K. Bliss & Sons, in 1878, before the variety was offered for sale, for trial and comparison with McLean's Little Gem, one of its alleged parents. The Champion of England was the other. We reported to the firm that it was earlier than McLean's Little Gem—then the favorite dwarf wrinkled pea—more prolific, and equal to it in quality. This surprised B. K. Bliss & Sons, and led them to advertise it freely. Probably no pea ever had a greater sale, or returned the introducers a larger profit. This was part of our report: 200 pods of McLean's Little Gem gave (June 27) 720 seeds which weighed 10¼ ounces; 200 pods of American Wonder gave (June 26) 954 seeds which weighed 10 ounces. We think that it was in 1882 that we imported several varieties from England that had not yet been offered by American seedsmen. Among them were Carter's Stratagem, Carter's Pride of the Market, Laxton's Earliest of All, Dean's Dwarf Marrow. Our notes indicate that we imported the Telegraph the year before, and that the Telephone was a selection from that variety. The Stratagem, which we distributed among our readers, is to-day the most popular of the varieties of its period of maturity, and we hear little of the Telegraph and Telephone.

It may interest our present readers to know just how the Stratagem, Telegraph, and Telephone compared as to number and weight of seeds, etc. Telephone, averaging 18 to 20 pods to a plant, (July 9) vines nearly four feet high, 200 pods gave 1,320 seeds which weighed 28½ ounces; Telegraph, averaging 16 to 18 pods to a vine (four feet high), 200 pods gave 1,332 seeds weighing 28 ounces; Stratagem, 20 pods to a vine, 2½ feet high, 200 pods gave 1,420 seeds weighing 42 ounces, the average being over seven very large seeds to a pod.....

WE received a plant of the new spiræa Anthony Waterer, last year, from A. Blanc & Co., Philadelphia, Pa. It is an improvement upon Spiræa Bumaldi in one way, the color of the flowers. The corymbs are as flat as possible, varying from an inch to five or six inches in diameter. A plant cannot well be more floriferous. The bush is, as yet, but two feet high, and the top is a mass of bloom of a bright crimson—perhaps magenta would better describe the color. Spiræa Bumaldi bears flowers of a lighter color, a rosy pink. Both bloom at the same time (June 20), and both are perfectly hardy.....

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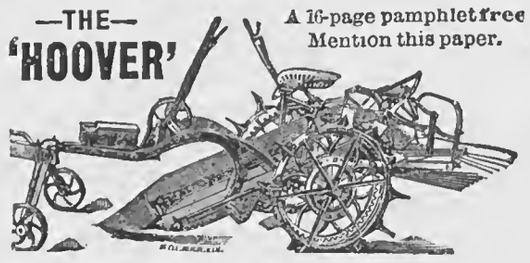

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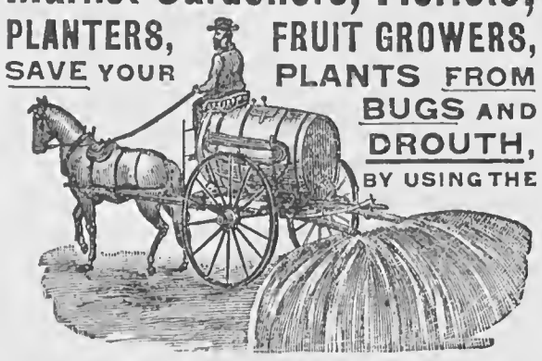
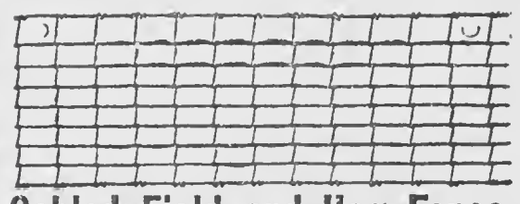


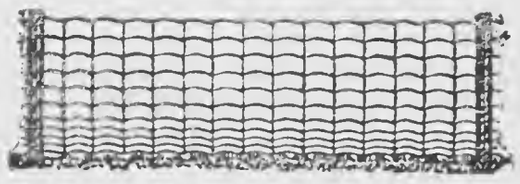
Studebaker "Little Gem"

One Horse Farm, Garden, Flower-Bed & Lawn SPRAYER. (Capacity 150 gal., 4 in. tires). Most practical device for the DISTRIBUTION OF LIQUID MANURE, PARIS GREEN OR OTHER LIQUID MATTER, ON POTATO VINES, YOUNG TREES, ETC. FOR WATERING CELERY PLANTS. Can be readily adjusted to apply the stream directly on one or two rows at a time. Will not clog; Easy to operate. Flow of water regulated from driver's seat. SPRAYER PUMP hose and nozzle for spraying fruit trees, vines and shrubbery furnished at extra cost. Write, mentioning this paper, for illustrated catalogue and price to STUDEBAKER BROS. MFG. CO., South Bend, Indiana. (THE LARGEST VEHICLE MAKERS IN THE WORLD.)



Cabled Field and Hog Fence,

24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free. DeKALB FENCE CO., 17 High St., DeKalb, Ill.



Why Did They Do It?

George H. Curtis, farmer, lives 2½ miles from Adrian. Eight years ago put up Page fence along the highway. This spring he took it down and replaced it with a Page of finer mesh to match his elegant dwelling. Three times he was offered half price for the old fence, by as many different farmers, who had seen it in service all that time.

See picture in Hustler.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

$20 PHOSPHATE FOR WHEAT AND GRASS

Sold to farmers direct. We have no agents. *Send for Circular.* Low prices for car-load lots

YORK CHEMICAL WORKS, YORK, PA

WILLIAMS & CLARK FERTILIZER CO.,

Office: Cor. William St. and Exchange Place, New York City.

Manufacturers of High-Grade Bone Fertilizers. Agents wanted in unoccupied territory. By the use of these goods a full crop is insured. Correspondence solicited.

BRANCH OFFICES:

BOSTON, MASS. ROCHESTER, N. Y. PITTSBURGH, PA.

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

Send for full Descriptive Circular and Testimonials. Agents Wanted in Sections Unoccupied.

I. P. THOMAS & SON CO., Philadelphia.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

SUBSCRIPTIONS.

PRICE, ONE DOLLAR A YEAR.

To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

ADVERTISING RATES.

Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, JULY 18, 1896.

REPORTS WANTED.

We want brief and accurate reports as to the behavior of the newer varieties of fruits. Many of our readers have tried the newer apples, pears, peaches, plums or small fruits, and are now prepared to say something about them. What have you to say? Which ones are worth buying, and which are worthless? Why? What is there about them to praise or condemn? What soil suits them best? What is there new about their cultivation? We want authentic reports from all over the country! Send them along!

⊙

EVERY farmer is interested in the life-history and habits of cutworms, for it is only through such knowledge that we can hope to fight this hateful insect with any success. Prof. Slingerland gives us, on page 480, the most comprehensive short article that has yet been written about cutworms. The illustrations are mostly new, and our readers may rest assured that they have, in this article, a synopsis of all reliable facts concerning these insects.

⊙

THE implement manufacturers who give their experience on the next page, make a good point when they say that many farmers do not follow the printed directions in setting up farm machinery, and thus fail to get the most good out of it. As a rule, we have found these directions full and complete, and comprehensive enough to satisfy any one who will study them over carefully. It will pay both manufacturers and farmers to take pains with these directions—the one to make them as simple and plain as possible, and the other to study them well, and give them a careful trial before attempting any original ideas as to the way the machine ought to be run.

⊙

THE subject of ivy poisoning receives some little attention in this issue. This is a very important matter with many people. A member of the writer's family is now suffering from the effects of this poisoning. We expect to give, from time to time, notes from the medical and surgical practice of a physician whose practice is among country people. We feel sure that such notes will be of general interest and value to our readers, as they will be made plain and simple. If medical men had always made a practice of taking the public into their confidence, and explained more of the limitation of their knowledge, we are sure that the quack and pretender would largely lose their occupation.

⊙

IT seems that the "Black pepsin" butter fraud is reaping a harvest in Oklahoma. Our friend tells us, on page 478, of his experience with this fraud. He first asked $5 for his famous secret, but finally sold it for a dinner—and he obtained a great bargain at that. It is a wonder that he didn't eat a spoonful of his powder with this dinner so that it would be equal to two meals, and thus save him the cost of his supper. That would be just about as reasonable as his claim that this stuff will double the quantity of butter from a given quantity of milk. Here is the $5 recipe as finally given:

Sulphate 'd alumine et de potasse	2 ounces
Pula gum accie	1 ounce
Sugar of milk	3 ounces
Pure pepsin	150 grains

Reduced to terms of primer science, that means two ounces of alum, one ounce of cassia powder, three ounces milk sugar and 150 grains of pepsin. It will cost about 30 cents to prepare this mixture. Its effect upon the milk will be to form a curd or "pot cheese." The so-called "butter" made with it will contain one-half cheese or casein. It will be just like a thorough mixture of equal weights of the curd of skim-milk and pure butter. Some years ago, a farmer in Washington wanted to know how to make this stuff, as he said that he wanted to give it to the hired help. Pure butter, he said, was too expensive, and he didn't think that the men would ever know the difference. Of course, a man has a perfect right to eat such stuff if he wants to, but the dairyman who tries to sell it for butter, will never be able to sell a second lot, and will always be known as a humbug.

⊙

MR. O. W. BLACKNALL, of North Carolina, makes the following apt illustration of the damage done by letting weeds grow:

> Just as a young cuckoo in a sparrow's nest appropriates all the food intended for the lawful occupants of the nest, and soon gets strong enough to destroy the young sparrows, so weeds will appropriate the manure you intend for the strawberry, till they get strong enough to overpower your crop.

The same thing is more or less true of all weeds. The weeds in the dairy herd, or the robber cows that do not give milk enough to pay for their board, do not grow up and destroy the paying cows, but they will turn a bank account into a mortgage, and do it in a few years if they are given full swing.

⊙

THE "creamery shark" is still working in a quiet way through the West. Up in Manitoba, it is said that he induced a community of farmers to turn a church into a creamery, and stock it with a $3,000 outfit. Verily, he will have his reward for that stroke of business! Four or five years ago, the "creamery shark" was in clover. He advertised in nearly all the agricultural papers, was able to bribe any number of "prominent citizens," and thus gain their help in selling stock. The hard times and the exposure of his fraudulent methods, have knocked most of his teeth out, and now he can work his scheme only in some back corner where no first-class agricultural paper is taken. Exit the creamery shark from civilized neighborhoods—a good riddance.

⊙

A COMMISSION merchant complains that, though he has been forced to sell produce consigned to him, notably potatoes, at ruinously low prices, he doesn't get the benefit when he purchases his family supplies at retail. The choicest southern potatoes have sold at $1, and even less, per barrel at wholesale, yet there has not been anywhere near a proportionate reduction in retail prices. Still dealers complain that the outlet is limited. Of course, it's limited, and will be so long as consumers must pay so high prices. If the railroads and the middlemen would be content to do business on a smaller margin of profit, they will do enough business more than to make up for the decreased prices. People were starving for food in our great cities last spring, and farmers in the country had to throw away potatoes because they couldn't get enough for them to pay for handling. There's a screw loose somewhere, and that screw is imperfect and too costly distribution.

⊙

CORRESPONDENTS frequently ask if garlic planted between roses or vegetables will destroy or keep off cutworms and other insect pests. There is no evidence to show that garlic planted near any plants liable to be attacked by cutworms or any other insects, would have the least deterrent effect, and certainly not any destructive effect, on the insects. The idea that bad-smelling or bad-tasting (to us) substances placed near plants tend to keep insects away from them, is fast losing ground among experimenters. No stench that man could apply would compare with the odor which the squash stink-bug carries about with him continually; and, furthermore, in many localities, the favorite crops for cutworms are onions and tobacco. No one need hope for any relief from the attacks of cutworms or other insects by the use of garlic; doubtless, they would not be able to distinguish it from their favorite item of onions on their daily menu. Certainly, an insect that enjoys tobacco will not be made seasick by garlic.

⊙

SUPPOSE that a hard-working farmer were called upon to provide for four or five strong, able-bodied persons who did not do enough work to pay for their board! There would be trouble on that farm right away, and justly so, for both sense and Scripture proclaim that the man who will not work shall not eat. Yet many a farmer who would quickly turn loafers away from his own table, will tolerate worse loafers out in his barn. It is safe to say that, in most dairy herds, there are four or five cows that do not pay for the food they consume—to say nothing of the space they occupy, and the labor expended in caring for them. The reason they stay, year after year, thus eating up the farm profits, is that the farmer is deceived because he has no means of knowing which of his cows are robbers. It is easy to pick out the human loafer because his individual acts stand by themselves; but where the work of the cows is lumped together, the individual fraud escapes. Babcock and Scales are the two detectives needed to pick out the robber cows. Leave out the loafers!

⊙

THE season for sowing Crimson clover is now at hand, and those who expect to try it this year will do well to get their seed ready, and sow at the first favorable opportunity. THE R. N.-Y. has printed many reports from readers who have given this clover a fair trial. We still believe in it, and expect to sow it heavily this season, in sweet corn, and in the peach orchard. Our belief is that this clover is better suited for gardeners and fruit growers than it is for stockmen and general farmers. In the last bulletin from Cornell, Prof. Bailey quotes the following note from T. G. Yeomans & Sons of Wayne County, N. Y., who are large farmers and fruit growers:

> As the result of our experiments last season with these clovers, we shall not sow any more Crimson on any large scale until we have experimented further with it, but will try Medium, sown in our orchards about June 15 to July 20. Our objects will be to secure a covering for the ground during the latter part of the summer, fall and winter, to improve the mechanical condition of the soil, and to add fertility. Our intention would be to plow under the clover in May and June following. We refer to orchard purposes entirely. We think the Red is worthy of further experiments, and would advise others to try it for themselves. We have long felt the need of something which will give us the results we have attained the past season with the Red clover, and if results are generally as satisfactory as they have been this time, we shall be satisfied.

The fact is that the discussion of the merits of Crimson clover has induced some farmers to experiment with new methods and seasons for sowing Red clover. Crimson clover will find its true place in American agriculture, and the hunt for it will also find a new value for the Red.

⊙

BREVITIES.

Old Father Time goes ragged and he shows a lack of care;
His coat is filled with air-holes, and his breeches need repair.
Our younger generation has been running after gold,
And yet the poor old fellow, in his shaking hand, doth hold
The sand-glass of the centuries—and rapidly they go,
The silent years of destiny—with mighty weal or woe.
Old Father Time is ragged and neglected and alone—
And one can hardly blame him for his half impatient tone;
And one would half expect him—though it's hardly just and fair—
To send the years on faster with their mighty load of care.
And we, his present children, would be wise to wait awhile,
And cultivate old Father Time, and try to make him smile.
Let's sew the buttons on his coat, and take a stitch or two,
And brush him up and heal the parts where he is bruised and blue;
And maybe then his sand-glass will be laid upon its side,
And slower then the busy years their fateful course will glide.
Oh, live within the present; stay not back in yesterday!
And strive to make to-morrow but a happier to-day!

MAKE sure of your experiment before you report it.

READ Mr. McKee's note on a cheap evaporator—page 481.

"MAKE hay while the sun shines"—make ensilage any time.

CORN is as good a grain as you can feed to horses at pasture.

IT is now claimed that mosquitoes convey malaria to humans.

Sow some Red clover alongside the Crimson as an experiment.

YOU don't want mustard in your oatmeal—try to keep it out of your oat feed.

WHICH is better to cure a dog of the taste for mutton—a rifle or a dog-proof fence?

RYE hay is pretty tough stuff, but we think that it will prove better than rye ensilage.

NO cow can be brought into the State of Vermont without first passing the tuberculin test!

"EVERY dog has his day," and, unfortunately, most of them have nights at their disposal, also.

RED-TOP, Blue grass and White clover make a good National combination of colors for a pasture.

THE doctor tells you, page 477, what to do for a wound. Don't wait until after you are wounded before getting the outfit.

FARMERS in the hayless regions along the Hudson River, will do well to read the articles on hay substitutes now appearing.

THE story about evaporated potato factories in Minnesota, seems to be a hoax. Starch factories come the nearest to it.

Now is the time to get ready for Crimson clover if you expect to try it this year. Start it early—as close to a good rain as possible.

THERE never were so many plums sold in New York at this season, as are offered this year. We are receiving the first crops from southern orchards.

THE country near the Rural Grounds has been soaked with water of late. We would like to send the surplus to those parched fields along the Hudson.

THE only men who can get $1 a bushel for wheat, are those who sell it in the form of breakfast cereals, or hen men who can get 25 cents a dozen or more for eggs. Such classes are too limited to count—though there is some room left in the ranks of the hen men.

OUR friend, page 482, tells us to swallow some leaves of poison ivy to offset the effect of skin poisoning. With all due respect for him, we shall try his other remedy first. That recommendation is, certainly, in line with the advice to cure hydrophobia with hair from the dog that did the biting.

A GOOD place to dispose of a few of the branches pruned from the trees, is in the poultry yard where chickens are kept. A moderate-sized brush heap serves the youngsters remarkably well as a playhouse, a place of refuge, and a feeding ground. They seem to enjoy it, run to it for safety, and if fed there, the hens cannot steal from them.

MARKET PRICES FOR FARM PRODUCE.

HOW THEY ARE MADE UP.

THE R. N.-Y. of June 13, 1896, in the market reports, quotes, "Norfolk green string beans, $1.25 to $1.75 per half-barrel." In the same mail with the above issue of THE R. N.-Y., I received the following by postal card from a New York commission firm:

"NEW YORK, June 12, 1896.

"DEAR SIR: Do not ship any more beans—will not pay cost of shipment. Selling from 20 to 30 cents per basket, and very hard to sell at any price."

The baskets referred to were half-barrel baskets. How does THE R. N.-Y. make up its quotations? Do they represent the highest, lowest or medium prices for the week? I know that the price is dependent on the supply, and that there may be great fluctuations in a short space of time. C. L. G.
Virginia.

The above are fair statements and questions, and deserve fair answers. Let us say, first, just what we have said before, that no market reports in a weekly paper can be worth the space they occupy, so far as being an accurate guide to shippers. In these days of fast mails, telegraphs, long-distance telephones, and lightning express trains, a market report in a weekly paper is simply ancient history so far as being of any use to intending shippers. Supplies and prices change too rapidly in this market for a weekly price list to be an accurate guide. It is simply a record of conditions and prices at the time it was made.

Let us take the case mentioned, as it is typical of a large part of the produce coming here—the perishable part. THE R. N.-Y. goes to press on Saturday one week ahead of its date, and is printed and mailed early the following week. The market quotations given are those ruling in the general market at the time the paper is made up; they are not "the highest, lowest, or medium, for the week." They are the latest actual jobbers' prices just as nearly as it is possible to get them. THE R. N.-Y. of June 13, went to press June 6. We presume that it reached our friend about June 10, that is, if he gets his mail from the office promptly. A letter or postal received in the same mail was, probably, mailed here June 9. This would be three or four days later than our reports could possibly be compiled, and the market had ample time to go to pieces three or four times in this time.

The fact of the matter is that our report was correct, but shortly after, the quantity of beans received was something enormous. It was far beyond the demand, prices went down, and the condition was as described on the postal quoted. This same condition occurs repeatedly, especially on perishable fruits and vegetables, throughout the season. Any shipper who depends upon weekly reports for guidance in his shipments, is bound to lose at such times. The one who is daily advised by his commission merchant, will take advantage of the market. For instance, the market to-day becomes glutted with some product. Either by mail or telegraph, just as the shipper may desire, the commission merchant notifies the shipper to withhold shipments. On the other hand, there may be a scarcity of some product that the commission merchant knows some shippers are prepared to send. A commission merchant told the writer of such a case where an extensive grower of peaches who, of course, wished to get the most possible for his crop, made arrangements by which he was to be notified by telegraph when the market was most favorable. Of course, the shipping of peaches couldn't be delayed many days; but sometimes, probably for the reason that most shippers happen to hold off at the same time, the market is less freely supplied. At such a time, a telegram was sent, the peaches were shipped, good sales were made, and shipper and receiver were both happy. Of course, it is difficult for small shippers to avail themselves of this advantage; but they can combine. Small shipments and small shippers are always at a disadvantage in this market.

Potatoes from Norfolk had just such a slump this summer, as had the beans, probably because most of the shippers tried to get their stock here before prices declined. Other products often meet similar conditions. Shipping is a sort of lottery, but the shipper should avail himself, not only of the most reliable, but of the latest intelligence about the market.

Our friend "knows that the price is dependent on the supply." This is only a half truth, for the demand is the first factor, and it matters little how small the supply if there be no demand, prices will be low. Thus it happens, sometimes, that prices are low when the supply is not large, and, on the contrary, are fairly good when the supply is large. One other point that shippers fail to understand, is that most of the business here is done early in the morning, and delayed shipments, reaching here late in the day after the bulk of the trade is over, sell for much lower prices than the early arrivals. The Old Dominion steamers are sometimes delayed by fog, and railroad trains meet with accident, causing quite a loss on their freight. Two shippers might send goods of equal grade, by different routes, one arriving early, the other late, and the latter selling on the same day for half the price of the former. It would look as though some one was cheated; but this happens repeatedly. There are many ins and outs to this business which it would take pages to explain

One more point to remember is that such perishable products as fresh vegetables, berries, etc., are more liable to fluctuate widely and quickly than apples, butter, and goods that can be held for some time without deterioration. Anything perishable must be sold; prices must go down to move the goods.

FARMERS AND FARM MACHINERY.

DO THEY HAVE TROUBLE IN SETTING UP MACHINES?

Are Directions Closely Followed?

Do you find that farmers, as a rule, are prepared to follow directions exactly in setting up and running farm machinery? Can you give any cases where a failure to do this has resulted in trouble and complaint?

Some Never Read Directions.

We cannot give, just now, definite cases of complaint regarding machines, which have arisen from failure to comply with the directions; but we wish to say emphatically that this frequently occurs, and is one source of great annoyance to us. We know that our experience does not differ materially from many other manufacturers. We have been repeatedly put to great expense, and been compelled to send experts long distances to remedy complaints which arose entirely from failure to follow the printed directions, and we find that, in many cases, the printed directions are never even taken from the tool box and read. We do not know what the remedy for such willful ignorance is; to charge to the party the expense caused by such action, would almost certainly involve a lawsuit to collect it, and under the farce of the jury system, collection would be impossible.

KEYSTONE MFG. CO.

A Novel Idea of Tags.

We have found, in our years of experience with the farming community, that the average farmer is very much inclined to take his own ideas, not following carefully the printed directions which we attach to every machine; consequently, many times a machine is condemned when the trouble arises entirely with their not setting it up correctly. I recall one instance, several years ago, when we manufactured a hay tedder, which had a sleeve that carried the fork. To run the machine properly, the sleeve was to be on the top of the fork, and we took particular pains to have a printed tag tied in, stating "This side up," so that there would be no mistake. On receiving complaint from a purchaser, we sent one of our men there who found that he was running it with every sleeve on the under side of the fork. When asked what he did with the tags attached to the same, he stated that he cut them off as he did not suppose they amounted to anything. We have had several similar instances of this kind, that could be cited. If farmers would carry out the printed directions carefully, it would save them lots of trouble, and manufacturers a good deal of annoyance. THE CUTAWAY HARROW CO.

An Old and Mighty Grievance.

Our experience has been that, not only have we experienced difficulty in having farmers set up and run machines according to directions, but it is one of the most serious matters in our business. We try to make our directions for setting up and running our machines as clear and easily understood as possible; but although "you can bring a horse to water, you can't make him drink," and there is no way that we can find of enforcing attention to our instructions. The result is that machines are set up and run according to "original ideas," and following this too frequently comes poor working of the machine, dissatisfaction on the farmer's part and consequent rupture of the pleasant relations between him and the manufacturer. The amount of expense and trouble that this entails is incalculable. For instance, from a letter which reaches us from one of our experts, we quote the following:

I have been very successful in repairing the binders that did not give satisfaction in the harvest of 1895. They were set up in every shape imaginable.

Anything that you can do toward persuading the farmers to attend carefully to the directions sent out by the manufacturers, will be a material help. Every make of machine has its own special points different from every other make, and machines of the same make vary from one year to another, so that, no matter how much a farmer may know, or how clever he may be in mechanics, he cannot afford to disregard assistance offered by manufacturers. D. M. OSBORNE & CO

Make a Study of the Directions.

All men are more or less dominated by the "tyranny of tradition," and farmers are no more free from it than other classes. Hence they are prone to endeavor to make new machines produce results similar to such as they have heretofore been obtaining. For example, we have, after careful study, produced a cultivator which will give absolutely level cultivation; that is, the ideal cultivation in 99 cases out of 100. But we find in sections where ridge cultivation has been practiced, a tendency to disregard our instructions, and set the machine to do work approximating old and inferior methods. As there are times and conditions when ridge cultivation is desirable, we, of course, make provision for such; but our directions urge level work, and are too often disregarded.

Again, after much thought and experiment, we have evolved a method of dispensing with the use of shields, a method whereby starting crops may be worked, and the earth stirred from the rows and returned again, and yet no soil be thrown on the plants. We furnish shields or fenders solely and simply because farmers have been used to them, because with all former wheel cultivators they have been necessary, but our advice is never to use them with our improved tool; but we daily see this advice disregarded, and the only reason we have ever been able to elicit is, "We have always used fenders during first cultivation." Now, all fenders are in the way, obstruct a portion of the view, are a bar to extremely close cultivation, are liable to distortion by stumps or stones, and in general, are a nuisance to be dispensed with if any way feasible; but all these reasons count as nothing against habit.

Again we advocate the use of our cultivator to prepare a bed for summer and fall seeding, because we know from actual test, that, in any land other than sod, the tool will make a better bed in half the time required by old methods. Yet farmers will walk behind the plow, then behind the drag, or scratch the ground unevenly with spring-tooth harrows, and leave in the shed the tool which will do the work more easily, quickly and thoroughly, simply because they do not study our directions. We often have farmers say that they did not know our implement would do so and so, and were surprised to have the very item pointed out in our directions.

None of us knows everything. The manufacturer has much to learn. The farmer can add to his stock of knowledge. The greatest good, therefore, is accomplished when we each give heed to the other, and improve and brighten our ideas by rubbing up against the ideas of others. Manufacturers desire farmers to get every last penny's value out of their machinery, and for the reputation of their machinery, they seldom or never in their directions advocate impracticable methods. JOHN MOORE'S SON COMPANY.

Not So Much Trouble of Late Years.

Of late years, we do not experience nearly so much trouble or difficulty in getting farmers to set up and run agricultural machines according to directions. I am an "old stager" in the implement business, having had an experience, boy and man, of 37 years, and in old times, we had a great deal of trouble or difficulty; but the present generation of farmers understand machinery about as well as the manufacturer. There are exceptions, of course. Another reason is that practically all the implements sent out by reputable manufacturers at the present time, are all right and will do the work that they are recommended to do; whereas, in old times, machinery was more or less defective, mainly in material. To-day, however, we can readily get material suited to different machines, and my own experience is that I have little or no difficulty in getting machinery started right.

DUANE H. NASH.

Power Required to Make Speed.

The principal trouble we have had with our machines is due to the want of knowledge of speed. We are constantly bothered, particularly on tread powers (although the speed of the shaft of the power and the size of the band wheel are given), by the fact that people will hitch on to any machine which they happen to have, with any size pulley on it with which they may have been running it with a sweep power or engine; the result is that they may, possibly, be running the machine five times too fast, or altogether too slow. We believe that, as a general thing, farmers using our class of machinery, get along wonderfully well. This question of speed seems to be our principal trouble. Probably it would be very difficult to educate farmers how to figure speed, or have them understand that speed takes power. There is quite a prevailing opinion that the faster a machine runs, the more power it has. For instance, we were recently visited by quite an intelligent farmer who desired to buy a two-horse tread power. His brother had one of our three-horse tread powers, and he thought that, by speeding his machine so much faster, he could get as much power with two horses as his brother got with three, overlooking the fact that it takes power to make and hold speed. A peculiar thing in connection with tread powers is that, when a man has his machine speeded too fast for his tread power, he almost invariably claims that it is not speeded fast enough, because he cannot get up motion; when the fact is, that he hasn't power enough to get up the motion which he already has, and do the work. Although he, perhaps, understands that the faster a machine runs, the more work it has to do or will do, he forgets that it takes power to do that additional work. APPLETON MFG. CO.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE DARKEST HOUR.

We are often told in story, whether true, I cannot say,
"The darkest hour comes just before the dawning of the day."
But certainly it is, in lonely watches of the night,
A happy thought, "The darkest hour comes just before the light."

If we could bend before life's storms, as bends the forest flower
Before the blast, we should come forth from sorrow's darkest hour,
Just as the blossom lifts again, its petals to the light,
When rolls the gloomy cloud away, or day breaks from the night.

There is a silver lining to every gloomy cloud
That darkly lifts its frowning front, or swathes us like a shroud;
So when the billows of despair roll high and o'er us tower,
Some star of hope will fling its ray athwart the darkest hour.

Life is light and shadow; the dawn succeeds the night,
And night absorbs into its gloom, the day's effulgent light.
The joyous chimes proclaiming birth, commingle with the toll
That tells the darkest hour has come to some departing soul.

When shadows darkly gather 'round our pathway, when we grasp
The hand of those we cherish, in one last clinging clasp.
When we drift away forever, in death's long, solemn night,
Oh! may the darkest hour come just before the light. —*Belle H. Gardner.*

DON'T overlook the fact that the Woman and Home Department was enlarged last week, by "A Jar of Jelly," now running in our part of the paper.

*

WE do not generally credit the poor with the desire to be cleanly. However, the Association for Improving the Condition of the Poor, reports 9,844 bathers at the People's Baths during one month. The lack of conveniences for bathing is, no doubt, one of the principal reasons why personal cleanliness is neglected.

*

WHAT should be of more interest to us than our lifework, not the ideal occupation we dream of, but our every-day tasks? There are great possibilities in even the simplest employment. That any is dull is because we are blind, unthinking creatures. We would rather plod along doing our work because it must be done, spending what mental force we have in dreaming of change, of freedom from the present task. Thus we lay the foundation for continual discontent.

A JAR OF JELLY.

HOW IT IS MADE AND SOLD.

PART II.

Best Sugar, Jars and Fruits.

Before the ripening of the earlier fruits, the necessary supply of sugar has been purchased and stored. We always use medium. The very fine grade is not good for jellies and jams, as the hot syrup will form around it, forming large lumps which it is, sometimes, almost impossible to break before the jelly sets, especially in currant or crab-apple. We use the same grade for every article, pickles as well as preserves.

The supply of jars is also in readiness, all nicely washed and turned on the shelves ready for immediate use, with the covers in a basket by themselves, the rubbers in another ready for use. One cannot realize how much time and annoyance it saves by having this done. There is such a variety of jars in the market that a beginner hardly knows which to choose. Of course, we wish the best of everything. It is useless to expect to put a fine article on the market unless we are very particular to have everything which constitutes it of good quality. I use the Lightning jar. It makes a very clean and handsome package, nothing but glass coming in contact with the fruit. It is more expensive than some other kinds, but, everything considered, it has so many more good qualities than other jars, that I consider it the cheapest in the end.

I insist on it that all fruits shall be strictly fresh. We usually order the amount we expect to be able to put up for the day. Stale fruit cannot make good preserves. I would not be able to put up fruit satisfactory to myself if I depended on getting it at the groceries. We have a small place outside the city limits, so we raise all the strawberries, red and black raspberries, and the vegetables for pickles, that we need; we also have currants growing. For the rest, before it is time for the fruit to ripen, we engage the amount we think we shall need, to be delivered by the grower, and he brings it in certain quantities, on certain days, so that we are sure that it is fresh.

Our orange marmalade we usually make in March. The oranges are then the cheapest, and seem to be at their best. Either Valencias or Messinas are best. Do not use Floridas; they are too sweet, and will not give the real English flavor. Use the whole orange. Pineapples are next in order; these we usually put up in June. We never use the sugar loaf. The larger ones are much the best, though, of course, a little more expensive. If you have never made pineapple marmalade, try this; it is simply delicious. It may seem to some very foolish to give the way to peel a pine, but I have known people to do it in a very hard way. This is ours: After cutting off the burr at the smaller end, stand it on a board and, with a thin, sharp knife, slice off the covering. It is very easily done. When all are carefully prepared, grate them, using a rather coarse grater. Then add sugar, pound for pound, and cook till transparent. It will not be solid, but I think it very nice. For preserving, we always slice rather thin toward the core, and make them pound for pound. We buy tumblers by the barrel, at 25 cents per dozen.

All our preserves are made in the good old-fashioned way our grandmothers used, pound for pound, though we differ with them in our way of cooking. A preserve is done when it is transparent, if it has cooked one hour or three, and all extra cooking after it is done, only makes it dark and hurts the flavor. You can have no definite rule for cooking as to time; it depends on just how hard they cook. By cooking I mean boiling, not simmering, and a steady boiling is best.

Of strawberries, we make only preserves and jam. We make two grades of these, using the larger for preserves, the smaller ones for jam. We are not very particular about the variety, though of late, we have used Cumberland Triumph. This variety makes a delicious preserve. By careful handling, they can be put into the jars nearly all whole. We cook in a large saucepan, a good many jarfuls at a time; we think it a much better way than doing it in small quantities. We have the jars, covers and rubbers warm. When the fruit is done, skim it very carefully, fill the jars, cover and seal, and lay on the sides, at least over night. Then ours are washed, and put away in the sweetmeat room, on a row of shelves.

It is not necessary to tell how to make jam; everybody knows that. After the strawberries have been taken out, there will be a quantity of syrup left as the berries shrink so. This can be used for fruit syrups for soda fountains, or saved for a delicious drink for the poor, tired workers.

As our red raspberries come from the field, we sort them carefully, putting them in our saucepans. Our pans are all agate ware, and hold from 8 gallons down, the largest size being most used. Then we crush and cook them until tender, add sugar, and cook until transparent. Dish out while hot, fill the tumblers even full, as the jam will shrink when cold. Last year, just for an experiment, I made a few tumblers of jelly from red raspberries. We found it very fine. I did not expect that it would be solid; nevertheless it was, and was found to be very delicate and fine-flavored.

For some reason, we cannot grow blackberries on our soil, though a neighbor, not far away, raised delicious ones. Of these, we make jam, preserves and pickle preserves, a spiced pickle, a very nice relish for fish. It is rich enough to be used as a preserve, or tart enough for a pickle. Gooseberries we do not use, as there seems to be no call for them. I think that we Americans have not yet educated our appetites to appreciate this fruit. Black currants are used only for jam, and to my taste, from the whole list, this is the most delicious. It is made the same as any other jam, and keeps beautifully. We are troubled to find enough currants every year, and this is nearly always the first article out of stock. The other most salable fruits with us are currant jelly, cherries and peaches, both pickled and preserved, and crab-apple jelly. We always aim to put up larger quantities of these.

MRS. O. P. HOWLAND.

EVERY-DAY DRESSES.

TO MAKE THEM TO SUIT THE SEASON.

STOUT people who love coolness in a midsummer gown, but find that a bodice affords little wear unless lined, should try having their ginghams and prints made over a lining cut low in the neck. The lining need extend only 1½ inch from the arm's eye up the shoulder seams, and may be rounded down considerably both back and front.

For the one-piece gown known as a wrapper, stitch up the three back seams of the lining, and hem it about the top. Put on the outside in pleats running to the shoulder seams, and sloping together at the waist line. These pleats may be tacked invisibly to the lining, and will furnish part of the necessary fullness for the skirt back. When cutting the fronts, allow six inches extra width at the front hems on the outside goods. Hem the linings across the top, and stitch the front darts, leaving the back darts to be stitched after the outside is basted on. The extra six inches are arranged in gathers at neck and shoulder seam, and shirred four or five times at the waist to fit the lining there. The fullness below the waist will not be objectionable there, and that upon the waist portion adds prettiness and an easier tension, which latter helps the wear very considerably.

The popular bishop sleeve is exactly adapted to this sort of work dress, but will be most comfortable if made to reach but half way from elbow to wrist, and be finished with a narrow band and three-inch ruffle. In a gingham made after this plan, the housekeeper blessed with more flesh than she likes, will look both trim and neat, and find herself as comfortably clad as possible for midsummer.

A lined waist wears best, but often becomes distorted by washing and starch, unless the figure is stout enough to force it back into place. For persons of slight physique, the plan of making summer prints without linings is to be recommended, the waist portions on a slender form usually wearing quite as long as the sleeves. The blouse waists and full sleeves that look best on thin forms, admit of being loose enough for the wearing of any sort of underwaist beneath.

Cambric underwaists, with and without sleeves, some of canton flannel and some of woolen, are all needed by women and girls not robust enough to pass unheeding through the season of open-air living and changeful temperature. If one choose to buy a woolen undervest of jersey weave, and not too snug a fit, shorten it to reach but little below the waist, and open it all the way down the front, it affords a very comforting warmth worn beneath the ever-popular shirt waist on damp or cold days, or at the mountains or seashore.

Most of us feel that nothing is so neat and suitable for kitchen wear as gingham or calico, that gowns worn where cooking and cleaning are going on, need frequent visits to the laundry to keep them sweet and tidy; yet some of us take cold when we attempt to wear cotton dresses in winter. One woman arranges matters to her satisfaction by making her winter prints over domett linings. This material, it will be remembered, has the nap of canton flannel without the twilled weave, and is pliable, soft and warm.

Laying the pattern across, instead of lengthwise of the goods, is always a good plan when cutting linings, for the warp is always stronger than the woof; as any cloth shrinks most in length, we may later find it easier to let out an underarm seam than to overcome the short-waisted effect caused by shrinkage.

P. T. PRIMROSE.

LIVE IN THE PRESENT.

THE great philosopher, Emerson, never wrote words more inspiring, or thoughts more beautiful, than the following: "These roses under my window make no reference to former roses, or to better ones; they are for what they are; they exist with God to-day. There is no time to them. There is simply the rose; it is perfect in every moment of its existence. Before a leaf bud has burst, its whole life acts; in the full-blown flower there is no more; in the leafless root there is no less. Its nature is satisfied, and it satisfies nature, in all moments alike. There is no Time to it. But man postpones or remembers; he does not live in the present, but, with reverted eye, laments the past, or, heedless of the riches that surround him, stands on tiptoe to foresee the future. He cannot be happy and strong till he, too, lives with Nature in the present, above time."

And is it not too true of every one? We are prone to "stand on tiptoe to foresee the future," although observation has taught us that the great happiness, or the brilliant triumph came, alas, to few,' heedless of the riches that surround him"—the commonplace, everyday joy and happiness that are made up of trifles which are, of themselves, so unobtrusive that they easily pass by unnoticed; the loving thought, the kindly tone, the letters and photos from absent friends, the quiet content and interest which every well-balanced person must take in his own everyday work and belongings, even the delight of watching "green things growing," the fresh air in early morning, and the glorious sunrises and sunsets, the marvelous changes in Nature that in the country may be watched from "under your own vine and fig tree." Will you let the "trials and vexation of spirit" (which, perhaps, form a part of the lot of all) make them seem of little value?

"Live with Nature, above time," if your sorrows are great; look at the "everlasting hills" they are clothed in

beauty; they stood in their place ages before the world began for you, and will, doubtless, endure ages after your griefs are forgotten. The past is irrevocable, the future uncertain, but the present is our own, and full of glorious possibilities.

The happiest heart that ever beat
Was in some quiet breast;
That found the common daylight sweet,
And left to heaven the rest.

SWEET FERN.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's patterns, send age.

6785. Ladies' Wrapper with Bishop Sleeves.

The gown is shaped in the favorite princess style, fitting smoothly below the waist where each seam is gradually widened to produce the fashionable fluted effect in the skirt. The bishop sleeves are gathered top and bottom, cuff bands finishing the wrists. A frill

6785—LADIES' WRAPPER WITH BISHOP SLEEVES.

of embroidery and a band of ribbon with bow form the dainty decoration. Pattern No. 6785 is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

ODDS AND ENDS.

PICKLES WITHOUT VINEGAR.—One pint of coarse salt to two gallons of clean, cold water. Pick the cucumbers, wash them clean, place in a tight vessel with enough of this brine to cover. Then, if convenient, put with them either rhubarb stalks, or a few green grapes, which will help the brine to ferment. Cover with a clean cloth, and weight to prevent them from floating. Wash the cloth every other day to take away any scum that may arise, and in one week, you will have pickles that are far preferable to those pickled in vinegar.

A SUBSCRIBER.

CLEANING THE POTS AND PANS.—When we empty our cooking vessels, writes a correspondent in the Home Queen, we should wash them immediately, or at least put a little water in them at once, so that time and labor may be saved in cleaning them. When we get in the habit of taking this simple precaution, we will save ourselves much trouble, and the cleaning process will be more thorough. Many do not follow this excellent plan; then, in cleaning up after a meal, they find so much difficulty in scraping off the dried food, and cleaning the sticky, hardened particles, that they leave their dishwater in these vessels to allow them to "soak," and consequently have to clean them before beginning another meal, which is doing things backward. Besides, vessels so neglected, have not had the necessary airing and drying to make them wholesome for cooking in again, to say nothing of the uncleanliness of the habit of putting them by with dishwater standing in them, which, in warm weather, will soon sour.

COTTAGE CHEESE.—I set my bucket of clabbered milk in a kettle of hot water, and stir from the bottom often, so that the curd will scald evenly. When the temperature has reached 100 degrees F., I set the bucket on my work table, and let it stand two or three minutes. In the meantime, I put a large wire sieve and a cheese-cloth over a bucket. By this time, the curd has settled, and with a large cup, I dip off the whey as close as I can; then put the curd into the sieve and let drain. When dry enough, I work it fine with my hands, and season with salt, pepper and thick sweet cream. I like my cheese to be soft and creamy, and not hard and dry. I sometimes make it up in small balls, or press in a pretty dish, and garnish with parsley or nasturtium leaves and flowers, as it looks nice made in small rolls, putting two rolls on a square cheese plate. When my family are all at home, I cannot find any place cool enough to keep it, not even the ice box. CAROLINE ELIZABETH.

PEN POTPOURRI.

Two laborers talked on their homeward way
Of the evils that Poverty bore;
One cried—as some haughty millionaire
Drove by with his coach and four—
"See, the dust from the rich man's carriage wheels
Falls on the toiling poor!"

But his mate replied, with a cheery laugh,
As they trudged on that dusty road;
"'Twould be just the same if our carts went by,
And you'd get more dust from the load."
And they passed—nor dreamed of the helpful words
On a listening heart bestowed.

—*Edith Perry Estes.*

....NEW YORK RECORDER: "The bicycle has been a wonderful educator of presence of mind."

....ST. JAMES GAZETTE: "Long life has that drawback: it affords time to be found out."

....THEODORE ROOSEVELT: "There are grave social dangers and evils to meet, but there are plenty of earnest men and women who devote their minds and energies to meeting them."

....GEN. JOHN GIBBON, U. S. A., IN NORTH AMERICAN REVIEW: "In this country, no man is willing to admit that his rights can be protected by the vote of another. No such doctrine as that has ever been admitted here, and men would laugh it to scorn, even when the man whose right to be protected was a black man just emerging from an ignorant, degraded servitude. So well was the absurdity of such a theory recognized, that for their protection, the right to vote was placed, after the War, in the hands of persons, many of whom were but little above the brutes, provided always that they were fortunate enough to come into the world *males*."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

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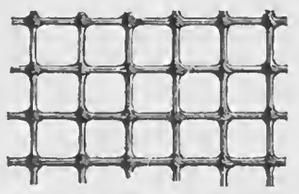
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WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

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No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all he greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

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Waltham Watch—Men's Size, $13.50.
The AmericanWatch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.
No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.
Ladies' Gold Filled Waltham or Elgin Watch, $13.50
No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

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The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.
No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90
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Ladies' Solid Gold Waltham or Elgin Watch, $20.
The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

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AS WE GO TO PRESS

"KNOW HOW."

The Mark Lane Express tells the story of an English clergyman who was comfortably settled in a country parish. Like many wiser, if not better, men he thought it necessary for him to pretend that he knew all about farming. He wanted an old city friend to visit him, and so, in writing up all the attractions of the country, this clergyman wrote:

As an additional attraction, I may tell you that there are three acres of pasture, and I have determined to have *a pair* of sheep, so that we may have fresh kidneys for breakfast every morning.

Now you see, this man evidently thought that kidneys and eggs are very much the same. Hens lay eggs, and kidneys come from sheep. If two hens could give him two eggs a day, of course, two sheep would have no trouble in producing a pair of kidneys every 24 hours. There's logic for you, based on certain facts. A man with such a fund of agricultural information ought to come to this country and get into politics. He would, probably, be appointed commissioner of agriculture in some State of this great and glorious Union.

We mention this to call attention to the class of men who, sometimes, pose as teachers or leaders of thought. They are plausible, well-worded fellows, with "logic" as square as a cube and as clear as a bell. The trouble is that they don't know the facts, for if you trace their arguments back, you will run up against a guess. Advice built upon a guess is worse than a house built upon the sand. Down it goes when the test comes. This man, who talked so glibly about a pair of kidneys every day from a pair of sheep, didn't know that he was making himself ridiculous, because he didn't know what a kidney is; but he was ready to go right ahead and lay down the law to others in spite of his ignorance. We often read books and articles that seem to be written by just such men. Of course they don't make such bad mistakes as this clergyman did, but it is easy to see that what they say is based upon a guess rather than upon a fact. If they would label what they write, "suggestions," instead of "advice," it would be much better; but they don't do it, and those who follow them, simply take a risk in what they do.

Now we hear some one starting up to say: "Do you mean to say that THE R. N.-Y. never mixes up kidneys with eggs?"

We are not saying a word about THE R. N.-Y. When that paper is to be discussed, we call upon others to do the talking. Most of our readers remember Wm. Wylie, "The Actor Farmer." This man is an actor who passes the winters on the stage, and farms during the summer. Some five or six years ago, he heard of an "abandoned farm" in Massachusetts, and after a visit to the place, he bought it. It was then in awful shape, and since then, he has worked away at it through the summers, making a living and a little besides, and gradually making the farm more productive. This year, for various reasons, he found it necessary to sell the farm, and this is what he says about it.

We bought the farm, an abandoned one, for $800. We subscribed to THE R. N.-Y. from the start, and at the end of five years, we had made so many improvements on the place, all learned from THE R. N.-Y.'s teaching, that we sold that abandoned $800 farm for $2,700, including stock and tools worth about $300, leaving $2,400 for the bare farm, or $1,600 gained by studying THE R. N.-Y. I am on the lookout for a smaller place nearer a big town, about 10 acres, and will buy one at the first chance when I find one suitable, and then I will take up THE R. N.-Y. once more. And, from my past experience, I know that I can make a good living and lay up a little against the rainy day we hear so much about. Wishing you the success you deserve, I remain,

WM. WYLIE, (THE ACTOR FARMER).

Now we claim that it isn't necessary for us to try to crack up THE R. N.-Y. after such a statement. We didn't tell this man that he could get a pair of kidneys each morning from a pair of sheep. Not a bit of it. We told him that when he took the kidney, he took the life of the sheep, and that, when he took a big crop out of the soil without putting something back to pay for it, he took the kidneys out of that soil.

Don't try to get something for nothing.
Breed up the best and care for it!
Save steps!
Cultivate a market!
Get out of the old ruts!
Sell water!

These were a few of the things that we advised, and in order to obtain facts to which he could safely anchor, we went to dozens of different people. To answer two little questions asked by this man, we sent to California and to Germany for information—and obtained it, too. That is what we are here for—not to sit down and guess at facts, but to get out among the people and capture the facts themselves. A guess is likely to prove a counterfeit fact. The man who knowingly passes a counterfeit, is a dangerous citizen.

A well-known Connecticut man who is on the road among farmers a good deal of his time, and is himself a good farmer, writes this in reply to a question about a crop there with which he has succeeded:

Yes, I will gladly give details, thanks for your kind offer to print them. I am willing to do the field work and write facts; the printers must do the rest. Many printers will not print facts without pay; for cash they will print anything. In my half million miles' travel in America—30,000 miles per year—among the farmers, I find THE R. N.-Y. on file everywhere, for the reason that it contains facts. Hence, I feel that the details given you will be of service.

We have never experienced any great difficulty in securing facts of value from farmers or scientific men. They seem to realize the fact that THE R. N.-Y. doesn't like guesswork, and won't have any kidneys passed off as eggs. If a man likes kidneys better than he does eggs, he can have them every morning, if he will keep sheep enough. Some papers are like a hen—their "fresh eggs" are all laid by two or three writers, and the first egg a hen lays tastes almost exactly like the last one. THE R. N.-Y. has a staff of writers large enough to furnish both eggs and kidneys in each issue, and that is just what we expect to do so long as we have any connection with THE R. N.-Y. We want to be headquarters for facts. "If you don't see what you want—call for it!"

MAKING A SHEEP PASTURE.

The time to begin work on wild land designed for a meadow or pasture, is in August. The condition of the brush and briers is then such that, if cut properly close to the ground, they will be pretty likely to die. If anything at all is left alive much above the surface of the soil, it is pretty sure to spring into life the following season, and thus undo the entire labor expended. H., page 478, would have done better to wait, at least, a month later in clearing up his sprout land. He is wise in arranging the brush so that the most of the ground will be burned over. All he needs to do now, is to leave it there until about August 1. It will then burn all the better, and, if he has already exerted extra pains in cutting the bushes close to the ground, whatever sprouts may chance to spring up during the next few weeks, will be burnt down to the quick. Moreover, in burning the bushes, the ashes left will, to a certain extent, enrich the soil.

After burning, harrow the soil as intended, and, if possible, harrow it pretty thoroughly. The more the ground is harrowed, the better the grass seed will be likely to catch. If some kind of old, worthless straw be drawn and spread in a rather thin coat over the whole patch, the roots that have been exposed, which the fire did not injure in the least, will burn readily; this second burning will have a tendency to kill or stunt them so that they will give little or no trouble in the future. This accomplished, the ground is ready for seeding.

In seeding, it would be well to brush the seed in by drawing over the ground a very scrubby sapling trimmed into shape desirable for this purpose. A little manure thrown over the ground late next fall, would protect the seeding during the winter, and help its growth greatly another spring. I would sow several kinds of seed. A good mixture would be six quarts of Timothy, two pounds of Red-top, one-half pound of White clover together with 1½ pound of Crimson and one of Alsike clover per acre. If Kentucky Blue Grass thrives so nicely in an adjoining field, however, it might be well to use that in place of the White clover. There would thus be a variety of grasses, upon which sheep or any other kind of stock will do better, as a general rule, than upon one kind alone.

It would be a good plan to sow some rye with the other seeds, but this will not make so much difference if the above rules have been strictly followed in clearing up the land. Still, 17 or 18 pounds per acre might be added to the foregoing mixture, with good results. It would be unadvisable to turn in the sheep too early. Better wait until the grass has attained a good start, for then it will be all the better rooted; while, as to the sprouts, I hardly think that they will make much headway in outgrowing the grasses for a spell, if the land is only dealt with in the first place as I have described.

FRED. O. SIBLEY.

IN getting up a wedding trousseau, think how many women are tired out: Dressmakers, seamstresses, "shop-girls," milliners—all hard-worked and weary over it; to say nothing of *the* young lady herself. Sitting or standing all day is the hardest kind of work; it gives you no healthy well-balanced exercise; part of the body is overworked and the rest of it is under-worked. The system grows sluggish; the appetite is poor, the stomach is out of order; the bowels are constipated, you have headaches and dizzy spells. It's impossible for you to take as much out-of-door exercise in the daylight as you need. The best help you can have in the circumstances is a simple laxative medicine like Doctor Pierce's Pleasant Pellets. They will, as nearly as any medicine can, supply the want of free exercise which is lacking in all in-door's work. They cure dyspepsia, biliousness and constipation in a pleasant, gradual, natural way. There is no griping or weakening effect with the "Pleasant Pellets;" they act surely but gently; they promote liver-action, and give tone and strength to the stomach and intestines to do their own work. When you become regular the "Pellets" can be stopped. You don't have to take them forever. *The cure is permanent.*

Dr. Pierce's Pleasant Pellets are small sugar-coated granules; agreeable to take. Children like them. If the druggist wants to sell you some other pills that pay him better, just think of *what pays you.* You will receive a sample package free if you will send your name and address to the World's Dispensary Medical Association, Buffalo, N. Y.

The People's Common Sense Medical Adviser, By R. V. Pierce, M. D., Chief Consulting Physician to the Invalids' Hotel and Surgical Institute, a book of 1008 large pages, over 300 illustrations, some of them in colors, bound in strong paper covers will be sent to any one sending 21 cents in one-cent stamps to cover cost of mailing *only.* Over 680,000 copies of this complete family Doctor Book already sold in cloth binding at regular price of $1.50.

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in the fertilizers applied on the farm means larger and better yields of crops, permanent improvement of the soil and

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All about Potash—the results of its use by actual experiment on the best farms in the United States—is told in a little book which we publish and will gladly mail free to any farmer in America who will write for it.

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93 Nassau St., New York.

N. Y. State Fair,

SYRACUSE, N. Y.,

Aug. 31—Sept. 5, 1896.

$25,000 in premiums. New buildings. New water plant. Great attractions. Premium lists now ready. Apply to

J. B. DOCHARTY, Sec'y, Albany.

Special railroad facilities, reduced rates, and all exhibits unloaded from cars on the fair grounds.

FOR SALE.

FIVE BEAUTIFUL BERKSHIRE PIGS—four sows and one boar, out of a litter of 14; farrowed April 23. Breeding good, and pigs individually fine. Price, $12 each; registered. Crated and delivered to railroad. $50 takes the lot.
HENRY P. CARLL, Deer Park, Long Island, N. Y.

WANTED—Young married couple, to take care of small Mountain Farm. Address, stating age, experience, wages expected, etc.,
W. S. ANDREWS, 103 West 125th St., New York.

CAN FACE GOD OR MAN

With The Separator Facts.

"SUTTON, Caledonia County, Vt.

"I can stand upon my feet and face God or man in regard to the De Laval Separator I bought last May, on two weeks' trial with the 'U. S.' machine.

"1st. I found that the 'U. S.' was making 1,500 more revolutions every minute.

"2nd. I found that I had to make 50 turns a minute with the 'U. S.' crank against 40 with the De Laval.

"3rd. I found that the 'U. S.' turned fully one-quarter harder.

"4th. I found that my milk had to be about 15 degrees warmer with the 'U. S.' in order to skim it clean.

"5th. My advice would be to any man to try the two machines and let the merits of each machine sell itself." CHAS. H. WHIPPLE.

Send for new Hand Catalogue No. 246, Separator Comparison Pamphlet, and "Facts from Users," constituting a complete education in "separatorology."

THE DE LAVAL SEPARATOR CO.,

Western Offices: Elgin, Ill. *General Offices: 74 Cortlandt St., New York.*

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SPREADS any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. **Largest and oldest manufacturers of manure spreaders in the world.**

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If you want to know all about them, ask your neighbor or write postal card to u for full information. BRADLEY FERTILIZER CO., Boston, Mass., Rochester, N. Y., and Cleveland, Ohio.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 15@	—
Medium, 1895, cholce	1 00@1	05
Pea, 1895, choice	1 05@	—
Medium or pea, common to good	90@1	00
White Kidney, 1895, cholce	1 20@1	25
Red Kidney, 1895, choice	1 00@1	05
Red Kidney, common to good	90@1	00
Black Turtle soup, 1895	1 20@	—
Yellow Eye 1895, choice	1 20@	—
Lima, Cal., 1895 (60 lbs)	1 75@1	80
Green peas, bbl., per bushel	72@	75
Bags, per hushel	67@	—
Scotch, bags	70@	72

BUTTER—NEW.

Creamery, Western, extras	15 @	—
Western, firsts	13½@	14
Western, seconds	12½@	13
Western, thirds	11 @	12
State, fancy	15 @	—
Common to prime	11 @	14
State dairy, half-firkin tubs, fancy	14 @	14½
Firsts	13 @	13½
Seconds	11 @	12
Welsh tubs, fancy	14 @	—
Welsh tuhs, firsts	13 @	13½
Welsh tubs, seconds	11 @	—
Tubs, thirds	10 @	10½
Western imitation creamery, firsts.	12 @	—
Seconds	10 @	11
Western dairy, firsts	11 @	12
Seconds	9 @	10
Thirds	8 @	9
Factory, fancy	10 @	10½
Factory, firsts.	9½@	10
Factory, seconds	9 @	—
Factory, thirds	8 @	8½
Old butter	7 @	10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾@	—
Colored, good to choice	6¼@	6¼
Fair to good	5 @	6
Fancy white	6⅝@	6¾
White, choice	6¼@	6½
Small, colored, fancy	7 @	—
Small, white, fancy	7 @	—
Small, good to choice	6½@	6¾
Small, common to fair	5½@	6¼
Light skims, choice	5 @	—
Part skims, good to prime	4 @	4½
Part skims, common to fair	2 @	3
Full skims	1½@	2

EGGS.

Near-by, new laid, fancy, per doz	15 @	16
State, fresh gathered, average receipts	13 @	13½
Penna., country marks, average best	13 @	13½
N. Ohio Ind., Ill. and Mich., prime	12 @	—
Other Western, prime	12 @	—
Western, fair to good	11 @	11½
Western & South'n, poor to fair, per case.	3 40 @	3 00
Western culls, per case	1 50 @	1 95

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6¼@	—
Choice, 1895, per lb	5¼@	5⅝
Prime, 1895, per lb	5 @	5⅛
Common to good, per lb	3 @	4¾
N. C., sundried, 1895, sliced, fancy	3½@	—
Southern, sundried, common to choice	2 @	—
State, sundried, quarters, bbls	2½@	3½
Western, sundried, quarters, hbls	2½@	3¼
South-West'n, sundried, quarters, bbls.	2½@	2⅝
Southern, sundried, quarters, bbls	2 @	2½
Southern, sundried, quarters, bags	2 @	2¼
Chopped, 1895, per lb	2 @	2½
Cores and skins, 1894, per lb	2 @	2¼
Peaches, Sundried, 1895, peeled, per lb	3 @	6
Cherries, 1895, per lb	9 @	10½
Blackberries, 1895, per lb	5½@	6
Raspberries, evaporated, 1894, per lb	16 @	—
Sundried, 1895, per lb	15 @	—
Huckleberries, 1895, per lb	5½@	6
Plums, Southern Damsen, 1895, per lb	4 @	—

FRUITS—GREEN

Apples, Va., green, per half-bbl basket	1 00@1	25
Md. and Del., per half-bbl basket	1 00@1	50
Md. and Del., per crate	60@1	00
Near-by, hand-picked, per bbl	1 50@2	00
Near-by, windfall, per bbl	1 00@1	50
Blackberries, Jersey, per quart	6@	8
Md. and Del., cultivated, per quart	2@	4
Md. and Del., small early, per quart	2@	3
Cherries, extra large, dark, per lb	12@	14
Medium, dark, per lb	8@	10
Medium, light colored, per lb	7@	9
Small and inferior, per lb	3@	5
Currants, per quart	4@	6
Per lb	4@	5

LEVER-POWER

For full information about the best Lever-powers, Tread-powers, Dog-powers, Steam Engines, Threshers, Clover-hullers, Feed-mills, Circular-saw Machines and Land-rollers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.**

Address **MINARD HARDER,** Cobleskill, N. Y.

Gooseberries, green, per quart	3@	4
Prime green, per bushel	1 00@	—
Extra large, per quart	6@	8
Grapes, Fla., Niagara, per case	75@1	50
S. C. Moore's, per carrier	1 75@2	00
Southern, common, per basket	15@	30
Huckleberries, N. C., per quart	4@	6
Md. and Del., per quart	4@	7
Jersey, per quart	5@	8
Mountain, Penn. and State, per quart	7@	10
Muskmelons, Charleston, per bushel-basket	50@	75
Charleston, per bbl	50@1	50
N. C., per bbl	50@1	50
Virginia, per bbl	1 00@2	50
Peaches, N. C., early sorts, per carrier	1 25@2	25
S. C., early sorts, per carrier	1 50@2	50
S. C., early sorts, per flat case	75@1	25
Georgia, Tilliotson, per carrier	1 50@2	50
Georgia, Early Rivers, per carrier	1 50@2	00
Georgia, unsound, per carrier	1 00@1	25
Md. and Del., per basket	40@	65
Md. and Del., per crate	50@	—
Plums, S'n, Wild Goose, per carrier	1 50@2	25
Wild Goose, per flat case	75@1	00
Chickasaw, per 6-till carrier	75@1	25
Botan, per carrier	1 50@2	50
Md. Beach, per quart	3@	3½
Pears, LeConte, per bbl	2 00@4	00
Raspberries, blackcap per pint	2@	3
Blackcap, per quart	3@	5
Red, Up-River, per ½ cup	2@	3
Red, Md. and Del., per pint	2@	3
Watermelons, choice, large, per 100	18 00@23	00
Small to medium, per 100	10 00@16	00
Per car-load	100 00@200	00

HAY AND STRAW.

Hay, No. 1 Timothy	85@	90
No. 2	80@	85
No. 3	65@	75
Clover, mixed	65@	70
Clover	60@	65
Salt	45@	50
Straw, No. 1, long rye	95@1	00
Short rye	65@	70
Oat	40@	50
Wheat	40@	45

HOPS.

N. Y. State, crop of 1895, choice	7 @	7½
Medium to prime	5 @	6
Crop of 1894, fancy	4 @	—
Prime	3½@	—
Medium	3 @	—
Common	2 @	2½
Old olds	1½@	2½
Pacific Coast, crop of 1895, choice	6 @	6½
Prime	5½@	—
Medium	4½@	—
Crop of 1894, common	2 @	2½
German	14 @	20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	6½@	7
Fair to good, per lb	5 @	6
Com. to med., per lb	4 @	—
Small, per lb	4 @	5
Buttermilks	4½@	5
Pork, country dressed, light, per lb	5½@	6
Medium, per lb	4½@	5

POTATOES.

Southern Rose, fair to prime, per bbl	1 00@1	12
Chili red, fair to prime, per bbl	87@1	00
Seconds, per bbl	50@	87
Culls, per bbl	25@	30
Long Island, in bulk, per bbl	1 25@	—
Old, per barrel or sack	25@	40

POULTRY—LIVE.

Spring chickens, per lb	10 @	13
Fowls, local, per lb	10 @	—
Western, per lb	10 @	—
Southwestern, per lb	10 @	—
Southern, per lb	10 @	—
Chickens, yearlings, per lb	10 @	—
Roosters, old, per lb	6 @	—
Turkeys, mixed, per lb	8 @	8½
Ducks, local, per pair	75 @	80
Western, per pair	70 @	75
Southern, per pair	50 @	60
Geese, local, per pair	1 12 @1	37
Western, per pair	1 00 @1	25
Southern, per pair	90 @1	00
Pigeons, old, per pair	30 @	—
Young, per pair	20 @	—

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @	—
Average toms, per lb	9 @	10
Chickens, Phil., broilers selected, per lb.	16 @	18
Phila., broilers, ordinary, per lb	11 @	14
L. I., broilers, scalded, per lb	11 @	14
Pennsylvania, broilers, per lb	12 @	16
Western, dry-picked, broilers, per lb.	12 @	14
Western, scalded broilers, per lb	12 @	13
Western, small, per lb	9 @	11
Fowls, Western, dry-picked, choice	9 @	9½
Dry-picked, fair to good, per lb	9 @	—
Scalded, choice, per bbl	9 @	—
Old cocks, per lb	5 @	—
Spring ducks, Eastern, per lb	13 @	14
Spring ducks, L. I., per lb	13 @	14
Spring geese, Eastern, per lb	18 @	19
Squabs, tame, white, per doz	2 00 @	—
Mixed lots, per doz	1 50 @1	75
Dark and poor, per doz	1 25 @	—

VEGETABLES.

Asparagus, extra, per doz bunches	1 25@1	50
Prime, per doz bunches	50@1	00
Culls, per doz bunches	25@	40
Beets, per 100 bunches	1 00@	—
Cabbage, L. I., per 100	2 50@3	50
Carrots, per 100 bunches	1 00@	—
Cauliflower, L. I. and Jersey, per bbl	1 00@3	00
Celery, fancy, large, per doz	25@	30
Average, prime, per doz	20@	—
Small, per doz	10@	15
Cucumbers, Baltimore, per basket	50@	75
Jersey, per basket	75@	—
N. C. and Norfolk, per bbl	50@1	00
Egg plant, Southern, per bbl	2 50@3	00
New Orleans, per box	1 50@	—
Charleston, per basket	1 00@1	25
Jersey, per crate	1 25@	—
Green corn, Hackensack, per 100	1 00@1	25
South Jersey, per 100	50@	75
Green peas, Jersey, per basket	—@	—
Jersey, per hag	—@	—
Long Island, per bag	50@	—
Lettuce, per hbl	50@1	00
Onions, Bermuda, per crate	75@	85
Egyptian, per bag	90@1	00
New Orleans, per bbl	1 75@	—
New Orleans, per bag	70@	75
Southern potato, per basket	60@	65
Peppers, S. Jersey, per crate	75@1	00
Charleston, per basket	1 00@	—
Radishes, per 100 bunches	25@	75
Spinach, per hbl	50@1	00
Squash, Southern, white, per bbl crate	25@	50
Southern, yellow, per hbl crate	25@	50
Southern marrow, per bbl-crate	25@	50
String beans, Jersey, per hasket	—@	—
Marvland, per basket	—@	—
Baltimore, per bushel basket	—@	—
Long Island, per bag	25@	37
Tomatoes, Fla., prime to extra, per carrier.	60@	65
Florida, poor to good, per carrier	40@	50
Mississippi, per case	70@	90
Savannah, per carrier	50@1	00
Norfolk, per carrier	50@1	00
Jersey, per crate	75@1	25
Turnips, new, white, per 100 bunches	1 00@1	50
Russia, per bbl	75@	—

MILK AND CREAM.

The total daily supply has been 22,772 cans of milk, 219 cans of condensed milk and 989 cans of cream. The average price paid for the surplus on the platforms has been $1.12 a can of 40 quarts.

CROP AND MARKET NOTES.

Receipts of hay are moderate.

Butter is lower and receipts large.

Beeswax is 26 to 28 cents per pound for pure.

Hops have gone still lower than previous low prices.

Stocks of honey are small, but there is little demand.

The first shipment of butter in boxes was recently made to England.

Live poultry prices are lower, demand fair, and supply ample. Prime old ducks and geese are in good demand and only moderate supply.

And now a cattle exclusion bill is reported passed by the English House of Lords, which includes Canadian cattle as well as those from the United States.

Although the Filled Cheese law does not go into effect until September, the market for full cream cheese is already beginning to feel the effects of the restriction.

The French are taking stringent measures to regulate the trade in butter substitutes. It is said that the French were the first inventors of this vile compound, and now, after it has nearly ruined the dairy industry of many countries, they are trying to kill their own offspring. They purpose to do it by prohibiting its sale in any place where butter is sold. Each must have its own shop.

Dr. Peter Collier, Director of the New York Experiment Station, at Geneva, from October, 1887 to October, 1895, died at Ann Arbor, Mich., June 29, after a long illness. He was a native of New York State, and a graduate of Yale College. His first important position was that of Professor of Agriculture in the University of Vermont, and he became the first secretary of the Board of Agriculture of that State. He was afterward chemist of the United States Department of Agriculture, and here he, probably, did the most important work of his life in the study of sorghum as a source of sugar supply.

Columbia Price Fits Columbia Quality

If Columbias were not worth $100, they wouldn't sell for $100 — uncertain bicycles bring various prices.

Pope Mfg. Co., Hartford, Conn.

USE TAYLOR'S **FUMA** CARBON-Bisulphide.

For killing Woodchucks, Prairie Dogs, Gophers and Rats, Insects in Grain, Seeds, etc. Shipped in 50-pound cans by the manufacturer.
EDWARD R. TAYLOR, Cleveland, Ohio.

FOR SALE.

Gentleman's Country Residence and Fruit Farm, in Cheshire, Conn., between three cities, ¾-mile from railroad and center. Address Box 64, Cheshire, Conn

FOR SALE—High-Grade Farms. Also a few cheap Farms. Write for my list.
J. LELAND HANNA, Baltimore, Md.

WHEAT—We are prepared to furnish the Engry and Winter King wheats for seed. Have no equal for *hardiness, yield* and *quality of grain.* Specially adapted to the climate of central and northern States. For information address
MIAMI VALLEY SEED CO., Dayton, Ohio.

GARNER & CO.,
Produce Commission Merchants,
51 LITTLE 12th ST., NEW YORK.

More room and a better location enable us to handle to better advantage, CHOICE CREAMERY BUTTER, CHOICE CHEESE, FANCY LEGHORN EGGS, Shipping Cards and Stencils on application.
Reference: Gansevoort Bank.

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GEO. P. HAMMOND & CO.,
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Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.

Send for our little book, "Suggestions to Shippers," Market Reports, Special References, Stencils, etc., all free.
Inquiries and Correspondence Invited.

MIAMI Buggies, Carriages, Wagons
BICYCLES AND HARNESS
Strong, Handsome, Low-priced Goods.
Fully warranted at prices which **make money** for you by **saving one-third to one-half.** A substantial top buggy, **$44.25**; an elegant family carriage, **$67.50. We pay freight** to points mentioned in our **new Annual Catalogue,** sent free. Write **Miami Manufacturing Co., 115 W. 4th St., Cincinnati, Ohio.**

All Sorts.

THE MOON.

DOES IT INFLUENCE WEATHER?

Perhaps some of the readers of THE R. N.-Y. will be interested and profited by a short talk about the moon. It is surprising to find so many intelligent farmers clinging to notions long sinee refuted by science and facts concerning the effects of the moon on the earth. These notions which prevailed, both in Europe and America for several hundred years, have, during the last half century, nearly passed away, yet still are held in the opinion of many here.

More than 2,000 years ago, the Latin poet, Virgil, in order to save Italy from ruin for want of good husbandry, wrote his famous work, the "Georgics," in which he sowed the seed of these false notions about the influence of the moon on the products of the earth. In my boyhood days, it was common to hear farmers talk about the weather at the changes of the moon, of cutting timber, planting potatoes, cucumbers, beans and various other seeds at certain times of the moon. Though the time to plant had come, the weather favorable, and the soil in good condition, they must wait till the "right time of the moon." When they saw a new moon, if the crescent or illuminated portion was nearly perpendicular, it was a wet moon; if it tipped down and could not hold the water, or the Indian could not hang his powder horn on it. If the crescent was towards a horizontal or nearly level, it was a dry moon. If these positions indicate or cause, one a wet and the other a dry spell, then any astronomer can tell us exactly when we shall have a wet or dry spell for 100 or 1,000 years to come, for the earth moves around the sun, and the moon around the earth, each in its orbit, from which they never swerve so much as a hair's breath from age to age, and it is just as easy to calculate or foretell when the moon will "run low or high," and when we shall have a wet or dry moon, as to tell when the moon rises and sets, or will be eclipsed.

We all know that every effect must have a cause. A good crop of grain has its cause, and men hasten to find the cause that they may raise good crops. The good crop is the effect, or fact, to be accounted for. But have we any certain effects of weather caused by any change of the moon? We have none. If we had, science would try to explain. For a long period of time, through nearly all Europe, meteorologieal observations were registered. The barometer, thermometer, rain gauge, clouds, rainfall, snow and hail were carefully registered from day to day, in two parallel columns, the registered weather in one, and the phases of the moon in the other; they show no correspondence, to sustain a theory that the moon's changes caused any conditions of the weather. If in every case, or nearly every case, fair weather or foul occurred at the changes of the moon, then it might be claimed that they were caused by the phases of the moon; but this did not happen one time in a hundred. These facts settle the matter. Let any farmer register the weather every day for three years, and he will not wait a single day for the "right time of the moon" to plant, cut fence posts, or kill hogs, lest the pork should shrink in the pot.

But now let us look at the moon! It is a globe without water, atmosphere or light of its own. Its light is from the sun, refleeted to the earth, and entirely destitute of heat. A thermometer of extreme sensibility has been employed to test the matter. The bulb of the thermometer was placed in the focus of the collected rays of the moon from a large concave mirror, with no sensible effeet. The light of the sun collected to a focus by the same mirror, would melt and evaporate gold.

Let any man, even if he knows but little of astronomy, look at the subjeet in a plain, practical manner. The moon revolves around the earth in a little more than 27 days. Its orbit is between the earth and the sun. When the sun sets about 6 o'clock, and the moon sets at the same hour, we do not see it, as it is between us and the sun, the dark side being toward the earth. The moon sets the next night about one hour after the sun sets, is 15 degrees above the horizon, and we see a portion, a small rim, the crescent, which is the new moon. The next night, at the same hour, it is a little higher, and we see more of the illuminated portion, and we see more every night till one-half of the illuminated portion is visible, and this is the first quarter, a change of the moon. So it passes on, showing more and more illumination, till when it rises in the east, just when the sun sets in the west, being directly opposite the sun, we see a full, round orb, whieh is another ehange of the moon.

What has there been in all these changes to affect the weather? The moon from new to full, rising one hour later each day, showed a larger area of light, inereasing every hour. Why, when the illuminated portion reaches one quarter, there should be a change in the weather any more than the day before when it is a little less, or two days after, when it is a little more, passes human eomprehension. The moon moves around the earth regularly in a prescribed path, showing all these phases from age to age, as the hour hand of a clock passes from 12 to 12 again, and it would be just as reasonable to say, when the hand reaches three, which would be the first quarter, that there would be a change of weather in the house.

"But," said a farmer to me, only a few days ago, "the moon has a powerful effect on everything. Doesn't it govern the tides?" "Oh, yes," I said, "like all bodies of matter, it attracts other bodies. It attracts, or has a pull on, the whole earth; but the crust of the earth is solid, and does not yield; but when the moon passes over the ocean, the water yields, and is drawn up into a great wave, which is the tide."

New Jersey. I. H. NORTHRUP.

Live Stock Matters

WINTERING COWS WITHOUT HAY.

On account of the prospect of a very short hay crop, and having five extra fine Jersey cows, could I winter them on corn stalks, buckwheat straw, turnips, wheat bran, corn meal and linseed meal, and still have them give milk through the winter? Four of them will be fresh in milk by the middle of January. How should sowed corn fodder be sold, by the bundle or the ton? What is a fair price for it? What is buckwheat straw worth per ton? E. A. S.

Tioga, Pa.

Not Much Value in Buckwheat Straw.

A neighbor wintered four cows on clear corn meal, four quarts per day, and a small handful of hay. He gave just enough to furnish a cud, not over one-half ton during the whole winter. They were as fat as seals in the spring, but they were soon dried off. E. A. S. can get more milk by feeding corn stalks than hay. I would feed but little buckwheat straw unless it was cut as green as possible and stored before becoming weather-beaten. The turnips should be fed after milking, only a few at first, increasing to four to six quarts per day. With the turnips, give a pint of linseed meal, one quart of corn meal, and two quarts of bran twice a day. Vary the amount aeeording to the condition of the cow and the amount of butter fat in her milk. Some cows begin to flesh up and shrink in milk on strong feed, and should be fed more suceulent and musele-making foods. The present price of grain is less per pound than that of hay, and the larger part of the ration can be composed of grain without extra cost, while the product will be larger and of better quality.

Corn fodder ean be purchased by either method, and will, probably, cost more by the bundle than by the ton unless green or partially cured. The sowed corn of olden time is trashy stuff, and I would rather buy bran. It is not worth over $5 per ton. If sown in drills, and cultivated so that there are some ears. it is worth more. Feed all the cows will eat clean. Buckwheat straw is not accounted worth much more than the eost of drawing in this section, and I would not buy it to feed dairy cows.

C. E. CHAPMAN.

A Ration Figured Out.

For several years, without a silo, we fed a good deal of corn stover, always cutting it up into one-half or one-inch lengths, and feeding it slightly moistened and sprinkled with the grain food; I consider the results quite satisfactory. This is with small flint corn, however; large, dent varieties are much more woody, and not so readily eaten dry. The corn stalks and straw of E. A. S. are both very carbonaceous and, consequently, he needs a nitrogenous grain ration. Wheat bran is good, but expensive, like oats, generally selling for a little more than it is worth, compared with other feeds. Linseed meal in moderate quantities is excellent in every way. Corn meal is not needed in the ration. Turnips should be very useful in supplying the much talked of succulence. I have very little confidence in working out a ration to any exaet standard. Give the cow about one pound of grain per 100 pounds of live weight, and rough fodder ad libitum, making the grain ration of such a nature, that the nutritive ratio of the whole shall be not wider than 1:6. A ration of 10 pounds of corn stover, 10 of buckwheat straw, 30 of turnips, 6 of wheat bran, 2 of linseed meal, and 2 of cotton-seed meal would be not far from the "American standard" of the Wisconsin Experiment Station; although I would be guided more by the taste of the eow than by any cast-iron rule of chemistry. I would cut stalks and straw together, moisten in the manger, sprinkle with the mixed feed, and add pulped turnips.

Corn stover and buckwheat straw are, theoretically, of about equal value, although the buckwheat straw may be much improved, where, as is often the ease, there is a good deal of green stuff growing up through it. Of course, the only sensible way to sell corn fodder or any other feed, is by the ton. Other things being equal, corn stover and buckwheat straw, should be worth for

(*Continued on next page.*)

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LIVE STOCK MATTERS.

(CONTINUED.)

feeding about two-thirds as much as Timothy hay, and one-half as much as clover hay, although for market purposes, these values would, probably, be reversed. JARED VAN WAGENEN JR.

No Faith in Straw.

I have never had any experience with buckwheat straw, and have not much faith in straw of any kind, as a cow feed. I have sometimes spliced out with wheat and oat straw, when short of hay; but notwithstanding its formula value, the results have not been satisfactory. There is still time to raise a crop of millet or Hungarian grass, and with the present low price of bran, it should not be very difficult to make up a ration of corn fodder, millet, wheat bran, cob meal, linseed or cotton-seed meal (the latter preferred), and turnips if desired; but the latter are of small value, likewise sowed corn fodder if thickly sown. Fully-grown, well-ripened corn fodder is cheaper at 3 to 3½ cents per bundle, than sown corn at half that value.

Pennsylvania. T. S.

Shredded Corn Fodder and Bran.

I have had no experience with buckwheat bran, but with good corn stalks (preferably shredded), and the variety of grains mentioned, there should be no difficulty in getting a good milk flow. Corn fodder should be sold by the ton. Shredded corn fodder sold here for $8 per ton last winter. I would lay by a good store of wheat bran now, when it can be bought in Chicago for less than $7 per ton. It may be very largely used in the place of hay. Were I short of hay, I would feed the wheat bran in larger amounts than the balanced ration would seem to call for; it would give bulk, and in excess can do no harm. The meals are mixed in this proportion: Wheat bran (coarse), 200 pounds; corn meal, 100 pounds; linseed meal, 25 pounds. The feeding amounts are proportioned to the size of the animals.

Ohio. J. E. WING.

ARE BLACK GERMAN HARES PURE?

I have bought German hares from four parties. They all guaranteed thoroughbred stock, but the hares all look like the wild ones in the old country. The first pair has young ones, and strange to say, there is one black one among them, although the old ones are gray. I did not have any black ones near. The hares from the second party have young ones and there were two black ones among seven. The old ones are of rufus red color, and an entirely different strain from the first pair. They also came from different places. The others have no young ones yet. I am anxious to have pure stock, and paid a good price for these. But does the fact I stated make any difference, and prove that they are not purebred? A. R.

New Hampshire.

It is nothing against the strain or the purity of it for the hares to throw black young occasionally; on the contrary, it is much to be desired, and breeders so doing are highly prized, as the black ticking is indispensable in a well-marked Belgian or Flemish Giant; the blood strong enough to give it will throw some pure black young ones. In a rabbitry that is a little weak in color, a black doe is a Godsend. I inclose clipping from Fur and Feathers, handed me by E. M. Hughes, who is undoubtedly the best posted rabbit fancier in America, which appeared in the Poultry Monthly for May, 1895:

The value of Black Belgian hares for stud purposes is very imperfectly understood. As you are aware, the old breeders made very successful use of them. In my remarks, I do not accept the principle of mating common black rabbits with Belgians, which is a foolish and disastrous thing to do. I also utterly condemn the use of blacks obtained from dark and smutty parents. But as black is part of the color of a Belgian, at times they are likely to throw a black, however purebred they may be. For many reasons, they are invaluable. They are very useful for does lacking tone and too light in color; and they also infuse richer blood into their offspring, which grow like wood. They are always the most healthy, the strongest and the finest in the litter; who ever knew one poorly? Why are they black? My answer is that Nature seems to have had all its force, energy and vitality concentrated, and thus produces a black. Why not work with Nature by using those charged and surcharged with such force and energy? In our ignorance, we have used the weaklings and destroyed the strong ones. What can be better than a pure black from a doe full of deep color and a highly colored buck? To me, such a brood doe or stock buck is of the highest service.

A. R. probably has the Belgian hare and the Flemish Giant, the rufus red being the former and the gray the latter. German hares are merely a mixture of the two, and are not a pure breed of themselves, as I understand it. There is great ignorance among our breeders of rabbits concerning these. A rufus red, with the proper markings of black ticking, if not over large, say, 10 or 11 pounds, is a Belgian; the gray, with the black ticking and weighing above 11 pounds, are, probably, Flemish or strongly of their blood. The Belgian and Flemish are entirely different in form and build, the former being small boned, delicate, lean head and flank tucked up, no sign of potbelly unless with young or after years of breeding. The Flemish have heavy bodies, round, heavy heads, big-boned, weighing 12 to 17 pounds each.

B. HOLMES, JR.

NOTES ON MOULTING HENS.

When forced with rich food for egg production for some time, hens become exhausted, and when hot weather comes, they feel its effects very much, especially if yarded and unable to make themselves comfortable by getting in the shade, or to secure insects and succulent green food. Grain food becomes distasteful to them, and if forced to eat it or nothing, they are likely to have indigestion. If moulting takes place at this time, they are not well nourished, cannot meet the demand caused by the growth of new feathers, and exist miserably. If they do not become diseased, they are a long time growing the new plumage. Some individuals and some breeds moult better than others. The greatest layers get the most run down, if they suffer hardship. Vigor and vitality have much to do with it. Very old turkeys, pigeons and other birds are longer in moulting or growing new feathers than young ones.

At moulting time, hens, if confined and neglected, can not digest the quantity and kind of food that was possible in cooler weather or earlier in the season. After hens stop laying, or during hot weather, some raisers feed them but little and mostly hard grain, usually oats and wheat. A hen ought to be as well nourished when moulting as when laying; otherwise, she is unfitted to meet the tax. To shorten the period, I would keep them in the best possible condition after the laying season is over, and give food that is more easily digested, like meat, milk, etc., and free range where grass and insects abound. Thus provided for, I would value corn as food more than wheat or oats. Meat, both fat and lean, is appreciated by fowls at this period as well as at any other, and the craving that induces feather eating is appeased and feather picking prevented by such food.

Succulent food, pure air, and quarters that are cool as well as fresh and clean, are as grateful to fowls, and contribute as much to their welfare as to that of human beings. I would not take this pains for the eggs that might be secured during the moult, but in order to keep the hens in good condition all the time If the breed is superior, and everything is favorable, there may be a surplus for both egg production and feather growth. I believe that a quick-moulting habit can be influenced by selection and breeding, but would expect that it would also lessen the egg production. I think that it will be found that, age, breed and everything else being equal, the greatest layers will be the longest in moulting, and hens that have spent some time sitting, will moult easier than those that have not. SAMUEL CUSHMAN.

WHAT CAUSES BAD MILK?—While I have no proof—only a belief in the matter—I have a strong suspicion that imperfect digestion in a cow, may have much to do with odors in milk, and that in the case of those heifers mentioned on page 430, something along this line would account for the disagreeable taste. It is a well-known fact that a cow turned into fresh clover and allowed to eat at will, gives a milk for a few days that has a very rank taste, and then as the animal gets accustomed to the food, the milk returns to its normal state. It may be that it is overeating, although pasture grass, that causes the trouble. Of course, the trouble has remedied itself by this time, but if not, I would restrict the grass rations of the heifers to some extent, and give them the old western remedy to promote appetite—salt and ashes.

I know of only one or two remedies or, rather, agents to neutralize these odors in the milk—heat and aëration. As a trial, I would heat the milk to 160 degrees in a water-jacketed can, aërate it at the same time and afterwards, and then cool it down to a normal shipping temperature. If it could be run through a separator with the gate wide open, and the cream returned and mixed, it would be another help. If cream alone is wanted for customers, it could be diluted in three times its bulk of water at 85 degrees, allowed to rise the second time, and the thorough incorporation of the cream and water, would enable the water to take up these flavors. I know of only three remedies, entire change of rations for a time, the employment of heat to 150 degrees and above, and thorough aëration, either singly or in combination.

Ohio. JOHN GOULD.

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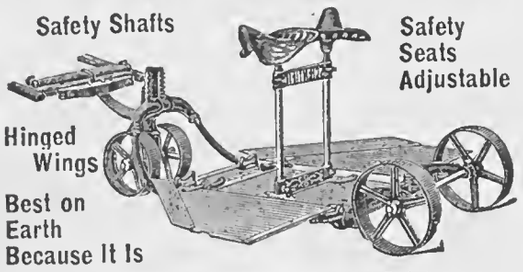

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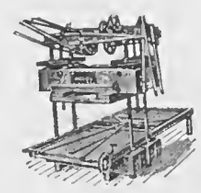
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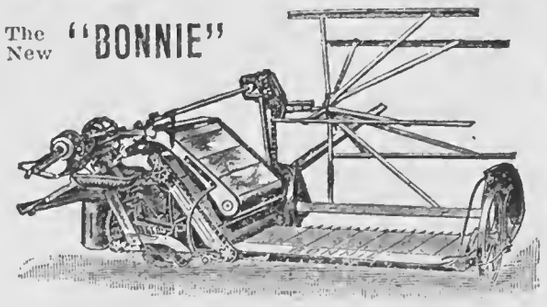
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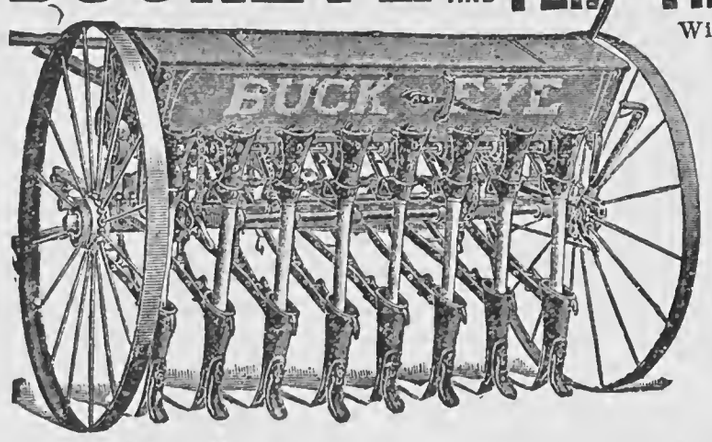

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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STRAWBERRIES ON HEAVY SOIL.

HOW THE VARIETIES BEHAVE.

A Poor Crop But Fine Prices.

The strawberry season just closed in this section, has been one of light crops, but of fine prices; hence, the money result has been much more satisfactory than last year's. On the high-lying uplands, the drought of last summer was so terribly severe that no plants were made, and on such lands, of course, there was next to no crop, as there were no vines to bear. On the lower grounds, such as are found in the lower part of our county, there was about one-half a full crop; but it paid a great deal better than last year's heavy crop, as one instance will show: An extensive grower told me, last year, that he thought when he had paid all his bills, that he would have $15 left. This year, he will have over $1,500. On banked meadows, the crop was very heavy.

The Gandy still maintains its supremacy here; not that it is the best or most productive berry, but its reputation in market will make it bring from three to five cents per quart more than any other, and this often means the difference between a good profit and none at all. As a result of another year's trial, I have discarded Enhance. It has all the desirable qualities except that it is so rough as materially to detract from its appearance in the crate. I have filled its room with Marshall of which I can hardly say too much. It is simply magnificent in fruit and plant. It is the largest berry I have ever grown with the exception of Mary; by this I do not mean that there are to be found here and there enormously large and overgrown berries, but that all the berries are very large, and they continue so during the season. The quality is of the best, and it is among the most productive; while in vigor of growth it is excelled by none. Of the Mary, all that I have said of the Marshall can be fairly said, except that its quality is not so good, though it is far from being of the poor quality stated by some writers. I shall not continue planting it, as it has no points of superiority over the Marshall, and has the disadvantage of being a pistillate.

Right here I wish to enter my protest against the constant claims made by strawberry men that pistillate berries are the most productive. I know that, where all conditions of moisture and fertility are given, the Parker Earle will produce two quarts to one of any pistillate berry in existence. This berry still maintains with me its preëminence; it is the most wonderfully productive berry I have ever seen. My patch has been visited during the season by many old strawberry growers, and their uniform testimony was that they never saw anything like it. The berries commence ripening with the midseason berries, and continue until the very last. I picked them from June 1 to 26, making three pickings a week, and the last were beautiful berries. They are berries that will class as large—not very large—and are beautiful appearing berries in the crate, looking as if varnished, and carry in first-class shape. I would not, however, advise any one to plant them where there is likely to be a deficiency of water or of fertility, as they set such an enormous quantity of berries that they simply couldn't fill them out to any decent size, if any of the necessary conditions were lacking.

I tried the Great American, but I utterly fail to find any point of "greatness" it may possess. With me, it is simply worthless. The Brandywine has been a great disappointment to me, as I anticipated great things from it, from the reports received. It, on my soil, is a complete failure as a producer of berries. The plants made a magnificent growth, but of fruit there was a woful lack. Yet I feel that I cannot quite give it up—thinking, perhaps, I didn't get genuine plants—so I shall get a few of the introducer and try it again.

Edgar Queen is a magnificent berry and productive, but there are others just as good, and it is a pistillate, so I have no use for it. Many patches of berries in this section were ruined by what the growers called a weevil—described as a very small bug that attacked the bud and destroyed it. I have not seen any of these bugs, as I did not hear of them until they had finished their work and disappeared. I tried to get some samples to send to Prof. Slingerland, but was too late.

I have some 20 new varieties growing to test next year, and shall report on them. Among them, are Belle, Noble, Tennyson, Mexican, Eleanor, Glen Mary, Wm. Belt, Enormous, Sloan's Seedling Giant, Bouncer, Ideal and Oriole.

R. L. HOWELL.

Cumberland Co., N. J.

THE CRIMSON RAMBLER ROSE. FROM NATURE. FIG. 157. SEE RURALISMS, PAGE 499.

Strawberry Notes from Maryland.

I give a short review of the behavior of the new varieties of strawberries the past season. Hale's Bouncer is quite large and of fair quality. The shape is the worst of any on the farm, being badly ridged or crinkled. The plant makes large, healthy foliage, but on the whole, it is not desirable on my land, which I would call a sandy loam.

Eleanor was badly affected by the dry weather early in the season; it bloomed profusely, but was very stingy in setting fruit, possibly owing to the dry weather; what fruit we got, was of medium size and very firm, but not so early as has been claimed by its introducer.

Giant in the fruiting beds did very poorly; the plant growth was very poor and weak, and the fruit was not properly matured, but we got some much finer fruit from our spring-set plants than from our fruiting beds. As seen in our fruiting beds, I would say that it is undesirable; but, as seen on our spring-set plants, I feel that it would only be just to say that it is promising.

Sunnyside, a very strong grower, is productive and very late; berries above medium in size. It is very good, but there are others better.

Sunrise is very productive of medium sized, soft berries, shape the same as Bubach, but not nearly so large.

Brunette is medium size, perfect form, very productive, and the best quality of any that I have ever eaten; it is a strong, healthy grower, and the berry is firm enough for a good shipper. I especially recommend this for the family garden.

Brandywine is all that has been claimed for it.

Wm. Belt was exceptionally good; I picked berries that weighed one ounce each from spring-set plants, and the fruiting beds contained an abundance of large berries of good quality. Some of the first to ripen

and some of the largest specimens through the season, are flat or fan-shaped, but have a smooth surface and make a very attractive appearance. In the spring of 1894, Mr. Crawford sent me three plants; late in the fall of 1894, and in the spring of 1895, these few plants rusted very badly, I cannot say from what cause, only that other kinds not subject to rust, were affected at the same time; but I have never seen any sign of rust on the Wm. Belt since, and it appears to be absolutely free from disease. It is a staminate and firm enough to be a good shipper.

Enormous is simply enormous in plant, in size of fruit, and in productiveness. Color a bright crimson, having the appearance of being varnished. The shape is somewhat irregular, running from cone shaped to fan-shaped, but has a smooth surface and presents a catching display.

Clyde is one of the good ones that has, without doubt, come to stay. It is a strong, vigorous grower, makes an abundance of large, deep-rooted plants, amply able to sustain its immense load of large and shapely fruit. It is of good quality and firm. Ripens medium early, and is a strong bisexual, suitable to plant with large, early and medium early pistillate kinds. Timbrell has again failed here; I shall never set another plant of it. With me, it is the most worthless of the worthless.

Paris King is a large berry of considerable merit that comes from Illinois. It is quite productive of medium large berries, borne on long and slender fruit stems, somewhat like Haverland. It is a free and healthy grower, and a strong bisexual, especially recommended as a pollenizer.

Hall's Seedling is a new berry that will, probably, be put on the market in the near future. It was originated in Somerset County, Md., by Mr. John W. Hall. I saw this fruit on his place last spring, and it was, certainly, very fine there. It has never been fruited elsewhere that I know of. The plant seems to be entirely healthy and vigorous. It was on medium light land, with a clay subsoil. Staples is a firm, early berry of medium size; it was earlier than anything I had, except Michel's Early and Meeks's Early. It is a moderately good grower of the Warfield type, and bore a good crop of firm berries, which will hang on the vines for a week after being ripe enough to pick, without rotting.

Annie Laurie is large, good quality and good shape; but if it is as unproductive elsewhere as it is here, I can't see why it was ever put on the market. Glen Mary, for large size, productiveness and quality combined, is certainly "on top" of anything that I have seen. Marshall may bear some specimens as large, but it will not average nearly so large, and is not more than one-half as productive. If there are any others as productive, they are not nearly so large, and the quality is nearly as good as the best. The plant growth is vigorous and strong, and as healthy as was ever grown. It is a bisexual, amply able to provide for its own crop, but not recommended to plant with others. If I were confined to any single variety, I would unhesitatingly say, "Give me Glen Mary." W. F. ALLEN JR.

Salisbury, Md.

WHAT THEY SAY.

Long Island Flower Notes.—In reply to certain queries in Ruralisms (page 419), I would say that the Blue spirea, Caryopteris Mastacanthus, is not hardy here. This is to be regretted, as it is such a handsome, vigorous-growing, free-flowering plant. And how partial are the bees to its flowers! Citrus trifoliata (the so-called Hardy orange) is not thoroughly reliable as a hardy plant here. It may survive a mild winter, or when grown in a sheltered situation, a winter or two; but sooner or later, it will be more or less injured, if not killed outright. How the plants will do when well protected, I cannot say. Jasminum grandiflorum and Callicarpa purpurea, although advertised as hardy shrubs by some nurserymen, are killed to the ground almost every winter unless the branches are laid close to the earth and well protected with a covering of some coarse, littery material; even then, in severe weather, they will be more or less injured. I may here say that the covering on plants protected in this manner, should not be applied until the ground becomes frozen in December, and gradually removed the ensuing spring. CHAS. E. PARNELL.

Long Island.

Down on Saghalin.—Notwithstanding the claims of the introducer, the disseminators, and The R. N.-Y., that Saghalin will grow under almost all circumstances, my own experience is quite to the contrary. In the spring of 1895, I bought a few roots at an outrageous price for a weed. No instructions how to plant were sent me, so I made a small hole and covered the roots with three to four inches of fine soil. Some were planted in rich, alluvial soil, some on higher, gravelly soil, and the rest on still more elevated, sandy loam of only fair quality. My object was primarily simply experimental, that I might be able to report its behavior under different conditions. I greatly feared that I was introducing a weed that might prove a troublesome pest. But after waiting several months to see the promised marvelous growth, I at last scratched away the soil only to find the roots a black, shriveled mass. I cannot say that I was sorry at the time, but I was disappointed in not being able to make the experiment. It seems that I am not the only one that has not made a success (?) of Saghalin. Mr. John L. Shawver, page 416, likewise states that, with him, "it failed utterly." Prof. Massey, of the North Carolina Experiment Station, and a very trustworthy authority, says in a recent article: "We have been unable to get any results from two plantings of Saghalin roots, and we do not regard it of any value in the South." I hold the same opinion, and reared as I was in the North, and, therefore, familiar with it, I unhesitatingly include that also. It never, no never, will supersede our well-known cultivated forage crops anywhere. The very nature of its growth where it will thrive, precludes its being planted in arable fields. In my opinion, it will, before long, be buried again in that oblivion from which it was so suddenly resurrected a little over a year ago. J. C. SENGER.

Virginia.

How to Plant Chestnuts.—As to the distance apart to plant chestnut trees, I would plant the standard sorts, such as Ridgely, Paragon and Numbo, 30 feet apart, according to the following diagram: Standards are indicated by ×, and dwarfs—the Japans—by O, making the trees in an orchard stand 20 feet apart:

× o × o × o ×

o × o × o × o

× o × o × o ×

The foregoing is my plan of planting an apple orchard. At the crossings of a plot 40 feet square, also in the center of the square, I plant a long-lived and more vigorous and spreading kind or variety, and then at the 20-foot crossings, I plant the shorter-lived and early-bearing varieties, such as Yellow Transparent, Williams's Early Red, Fourth of July, etc., which varieties will give the most profitable period of their lives before they have to be cut away to make room for the longer-lived varieties. I feel like indorsing the idea of your Connecticut reader of planting the Ridgely, Paragon and Numbo as close as 20 feet apart. He will have many years of bearing before he will have to cut away every other tree. P. EMERSON.

Delaware.

Blast the Woodchucks.—I have a plan for killing woodchucks with blasting powder, which is as effective, and much more simple than the use of sulphur as described by J. H. R. Place in a little cloth bag, two tablespoonfuls of blasting powder; insert one end of a piece of fuse about 15 inches long, and tie securely about the fuse. Any desired number of the bags may be quickly made on the sewing machine. Place the charge down the hole, placing stones or sticks next to the powder; then pack to the mouth, leaving enough of the fuse to light. If there should be two holes, close up both of them, one charge being sufficient. This makes pleasant work for the boys, and, as in the use of sulphur, leaves the woodchucks buried, as they are quickly smothered if the smoke be not allowed to escape. C. M. H.

Cheshire, Conn.

Substitutes for Hay.—The article by Prof. Brooks, page 462, with the above title, was very interesting, and valuable as well; but when he says that "the peas will not stand heavy frosts," I am a little surprised, though what might be a heavy frost in northern Ohio, might be regarded as next to no frost at all in Massachusetts. It is my custom to sow a field of oats and peas late in August for the purpose of late October and November soiling of the cows, and last fall especially, we had frost after frost late in October and on, and it did not seem to affect the crop to any appreciable extent. It kept very green and if I remember aright, the last was fed as late as November 8 to 10. As a green food to keep up the flow of milk at the period between the last of the usual green foods, and going into winter quarters, I have never found anything so good; but it may be that the oats with the peas, may have had something to do in protecting them from the frost. We put the crop in the last week in August, first sowing the peas, 1½ bushel per acre, upon bare land, and plowed them in, using a Cutaway revolving plow, which put them down about four inches, the six disks plowing a full three-foot furrow. This made their seeding very rapid, and they came up as though they had been drilled in. A few days before the peas came up, 1½ bushel of oats was scattered on the land and harrowed once. Although the fall was a very dry one, the crop made a fine growth, and afforded a fine soiling crop at the time when succulence is rather difficult to furnish a dairy. To-day (July 9) we sowed a field to oats and peas, and next week, we shall sow another to Crimson clover and see if we cannot have a greater variety to feed in the fall, instead of all corn fodder, though some dairies would vote themselves lucky to get two full meals a day of even that—especially if home grown. With respect to the oats and peas, I have a notion that, on worn land, the crop could be moderately pastured, and then the residue turned under with manifest benefit, and add not a little to the nitrogen, and the humus would play an important part in the mechanical condition of the soil. I intend to grow a field of ensilage corn on such a field, so treated. JOHN GOULD.

Ohio.

COMPARISON OF OLD AND NEW BORDEAUX MIXTURES.

The age of Bordeaux Mixture has much to do with the uniformity of its application. This fact has, frequently, been noticed, but the rate and the duration of the changes that take place in the mixture do not appear to have been determined. The recommendation has, nevertheless, been made that only the fresh mixture should be used; yet the reason for this advice has not always been made clear. The following experiment shows, at least, one cause for the superiority of the freshly prepared fungicide; and the results are sufficiently emphatic to show clearly that the use of the old mixture is unadvisable in the majority of cases, especially where the best machinery is not employed. The proper agitation of the Bordeaux Mixture is one of the most serious problems connected with its application; yet there is a period in which the inconvenience from this source is reduced to a minimum. Of course, the use of the mixture at this time is highly desirable.

A dilute solution of copper sulphate was placed in a quart fruit jar, and to this was added the milk of lime until a slight excess had been used. The Bordeaux Mixture thus formed was, therefore, similar to that which is commonly used in spraying. The color was fairly dark blue, and the strength of the mixture was slightly less than that of the normal preparation, the copper sulphate being used at the rate of one pound to ten gallons of the mixture. The can was so placed that the height of the sediment could easily be measured. At the end of every 24 hours, the can was shaken thoroughly, and then allowed to stand undisturbed for another day. The depth of the blue sediment could be seen very plainly, so that no difficulty was experienced in taking the measurements.

The following table represents the rate of settling as shown by observations made at definite intervals:

Time of Observation after shaking.	Amount of Settling in Inches. 1st day.	2nd day.	3d day.	4th day.	5th day.
7 min.....	1-12	2-12	1 2-12	2½	2 11-12
15 min.....	2-12	3-12	2	2 8 12	3
1 hour 10 min.....	6-12	10-12	2 8-12	3	3
3 hours 30 min.....	1 7-12	1 10-12	2 11-12	3	3
4 hours 45 min.....	1 10-12	2 1-12	3	3	3
14 hours 30 min.....	2 4-12	2 8-12	3	3	3 1-12
24 hours	2 5-12	2 10-12	3	3	3 1-12

Comment upon this table is scarcely necessary. It may, however, be said that, during the first 24 hours following the preparation of the Bordeaux Mixture, the sediment settled to a point nearly as low as that reached after a few days. The most rapid precipitation took place during the first five hours. The rate of settling during the second 24 hours was somewhat faster than during the first, especially during the first two hours; after this, the differences were comparatively slight, although the sediment eventually sank five-twelfths of an inch lower. During the third, fourth and fifth days, the sediment fell rapidly. On the third day, after one hour and ten minutes, the sediment was lower than the lowest point reached during the first 24 hours; an equal fall took place on the fourth day during the first 15 minutes, while on the fifth day the sediment had dropped to a still lower point in seven minutes.

This rapid change in the rate of settling of the sediment in the Bordeaux Mixture, is, probably, not due to any chemical change in the preparation, but it may more naturally be ascribed to a change in the physical nature. The sediment, which is at first more light and flocculent, seems to become, gradually, more compressed, and, therefore, sinks more rapidly through the water. No change seemed to take place in the color of the mixture, and the only apparent result of the standing was the change in the rate at which the sediment settled to the bottom of the jar.

The above result has an important practical bearing. Since the sediment contained in the Bordeaux Mixture settles but little during the first few hours after the preparation of the fungicide, it is evident that, at this time, the mixture may be most uniformly applied with the least amount of agitation. The milk of lime should, of course, be as fine as possible,

and the coarser particles be rejected, either by straining or by allowing them to settle before the milk is used. Comparatively little agitation is necessary under these circumstances; but, if the attempt be made to apply old Bordeaux Mixture, the apparatus for stirring the mixture should be of the best, although it is scarcely necessary to put a steamboat propeller inside the barrel, and then revolve the former rapidly by means of an engine, as has recently been done. E. G. LODEMAN.

Cornell University.

GRINDSTONE, FLOWERS AND WHITE GRUBS

There are two farming implements that I very much dislike—one is a quiescent grindstone, and the other a scythe. A grindstone is all right when it is whirling (and I am not supplying the motive power), because I am very fond of sharp tools; and I like to sit in front of a rapidly-whirling stone and put a razor-edge on every cutting tool I am obliged to use. I can hold the tool while its dullness is being removed, or I can turn the stone, if occasion require; but to do both at the same time, is exceedingly wearisome. Where is the genius who will invent a cheap, double-duplex-adjustable holder that will hold tools of all kinds on the stone at just the proper angle, pitch, etc.? If such a genius has ever been born, let him make himself known to us. To be sure, it is easy enough for anybody to suggest a windmill, a horse-power, or an electric motor; but the getting of any of these things involves the expenditure of goodly shekels; and if we happen to be short of shekels—which we generally are—the suggestion will have to pass unheeded. Has anybody invented any kind of a homemade contrivance that will make a grindstone spin easily, or that will hold tools on the stone properly? If such is the case, let us see a picture of it without delay.

That relic of barbarism, the scythe, seems to be a stayer. Here we are close at the latter end of a century of inventions—a century that has produced more labor-saving devices than all previous centuries—and still bending over our diaphragms swinging a relic of dark ages! We have improved handles and improved fastenings, on an improved snath; but still it's the same old scythe, as clumsy and far-back as the orthography of its name. Some men can swing it through grass and weeds almost as easily as they can eat a boiled cabbage; but for some occult reason, I never could get on to the combination, and, therefore, scythe swinging is severe punishment. I am patiently awaiting the coming of the genius who will produce a light hand mower that I can push along before me, while its sickle is whirred by a small motor on top of it. Then I shall take the greatest pleasure imaginable in mowing my lawn and cutting the forests of weeds that spring up wherever the soil is not constantly stirred.

If there is any prettier flower for the lawn than the vinca, I don't know what it is. The drier the weather, the brighter are its glossy green leaves and pretty flowers. A bed of vincas will please anybody; it blooms all the time, does not overgrow itself, and so far as I have observed, no insect troubles it. The seed should be sown in a box in February to get strong plants for setting out early, or as soon as all danger of frost is past. It will bloom in the house quite as well as out-of-doors, and as it is so easily cared for, two or three plants should be potted for that purpose.

Another flower that is easily cared for and excellent for the lawn, is the perennial phlox. When well cared for, a large bed of it is simply gorgeous, and remains so for a long time. When through blooming, remove the stalks and give the bed a good dressing of well-rotted manure, and you will be rewarded with plumes of flowers that will make an Easter bonnet ashamed of itself.

I observe that the White Grub question is not yet settled. Let the discussion and investigations go on; we will get at the facts before long. Last spring, I filled a large jar with a mixture of earth and well-rotted manure, powdering and sifting the whole in order to be sure that no grubs should get in. Last week, I noticed that one of the flowering plants set in it was looking sickly, as though there was a grub at its root. I carefully removed the soil and investigated, and sure enough, there was a great, full-grown White Grub chewing away. Further examination of the soil, which was more than half rotted manure, disclosed several more from one-eighth inch long to nearly full size. The earth had been in the jar seven weeks, and when put in did not contain a grub that was visible to the naked eye. Verily, they made a rapid growth. Did you ever notice that White Grubs found in poor soil looked thin and half-starved, while those found in a soil that is rich, full of humus and roots, looked like Suffolk pigs? I am of the opinion that we are yet quite a distance from a full solution of the White Grub question. FRED GRUNDY.

THE ARMY WORM DOES BATTLE.

ITS HABITS; HOW TO FIGHT IT.

The army worm is abroad in the land in very destructive numbers in many localities. We are daily receiving letters and even telegrams and telephone messages from such widely-separated localities as Lowville, Horseheads and Jamestown, N. Y., and Honesdale, Pa. Pasture lands and crops of hay, rye and corn are being ravaged in these localities, by the caterpillars.

THE ARMY WORM AND ITS WORK. FIG. 158.

The true army worm, the caterpillar of the moth known as Lucania unipuncta, is a naked, striped worm about 1¼ inch long and one-quarter inch in diameter when full grown, and rather dark in appearance. The insect is widely distributed over the United States east of the Rocky Mountains, and in some localities, it occasionally appears in such enormous numbers as to overrun and destroy, in May and June, acres of the small grains and grass lands. The worms usually travel in one direction from one field to another, destroying the crop as they go. They have a habit of climbing the seed stalks and cutting off the heads of Timothy, and of the small grains. Under ordinary circumstances, the worms feed mostly at night and in damp, cloudy weather, remaining hidden during sunshiny days, resembling, in this respect, the closely allied cutworms. The adult insect is a brown moth with a white spot on the center of each front wing. The eggs are pushed down into the inner base of the terminal leaf sheaths of grasses or grains. The eggs hatch in from eight to ten days, and the caterpillars attain full growth in three or four weeks. They then go into the ground, and transform through a brown pupa to the moth. The number of generations each year varies with the climate and the season; there may be six in the South. The winter is usually passed as a half-grown caterpillar, and sometimes the moths hibernate, in the South. It is usually the offspring of the worms that hibernate which cause alarm.

At Horseheads, N. Y., the army was advancing across a lane from a 40-acre rye field in which not a leaf remained on the stalks, and about one-fourth of the heads had been cut off. The worms were so numerous that one could hardly take a step without crushing several of them. They had just begun their destruction in adjoining corn fields where the crop was disappearing at the rate of an acre or more per day. During the day, most of the worms were either on the march or resting from their destructive work under pieces of dirt or snugly hidden down in the cavities at the bases of the corn leaves; evidently most of their feeding is done at night. In Fig. 158 are shown several of the worms at work on a corn plant, all nearly natural size.

There is no practical method of ridding a badly infested field of one of these caterpillar armies, which would not also involve the destruction of the crop. However, the worms can be prevented from entering other fields, and may, in many cases, be killed before they can do much damage in new fields. In some cases, especially in corn fields, the advancing army can be checked in the middle of the field. If a deep ditch be dug or plowed before the advancing army, taking pains to have the side toward the crop to be protected as smooth and perpendicular as possible, it will be found that the worms cannot readily cross it, and will, after the first attempt; crawl along the ditch and tumble into deep holes which should be dug in the ditch at intervals of a rod or so; bushels of the worms have been trapped in this manner, and in one instance the stench from their decaying bodies became very offensive to people riding along the highway.

In some corn fields, it would be practicable to spray or thoroughly dust the plants with Paris-green, using it as strong as the plants will stand. Much can, also, be done by drenching a strip of the crop toward which the worms are marching, with a strong Paris-green mixture. A combination of the ditch and spray, if thoroughly carried out, will check and destroy millions of these ravenous creatures. Prompt action will be necessary for, as we have seen, a day's delay may mean the destruction of an acre or more of a promising rye, corn or hay crop.

Judging from the many worms which we have seen, Nature will see to it that the next brood of worms which might naturally be expected later in the season, will not appear, for a majority of the larger worms bear on their backs, small, white eggs laid there by an insect resembling a house-fly. These eggs mean that soon the little maggots hatching therefrom will burrow into the body of the worm, and there revel in the juices and fatty tissues, and finally cause the death of their host before it undergoes its curious changes to the adult insect, the moth. Thus, while the little parasitic friends are doing noble work in checking the future development of the pest, they do not give the present relief which the afflicted farmer needs. M. V. SLINGERLAND.

THE LOGANBERRY.—It is a thing worthy of note nowadays, to find a new type of small fruit, that actually bears berries which have a value; but the Loganberry appears to have this distinction. The plants are robust, and exhibit a curious intermingling of the peculiarities of the raspberry and the dewberry. The fruit is neither, but it is intermediate. It has the color, and in a mild form, the flavor of the raspberry, but the size and structure of the dewberry, and when cooked with sugar, makes an excellent sauce. I have observed the Loganberry only under good cultivation, the canes covered with earth in winter and supported on a wire trellis during the fruiting season. Under such conditions, it has proved prolific, the large berries ripening in advance of Cuthbert raspberries.

Rhode Island Experiment Station. L. F. KINNEY.

"CHEMICALS AND CLOVER" HOLD OUT

THROUGH THE AGRICULTURAL DEPRESSION

With Some New Features Added.

PART II.

As was hinted last week, Mr. Lewis has made a little change in his system of farming. For many years, his plan was to keep as few head of live stock as possible. The hay was sold, as were many of the corn stalks, and stable manure was regarded as something of a nuisance. The chemicals for the potatoes and the sod for the corn maintained the fertility of the farm, and increased the crops with each round of the rotation.

Twenty years ago, the signs of the times showed Mr. Lewis that live stock husbandry would no longer support his farm. That was the beginning of the immense output of meat and dairy products from the West. Accordingly, he began to change his system of farming until the steers and the cows largely disappeared from the farm, and chemicals and clover took their place. Grass and grain were sold instead of being fed, and potatoes became the money crop. For years, this system paid because potatoes brought fair prices. Now, Mr. Lewis sees another possible change coming. The prices for potatoes have declined, and the past few seasons have been low Within the past few years, immense developments have been made in methods and machinery for growing potatoes. Mr. Lewis accepts the western reports of the cost of growing an acre of potatoes as accurate, and while all this may not mean permanently low prices, he doesn't purpose to sit still and wait for the machine to roll over him.

The "way out" seems to come in the very opposite direction of his past 20 years' work—dairying! It is just like going back 20 years, to take up an old tool that was then laid aside, putting a new handle into it and bringing it again into use.

A creamery has been established at Cranbury, and most of the fertilizer farmers are sending to it the milk of six or more cows. Let us see now just what this means. Mr. Lewis is milking eight cows, and, if the experiment prove successful, he will, probably, increase the herd to 15. He has fallen off only 100 pounds per acre on fertilizer for potatoes. A part of the potato field is planted to fodder corn—a singular fact being that the Robbins potato planter was used to drop both corn and potatoes. The cows will eat the corn (fodder and stover) and a part of the clover. There will be even more Timothy hay to sell than before. A silo is being considered in which the stover can be kept—after the plan suggested in THE R. N.-Y. last spring. The grain can be husked off and the stalks cut into the silo at leisure, with water added so as to make good ensilage. Bran and linseed meal are now cheap, and they will make a better "balance" with the stalks than the corn would.

The cows will, therefore, be scavengers or waste eaters. They will not interfere with the sales of potatoes, wheat, corn or Timothy hay. The disposal of the stalks was formerly the weak point in Chemicals and Clover. The cows will attend to that, and in case clover hay be low in price, they may be able to pay more for it than the hay dealer can give. The result of this increase of stable manure ought to be more corn and more grass. To what extent it will tend to decrease the amount of fertilizer needed on the potatoes, or whether it will lead to a fertilizer lower in nitrogen, remains to be seen. There are many interesting results ahead of this new departure, and we shall try to keep track of them.

At present, milk sent to the creamery brings 80 cents per 100 pounds, while the skim-milk is bought back at 10 cents per 100. Most of the milk seems to come from farmers like Mr. Lewis, who keep the cows as a sort of side issue—to consume a part of their crops that was formerly considered of little value. It is a good illustration of the fact that business has now reached a point where the difference between profit and loss often means the saving of what was formerly considered a waste product. Mr. Lewis is not yet prepared to make any definite statement about the success of this new plan. It is not past the theory stage yet, though it is very promising. He will continue to use the same amount of fertilizer on potatoes, and all the stable manure will be put on sod and plowed under for corn, so that, if the new plan succeed, the old firm will simply take in a new partner, and we shall know them as

Chemicals, Clover and Cows.

It is singular how, after a score of years, this farm is going back, in part, to the old practice of dairying. One reason is that the home markets have changed in the past 20 years. Farmers have been gradually giving up dairying except the shipping of milk to the cities. Along the shore, within a few miles of this locality, hundreds of towns have sprung up where people demand vast quantities of ice cream, sweet cream and butter, and while the individual dairyman with a few cows could not cater to this trade, a co-operative creamery enables him to market his milk to good advantage. It is not likely that these farms will ever support large herds of cattle, for the number of cows will, probably, be limited by the crops of stalks and clover hay. The whole thing shows how great changes are creeping all through farming as well as other lines of trade, and how the farmer must keep ahead of the times if he would be prepared for these changes. H. W. C.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

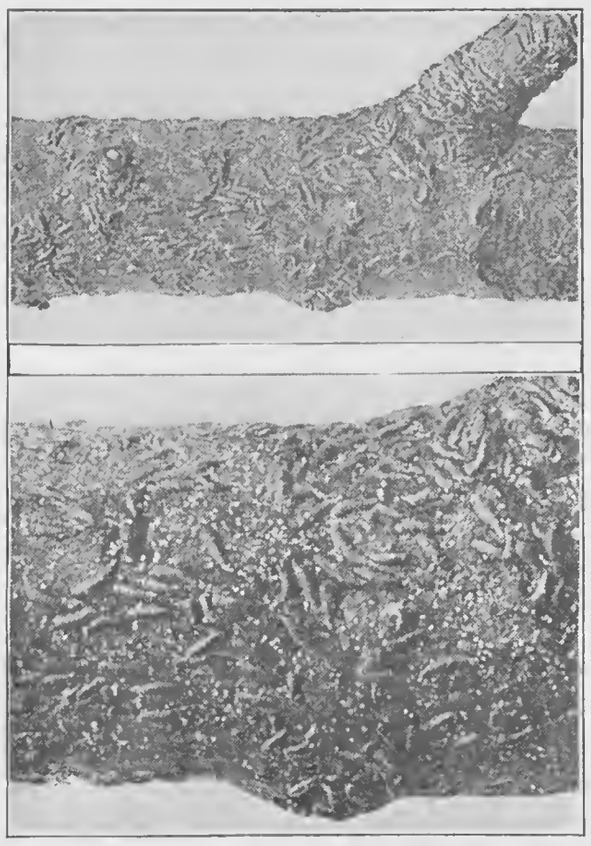
MACHINERY FOR HULLING COW PEAS.

I want to buy a good huller for hulling the pods from cow peas without splitting them. I grow the peas for seed, and have the ripe pods picked by hand to insure the best quality for seed. A hand machine to separate these pods from the peas, is what I want. E. G. P.

Dover, Del.

Something About the Machinery.

E. G. P. will, doubtless, do well to use an ordinary grain thrasher, by opening it enough so that the peas can pass between the concave and beater spikes without being broken. An old set of spikes might do well,



THE OYSTER-SHELL BARK-LOUSE. FIG. 159.

and, perhaps, if half the spikes be removed, it will do all the better. There are two machines for doing the work; but when this station proposed to make a trial of them, the people controlling one were unwilling to trust their machine in North Carolina. One machine came on trial from Georgia; it would thrash peas, but was rather new, and, perhaps, may before this, have been improved. A man with a rather slender stick on a raised slat floor, can discount the machine with three hands taking turns to run it. The one man will have the lightest work, too, unless the machine is improved. So far as we have heard or know about these machines, there is not one which can equal the stick, 6 or 7 feet long and ¾ to 1¼ inch in diameter. The thrashing floor may consist of cross slats or only single ones, laid about two feet above the barn floor, half an inch apart, and deep enough so that they will be firm under the weight of peas and the blows given by the thrashers. This is the usual way to thrash pods; but it cannot be considered equal to a wheat thrasher opened enough so that the peas will not be very much broken.

E. G. P. and others may be interested to know that two machines have been invented to take the place of handpicking the pods. Handpicking is tedious and costs far too much of the grower's income to remain long in vogue. One of these machines picks from a row, and works very well. It will pick many bushels a day. It also thrashes the well ripened pods, and the next step is to fan the peas out by hand. But the second machine picks up the pods from broadcast sowing and thrashes them out practically the same as would the prepared wheat thrasher, while the pods and broken vines are blown out on the land near where they grew. Both inventors have been advised to form a company and make both machines. With either of these the hand picking is done away with, though care will necessarily have to be taken to drive over the field when the weather is dry, and when the greater proportion of the crop is ripe and ready to be housed, else the green pods and partially dried peas gathered will necessitate much artificial drying of the crop in order to save it. The cow pea goes on blooming and ripening fruit for a long season, but it may be possible to select those which tend to ripen the fruit all at once, so the harvesting machine may be more profitably used than now seems possible to many who know the habit of most varieties of this bean. FRANK E. EMERY.

North Carolina Experiment Station.

How They Do It in Georgia.

The prevailing method of thrashing (hulling) cow peas, is the old-fashioned hand flail, which is quite effective, but very slow and, therefore, unsatisfactory. A cheap hand-power machine for the purpose, is a desideratum. I have heard of machines that claimed to harvest and thrash cow peas at one and the same operation, but I have not seen one. At this station, we use an ordinary power grain thrasher and shaker, run at a low speed, and find it very effective and rapid, the only objection being that many of the peas are broken or split by the spikes. This objection will be likely to lie against any machine that does the work rapidly. After running through the thrasher and shaker, the peas and chaff are then put through an ordinary grain fan mill. Of course, it should be understood that the peas are in the condition of "peas in the hull," separated from the vine, as they are almost generally gathered in the South.

There is very little sale or use of the hulled peas in the South except for seed. As a rule, the farmer gathers enough in the pod to supply seed and some for his cows, to be fed in the hull. The most profitable way to use the crop as food, is to convert the vines into hay or ensilage, saving only enough peas for seed. For these purposes, the crop should be mown when just a few of the pods have become grown, or have arrived at the stage when they are suitable for the farmers' dinner table. The harvesting of the ripe pods, by picking with the fingers, is, like cotton picking, the most expensive detail of the crop, and should be avoided as far as possible. An expert hand may pick, in this way, as much as 200 to 300 pounds of pods, equal to two or three bushels of clean peas. The old rule required one hand to "pick and thrash out" one bushel of clean peas in a day.

Georgia Ex. Station. R. J. REDDING.

The Oyster-Shell Bark-Louse.

J. P. W., Bloomsburg, Pa.—I have found two apple trees in my orchard that are dying, and have cut from one of them a branch which I mail with this. I would like to know what is the matter with the trees, and what to do for them and any others that may be similarly attacked.

ANSWERED BY M. V. SLINGERLAND.

The apple branch was badly infested with an insect about which I am constantly receiving inquiries. As the branch showed well some important and interesting phases of the life-story of the insect, a part of it, natural size above, and enlarged below, is shown at Fig. 159 to illustrate these points. Ever since the advent in the East, of that most destructive of all our scale insects—the San José scale—fruit growers have seen more scale-like objects on their trees than they ever dreamed were there before. Scarcely a week passes but I receive some of these things, supposed to be the dreaded San José scale. There are two or three kinds of scales which have been common pests in the East for many years.

The Oyster-shell Bark-louse (Mytilaspis pomorum), shown at Fig. 159, is the one most often sent in. It is, probably, the commonest and most widespread of any of the orchard scales. It is found all over the world, and was, probably, a European insect originally, although it was recorded as very numerous in Maine as early as 1794. It infests many of our orchard and garden fruits besides the apple, and a large variety of forest trees. If, during the winter, one of the long, narrow scales be lifted, it will be found packed nearly full of minute white eggs; and the scales contain no other life, the shriveled body of the dead mother being tucked into the more pointed end of the scale. The entire winter is passed in the egg stage; there may be from 40 to 90 eggs under one scale, all laid by one mother.

Last year, we reared some of the Oyster-shell Bark-lice on a little tree in the insectary. The eggs began to hatch May 11, or the same date that J. P. W. sent me the specimens illustrated. The recently hatched young are minute, yellow creatures that can crawl over the bark at quite a lively rate; the white specks on the figures are these young lice. They wander over the bark for a few hours, usually less than a day, until they find a suitable spot, when they work their piercing, beak-like mouth-parts through the bark and into the soft tissue. When once thus established, the females never leave the spot; those that develop into males acquire wings and then, of

course, move about again. During the first week after becoming established, the young lice secrete a thin, woolly covering over themselves. This is the beginning of the scaly covering, which is about two-thirds completed two months later. The mother lice on our little tree had completed their scale-covering by August 1, and by August 22 most of the eggs had been laid. The mother's body gradually shrivels up as the eggs are laid.

All of the scales shown in the figures are female scales; the male scale is much smaller, and under it is developed a minute delicate two-winged creature which, doubtless, has a very ephemeral existence. The eggs laid in August do not hatch until the following May; thus there is but one brood of the pests in a year. The scales are usually confined to the bark of the branches or trunk, but we have a small apple bearing dozens of them on its surface. Notwithstanding the fact that trees often bear millions, sometimes almost as thick as they can stick on the bark, of these tiny pumps sucking out their sap, it is not often that a tree dies from their attacks alone. It would be impossible, however, for such a tree to bear its best fruit; hence one should not allow the creatures to get the upper hand.

If the scales were scraped off, as many millions of them could easily be, at any time when the tree is dormant, many of the eggs under them would be crushed or perish in some other manner. The scale-covering is so impervious to insecticides that we cannot reach the eggs very successfully or effectively. But the figures of specimens obtained about the middle of May, show the critical and vulnerable point in the life of the insect. The white specks—the young lice—are unprotected by any scale, are very tender-bodied, and are thus readily susceptible to the liquid contact insecticides. Fruit growers, then, should watch their infested trees in May, and when they see the conditions shown in the figures, drench the tree, its bark especially, with kerosene emulsion or a whale oil soap solution (one pound to 15 or 20 gallons of water.) These will quickly kill every young louse they hit, and thus the whole future development of the insect is stopped. Prompt and thorough work in May will check this most common of all scales in our eastern orchards.

A Worm That Picks Blueberries.

W. F. H., Mount Vernon, N. H.—I inclose some worms that are making sad havoc with the blueberry crop in this locality. They seem to be great feeders, completely stripping the bushes of leaves and blossoms, but do not touch the green berries after they begin to form. The berry fields look as though a fire had passed over them. The blueberry crop in this vicinity is nearly ruined. What are they? How shall we proceed to exterminate them?

ANS.—This blueberry devastator proved to be a small measuring or span caterpillar, about five-eighths inch in length. Two different views of the worm, about three times natural size, are shown at Fig. 160. The general color of the body is light yellowish purple with the black markings shown; the head is banded with white, and the body striped with light yellow. One of the worms had changed to the next stage in the life of the insect—the pupa—a short, dark-brown, lifeless-looking object. Another worm pupated two days later, and from this pupa the adult insect, a moth, emerged in 13 days. This delicate little drab-gray creature is shown twice natural size, at Fig. 160. It is very plainly dressed, having scarcely any markings distinct from its Quaker suit. As we had never seen this modest little moth before, the specimen was at once dispatched to an expert for its name. Soon word came that it was named Argillacearia 22 years ago, and recently it had been discovered that this name must be superseded by a still older one proposed by an Englishman in 1862, and that the insect must now be known as Diastictis inceptaria. Although the moth was thus named nearly 35 years ago, its caterpillar seems to have been unknown up to this date. We here propose that the insect be popularly known as the Blueberry span-worm. The insect has been recorded from Maine, Massachusetts, and Pennsylvania. One writer says: "The moth is very abundant in pine woods in Maine on a dry soil, rising and fluttering with rather a feeble flight, and soon settling again."

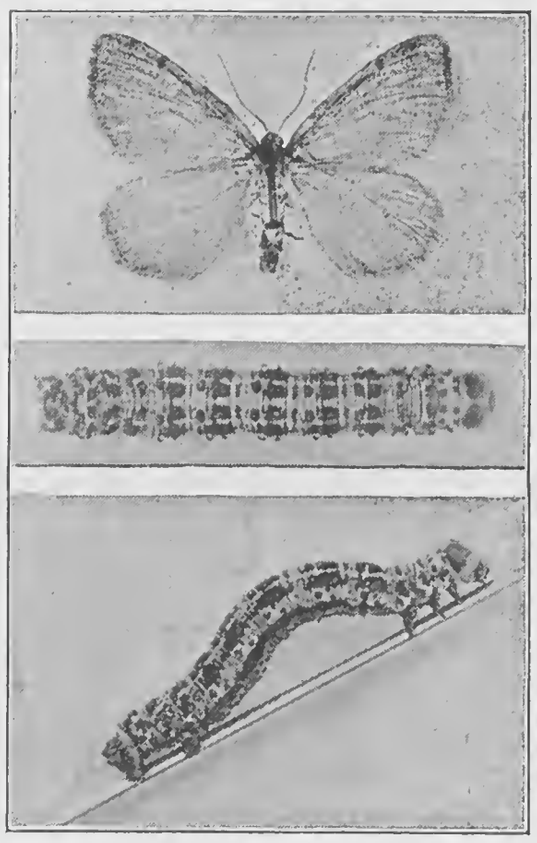
Another letter from W. F. H. to the writer, contains the following interesting notes in regard to blueberries and the devastations of this new insect pest: "Our blueberry is quite different from the huckleberry, of which we have a few, but make little account of them. We have three varieties of the blueberry, low, half-high, and high-bush berries. The low-bush (Vaccinium Pennsylvanicum), grows about 8 or 10 inches high, the berries ripening about the last of June usually, and two or three weeks earlier than the high and half-high. The berries are light blue in color, and the pulp less juicy than either of the other kinds. They bear shipment excellently, and ripen early when the prices are high, making it the most profitable of the varieties. This is the variety attacked by the worms in this vicinity, although I have heard of them working on the high bushes in other localities. This berry needs no cultivation, only to burn the old bushes over every few years, when the new bushes will shoot up and bear the following year. There are hundreds of acres of land producing berries in this and neighboring towns, and so far as I can learn, about three-fifths of the crop of low-bush berries has been destroyed by these worms."

The burning over of the fields must do much to hold this pest in check. The worms will quickly succumb to Paris-green, and the bushes could be easily and quickly sprayed with this poison. A little united effort among those interested, would soon control this Blueberry span-worm. M. V. S.

Trimming Elm Trees; Willows Dying.

G. M. B., Geraldstown, W. Va.—1. What is the proper time for pruning elm trees? We have, for several seasons, pruned at various times between early autumn and early spring, each time, however, with the result of having some bleed profusely, and in some cases, to have the wound emit a gummy or mucilaginous substance for a considerable time, if not for the whole summer. We value some of our elms very highly, and would appreciate any suggestion that may help us to care for them more intelligently. 2. Many drooping willows in this immediate vicinity have died during the past two or three seasons. As they seem to be similarly affected, there must be some common cause. The bark begins to appear unhealthy usually on the south side of the trunk; the bark and sap gradually fall away until only a small vein or ridge of sap remains on the north side of the trunk; the foliage has, meanwhile, grown yellow, and when the tree leafs out the next spring—if it leafs at all—the ends of the branches are dead and leaves appear only on the larger branches and near the trunk. The younger trees seem to suffer more than the full-grown ones or the old.

ANS.—1. The best time of the year to prune almost any kind of trees, to injure them the least, according



THE BLUEBERRY SPAN-WORM. FIG. 160.
Twice Natural Size.

to my experience, is June or July. Then, the season's growth is well advanced, there will be few sprouts where a branch is cut off, and the wound will heal over more quickly and safely than at any other time of year, in the climate of West Virginia. 2. G. M. B., probably, refers to the common Babylonian weeping willow, which is tender in a large portion of our States. It is subject to sun-scald and to injury by severe cold. A moderately old tree of almost any kind is more likely to endure severely cold or hot or excessively wet or dry weather than a very young or very old one. All that I can say to G. M. B. and his neighbors is, to plant their willows in moist, rich soil and give them a good chance. If they die, it will be because the climate is too severe for them. I have seen them prosper and fail in the same neighborhood in several of the middle and central States. The best common weeping willow trees I ever saw were in the valleys of southern Virginia. The Wisconsin weeping willow is a more hardy kind, but not so gracefully pendent in habit. It might be well to try it in West Virginia. H. E. VAN DEMAN.

Questions About Crimson Clover.

W. E. W., Philadelphia, Pa.—I own land in both Delaware and Maryland. A portion of this land is stiff clay, and some is light, sandy soil. A considerable acreage was sown, last season, to Crimson clover, but I had no success with it. 1. When is the best time to sow on a corn field, now or after corn is cut? 2. In some of the fields, the corn is already too large to work, and if sown there now, it will have to be on crusty ground. Will that interfere? 3. What preparation of soil do you recommend to sow on ground after the corn is cut and on wheat stubble, and what time do you consider best for either or both? 4. Which is better, imported or domestic seed, and last, or this year's seed?

ANS.—1. The best time to sow Crimson clover is at the last working of the corn. The seed should be lightly covered after sowing by using a cultivator with spike harrow teeth. 2. Where the corn is too large to work, I would sow the seed as soon as possible; then if it failed to make a good seeding, the land can be reseeded as soon as the corn is cut. If the weather be favorable, the crusty ground will interfere very little with the seeding, but fresh, mellow soil is preferable. Frequently the land from which a crop of seed has just been harvested will be well seeded by that shelled out in harvesting the crop. Last season was very unfavorable for a good seeding of this clover, and there were, in consequence, very few good fields of Crimson clover on the Peninsula. 3. Seed can be sown as soon as the corn has been cut, and the land harrowed immediately to cover the seed. I would not advise seeding on wheat stubble without first working up the soil with a disk harrow before sowing the seed; then cover by using an ordinary spike-toothed harrow. I would advise sowing the seed as soon as it is possible to do so. 4. By all means, use domestic seed. The imported article is not always reliable, and is very liable to be mixed with other clovers and foul seeds. There has been very little Crimson clover seed harvested in Delaware this season, and much that is offered is imported, or, at best, last year's crop. The present season's crop is preferable, but last year's seed, if it has been properly kept, would prove satisfactory.

Delaware Experiment Station. M. H. BECKWITH.

Ice Tray for Shipping Berries.

E. C. B., Witmington, Vt.—A late R. N.-Y. stated that the best way to pack strawberries for shipping long distances, is to put a tray of ice in the crate on top of the berries. Is the water allowed to drip on to the berries as the ice melts, or are the trays watertight?

ANS.—The trays are watertight. The crates are made especially for this purpose, and are much larger than the ordinary crates. Another method is to have them so made that a large single cake of ice is put in the center of the crate, as the ice melts more slowly when in one large piece.

Nitrogen in Dead Clover Plants.

S. B., Climax, Mich.—The great benefit of clover to the soil is in the nitrogen gathered by the roots, and made available for other plants. If the clover plants winterkill or otherwise die, is the nitrogen previously gathered lost or stored for future use?

ANS.—The nitrogen in the roots and vines of clover is in the organic form—not so available as that in stable manure. It is not likely that any perceptible amount of it will be lost where the plants winterkill.

A One-Horse Lawn Mower.

H. H. G., Northville, Tenn.—Has any one tried Lovett's one-horse lawn mower? Will it cut grass that is two feet tall?

ANS.—Lovett's horse lawn mower is one of the regular makes put out by a large lawn mower factory. It is of the usual revolving reel type, and does not differ in any important particular from the horse lawn mowers in general use. It is a fair machine, and will do good work if properly managed; but it will not cut grass evenly when more than a few inches high. Only a machine with a reciprocating knife, like the common farm mower could cut grass two feet high.

Swelling over Cow's Foot.

A. J. S., Grimsby, Ont.—My young Jersey cow has a puffy lump or swelling just above the first hoof joint, which runs from the outside half around the foot, which is making her lame. What remedy would you advise? I pierced it with a needle, and bloody water came out. Would putting a rowel through it do it good?

ANS.—Blister with the cerate of cantharides ointment, adding one dram of the red biniodide of mercury to an ounce of the cerate. This will, probably, reduce the swelling. If it fail, however, I would advise employing a veterinary surgeon to examine and treat the cow. It would be unwise for you to use the knife on this region, unless you are sure that you are sufficiently familiar with it, so as not to injure important vessels or the joint. F. L. K.

Tuberculosis in Cattle.

J. W., Wauconda, Ill.—Last summer my cow had something like catarrh, and bad-smelling matter came from her nose. She made a wheezy noise when breathing, looked gaunt, hair rough and dry, and would stay in heat from two to four days at a time. I found several pieces of dead twigs and weeds in her nostrils, one measuring 15 inches in length, and nearly every evening she would have her nose full of sticks. She has, apparently, recovered except that she is a little stiff in walking. She is due to calve soon. Her daughter, coming three years old, is afflicted just the same. What is the trouble, and what the remedy?

ANS.—I am of the opinion that your cows have tuberculosis. I would advise you to have them examined at once by a competent veterinarian. If not found tuberculous, they may be treated. But if found tuberculous, they should be isolated at once and condemned. Until such examination is made, to determine, definitely, the presence or absence of tuberculosis, I would advise heating all milk from such cows used for domestic purposes, to 180 degrees Fahr., or nearly to the boiling point. If there is any provision in your State for State inspection of cattle affected with tuberculosis or other contagious diseases, it would be well to report to your State Veterinarian, or the director of your State experiment station. F. L. K.

Notes from Rural Grounds.

THE R. N.-Y.'S STRAWBERRY REPORT FOR 1896.

PART I.

The season was a favorable one throughout, except that during the latter part of it, there was too much rain. The soil of our trial plot is a loam, inclining just a little bit more to clay than to sand. It has never had any manure to speak of, except the mulch which is placed between the rows after the soil is frozen.

BOUNCER.—This was sent to us by J. H. Hale of South Glastonbury, Conn., during April of last year, under the name of Big Unnamed. The sum of $50 was offered for a name, and Bouncer was selected. It is a bisexual variety. June 2: Just beginning to ripen. Vines vigorous and productive; berries large, but variously shaped and seamed; fruit held up well on strong peduncles. June 4: A few large berries ripening, white tips, crimson color, fair quality. Berries average large, but there are no two alike in shape. June 6: Vigorous vines, not productive. Berries of medium size continued to ripen until June 15: We are thus far disappointed in Bouncer.

GIANT (Bisexual)—From J. H. Hale, spring of 1895.—June 6: Not productive. Berries light red and much the shape of Cumberland Triumph. June 10: Perfect shape, but not productive. Large berries of a light color. June 19: Still ripening in fair quantity. Soft.

No. 25 (B.)—From Slaymaker & Son, Dover, Del.—April, 1895. June 2: Late. June 6: A few berries of large size; vines thrifty. June 8: Vines not very productive, but the berries are large and of fair form; scarlet color, fair quality only. June 19: Some berries still ripening, of fair size.

No. 12—From same.—April, 1895. June 2: Beginning to ripen. Berry broadly heart-shaped, quite regular. Quality good; berries not well held up. June 6: Small berries. June 8: Not productive. June 10: No change. June 15: Very few.

No. 2—From same.—June 4: Just beginning to ripen. Berry large, broadly heart shaped and of good quality; foliage scanty. June 6: Large berries, irregular shape, not productive. June 19: A few green berries yet, and a few ripe of fair size.

No. 1 (Pistillate)—From same.—June 2: Ripening; scanty foliage. Berries large, broadly heart shaped, sometimes ribbed; scarlet to crimson in color; good quality; fairly productive. June 6: Large and irregular. June 10: Still productive; glossy crimson color; good shape. June 19: A few ripe and some green; low vines.

HALL (B.)—From David Baird & Son, Manalapan, N. J.—April, 1895. A few ripe. Vines of medium vigor. Berries Creseent-shaped, of poor quality. June 10: Height of season. We do not recommend it.

HUDSON (P.)—From J. H. Lindsley, White House Station, N. J.—June 2: Thrifty vines. June 4: Promise at this date to be very productive; none yet ripe. Berries irregular in shape, knotted and twisted. June 10: Still very productive, with half the crop still to ripen; irregular shape, white tips. June 15: Fairly productive of ripe berries, many green ones, all small.

EXCELSIOR (B.)—From James Shaw, South Hadley, Mass.—April, 1895. Said to be a cross between Duchess and Crescent. June 2: Ripening. Very large berries, conical, heart-shaped; good quality; berries not well held up. June 4: Berries too soft for a distant market. June 5: Productive, berries Crescent-shaped and firmer; quality medium. June 10: Height of season. June 19: Still a few.

SPARTA (B.)—From M. A. Thayer, Sparta, Wis.—April, 1895. June 2: Beginning to ripen; berries irregular with long necks and often with green tips. June 4: Berries small to medium, fine quality. June 6: Vines healthy and vigorous, not productive. June 10: Not productive. Not recommended.

ENORMOUS (P.)—W. F. Allen Jr., Salisbury, Md.—April, 1895. June 2: None ripe. June 6: Vines vigorous and productive; berries large and often coxcombed; medium quality. June 8: Good quality. June 10: Still productive, with many to ripen. June 15: A few ripe of good size. June 19: Many ripe and many green of medium size.

ARROW (P.)—From same.—May 30: A few ripening; conical shape, crimson color, medium size. Firm and of fair quality. July 4: Ripening a fair quantity of small to medium berries. Not recommended.

CHAMPION OF ENGLAND (B.)—From R. Johnston, Shortsville, N. Y.—April, 1895. June 4: Just beginning to ripen. Berries of large size, fine quality, broadly heart-shaped, sometimes with green tips. Vines productive. June 6: The largest berries we have had up to this date. A mealy berry of excellent quality; better shape than Sharpless, all the berries very large. Scarlet in color and firm for so large a berry. June 8: Berries average very large, not very firm; between crimson and scarlet in color, and of the first quality. June 10: Not productive. June 15: Season over. We recommend it for trial.

ERIE (B.)—From same.—April, 1895. June 2: Among the most vigorous vines in our present collection. June 6: One of the latest varieties. June 8: Only a few ripening; of good quality; large size; heart shaped; often Sharpless shaped. The pistils cling to the seeds more than most other varieties, making the surface somewhat bearded. June 10: Large quantities of ripe and green berries. A very productive kind and one of the latest. June 19: Medium sized berries and many of them. Still many green berries. A promising late variety.

CARRIE (P.)—From Thompson Sons, Rio Vista, Va.—April, 1895. June 2: Ripening, conical shaped, medium sized, searlet color, moderately firm. June 4: Berries large, vines extremely productive. June 5: Berries rather soft, with white tips. June 8: Very productive; berries rest upon the ground. June 10: Height of season. The tips are not white now. The objection to this variety seems to be that the peduncles do not hold up the berries at all. June 19: A fair quantity of ripe and green berries still, from small to medium size.

SEEDLING OF GEO. SLOAN (P.)—Seely, O.—April, 1895. June 2: Ripening some very large berries, which are often fan-shaped and irregular and not very firm; between scarlet and crimson in color; flesh red and of fine quality. Vigorous vines. June 4: Berries large, vines productive; the berries are inclined to part in the center. June 6: Large, irregular shaped berries, scarlet color, light flesh, fair quality only. June 8: The berries are roundish in form, medium to large size and often hollow—"hollow-hearted" as we would say of a potato. June 10: Ripening in large quantities; quality fair. June 15: Still many green berries.

RIGEWAY (B.)—From M. H. Rigeway, Wabash, Ind.—April, 1895. June 4: Beginning to ripen; berries large, rounded, oval in shape; white flesh, good quality. Vines very thrifty and productive. June 6: A few ripe; broadly heart shaped, excellent quality; scarlet color. Firm for so large a berry. June 10: Ripening in large quantities; the berries are now rather soft. This seems to be one of the most promising varieties among new strawberries.

ALLEN (B.)—From W. F. Allen Jr., Salisbury, Md.—Spring of 1895. June 2: Conical shape, long with some neek; fine quality, not firm. June 6: Light crimson in color, from medium to very large. Peduncles do not hold up the berries well. The variety does not seem to be of any special merit.

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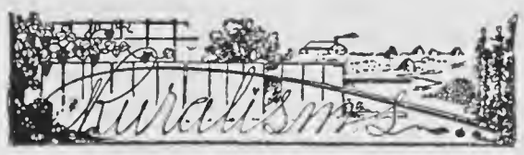

OH! THE CRIMSON RAMBLER!!

Our readers should bear in mind that our plants were received in the early spring of last year. They were planted in different soils and situations, so that we might test its hardiness, and its power of adapting itself to different conditions. One was planted within a foot of the lake and less than a foot above the water; another in a rather dry place near sunken paths on either side, and so on. All passed the winter without the slightest harm, and every one has made a fine growth this season.

Some of the vines have made a growth of five to six feet as strong and thick as the canes of raspberries. On June 15, one of the new shoots was measured and found to be four feet high. The wood of last year bore clusters of roses fully equaling the pictures we have seen of it. The roses average two inches in diameter. The buds are small and round. We would say that the average number of roses of a single panicle is 30, and this the first season of bloom. The brightness of the color is not exaggerated in the colored pictures of the nurserymen and florists. It is a bright crimson. The number of petals is about 30. The thorns of the canes are large and sharp. The leaflets are ovate, acute and feebly serrate, two inches long and nine in number. We have said that these young plants bear as many as 20 panicles of roses. When we add that each panicle consists of about 30 roses, the brilliant display may be imagined. We can readily understand that it would be difficult to exaggerate the color effects of these plants when they bloom next year.

It is worthy of note that, while other roses, as usual, were infested with Rose beetles, not one was seen upon those of the Crimson Rambler. Neither were its leaves harmed by other insects. We have several times remarked upon the emphatic preferences which the Rose chafers show. They prefer the flowers of many of the early-blooming spiræas to those of grape vines. They are especially fond of the flowers of Viburnum plicatum and of magnolias. Of our entire collection of grapes, the Berckmans is the first attacked, and its thin leaves are riddled ere the Rose bug season is over. So, too, among roses, the flowers of Georges Bruant are more infested than those of any other rose, without exception. Now, the Crimson Rambler rose, and it is too bad that it is so, has no odor. Is that the reason why the Rose chafer does not care for it?

Many of the roses of Crimson Rambler this season have been proliferous, that is, roses grow out of the roses. A magnifying glass will show several buds that have grown out of the flowers shown in Fig. 157, which is merely an average panicle of those borne by our little plants. Possibly this proliferous propensity is due to the very wet season we are having. The height of the season of bloom, at the Rural Grounds, was between June 18 and July 1.

Friends, those of you who love roses, you will not go astray if you buy a Crimson Rambler. In fact, you will go astray, at any rate you will miss it, if you do not. Remember, the plant is exceedingly hardy. The panicles are charming as cut flowers. During the blooming season, the Rambler is, by far, the showiest rose we have ever seen. It has but one failing—the charming little fairies, as we have said, have no odor...

ROSA SETIGERA, the Michigan or Prairie rose illustrated July 27, last year, begins to bloom June 20. The flowers are borne in corymbs of from 10 to 15, and the flowering stems are close together—from two to six inches, so that, when in full bloom, one sees more of the roses than of the stems and foliage. The flowers are at first pink, changing to a lighter pink, single, and much the size and appearance of those of Rosa rugosa.

In one place, growing over a little rock work, we have Crimson Rambler, the Michigan rose, and the "Memorial" rose, Rosa Wichuraiana, growing together. All bloom at the same time, and a prettier and more satisfactory combination of vines we have *never* seen. The "Memorial" rose—Wax rose would, in our opinion, be a more appropriate, familiar name, so wax-like are both the perfect little leaflets and white flowers—seems as hardy as either the Michigan or Crimson Rambler. A more dainty pet among roses, we know not of, and the growth of its trailing stems which seem to love to hug the ground, is marvelous.

WE have a single plant of the new Red Cross currant which would have borne this season had it not been for untimely frosts which blighted all of our currant blossoms and most of the gooseberry blossoms. We are told that Chas. A. Green, of Rochester, N. Y., paid Jacob Moore, the originator, $1,250 for control of this currant. On Mr. Green's grounds, the berries are said to be as large as those of Cherry or Fay. But its peculiar merit, it seems, is that it makes twice the growth of either. Mr. Green writes us that "the fruit is often so dense upon the stems as to hide them entirely from view."....

ON July 1, Mr. Geo. S. Josselyn sent us a basket of Red Jacket gooseberries. Many of them were red and ripe; many were coloring, most were green. On his gooseberry trial grounds, he has almost every variety of gooseberry in America. He says the Industry, on account of its being "wooly," will not sell in market alongside of the smooth kinds. He says that he has several acres of the different kinds in fruit, and he has concluded from all that he has seen during the past three or four years, that there are only two desirable to plant, as all the rest mildew. One of the two is the Red Jacket, the other is the Pearl, plants of which were sent to the Rural Grounds in December of 1889, by Dr. William Saunders, of the Central Experiment Farm, Ottawa, Canada. It is a cross between Houghton and Whitesmith. It has never mildewed at the Rural Grounds, and bears abundantly. The berries are larger than those of Houghton or Downing, of a light green color.

We would ask Mr. Josselyn wherein either the Red Jacket or Pearl is superior to the Downing in his opinion. We are not doubting that they *are* superior, but we want his opinion, as a gooseberry expert, wherein they are superior.

Has Mr. Josselyn tried the Carman? Has he tried the Columbus and the Triumph, side by side, and is he still of the opinion that they are the same? Do they mildew as to leaf or berries or both, in his grounds?

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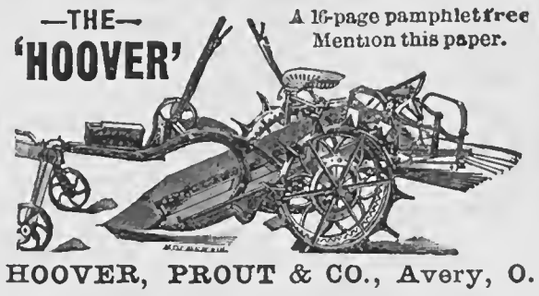

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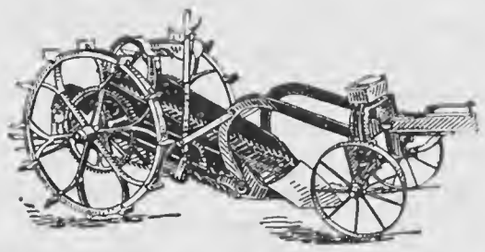

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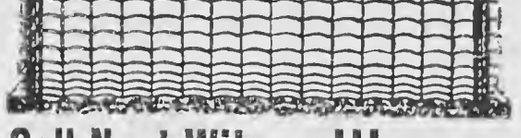

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SATURDAY, JULY 25, 1896.

THAT is a useful experiment with Bordeaux Mixture detailed by Mr. Lodeman, on page 494. It shows clearly that this mixture should be applied as soon as possible after mixing. The longer we wait, the harder it is to keep the mixture thoroughly stirred up. This is a good point to bear in mind.

⊙

BETTER keep this sign up in some prominent place on your farm :

Our Hours for Discussing Politics are before 7 a. m. and after 6 p. m. on Week Days; and at No Time on Sundays.

Elevate that sign, and see that it is lived up to.

⊙

THE San José scale may not be an unmixed evil after all. Prof. Slingerland says that, never before, have they received so many specimens of different kinds of scales, all sent under the impression that they might be the dreaded San José scale. The fruit growers have been aroused by the stories of the terrible depredations of the latter, and have discovered other enemies of whose existence they were before ignorant. It sometimes does people good to scare 'em a little.

⊙

THE recent article describing Mr. Peter Porter's Ohio farm, has called out considerable comment. Mr. H. E. Van Deman says that Mr. Porter was a prosperous farmer when he was a baby, some 50 years ago—in fact, the place where the old log house stood is in one of Mr. Porter's present corn fields. From what THE R. N.-Y. said about plain living, it must not be supposed that Mr. Porter has not kept fully up with the procession indoors and out. There are the best of tools outside, and a piano inside, with skilled fingers to handle all.

⊙

IT is pretty well understood that celery contains medicinal properties of considerable importance. Its extract is largely used in treating nervous disorders. Some people are quite ready to spend good, hard cash for Brown's or Smith's "Celery Compound," and they imagine that they are greatly helped by it. These are times when cash outlays should be avoided if, by means of a little extra work, we can make labor save money. Why spend cash for "celery compound" when you can make a better mixture of your own? Spade up the garden, set out 50 or more plants of celery, and take care of them. Then eat your full share of the crop. That is a better compound than you can ever buy in a bottle. Your nerves are likely to be shaken before the year is over. Better lay in a stock of celery, with celerity.

⊙

THERE is always more or less dissatisfaction with the school readers used in country school districts. We suppose that the object of those who compile these readers is to make a collection of extracts that will not only give exercise in elocution, but also a taste for good literature. Complaint is made that these short selections lead the pupils to nibble at literature rather than to bite down into it for a full meal. It is more in the line of a lunch counter, rather than a regular dinner. To remedy this, some districts have adopted the plan of using an entire book as a school reader. Dana's Two Years Before the Mast has had a large sale for this purpose, and has given excellent satisfaction. A cheap edition of Longfellow's Evangeline is another excellent school reader that might well be used for an entire term. One of the best books for this purpose is Edward Everett Hale's The Man Without a Country. As an example of pure and beautiful English, it cannot be excelled, while its lesson of lofty patriotism might well be grafted into every childish mind. The book costs but 20 cents, but will be worth $20 to any child who can grasp its true lesson.

⊙

IN a recent issue of Hoard's Dairyman, we find the following :

This is how a rhyming contributor to the Melbourne Leader enforces the maxim, "Cull the dairy herd under the direction of the Babcock test."

The Dairyman then goes on and prints some verses that were printed originally in THE R. N.-Y. three years ago. One or two lines have been changed, and that is all. They were stolen by the "rhyming contributor." It is bad enough to steal facts, but when a man steals poetry, look out for him, even if he hails from Australia.

⊙

READ Mr. Eastman's letter on page 501. These railroads seem determined to do all they can to prevent the sale of mileage books, and they are squarely disobeying the law in doing so. They should be pulled up with a short turn, and every farmer who is interested in this matter, should follow them right up. Now is the time to make the complaint. Make the railroad commissioners understand just what you want. The law gives you the right to buy these 1,000-mile books, and public sentiment will force the railroads to sell them properly. Let us combine and make the public sentiment.

⊙

COMMISSIONER OF AGRICULTURE WIETING has not yet appointed an assistant for the district embracing New York and Brooklyn. This is, by far, the most important district in the State, and for the past 12 years, B. F. Van Valkenburgh has conducted the affairs of the office in a satisfactory way. Some weeks ago, he was asked to resign, and it was rumored that James H. Baker, of Brooklyn, would be appointed. The city dealers in butter and cheese opposed this appointment and, last week, Baker was indicted for selling adulterated milk! Under ordinary circumstances, this would seem to dispose of Mr. Baker; but the political snarl surrounding the department does not seem to be an ordinary one. The best way out would be to retain Mr. Van Valkenburgh.

⊙

WE have just had a great object lesson as to the value of spraying. About 250 large elm trees in our town were sprayed to kill the Elm-leaf beetle, and, possibly, 75 more were left unsprayed. Stand under the unsprayed trees to-day, and look up, and you will find the leaves riddled like a sieve and already turning brown. Look up through the sprayed trees, and you will find hardly one-fourth of the leaves injured, while the greater part of the foliage is green and thrifty. There could hardly be a more striking illustration of the value of spraying. On one street, is a huge tree standing bare and dead; three years ago, it was in full leaf, but the beetles have destroyed the leaves so that, from trunk to limb, the tree is as dead as a post. It is now cracking down the trunk, and there is danger that the next high wind will send it crashing down upon the nearby houses.

⊙

SOME weeks ago, THE R. N.-Y. mentioned a new milking machine invented by De Laval of separator fame. U. S. Consul O'Neil has inspected this machine in Sweden, and praises it highly. The lactator, as the machine is called, in its working, gives an imitation of the human hand pulling and pushing down upon the cow's teat. Mr. O'Neil describes this operation as follows :

The milking is done by two special "organs," or a pair of cylindrical rubber rollers, that catch the teat at the root, thus shutting off the milk therein. The rollers then move downwards to the lower part of the teat, from whence the milk is squeezed out by two plates moving parallel with each other. The function of the rollers is rendered possible by a hold above—the so-called roof that is regularly moved against the udder, whereby a slight thrust is given to the udder, something like knocks that the calf gives when sucking, which facilitates the descending of the milk in the teats as well as the secretion of the milk in the vesicles of the udder.

Most of the other milking machines have tried to imitate the action of a calf sucking the cow, being merely small suction pumps, one for each teat. The "lactator" is strapped around the cow by means of a belt that buckles over the back. A shaft running over the heads of the cows furnishes the power, and cords running from this shaft to each little machine keep the rollers moving up and down. The milk is drawn through various cups and tubes into a tin pail that is placed above the cows. It is said that two persons can attend to 10 machines. It is claimed that satisfactory tests have been made to show that these machines milk clean, and that they do not hurt the cows. As we understand it, the belt is strapped over the cow's back so that the "machine" falls under the cow's udder. The pairs of rollers are put over each teat. A cord or belt running on the overhead shaft is then put on a little wheel at the side of the machine, and this works an axle which sends the rollers working up and down on the teat, and squeezes out the milk. Before we condemn this machine as impracticable, we must remember that when De Laval started out to make a machine that would separate cream from milk by centrifugal force, he had about as hard a problem to solve as he now has in making a satisfactory milking machine. Such a machine is, no doubt, possible, but in our opinion, it will be a sorry day for the small dairyman when it is perfected. Why? Because it will break up the present monopoly of the human hand in milking, and give the larger dairies an immense advantage over the smaller ones.

⊙

FROM all over the country come reports of the damage done by army worms. Mr. Slingerland gives an excellent picture and an interesting story of this pest in the present issue, and details about the only practical means of fighting it. In June, 1880, millions of these worms came upon THE R. N.-Y. farm on Long Island, and caused immense damage to corn, grain and grass, principally to the wheat. After about a week's injury, they suddenly disappeared. At the Rhode Island Experiment Station, last week, these worms did considerable damage, but were finally checked and turned by running furrows around the fields. The progress of the army was timed, and it was found that the worms went steadily ahead at the rate of one foot a minute. A potato field well poisoned with Paris-green, lay directly in their course, but, before reaching it, they turned at right angles, and marched past it to other crops.

⊙

BREVITIES.

Some scientific feller, nosing 'round through Nature's space
In search of new discoveries to vex the human race,
Has found that plain mosquitoes, if they want to, can convey
The germs of chills and fever—otherwise malaria.
And that makes ague catching—like the measles or like sin,
When some tormented 'skeeter comes along an' pricks it in.
And still another feller with a heap of care and pains,
Has cornered up the microbe that produces crazy brains,
Insanity is catching—if this learned man is right.
And still another scientist has turned his searching light
Into a piece of mince pie and discovered, lurking there,
Some life-destroying ptomaine or another—I declare
That life won't be worth living when these scientific men
Have time to write out all they know and print it too—for then,
We'll be so mighty fearful that we won't know where we stand.
We'd better put a tariff on this scientific band
An' go back to the good old days before we knew about
The way these 'tarnal microbes go a pokin' in their snout.

TAKE a day off!

STRAWBERRY number!

CHEMICALS, clover and cows!

THE army worm is doing battle.

IT takes pluck to face "dumb luck."

KILL the culls, don't cultivate them!

WHAT'S wrong when "the truth hurts"?

THE weed grows with speed from the seed.

DISCUSS politics after the weeds are killed.

AN exploded notion—that tomatoes do best on poor soil.

CUT the oats for hay rather than let the army worms feast on them.

IT will be a tough woodchuck that will stand the treatment outlined on page 494.

WE would like to give that wolf at the door a genuine case of "wolf in the tail"!

THE "old issues" orator will be up a stump for an argument on this year's stump.

BE sure and read the reports on page 505. These reports will be made a feature of THE R. N.-Y. hereafter.

THE cow pea is the Southern man's bean. With lean razor-back pork it will discount the New England baked beans.

OF all the brutes that chew or suck there's nothing beats a Pekin duck in its capacity to eat and lay on solid, toothsome meat.

DON'T be too sure about high prices for hay! The crop is light, but the crop of hay substitutes will be heavy. That will hurt the demand.

IT is reported that sweet pea flowers are offensive to house flies, and if kept near a sick person, will help keep the flies away. Who has observed this?

YOU may have plenty of "hard" water in your well, yet the land may need lime. Plaster might make the water hard, yet not sweeten the soil properly.

IN one of its free seed distributions, THE R. N.-Y. sent out packets of Johnson grass seed. Now we see in the Southern papers, advertisements of special machines for killing out this grass!

A MANURE pile or a straw stack will leave its mark in a corn field for 10 years after it is removed. The plant-food may not last that long, but some effect upon the soil certainly does. So will the effect of good tillage make itself manifest in after years.

WHAT are you doing for childhood this year? Got any little children at your house that wouldn't have had any vacation if you hadn't taken them in? No? Too much bother, eh! Wonder if folks will say that about you when your second childhood comes!

DURING the convention, a blackboard 50 feet long was placed in front of one of the newspaper offices, and all day long, a man chalked up the returns in full view of the crowd. A smaller blackboard in your barn or kitchen would keep many a useful thing in black and white.

THREE FARM QUESTIONS.

How Much Irrigation Water?

K. T., Southfield, Mich.—How much water shall I use, and how often for onions, cabbage and celery?

ANS.—If K. T. had stated the nature of his soil, and, especially, of his subsoil, his question would have been much more easily answered. I have gardened on sandy soil with an open subsoil, where complete saturation of the soil was not possible, and water every day only made things grow the better. Had it been a clayey loam with impervious subsoil, half the water would have been suicide. Onions need much less water than either cabbage or celery. As to how much water to apply, it should be sufficient thoroughly to moisten the soil without filling it to complete saturation. Experience will teach about the quantity required. In general, it takes much more water to moisten the ground properly by irrigation than by rainfall, and the smaller the stream used, the greater total amount of water required. In a rainless climate, I have been accustomed to water onions weekly. In Michigan, that would be too frequent during most years. In truth, one or two irrigations would, probably, be all that would be of benefit. It is essential that the soil be stirred soon after the water is applied, that there be no crust formed, and that the soil mulch be made to retain the moisture. Cabbage delights in moisture, and will thrive when it has more than the onions care for. With care that there is never stagnant water in the soil, there is hardly a limit to the amount that may be applied to cabbage with great benefit. Only remember, the soil must never appear wet, only moist. Celery, too, must have abundant moisture, and frequent irrigation is very good for it if the land be not too easily water-soaked. Really, irrigation is difficult on land that is not well underdrained, either by tiles or nature. Avoid always the complete saturation of soil which will as surely drown the plant as it would an animal. Two thoughts will aid you to solve your problem. Let the earth be moist enough that the plants may find their food in solution. Let it be dry enough that the air may penetrate it. Air is life to soils as to upper regions.

Ohio. J. E. WING.

Is It Safe to Feed Smutted Oats?

J. L. M., Wintersville, Ind.—The oats in this vicinity are very badly smutted. I do not know whether there is any difference in the kind and quality of smut, so I inclose a half dozen heads that you may see just what it is. I would like to know whether it is safe to feed such oats in the sheaf or as a chop feed to horses. Some claim that it is very injurious, others that it is not, and I have had no experience.

ANS.—Smut (Uredo segetum) is common on many plants throughout the United States. So far as carefully conducted experiments can determine, it is found that no deleterious effects are produced when it is fed in moderate quantities. If animals, especially cattle, consume large quantities of it, and have not free access to water, it is likely to cause impaction of the manifolds. It would be better to feed it as a chop food moistened, than to feed it in the sheaf as the dust would be objectionable. But why not get clear of the smut? A little pains and expense incurred in treating the seed will prevent its appearance, except in rare cases. The seed may either be treated with copper sulphate (blue vitriol) or by the Jensen method. The former consists in treating the seed with a water solution of copper sulphate, the proportion being one pound of sulphate per gallon of water. The immersion of the seed should continue for about five minutes. It would not be necessary to unsack the grain, but immerse it in a barrel filled with the solution. After treatment, the sacks can be laid on slats to drain, and the seed then spread thinly on a floor, shoveled over until partially dry, and then dusted heavily with land plaster or pulverized slaked lime. Stir thoroughly, and if possible, expose to the sun until the moisture has disappeared sufficiently to sow either by hand or in the drill. The Jensen method consists in treating the seed to a bath of hot water at between 130 and 140 degrees F. When so simple and effective a treatment as the latter has been found to work satisfactorily, there should be no excuse for raising smutty oats in the future. It is estimated that one-fifth of the oats of Idaho (1,320,000 bushels) is destroyed by smut. I. P. ROBERTS.

Facts About Rhubarb Culture.

A. A. E., Dexter, Me.—What is the best size of hill for rhubarb? What kind of fertilizer should be used? How far apart should the hills and rows be? What variety is best? What kind of culture is best on dry, and on moist soils? How should it be treated for winter protection, and how started in spring? When is the best time to set—fall or spring?

ANS.—Rhubarb is a plant of simple and easy culture, and will grow well in any character of soil, provided the drainage is sufficient to keep water from standing on or near the surface at any time of year. The land should be very deeply and thoroughly plowed, and furrows struck out, at least, four feet apart. At intervals of three or four feet in these furrows, several shovelfuls of old rotted manure should be thrown, and well mixed with the soil with fork or spade. The plants, which may either be divisions of old crowns, or seedlings, should be carefully planted while the soil is yet fresh and moist, and well "firmed" with the foot. The plants should be frequently cultivated up to the middle of August, after which, as rhubarb ceases growth at this time, the soil need only be disturbed enough to destroy weeds. Just before freezing weather, a light furrow of earth should be thrown over the crowns to prevent heaving by severe frosts. Early the next March, or, at least, as soon as growth begins, it is good practice to cover the rows with a coating, three or four inches thick, of fresh, warm horse manure, which may be lightly forked or plowed in, when the leaves have fairly started. No stalks should be cut the first spring after planting, but a full crop may be taken the succeeding season, and thereafter as long as the vigor of the plants is kept up by thorough cultivation and the liberal application of good stable manure or a first-class commercial fertilizer, rich in nitrogen. The flower stalk should always be destroyed at once, as seed formation greatly weakens the plants.

Rhubarb plants may be safely set both in fall and spring, but if fall-set, the crowns should be well covered with earth to prevent heaving and exposure of the roots during winter, for rhubarb, though a very hardy plant, will not endure rapid alterations of freezing and thawing when exposed to the air, and is, therefore, not well adapted for very moist soils in a cold climate. What is wanted in rhubarb culture, is an early, rapid and vigorous leaf growth, with the accompanying large and juicy leaf stalks. Practice has shown that nothing is better than the early application of fermenting horse manure for this purpose. The stimulating effect of the organic nitrogen, in this form, is very marked and satisfactory. When an extra early crop is desired, an old and efficient plan is to set a headless barrel firmly over each plant just before growth naturally starts, and heap hot horse manure about the outside to the rim, putting a foot or so of the drier portions inside, over the plant. Growth, under these sheltered conditions, is very rapid, and the leaves soon emerge from the top of the barrels. The stalks, when grown in this manner, are very tender and of excellent quality; but the method is, of course, limited in its application. Old rhubarb roots can be easily forced at any time in winter, if kept in a place where the temperature will not often fall below 60 degrees, such as under a greenhouse bench, or a warm corner of the cellar, near a heater, but the process destroys the plant, so that only plants from discarded plantations are generally used. The plants for this purpose are dug in the fall, put close together in a box, and fine soil sifted in over the roots, which is further settled by jarring the box sharply. They are then placed in the cellar or greenhouse, and moderate moisture given from time to time. Rhubarb may be had in small quantities from December to April by this treatment, and the flavor is much superior to that grown in the open air. Here in Monmouth County, N. J., the varieties usually grown for market are Linnaeus, for early, and Myatt's Victoria for later crops. St. Martins has been tried here to a limited extent, and has proved an excellent and productive variety. It would be safe to plant it on a large scale.

W. VAN FLEET.

A HUNT FOR A MILEAGE BOOK.

WHY NOT ENFORCE THE LAW?

Apropos of the article on page 469, in relation to reduced rates on railroads for farmers, I will record a little personal experience in regard to this matter. After making several unsuccessful applications to the ticket agent at this station (D. L. & W. R. R.) for a mileage book under the law of 1896, I wrote the Board of Railroad Commissioners, made a formal complaint against the company, and asked that they, in their official capacity, take the necessary action to compel the railroad company to place mileage books on sale in accordance with the law. I received a very courteous reply, the gist of which was that they had received many complaints previous to mine, and that they had done all they could towards getting the railroad companies to comply with the law; but suggested that I write the Attorney-General in regard to the matter. From their reply, one would suppose that the powers of the railroad commissioners were no greater than those of an equal number of private citizens, though their salaries (of $8,000 each and traveling expenses) were greatly in excess.

Having started out to know why I could not purchase a mileage book in accordance with the law, I was not in the least discouraged by the peculiar letter which I received, so wrote the Attorney-General, knowing that he was a good interpreter of the Constitution, and gave him a statement of the facts as well as embodying my letter to the commissioners and the reply received from them. In his reply, he said that, if the Railroad Commissioners will make an order requiring the sale of mileage books, our duty is to enforce, by legal process, the order of that commission. That he thought that I had the remedy of mandamus, and a right under the law to institute a suit for the penalty therein prescribed. I thereupon wrote to the Railroad Commissioners embodying the Attorney-General's reply, and suggested that the responsibility for the non-enforcement of this law would rest upon them until they made the order as suggested by the Attorney-General. I am just in receipt of their response, which says that they accept my letter, or will treat it as a complaint, and will make the order, and in case of non-compliance, the matter will be certified to the Attorney-General. I have faith to believe that we have, in the latter officer, a man with sufficient courage to enforce obedience to the law against even so strong a corporation as the D. L. & W. R. R. Co. If others are interested in this matter of mileage books, it would be a good time to drive a peg to help along the cause of cheaper railroad rates. A. R. EASTMAN.

Oneida County, N. Y.

ARBOR DAY has now been observed for 25 years by pupils and teachers in our public schools. This celebration has had a good effect by cultivating habits of observation, and a love of the beautiful in the minds of children. This effect is evidenced in the improved appearance of school grounds, and the shade trees along many country roads. It is now proposed to establish a "Bird Day" which shall be devoted to a study of the habits of our common birds with a view to developing a public sentiment favoring their development and increase. Women and boys are two of the most destructive enemies of the birds. The former desire feathers and heads for hat ornaments, while the boys have not yet unlearned the old spirit of barbarism which provokes them to kill. A circular from the Department of Agriculture sets forth the advantages to be expected from "Bird Day," and our readers should send for it. THE R. N.-Y. favors this movement. The birds form a lively part of Nature's plan for keeping down the ravages of injurious insects. American public sentiment is created in the public schools, and there is National need of sentiment against killing our feathered friends. "Bird Day," by all means! Pass the idea along!

BUSINESS BITS.

IF you are turning a separator, doing your churning, running a feed cutter or a wood saw by hand, you need to see one of those Baby tread powers made by the St. Albans Foundry Co., St. Albans, Vt. They are made in different sizes so that you can use a dog, a sheep, a goat, the bull or a horse. We believe that no man would do this work by hand, if he once saw the calf doing it with one of these little powers.

IT seems to us that the combination lock-pin clevis must take the place of all the ordinary devices used in team work for the future, where changes are frequently made. It will be especially popular on the farm when frequent changes from one implement to another are necessary. The changes can be made with this device in a second without a wrench or any other tool. Send to Cormany Mfg. Co., 225 Dearborn Street, Chicago, Ill., for circular. The illustration will show its advantages at once.

IT must be apparent to every one that the tender rootlets of plants cannot extract food readily from hard clods of earth, yet the thorough pulverization of the soil is no less necessary to the conservation of moisture than for the feeding of plants. Water evaporates readily from a hard, compact soil. Break the surface into small particles, making a cushion that prevents the escape of moisture, and save it for the plant. Numerous and efficient tools are now made for this work. The Imperial pulverizer, made by the Peterson Mfg. Co., Kent, O., is an especially valuable tool for this work. A postal card containing your address will bring you illustrated description, and tell you all about it.

OWING to the short hay crop this season, a large acreage of corn has been planted. No one questions the wisdom of this, or the value of corn fodder for "roughage"; yet the promptness and care of harvesting it will have much to do with its value for a winter feed. It must be harvested at just the right time, and before heavy frosts. If the large acreages of this year had to be all cut by hand, much of it would necessarily suffer from frost before it could be handled. Several manufacturers of farm implements, however, have made cheap harvesters for doing the work by horse power. These are simply made in the form of a sled, with large, sharp blades of steel on each side extending beyond the sled. The sled is driven between the rows of corn, with a man to drive and regulate the cutter, while another gathers the stalks as they are cut and dropped into his arm. In this way, two men and a horse can cut several acres in a day. The Foos Mfg. Co., Springfield, O., make a harvester of this description, and will be glad to send further particulars.

A "BALANCED RATION" might be made up from rye straw and cotton-seed meal, but any man who has ever fed a cow knows that it would not be economy to feed such a dry and constipating mixture. There are two great values of ensilage—it contains that quality known as "succulence," which aids digestion, and keeps the system in perfect condition. The corn crop gives a greater bulk and weight per acre than any other. In this dry season, an acre of land that would not yield a ton of hay, may be made to produce 15 tons of ensilage corn with a feeding value, at least, four times that of the hay. One of the principal items in the cost of ensilage is the expense of getting it from the field into the silo. For this, a good cutter is essential. You need a cutter large enough to take care of the corn as fast as you can get it to the silo, and one so constructed that it will be comparatively free from breakages, as a single breakdown may arrest all the other work and put it back for days. The Smalley cutters fill this need most satisfactorily. The Eastern headquarters for these superior cutters is the Empire Agricultural Works, Cobleskill, N. Y., under the ownership and management for considerably over a third of a century of that old and reliable manufacturer, Minard Harder, whose reputation for fair and honorable dealing is vouched for by the many who have tested his manner of business. He is also the manufacturer of a large and excellent line of other farm machinery, including horse powers, thrashers, feed mills, saw machines, etc. You can have his illustrated and descriptive catalogue for the asking.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

In New Jersey, a woman made the lowest bid for carrying the mails and the contract was given her. Her disappointed rivals tried to assuage their grief by calling her "new woman," etc. One of them, however, went too far and has been arrested for defaming her character. He will, probably, learn that a woman already has some rights that must be respected, among them the right to do any work which she is capable of doing, without becoming a subject for public abuse.

*

Max O'Rell says of the American woman, "She is the superior of her husband in education, and almost in every respect," and then proceeds to find fault with her because she desires to vote.

*

How many agree with our correspondent in "Kitchen Notes," that a little soap should be used in washing the skin of a chicken before cooking? Our leading authorities on cooking would be horrified at such a proceeding.

*

How many of you would be willing to touch your dishcloth to your lips just as you would a napkin? This is not a far-fetched test, but a very sensible one to decide whether you keep the dishcloth as clean as it should be. It comes in contact with the dishes on which your food is placed. See, then, that you do not turn up your nose if the humble dishcloth make a closer acquaintance with you. Don't invite the germs of disease to become summer boarders with you.

A JAR OF JELLY.

HOW IT IS MADE AND SOLD.

Part III.

Currants and Cherries.

And now comes our rushing season, currants and cherries together, and in such quantities, that everybody gets worn out with the constant work and late hours, coming as they usually do in the very hot weather. It would be hard telling where the thermometer stands where we are working, even if it seems cool outside. For preserved and pickled cherries, we use only the large white ones. These all have to be pitted, and this is done by hand. Never be persuaded into buying a cherry pitter, for the pitters are a delusion. To use one, the cherries have to be sorted; this takes time. Then they crush the pits, and these go in small pieces in with the cherries. Besides, the fruit is so torn, that it is very unsightly. The manufacturers of these machines would, no doubt, disagree with this statement; but I think that they will have to admit the truth of it.

We are very particular to have the cherry kept as whole as possible. We put up ripe, red, sour cherries, for pies. These are only canned, not preserved, though they are rich enough to be used as sauce. They are also pitted, and put in pint jars. We use quarts for our pickles, pints for preserves, and tumblers for jellies and jams.

The season for currants is short. We usually rush work for one week in jelly making. After this, we fear that they are too ripe. The man of whom we buy our currants, has been repeatedly charged to bring them fresh, not too ripe, and not after a rain till both bushes and fruit have had ample time to have the water absorbed. We have a homemade contrivance for crushing the currants—an inclined plane with pieces nailed on the sides, 1½ inch high, with a roller the same width as the board, with handles like a rolling pin. The currants are placed on the board, and the roller applied by hand; any child can use it. This is placed at a convenient height with a pan underneath for the fruit and juice. We have tried several machines that are advertised to do this kind of work, but none of them has proved satisfactory. When the fruit is crushed, it is put in a large saucepan, and allowed to boil. All the currants are broken in this way. Then we have a good-sized hand press; putting the fruit into a bag, we place it in this press, and then we have to call on the other half of the house to extract the juice for us; this comes out a clear, beautiful color. It is then strained and measured, everybody's rule of a pound of sugar to a pint of juice being also mine. Heat the sugar and boil the juice. I know of a score of recipes for making currant jelly, and many of them are very good; but if the fruit is too ripe, even no sure way will make them jelly. If only the juice which drips out be used for jelly, the color will be much finer, but it will not be firm or stand transportation. It needs some of the pulp to give it body. If on taking up a glass of jelly, it moves about from the glass, do not condemn it. Ten to one it will keep its shape when turned out. Besides, if currant jelly stands perfectly firm, and is very dark, be sure it is not pure juice and sugar alone.

We make 84 tumblers in one cooking. One thing I found out by experience, and that is to reject the large, new varieties of currants. They look tempting and beautiful on the bushes, and are the best for spicing; but they will not make jelly. They give a much larger quantity of juice, but it is too thin. There is no currant for jelly like the old-fashioned Dutch. It is objectionable, too, to use many white currants with the red; it hurts the color, and the juice is not nearly so rich. Currant jam is very nice; we prefer it to the jelly. Stem and crush the currants, boil without sugar, until tender; add the sugar, cupful for cupful, and boil till clear. Spiced currants are very palatable with cold meats.

The outlook for fruit in this section this year is very poor. There were scarcely any blossoms of cherries, peaches, plums or quinces, the intense cold of the winter, I suppose, being the cause. We sometimes wonder if we will be able to find all we need, but every year, if fruit does not grow here, it does somewhere else, and there are plenty of large fruit growers in so many places, that we have always found what we needed. A great many firms use some kind of preservative in their jellies and jams. I do not know what it is. We have always prided ourselves on the purity of our fruits, using nothing but pure juice and sugar.

MRS. O. P. HOWLAND.

KITCHEN NOTES.

I have been at a loss to account for the plight of the women who had to cast about for securing a supply of hot dishwater, as I have not seen, in years, a new stove without a copper reservoir holding two large pailfuls of water, attached on a level with the top of the stove. I remember two stoves having the tanks on top; but in both cases, the owners abandoned their use, it was such back-breaking work to fill them. I would suggest as the soft water supply, in place of an underground cistern, a tank in the kitchen chamber, as being cheaper, more convenient and healthful. Such tanks come from the hardware dealers in two parts, to be secured together when in the desired position. A pipe connects with the kitchen sink, and arrangements are easily made for a large supply of hot water by running a pipe through the range. A stopcock next the tank to shut the water off at night, guards against the danger of bursted pipes in zero weather.

I possess one convenience that is not often included in plans for a model kitchen—a clothes room—and the kitchen presents a more sightly appearance without the overfilled nails and hooks on which the men are wont to hang their everyday clothing. This room is also the resort of the cooky jars, vinegar and molasses jugs, egg basket, lantern, ironing board, mitten box, and carpet-sweeper. The lamps, also, during the day, perch on the top shelf, secure from dust; and last, but not least, the bread is kept here the year around, in a tin boiler under the shelves, saving many steps and much time running up and down cellar.

There is much lamentation concerning the lack of dining-rooms in farmhouses. While they are desirable, many of us are obliged to make the best of what we have. One can manage quite nicely with a good oil-stove in the woodhouse in summer, and in cold weather, the cook stove is not such a disagreeable neighbor after all. By reason then, of the general-purpose kitchen, a convenient pantry large enough to work in is almost a necessity in order to keep the kitchen always presentable. All mixing, dishwashing, churning, working butter, even the washing and sometimes the ironing (the last only in winter), are done in the pantry. It is only a step to the stove. All shelves are covered with table oilcloth, wiped once a week; this makes less work, and looks just as neat as papers. The table is always set and covered with an old linen table-cloth; cheesecloth is all right in theory, or in a dining-room, but something thicker is needed here to keep out dust. We always use a white cloth to eat on, but find that it lasts clean longer by being careful, and by using tray cloths, doilies, etc., and a large napkin under each plate, which is changed as often as needed. It is much easier to wash napkins than table-cloths.

I have found a new use for the scrubbing brush, the small five-cent kind that I use to clean vegetables. After a chicken is picked and singed, I lay it in a pan and with the brush and a very little soap, and some lukewarm water, I can, in a few minutes, make the skin fit to eat. Just try it once, and you'll be satisfied that there was some use for it.

SWEET FERN.

JOHN'S BOYS.

The spare room is neat and dainty, with its fresh matting and white draperies, and has afforded me much satisfaction since its spring renovation; but now I look at it ruefully. John's boys are coming next week; and a vision of the condition it was in after their last summer visit, comes before me—crumpled curtains, torn draperies, stained carpet, broken crockery and all. For a moment, I feel like writing, "It will not be convenient." But John is a dear brother, and his happy, romping, thoughtless boys are dear, too. Sister-in-law Margaret will be airing her pretty gowns at Narragansett, and coolly telling her friends, "The boys are rusticating on the farm at auntie's," without a thought of the burdened shoulders of auntie, who, at this season, must be always busy cooking and caring for extra farm help, canning and pickling surplus fruit and vegetables, and doing the thousand and one duties of a farmer's wife.

Biddy, tried beyond endurance last year, gave the boys a rating the morning the big water pitcher was so grievously wounded in a pillow fight, and said, "I don't believe your ma lets you tie knots in the window curtains, and kick the rugs in corners, or slop water all over!"

"Course she don't," says saucy Fred. "Mamma's curtains are nice lace, and the rugs are good, thick Turkeys that don't kick up and get in a fellow's way like these old rag ones. And auntie ought to have a bathroom; then we wouldn't have to wet her carpet all up; and as for that old pitcher, it's just a common one, and she can buy another!"

Ah! Fred; you didn't know what a lot of eggs it took to pay for that toilet set, or how long auntie waited for it. She knows only too well that she ought to have a bathroom, and knows, also, that nine out of ten farmhouses are unsupplied with such a luxury. As all these memories come to me, I am tempted to be honest, and say, "Keep your boys at home; I have enough to do without waiting on them." But, then, I remember John, who will be toiling at his desk in the hot city, eating meals at restaurants, and sleeping alone in his dismantled house, that wife and boys may have a happy vacation. Country life was good for those boys, too. Fred looked dreadfully peaked when he came, and John wrote me a thankful letter when he returned so brown and robust.

Yes, they shall come; but I do wish that our city visitors would be a little more considerate, and remember that, humble as our furnishings are, they are precious to us, as they minister to our necessities, and we do not want them to be destroyed wantonly.

MARY MANN.

AN APPEAL TO MOTHERS.

Never be too busy, too tired, or too impatient to enter into the confidences of your smallest child, says Margaret Gray Brooks in the Home Queen. When your little five-year-old girl runs to you, her winsome face all aglow with excitement, and says rapturously, "Oh, mamma! I do so like Bobbie Smith. I think he's so nice—and he likes me, too!" do not ridicule the child, and do not turn to your friend with the remark that "it is beau age already"; but take your darling on your knee, let her pour out all her sweet thoughts, show her your undisguised interest in her little companions and friendships. Find out why this particular Bobbie is "so nice," why she likes him, and if the affection is reciprocated; and, later, should you consider it best that the friendship be discontinued, take a tender way of doing it; but, above all, do not put your child away with a laugh. She is only a child, but her heart will be deeply hurt, and she will think with the tears swimming in her bonnie eyes, "Mamma doesn't want to hear about my Bobbie," and the next time she will not run so eagerly to your side with her childish confidences.

Some mothers will rise *en masse* and say, "Such ideas should not be encouraged in children." I do not say that they should; I simply ask that you do not sacrifice the most beautiful blessings of motherhood—the confidence of your child. Is it not better to listen to their little secrets, their joys and their sorrows; is it not better to encourage this confidence than to turn them aside with such remarks as "I am too busy now", or "I am too tired to-night, dear", and suffer the result in years to come?

Have your arms and heart always ready; what may seem trivial to you is very important to them in their fresh, glowing, active lives. Meet your dear ones fairly; encourage them to open their hearts to you; let this be your duty from their earliest childhood, and in the trying years of young man and young womanhood, you will know the souls of your children and be the one to

keep them pure and unsullied from contact with the darker life of this world.

I have often seen children of tender age repulsed—not unkindly always—but repulsed in the midst of a burst of childish confidence; and I have seen the little face grow grave; I have seen tears spring to those sunny eyes, and I have heard the faltering step grow fainter as it lost itself in the distance. You cannot afford to do this, mothers; more can be lost in one such unkindness than can be regained by weeks of kindness in other directions. If this point has been neglected, begin immediately to remedy the fault. Teach your boys and girls the value of a mother's confidence; give them to understand that no one on all this earth can understand them as well as you, and that everything which interests them interests you, and that you will feel pained if they should keep anything from you; and above all, never repulse them in any confidences, and you will realize in the long years to come, no bitter regrets for duty undone or love ungiven.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and

6792—MISSES' BASQUES.
6654—MISSES' SKIRT.

putting garments together. For children's or misses' patterns, send age.

6792. Misses' Basque.
6664. Misses' Skirt.

Bands of velvet cross the yoke being secured under the broad pointed bretelles with the buttons decorating each as shown. A narrow ripple basque is added at the lower edge, a band of velvet hiding the seam and forming a pointed outline in front. The sleeves are the one-seamed leg o'mutton.

The gored skirt is one of the most approved style for misses, the straight breadth in the back preventing sagging, and giving the necessary fullness at the top, that is becoming to youthful figures.

The basque pattern, No. 6792, is cut in sizes for misses of 12, 14 and 16 years of age. The skirt pattern, No. 6654, is cut for misses of 10, 12, 14 and 16 years of age.

WEARING FLANNEL.—Flannel should be worn during the summer months as well as the winter, according to the New York Ledger. Many persons think that, on the approach of hot weather, they should at once discard all flannel garments. But this is a great mistake. The common woolen flannel should be worn. One color has no advantage over another. To wash the flannel, put in a tub, pour some strong, boiling soapsuds on it, leave it till the hand can bear the water, then, pour it off and add clean water, boiling hot; let it stand, also, as before. Pour off and add more boiling clean water, and, when cool enough, merely squeeze the garment with the hands—no wringing or rubbing. Stretch it immediately on a line in the hot sun, or before a hot fire, and as the water settles at the most dependent part of the garment, press it out with the hand, and be careful to stretch the fabric as soon as the water is squeezed out, aiming as much as possible to keep the flannel hot until it is dry. If woolen garments are treated as above, they will remain pliable and soft until worn out.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

FOR MIND AND HEART.

We only live once; and death's terrors
With life's bowers and roses entwine,
And our lives would be darkened by errors
Did we even, like cats, possess nine!
They would be, perhaps, all of them wasted,
And recklessly squandered away,
And not half of the joys would be tasted
That one life can embrace in a day.

Let the lives that we live be worth living;
Let the days that we spend be well spent;
Let us save for the pleasure of giving,
And not borrow at fifty per cent;
Let us never cease loving and learning,
And use life for its noblest of ends;
Then when dust to its dust is returning,
We shall live in the hearts of our friends.
—*London Fun.*

....HARPER'S BAZAR: "Men marry at 25, for love; at 40, for comfort; at 50, for companionship; at 60, because they are old fools."

....ANONYMOUS: "The three chief misfortunes in life are: Childhood without parents, manhood without love, age without money."

....GEN. JOHN GIBBON, U. S. A., IN NORTH AMERICAN REVIEW: "If women have progressed towards an approach to the *equal* protection of the laws, it has been due more to the progress of human affairs in this century than to anything else; and it is possible that much of this progress has been due to the influence of women in rectifying a state of affairs which would not originally have existed if women had been represented by their own votes, instead of being represented by man's 'chivalry,' etc."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

The Woman,
The Man,
And The Pill.

She was a good woman. He loved her. She was his wife. The pie was good; his wife made it; he ate it. But the pie disagreed with him, and he disagreed with his wife. Now he takes a pill after pie and is happy. So is his wife. The pill he takes is **Ayer's.**

Moral: Avoid dyspepsia by using

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Cathartic Pills.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address **S.S. Ware Co. Box 5308.** Boston, Mass.

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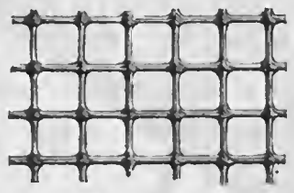

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The Dietz "Victor" Lantern

Is built for use, and for the abuse that goes with it. It has an oil-pot drawn from tinned sheet steel and then re-tinned—a method of construction that prolongs its life. It also has a remarkably simple and effective device for raising the globe to tight or trim, which device also firmly holds the globe and burner in place. The burner, which is hinged to prevent its wandering, is the best of its kind, as is also the globe furnished with the Victor Lantern. The Victor is only one of an endless variety of Lanterns that we build. Your dealer can furnish the **DIETZ LANTERNS** *if he will—if he gives you the very best made, he must.*

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ESTABLISHED IN 1840. 60 Laight Street, New York.
For the asking we mail free an admirable little Catalogue of outdoor Lamps and Lanterns.

Don't take substitutes to save a few pennies. It won't pay you. Always insist on HIRES Rootbeer.

Made only by The Charles E. Hires Co., Philadelphia.
A 25c. package makes 5 gallons. Sold everywhere.

FOR SALE.
Gentleman's Country Residence and Fruit Farm, in Cheshire, Conn., between three cities, ¾-mile from railroad and center. Address Box 64, Cheshire, Conn

FOR SALE—High-Grade Farms. Also a few cheap Farms. Write for my list.
J. LELAND HANNA, Baltimore, Md.

BUGGIES, PHAETONS, SURRIES, WAGONS,
CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the **best guarantee** that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, salesrooms, factories: Court St. **Alliance Carriage Co. Cincinnati, O.**
"A" Grade, $44. Style, Finish.

"A" Grade, $60. Durability.

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Finest Tone, Best Work and Materials.
EMERSON
Sold and Rented, Moderate Prices, Easy Terms.
NO. 92 FIFTH AVENUE, NEAR 14TH ST., N. Y.

Do You Want a Watch?

WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

Offer No. 200.

Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all the greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

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Elgin or Waltham Watch—Men's Size, $10.

No. 201 is a gold filled open face case, dust proof; guaranteed to wear like solid gold for 15 years. The movement is seven jewels, stem wind and set, and contains all the latest improvements. Sent delivery guaranteed by registered mail for $10. Hunting case, $3 extra.

Offer No. 202.

Waltham Watch—Men's Size, $13.50.

The American Watch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.

Ladies' Gold Filled Waltham or Elgin Watch, $13.50

No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

"Crescent Street."

Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90
No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case 37.00
No. 205. Crescent Street. Gold filled, 15-year. Hunting or Open Face case 33.25
No. 206. Crescent Street, 2-ounce Coin Silver. Hunting or Open Face case 27.85
No. 207. Crescent Street, Solid Nickel Silver, Open Face dust-proof case 25.00

Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

As We Go To Press

"MAKING THINGS COUNT."

Last week, our little girl appeared upon the scene clad in a new gingham dress. She was as proud as a little peacock over it, and went about saying, "pitty dwess!" and stroking it down with her little hand. The baby's mother made the dress, and the material for it cost just 15 cents. Perhaps, if you deduct 15 cents from the cash price of a ready-made dress, you would not be able to figure very large returns for the madame's time; but I'm giving you exact figures. Anyway, if you are going to try to figure out the cash value of her time, you must also give a cash valuation to the satisfaction of feeling that she had decked out the baby with her own hands. On Sunday, the madame herself came forward clad in a new, Sunday-go-to meeting dress, the material for which cost 69 cents. To my eye, she looked as well in it as she did in her wedding dress—better, for she made it all herself.

Now, I am not ready to admit that I have a 69-cent wife and a 15-cent baby, unless I can set the *comparative* standard of value to suit myself; and if I did that, some other wives and babies would fall to a valuation of 50 and 10 cents. I wouldn't amount to much if I didn't claim that my folks are on a constantly appreciating standard of value. If the madame and the baby are worth but 84 cents together, then there is but one other similar combination of mother and daughter that I would give even 83 cents for, and that is the madame and the baby's grandmother. But that is not the point at all. I just wanted to show that this is an age of cheap raw material, and in sueh an age, those people succeed who have the skill to turn that raw material into the highest type of a finished product.

I once knew a school teacher, graduate of a college, who was married to a farmer. She said: "I am supposed to have an education, and that ought to enable me to do something besides mere manual labor. If there is anything in theory, I ought to be able to do work that will pay well enough to enable me to hire the harder work done." She tried it and succeeded by putting cheap, raw materials into choice, finished products that commanded high prices. The madame took a dollar bill, bought the material for two dresses, and had 16 cents left to pay on the mortgage or to buy some other useful thing.

There is a thought under this that we wish to leave with you. The army worms have eaten into our space this week by occasioning so many reports, so we cannot go on and explain the whole thing out; but the point is that, in these times, we must look to little things for help. We, certainly, believe in that sort of a "clipped dollar" that saves a few cents by judicious buying. The 16 cents clipped out of that dollar for dresses, doesn't hurt us a bit, and, if by wise planning and skillful buying, the cost of the two dresses could be reduced to 53 cents, while a less careful person spent a dollar, we wouldn't say a word about "repudiation" or 50-cent dollar, except to say that is just the sort of a 50-cent dollar we like. We wish that we had space to go on and elaborate this idea; but now we must turn to another side of it. Here is a man from Missouri:

Inclosed find $1 for a renewal of my subscription for another year. That is the price here of six bushels of potatoes, five bushels of corn, two bushels of wheat, 14 dozens of eggs, 10 pounds of butter or five dozens of cabbage; but I couldn't get along without your paper if it cost three times as much. G. H. J.

Missouri City, Mo.

See that! There is no clipped dollar about that, for this man feels that 52 issues of THE R. N.-Y. will do his farm more good than any of these articles kept at home. To take the information and facts in THE R. N.-Y., and apply them, is just like the madame taking 84 cents and making two dresses. Now, take this man in Ohio:

We received THE RURAL sewing machine in due time. My wife is not only fully satisfied, but is truly delighted with it. It is as finely made, as handsome, and in every way as good as my mother's $55 Domestic, so far as we can see. We thank you for helping us to get so much for our money. F. H. BALLOU.

Now think of that! There is a big saving, right there. A dollar saved in that way is not a dishonest dollar, and THE R. N.-Y. is not a "revolutionist" by putting such chances in your way. Now one more and we are done. Here is what a clergyman in New York State says:

I am in the habit, on Sunday mornings after service, of distributing my copies of THE R. N.-Y. to different farmers, in the hope that they may get alive to the advantages of being subscribers.

That is seed sowing for you! All such little things help us more than you can imagine, and we will stop right here by saying that we shall be delighted to have each reader of THE R. N.-Y. put in one minute or more per day in explaining to some neighbor, friend or relative what this paper is, and why it is useful!

CONDENSED CORRESPONDENCE.

CRIMSON CLOVER SOWN IN SPRING.—Last summer, I sowed some Crimson clover, and this season, I have nothing to show for it—not a sprig. This season, in April, my neighbor sowed a field to Crimson clover, and now has a good harvest in prospect. G. P.

Townsend, Mass.

NO CRIMSON CLOVER SEED IN DELAWARE.—Very little Crimson clover seed is saved on this peninsula this year. I save none, clover being all required for the silo. My second cutting of Alfalfa is ready, and heavier than the first. The mower is now in it. My silo corn is immense—cow peas promising. E. H. B.

Delaware.

CRIMSON CLOVER IN ILLINOIS.—Crimson clover did well with me. I sowed the last week in July. I plowed the ground, harrowed and rolled it, then sowed the seed and harrowed and rolled it in. It came up well, a first-class stand. It stood the drought extra well; the drier the weather, the greener it got. We had an extra hard winter, on clover—it was freeze and thaw all winter—with very little snow, and I don't think a plant was killed. I cut part of it for hay, the rest I thrashed for seed, and got 18 bushels of the finest seed that was raised, from a little over two acres.

Vermilion County, Ill. E. K.

CRIMSON CLOVER AND RAPE.—Crimson clover went through the winter with, practically, no loss. With the unusually moist, warm spring, it had attained a growth of 18 to 20 inches, and was headed in time for plowing under for corn. Plants that, last fall, were eaten close off to the roots by sheep, made a good growth this spring. Plants left for seed have filled well with a fine quality of seed. Seed is smaller and of a lighter color than that grown farther south. Crimson clover thinly sown this spring, just ahead of the drill, with barley and oats, has made a fine growth, some heads showing, to-day (July 10); five acres sown on ground plowed and especially prepared for it alone, about May 20, have not made as good a growth. Still, it nicely covers the ground, and we anticipate that it will well repay labor and expense, as green manure plowed under next month for wheat. We have five acres of Dwarf Essex rape alongside of this Crimson clover, sown at the same time, and for the same purpose. It has made a good growth, and looks very much like an immense crop of rutabagas. We shall watch with interest the effect of these crops upon the following wheat crop. Alongside of the rape, is a meadow stubble which will be plowed and sowed to wheat with the clover and rape. W. H. S.

Climax, Mich.

ARMY WORMS IN WESTERN NEW YORK.—A dark cloud is seen in the horizon; the bright prospects for a boutiful harvest which the agriculturists of this locality had only a few days ago, are threatened by one of the worst of the farmer's foes—the army worm. They are here, and from reports at hand, they extend over a wide extent of country; from the border of Pennsylvania come reports of whole fields being destroyed by them. A farm near Jamestown, N. Y., was the first place on which they have congregated in numbers sufficient to organize for a march, where they stayed two or three days. They then crossed to another, where they are represented as covering the fields by millions, attacking a field of oats and leaving nothing but the bare stalks; the grass seeding being taken first. Oats in some localities, are being cut green to save them from the worm. At my own place, they were seen three days ago, although they were, probably, here before. On picking up a board that had been laid down on the grass, I found the underside covered with worms; at first sight, I took them to be cutworms, which they resemble very much; but the cutworm is rather larger around. The army worms are not uniform in color; they vary from nearly black to a light green, and are marked with two distinct lateral stripes; the first nearest its legs is very bright, of a yellowish shade tinged with pink; the upper one is reddish-brown, having a white line or border on each side. Under the lens, short, scattering hairs are seen, those on the head being the longest. They have 16 legs, six near the head which terminate in the form of claws, and 10 abdominal legs, two of which are at the extremity of the body; these have a black spot on the outside. A fully matured worm measures from 1 to 1½ inch long. Up to this writing (July 13), no very serious damage has been done to my own crops; but I fear that the

(*Continued on next page*).

Miscellaneous Advertising.

In curing consumption there's nothing like taking Time by the forelock. Doctors say consumption can't be cured; they have arguments to prove it. But when they see it cured right under their face and eyes by Dr. Pierce's Golden Medical Discovery, they admit that there's something wrong about their arguments and something wonderful about the "Discovery." It isn't miraculous. It won't cure every case; but it cures a suprisingly large percentage of cases, even when the patient is pretty far gone with a bad cough, and bleeding from the lungs, and reduced almost to a shadow. *Consumption is a blood disease.* The lungs want a fresh supply of pure rich blood and plenty of it; that is what the "Golden Medical Discovery" gives them. It is a blood-maker. It gives the blood-making functions power to produce a large quantity of the nourishing red corpuscles which make healthy *life-giving* blood. This stops the wasting; drives out the impurities; heals the ulceration and begins a rapid building-up process, of solid, substantial flesh and vital energy.

It isn't only consumptives who need the "Discovery." It cures every form of chronic blood-disease and all scrofulous and eruptive affections.

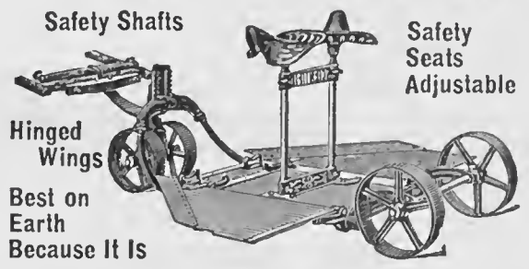
MR. ISAAC E. DOWNS, of *Spring Valley, Rockland County, N. Y.*, writes: "For three years I had suffered from that terrible disease, consumption, and heart-disease. Before taking Doctor Pierce's Golden Medical Discovery I had wasted away to a skeleton; could not sleep nor rest, and many times wished to die to be out of my misery. Step by step, the signs and realities of returning health slowly but surely developed themselves while taking the "Discovery." Today I tip the scales at one-hundred-and-eighty-seven, and am well and strong. The 'Golden Medical Discovery' has also cured my daughter of a very bad ulcer located on the thigh. After trying almost everything without success we purchased three bottles of your 'Discovery' which healed it perfectly." Yours truly,

Isaac E Downs

Corn Fodder is the Farmers Gold Mine

this year. Cut it quick and cheaply with

The Scientific Corn Harvester



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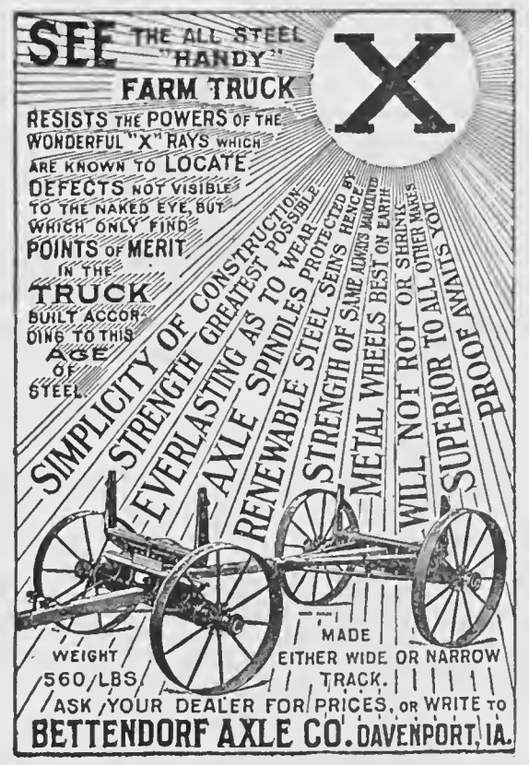

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Don't waste money repairing old wheels. Get our prices. Are prepared to tire, box, paint and furnish axles for wheels of all sizes.

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401 Union St., Wilmington, Del.

For Sale To close estate, one Cut Hay Press, steam power; one Long Hay Press, horse power; Hay, Ensilage and Fodder Cutter, Hay Fork, Carrier and Track, Shafting, Belting and Pullies, Engine and Boiler. Will be sold together or separately. Address E. H. TITCHENER, Binghamton, N. Y.

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15 Years on the Market. Improved for 1896.

Spreads any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. *Largest and Oldest Manufacturers of Manure Spreaders in the World.*

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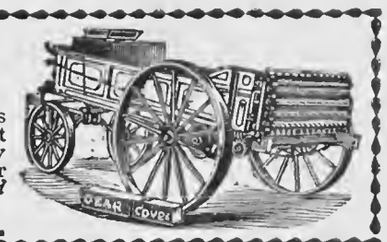

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Are universally used with wonderful results. They are great wheat producers. Before ordering your fertilizers for fall use, inquire for the Quinnipiac. If not sold in your town, write us direct.

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THE QUINNIPIAC COMPANY,
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"He who by the plow would thrive"
Must use good judgment and fertilize.

Condensed Correspondence—Continued.

worst is to come, as towards night, in places, they may be seen traveling in every direction ; I suppose, getting ready for a march as soon as enough of them are together, and they can be officered During the fore part of the day, they are found in large numbers under sods, boards, rubbish of any kind, and in the loose earth in the corn row. Up to the time when they commence their march, I know of no way to give them battle. L. D. GALE.

Chautauqua County, N. Y.

ARMY WORMS AT ELLERSLIE FARM.—We have been having a hard fight with the army worms. They destroyed most of the 30 acres of oats, barley and peas, and five or six acres of corn. We stopped further progress in the corn by protecting it with over a mile of ditch. We made the ditch with a smooth, perpendicular side next to the corn to be protected, and dug post holes every 10 feet in the ditch. Millions of worms tried to cross this ditch and, finding the side too hard to climb, followed along the bottom looking for an easier place to get out, and fell into the post holes. They could not get out of these and died. When the holes began to fill up, we dug new ones. The worms finally came so thick that a good many were climbing up the steep side, and we had to run gas tar along the bottom of the ditch. The tar killed the worms almost as soon as they touched it. It took two barrels of gas tar for a mile of ditch, and we had to put this amount on twice a day. The worms have now stopped eating and gone into the ground into the pupa stage. We are trying now to learn whether there is danger from another brood this season, and if so, how to protect ourselves. Has THE R. N.-Y. anything to offer? Enough worms have gone into the pupa stage on this farm alone to produce another brood, if conditions are favorable, sufficient to eat every green thing in Dutchess County.

H. M. COTTRELL.

OTSEGO COUNTY, N. Y.—Haying is now well in progress in the Susquehanna Valley. The crop is considerably larger than that of last year, but deficient in quality, but a good deal of good grass will be cut. Hops are generally in bloom, the weather of late having been exceptionally favorable to the growing vine. The probability of a small crop, however, daily increases, it now being the judgment of those best informed on the matter, that the yield will not be much over half of that of last year. There would, undoubtedly, be a boom in prices this fall, were it not for the fact that, by means of cold storage, brewers can hold on hand hops for a year's consumption, with ease. July has thus far been characterized by very hot weather, owing to which corn has leaped forward at such a remarkable pace that it now bids fair to be as good a crop as it ever was in these parts. Buckwheat is coming up nicely, also, and rye, of which there is a large acreage, is about ready to be cut; it has been years since it looked better generally. Best of all, however, grasshoppers are dying off, due to the fact that a parasite is infesting them in great numbers. A year ago, the hoppers could be seen flying through the air like birds, especially about midday; but nothing of the sort is seen now; in fact, the most of the pests may consider themselves doing well if they can hop a little. Only this morning, as I was passing around one of my oat fields, I saw a great many dead grasshoppers on the stalks, where they had climbed up, evidently, with the view of repeating last season's history in trying to destroy this valuable crop. It is, indeed, a great relief to be freed so opportunely from the hateful pests. F. O. S.

WHAT'S THE MATTER WITH CHINCH BUGS?—Have the X-rays struck 'em, or is it the free silver craze? Several of our farmers have found large balls of dead bugs in their oats and corn. The disease causes them first to collect together in balls, then give up the struggle for existence. I have advised those finding these balls of dead bugs, to scatter them in other fields among the living still at their work of destruction. They have ruined the wheat crop, and done some damage to oats and corn. Our oat harvest has commenced, and both the winter and spring oats are very good. Out of 41 bushels sown last fall, we lost only one field of eight bushels—much better than we expected from too late sowing, and no snow in the winter. Corn is very promising for a big crop, if the bugs will quit. Bees are rolling in the honey, from the so-called honey dew on the pines. It has more saccharine matter in it when gathered by the bees, than any other nectar produced in Nature's workshop. Much of it has already candied in the hives, so the extractor will not throw it out. It makes very nice white honey. W. M. E.

Amherst County, Va.

STRAWBERRIES IN LUZERNE COUNTY, PA.—We have just finished picking our strawberries; while the yield is not an average, prices have been good, better than for years past. We got the most fruit from Warfield, with Crescent next, but fruit not so large or showy. Beder Wood did well, and the Parker Earle—the best it has ever done with us. Enhance did not do so well as last year. Haverland is holding out as long as the later varieties, and is extra nice, large and sweet, on spring-set plants. Splendid is looking best, but it has not fruited with us yet. E. P. B.

La Plume, Pa.

CROPS IN CAYUGA COUNTY, N. Y.—The crop of peaches, pears, plums and cherries in this section is an entire failure. The Worden grape stands best; Moore's Early, two-thirds crop; Concord, a fair crop; other varieties all frozen to the ground. Apples are very fair, and a full crop. About two-thirds of the growers have sprayed. There was a good crop of strawberries, raspberries and blackberries. Hay is very light—one-half ton to the acre on an average. Farmers are planting corn and millet to have fodder enough to get through. Wheat may go 10 bushels per acre on an average; oats and barley, one-half crop; corn looking well; potatoes, a large planting, prospect of a large crop and low prices. This year, of buds of peaches in the nursery, 19 out of 20 of the Elberta grew; the Stevens Rareripe are all dead; other varieties about one-third alive. Tally one for Elberta. Crosby are all dead; said to be hardy, but it doesn't appear that way now.

J. M. MERSEREAU.

CROP AND MARKET NOTES.

It is reported that Brazil is considering a reciprocity treaty with the Argentine Republic. Such an arrangement would be likely to injure our export trade in flour to Brazil which is now quite large.

It is now said that the operation of the Filled Cheese law will drive nearly all the makers and dealers out of business ; that is, out of the dishonest business in which they have been engaged. There is still room for them to engage in the legitimate business of making full-cream cheese. It is said that the few makers who remain in business will do an export trade ; better shut them out of this, too, for there's a big demand abroad for honest cheese.

About a month ago, anthrax started in Louisiana and spread at an alarming rate. It jumped the Mississippi River, spread into Mississippi, into Arkansas, and even across into Texas. About 20,000 head of mules have been vaccinated with the anthrax vaccine in that section during the last month, and the disease brought under control. The disease that appeared among cattle in some counties in western New York last summer, was found to be anthrax, and not black leg.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 12@1 15
Medium, 1895, choice	1 00@1 02
Pea, 1895, choice	1 02@1 05
Medium or pea, common to good	90@1 00
White Kidney, 1895, choice	1 20@1 25
Red Kidney, 1895, choice	1 07@1 10
Red Kidney, common to good	90@1 00
Black Turtle soup, 1895	1 20@1 25
Yellow Eye 1895, choice	1 20@ —
Lima, Cal., 1895 (60 lbs)	1 70@1 75
Green peas, bbl., per bushel	72@ 75
Bags, per bushel	67@ —
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @—
Western, firsts	13½@14
Western, seconds	12½@13
Western, thirds	11 @12
State, fancy	15 @—
Common to prime	11 @14
State dairy, half-firkin tubs, fancy	14 @14½
Firsts	13 @13½
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @—
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9 @10
Thirds	8 @ 9
Factory, fancy	10 @10½
Factory, firsts	9½@10
Factory, seconds	9 @—
Factory, thirds	8 @ 8½
Old butter	7 @10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾@—
Colored, good to choice	6½@ 6¾
Fair to good	5½@ 6¼
Fancy white	6¾@ 6¾
White, choice	6½@ 6⅝
Small, colored, fancy	7 @—
Small, white, fancy	7 @—
Small, good to choice	6½@ 6¾
Small, common to fair	5½@ 6¼
Light skims, choice	5 @—
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1½@—

EGGS.

Near-by, new laid, fancy, per doz	15 @ 16
State, fresh gathered, average receipts	13½@ 14
Penna., country marks, average best	13½@ 14
N. Ohio Ind., Ill. and Mich., prime	12½@ 13
Other Western, prime	12½@ 13
Western, fair to good	11 @ 12
Western & South'n, poor to fair, per case	2 40 @3 10
Western culls, per case	1 50 @2 00

FRUITS—GREEN

Apples, Va., green, per half-bbl basket	75@1 00
Md. and Del., per half-bbl basket	75@1 00
Md. and Del., per crate	50@ 80
Near-by, hand-picked, per bbl	1 25@1 50
Near-by, windfall, per bbl	75@1 00
Blackberries, Jersey, per quart	4@ 6
Up-River, per quart	6@ 7
Currants, per quart	2@ 5
Per lb	2@ 4
Gooseberries, green, per quart	3@ 5
Prime green, per bushel	1 00@ —
Extra large, per quart	6@ 8
Grapes, Fla., Niagara, per case	50@2 00
S. C. Moore's, per carrier	1 50@1 75
Southern Delaware, per carrier	1 75@2 00
Southern, common, per basket	15@ 20
Huckleberries, Md. and Del., per quart	5@ 6
Jersey, per quart	4@ 6
Mountain, Penn. and State, per quart	6@ 7
Muskmelons, Charleston, per bushel-basket	50@ —
Charleston, per bbl	50@1 00
N. C., per bbl	50@1 00
Virginia, per bbl	1 00@2 00
Baltimore, per basket	1 00@1 25
Peaches, N. C., per carrier	1 00@1 50
Md. and Del., per carrier	1 00@1 50
S. C., per carrier	1 00@1 50
S. C., per flat case	50@ 75
Georgia, good to fancy, per carrier	1 25@1 75
Georgia, unsound, per carrier	75@1 00
Md. and Del., per basket	40@ 75
Md. and Del., per crate	50@1 00
Plums, Md. Beach, per quart	3@ 3½
Md., Wild Goose, per quart	4@ 6
Fla., Japanese, per carrier	1 50@2 00
Pears, LeConte, per bbl	1 50@2 75
Nearby cooking, per bbl	1 50@2 00
Raspberries, blackcap, per pint	2@ 3½
Blackcap, per quart	3@ 5
Red, Up-River, per ½ cup	2@ 4
Red, Jersey, per pint	2@ 3½
Watermelons, choice, large, per 100	18 00@22 00
Small to medium, per 100	10 00@16 00
Per car-load	125 00@225 00

MEATS—DRESSED.

Veals, country dressed, prime, per lb	6½@ 7
Fair to good, per lb	5 @ 6½
Com. to med., per lb	4 @ —
Small, per lb	4 @ 5
Buttermilks	4 @ 4½
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	5 @ 5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4¾@ —
H. p., extra, per lb	3¾@ —
Shelled, No. 1, per lb	5 @ 5¼
No. 2, per lb	3¾@ 4
Spanish, shelled, No. 1, per lb	6 @ 6¼
No. 2, per lb	4¼@ —
Pecans, ungraded, per lb	3½@ 4

POTATOES.

Southern Rose, fair to prime, per bbl	60@ 75
Chili red, fair to prime, per bbl	50@ 65
Seconds, per bbl	40@ 50
Culls, per bbl	25@ 30
Long Island, in bulk, per bbl	75@1 00

POULTRY—LIVE.

Spring chickens, per lb	10 @ 13½
Fowls, local, per lb	10 @ 10½
Western, per lb	10 @ 10½
Southwestern, per lb	10 @ 10½
Southern, per lb	10 @ 10½
Chickens, yearlings, per lb	10 @ 10½
Roosters, old, per lb	6 @ 6½
Turkeys, mixed, per lb	8 @ 8½
Ducks, local, per pair	75 @ 85
Western, per pair	70 @ 80
Southern, per pair	50 @ 60
Geese, local, per pair	1 00 @1 37
Western, per pair	90 @1 25
Southern, per pair	75 @1 00
Pigeons, old, per pair	25 @ —
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ —
Average toms, per lb	9 @ 10
Chickens, Phil., selected, per lb	18 @ 19
Phila., ordinary, per lb	14 @ 17
L. I., scalded, per lb	14 @ 17
Pennsylvania, per lb	14 @ 17
Western, dry-picked, per lb	14 @ 15
Western, scalded, per lb	13 @ 13½
Western, small, per lb	12 @ 12½
Fowls, Western, dry-picked, choice	11½@ —
Dry-picked, fair to good, per lb	11 @ —
Scalded, choice, per bbl	11 @ —
Old cocks, per lb	5½@ 6
Spring ducks, Eastern, per lb	12½@ 13
Spring ducks, L. I., per lb	12½@ 13
Spring geese, Eastern, per lb	18 @ 18½
Squabs, tame, white, per doz	2 00 @ —
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @ —

VEGETABLES.

Beets, per 100 bunches	1 00@ —
Cabbage, L. I., per 100	2 00@3 00
Carrots, per 100 bunches	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 00@2 00
Celery, fancy, large, per doz	20@ 25
Average, prime, per doz	15@ —
Small, per doz	10@ 12
Cucumbers, Baltimore, per basket	75@1 00
Jersey, per basket	75@1 00
N. C. and Norfolk, per bbl	1 00@1 50
Egg plant, Southern, per bbl	1 50@2 50
Southern, per basket	75@1 00
Jersey, per crate	1 00@ —
Jersey, per bbl	4 00@ —
Green corn, Hackensack, per 100	50@ 75
South Jersey, per 100	40@ 65
Green peas, Western N. Y., per bag	50@ 75
Long Island, per bag	50@ —
Lettuce, per bbl	50@1 00
Onions, Bermuda, per crate	75@ 80
Egyptian, per bag	90@1 00
New Orleans, per bbl	1 75@ —
New Orleans, per bag	70@ 75
Southern potato, per basket	50@ 60
Peppers, S. Jersey, per crate	75@ 85
Charleston, per basket	—@ —
Spinach, per bbl	50@1 00
Squash, L. I., yellow, per bbl	50@ 60
Long Island, white, per bbl	50@ 50
Southern, yellow, per bbl crate	25@ 50
Southern marrow, per bbl-crate	25@ 40
String beans, Jersey, per basket	—@ —
Maryland, per basket	—@ —
Baltimore, per bushel basket	—@ —
Long Island, per bag	25@ 50
Tomatoes, Monmouth Co., per crate	1 25@1 75
Savannah, per carrier	50@ 75
Norfolk, per carrier	25@ 75
South Jersey, per crate	50@ 75
Turnips, new, white, per 100 bunches	1 00@2 00
Russia, per bbl	75@ —

MILK AND CREAM.

The total daily supply has been 22,674 cans of milk, 186 cans of condensed milk and 834 cans of cream. The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

Miscellaneous Advertising.

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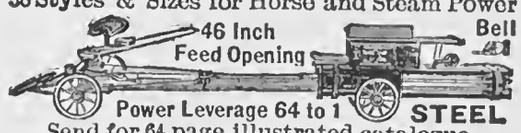

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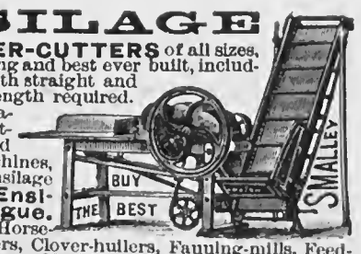

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SIMPLE SCIENTIFIC TERMS.

"MUSCLE-MAKERS" VS. "PROTEIN."

In THE R. N.-Y. of May 2, you ask your scientific friends why the terms "fat-formers" and "muscle-makers" should not be used instead of "protein" and "carbohydrates." I am not a scientific man, but I am studying scientific agriculture. I have been a practical farmer. Being at the present time in a position between the two, perhaps I look at this question in a more impartial manner than if I were either one or the other; hence I trust that I may be pardoned if I make a few remarks on the subject.

When commencing to study any of the sciences, the beginner is always confronted by a large number of scientific terms which are hard to learn, and it seems as though some simpler words could be used instead. For instance, in botany, we find the stem of a certain plant to be "terrete" when it is round, "glabrous" when it is smooth, "scabrous" when scaly. In these cases, it seems as though the simpler terms might be used, because more readily understood, and it would lead to no confusion, as "round," "smooth," "scaly" are just as correct as "terrete," "glabrous," "scabrous."

I am always in favor of substituting simple words for words more difficult to understand whenever it can be done without losing anything in precision of meaning. But when we substitute "fat-formers" for "carbohydrates" or "muscle-makers" for "protein," there is liable to be some confusion in regard to understanding what the real charaeter of the substance is. Why were the terms protein and carbohydrates ever used? Because they express the exact meaning of the chemical composition of the substance named; namely, that carbohydrates contain carbon, oxygen and hydrogen and that protein is a complex organic compound which contains a large proportion of nitrogen. Hence, these terms are used to express their composition without regard to the use to which they may be put. It is a correct use of the words.

We can call sugar and starch "carbohydrates," and use them for any purpose that we wish, but to call them fat-formers, would not be correct unless they were actually to be made into fat. A large part of the sugar and starch eaten by a healthy animal would, probably, be made into fat, but not all, as some part would go to make up other parts of the body than fat, and a part might not be assimilated at all, but pass out of the body as waste.

A cow, besides being composed of muscle and fat alone, has hair, skin, bones, hoofs, the majority of them have horns, and should give milk 10 months out of the 12. If we feed the cow "fat-formers" and "muscle-makers," we must also feed "hair-formers," "hoof-makers," "horn-producers," "bone-creators," "milk-constitutors," etc.

"When a shoe manufacturer buys leather, he does not buy "vamp-makers," "top-formers," "back-producers," etc.; but he buys the different kinds of leather as calf, split, buff, kangaroo, etc., the name implying the quality of the leather without regard to the use he is to make of it. He may buy a hide of buff because he wishes to make some vamps; it would not be correct to ask for "vamp-creators," because after cutting out his vamps, the rest would be made into backs, fronts, tips, etc. When we feed a cow with carbohydrates, most of them will be formed into fat, of the remainder some will go to make up other parts of the body, and a portion will pass out as waste. "Carbohydrates" would be a correct term to use, because it expresses the character of the material; "fat-formers" would not be correct, because the material is not composed of fat, neither would it be likely that all of it would be changed to fat.

I object also to the latter part of the words, viz.: "Former," "maker," etc. A "maker" is "one who makes" or a "thing which makes." A "shoemaker" is "one who makes shoes" and when we speak of "muscle-maker" it might be inferred that it is "one who makes muscle" or a "thing which makes muscle;" *i. e.* which does the making, but is not a part of the material out of which the muscle is made. Also a "former" is "one who forms." The digestive organs are the muscle-makers and fat-formers.

The simplest words that express our meaning correctly should be used. Can we use "fat-former" and "muscle-maker" instead of "carbohydrate" and "protein" without sacrificing correctness? In other words, should correctness be set aside for the sake of simplicity? ELISHA W. MORSE.

Massachusetts.

R. N.-Y.—We are obliged to our friend for his explanation. Our view is simply that many would sufficiently understand the simpler words that would not take the pains to understand the more accurate terms at all.

Live Stock Matters

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Hoven or Bloat in Cows.

Can any one tell us from the following meager description, what killed our cows? Yesterday, after having been milked, they were turned out to pasture about 7 A. M.; at 2 P. M., our farmer came in to tell me that one was dead. He told me that the cow was, apparently, perfectly well when turned out; she was pasturing where they have been pastured for years, on fenced prairie land. When I saw her, she was terribly bloated, blood had run from ears, nose and eyes, one eye being forced from its socket, and her anus and vagina were widely distended. To-day, my neighbor came to tell me that one of his cows, turned out, apparently well, this morning, had started to act uneasily at about 11:30 A. M., and had died at 1 P. M. When I saw her at 2 o'clock, she presented a similar appearance to the one of our own that died yesterday. We cut her open, and found that all the grass in her stomach was in a state of lively fermentation, giving out quantities of gas from time to time. In one of the ventricles of the heart was a large clot of coagulated blood. In his pasture and in mine, there is a tract of land that has been broken and allowed to go back. We figured it out that the cows must have taken some poisonous weed. We have had fine rains, and the pasture is rich and heavy. P. H. M.

Rosebud, S. D.

The cows, evidently, died from hoven or bloat—a distension of the rumen or first stomach with gas. There is nothing in the description upon which I can base an opinion as to the probable cause of the bloating. Cattle, when first turned on to rich pasture, especially in spring, or from eating grass or clover covered with dew, rain, or frost, are liable to suffer from bloat. Grass or other green food, when eaten too greedily, is also liable to result in fermentation and bloating.

When first discovered, urgent cases should be immediately punctured with the trocar; or in the absence of the trocar, with any sharp, long-bladed knife, and the gas allowed to escape through a quill or other small tube. The puncture should be made on the left side, at a point equally distant from the last rib, the transverse processes of the lumbar vertebræ, and the point of the hip. In less urgent cases, or after the puncture, two or three ounces of oil of turpentine well shaken up in a pint of raw linseed oil, will usually afford relief. Two-ounce doses of the aromatic

(*Continued on next page.*)

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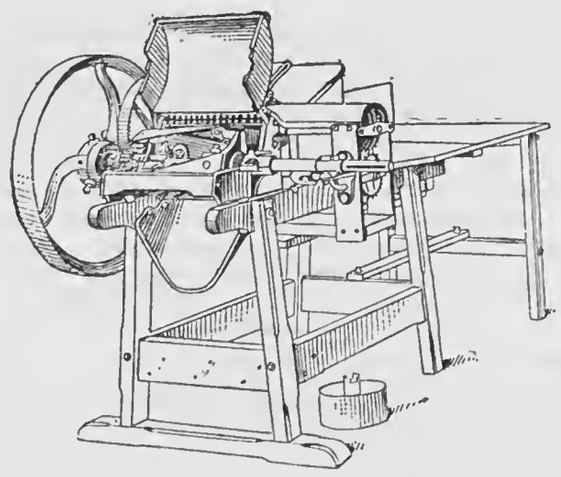

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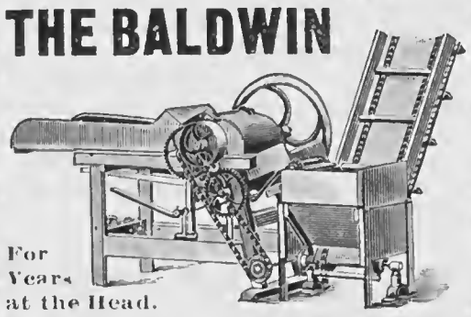

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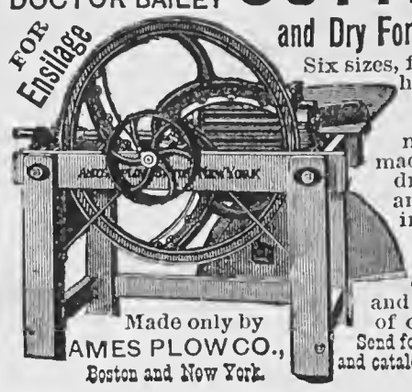

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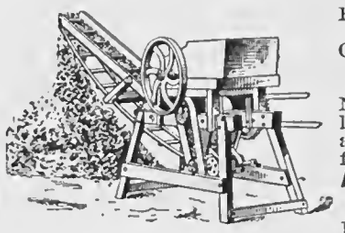

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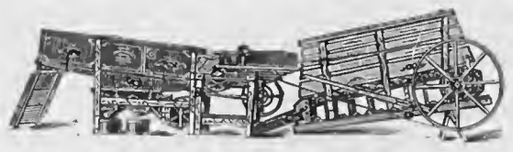

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LIVE STOCK MATTERS.

(CONTINUED.)

spirits of ammonia may be given every half hour until relieved; or an ounce each of the spirits of ammonia and ether. As soon as the bloating is relieved, it is well to give a full dose of salts (one to two pounds of Epsom salts to two ounces of ginger, according to the size of the animal) to carry off the offending food. Slow walking exercise usually facilitates the removal of the gas.

Run Down Mare; Mule That Coughs.

1. My mare, two weeks or more ago, had short spells of colic, for which we gave salts, and then linseed oil; the urine was thick, and for that, a dose of saltpeter was given. Since then, she has become much worse, having a high fever with labored breathing, apparently weak in her legs, as she will fall down when driven. The skin seems to be underlaid with air bubbles, which can be felt when the hand is passed lightly over the shoulders, neck and chest. The eyes run water, which appears bloody. Her appetite is poor, but she has considerable thirst. There is no veterinarian in this section, and none of the old jockeys seems to be able to say what is the matter. She has not been over driven or heated in any way, has been fed on good, clean corn and fodder, with some oats. She coughs slightly when exercised. 2. I have also a mule which coughs a good deal, but only in bad or changeable weather, has no running at the nose, and is not affected otherwise in any way. She has a good appetite, and works well. After a severe spell, she will cough up considerable phlegm, and then be all right for a time. R. A. T.

Hampton, Fla.

1. The mare is suffering either from anasarca or septicœmia. Anasarca would be due to a debilitated condition of the blood or general system, while septicœmia would be due to the absorption of septic germs, usually through wounds or sores. Give the mare, three times daily, one dram quinine and four drams chlorate of potash. Ounce doses of oil of turpentine, well shaken up in one-half pint of raw linseed oil, or one pint of milk, could be alternated with the quinine to advantage. If there are any wounds, dress twice daily with a two-per cent solution of carbolic acid, or dust thoroughly with iodoform. If the patient become very weak, give alcoholic or other stimulants. A concentrated nutritious diet should be given, such as oat-meal gruel, scalded oats, or even eggs. 2. Rub the throat every two or three days from ear to ear, with a liniment of strong aqua ammonia one part, and sweet oil two parts, well shaken together. Continue until the throat is well blistered; then discontinue until the scabs drop off, and repeat as before if necessary.

FORKFULS OF FACTS.

What Kills the Rabbits?—I have some tame rabbits which I am raising for the Philadelphia market. I keep them in one end of the chicken house, on a floor, and let them run in the yard about one day in a week. I feed them on grass, weeds, cabbage and some grain. Some of them die when from six to eight weeks old. I cannot see anything wrong with them, as they seem well and lively, and just lie down and are soon dead. Can any R. N.-Y. readers tell me anything about the rabbit business? P. K. M.

Exeter Station, Pa.

Pekin Ducks; New Feeding.—I have as fine a lot of Pekin ducks as I ever saw, nearly 1,000 of them, and some of them so fine that it is a shame to kill them for market. The first 60 that I sent to market weighed 316 pounds, or 5¼ pounds each, at 10 weeks old. I get 18 cents per pound all through the season, and they cost, for feed, about four cents per pound—less this year. I think that beats potatoes at 20 cents per bushel, milk at 2½ cents per quart, veal calves at 4 cents per pound, or pork at 5 cents per pound, about our market price now. I think that I can make more pounds of meat with Pekin ducks, with the same amount of feed, than of any other kind of meat, pork not excepted. I can make 100 pounds of duck meat with from 350 to 400 pounds of feed, every time. I am now feeding my hens with the idea of assisting moulting, four parts cake meal, one part cotton-seed meal, four parts meat scraps, salt to season well, slightly moistened, for a morning feed. At night I feed cracked corn and wheat. We all use cake meal to make horses shed quickly in the spring; it gives their coats a healthy, glossy appearance, and I see no reason why it should not assist the hens in moulting. I use the cotton-seed meal to counteract somewhat the loosening effect on the bowels, of the linseed cake meal.

J. E. STEVENSON.

What About Gapes?—1. What is the cause of gapes in chickens, and what is the remedy? 2. Is it as liable to occur later in the season as now? J. K. H.

Shewville, Conn.

R. N.-Y.—1. Small, whitish worms in the windpipe are the cause. Prevention is better than cure, although the number of "sure cures" given by different writers is legion. Yarding the chicks on ground which has been thoroughly disinfected by air-slaked lime or diluted carbolic acid, is a good preventive. Feeding on chopped onions, every day for several weeks, is another. Some also mix a small quantity of turpentine in the soft feed. Putting them in a vessel with tobacco smoke until ready to drop will cure gapes. 2. No. After the chicks attain good size, the worms, if present, do not seem to affect them so much as when they are smaller. It is during the first few weeks of the chick's life, that they suffer most.

Hen and Pig Questions.—1. What is the matter with my hens? They look healthy, and eat well within 30 minutes of the time they die. Some of them will lay their egg s and die in 10 minutes afterwards. The first indications are that they are a little drowsy, and then they droop their heads till they rest on the ground. They have a free range to all kinds of grasses and Alfalfa. We have been feeding oats mixed with a little wheat, sometimes a bran and shorts mash, and sometimes potatoes, carrots and turnips. 2. Will a purebred Berkshire boar get white pigs from a white sow? S.

Afton, Wyo.

R. N.-Y.—1. Not enough of the symptoms are given to determine, but the probability is that the hens are too fat, and die of apoplexy. 2. Probably some of the pigs will be white, but they are more likely to combine the two colors.

Killing Woodchucks.—Ground hogs are great pests in this township (neighboring townships give a bounty of 10 cents per scalp, and scalps have become quite scarce within their borders). This summer, two holes have been dug under my garden fence, and the occupants and their friends feast sumptuously on my garden truck. You advised a subscriber to use bisulphide of carbon. I got a pint and used it, according to directions, in three holes. The holes stayed stopped for two or three days, and then were opened. How much should be used per hole? Did I use enough, did I kill the occupants, and were the holes opened from without? Do ground hogs have the power to hibernate at will, and is it probable that these "hogs" took a few days' sleep? If neither dead nor asleep, were they stupefied by the bisulphide, or did they fast during the time? Cannot you or your subscribers throw light on the underground habits of the ground hog, and give a practical method for their sure extermination? G. G. G.

R. N.-Y.—Let's have all the facts possible about woodchuck killing.

Cutting Out Horns.—The removal of the budding horns of calves by burning, may be characterized as an unnecessarily painful method of accomplishing the purpose intended; uncertain in its results, and generally speaking, as a rough, rude and unscientific procedure. The action of a caustic cannot be accurately gauged. It does too much or too little. It is slow and incomplete; for while it kills the parts to be removed, the actual removal, of a portion, at least, of the dead tissue, is left to Nature to get rid of by the tedious process of ulceration; the cavity left having afterwards to be filled up by granulation—another slow operation. By the use of cocaine to annul the pain, a knife to cut through the skin, and a gouge to separate the bony part of the horn from the skull, all that is desirable to remove could be taken away at once, leaving a clean-cut surface which, if properly treated, would heal kindly in a few days. The handy man of the neighborhood would, after the experience of a few trials, acquire the dexterity that would enable him to perform the operation in a few minutes, painlessly, neatly and effectually. W. O. E.

It is well to get clear of a Cold the first week, but it is much better and safer to rid yourself of it the first 48 hours—the proper remedy for the purpose being Dr. D. Jayne's Expectorant. The best family Pill, Jayne's Painless Sanative.—*Adv.*

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Humorous.

MOST of us know a good thing when some one else has it.—*Life.*

"WITH all thy faults, I love thee still," as the husband said to his seolding wife.—*J. D. F. W.*

"AN' so O'Flannigan was sint up fer loife, ye sez?" "Yis, but his friends do be thryin' to get his sintenee redooced tin years."—*Life.*

A NEWSPAPER published in an Oklahoma town, where the women reecntly earried the election, sent the following order to a supply house: "Please send us one small eut of a hen. Women carried the eleetion here, and I suppose we will have to swing out a hen instead of a rooster."—*New York Tribune.*

MRS. YEAST: "I wish I eould think of something to keep my husband home nights." Mrs. Crimsonbeak: "Get him a bieyele." Mrs. Yeast: "That would take him out more than ever." Mrs. Crimsonbeak: "Oh, no, it would not. My husband got one day before yesterday and the doctors say he won't be out for a month."—*Yonkers Statesman.*

THEY were at an afternoon tea, and eaeh held in her delicately gloved hand a eup of amber fluid, whieh she sipped daintily with a souvenir spoon, but their tcehnical knowledge of tea would have made a tea expert's hair stand on end. "I like Fedora best," one of them was saying, sweetly. "Do you?" said the other. "Now, I prefer Solong, beeause there is no nieotine in it." "Talking of tea brands?" asked a soeiety bride, flutteringly. "I just adore Boohoo. It's made in China, you know." "Well, afternoon tea is good enough for me," warbled a soeicty bud who didn't know anything but real knowledge and wouldn't bother her wavy head with tea kinks. But the hostess who had served Formosa and Souchong and Bohea sighed to think of the ignoranee that sometimes existed in social eireles.—*Detroit Free Press.*

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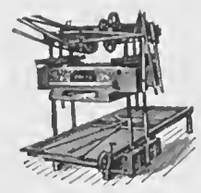
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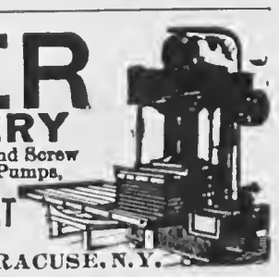
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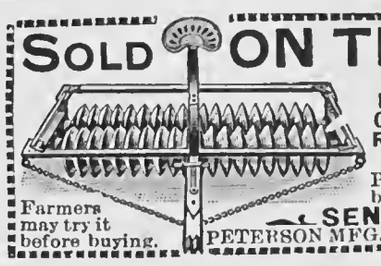
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	TEST NO.	TEST.
On Nov. 7	1	0.05 of 1 per cent.
"	2	0 05 " "
"	3	0 06 " "
"	4	0.04 " "
On Nov. 8	1	0 05 " "
"	2	0.05 " "
"	3	0.03 " "
On Nov. 9	1	0.04 " "
"	2	0.04 " "
"	3	0.03 " "

These analyses of the skim-milk were made and read by myself, and I wish to say that the work the machine is doing is satisfactory.
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO., N.Y.

VOL. LV. No. 2427. NEW YORK, AUGUST 1, 1890. $1.00 PER YEAR.

DRINK FOR THIRSTY PLANTS.

CARRYING THE SWAMP WATER TO DRY LAND.

A Cheap System of Irrigation.

[EDITORIAL CORRESPONDENCE.]

A local paper, printed in 1858, stated that, in that year, the farmers of Bergen County, N J, shipped 10,000,000 baskets of strawberries to New York, which sold at an average of three cents a basket. At that time, strawberry growing was the great fruit industry of northern New Jersey. The farmers enjoyed a monopoly of the New York market at the season when their berries ripened, and the business paid well. Gradually, however, the strawberry was given up. Other sections began to grow the fruit, and as railroad facilities were increased, New York was fed from a much wider area. For many years, the north Jersey farmers neglected the strawberry and turned their attention more to sweet corn, Lima beans, melons and potatoes. Now they are slowly coming back to their little red friend of olden times, and strawberry patches are growing into acres on many farms.

At a farmers' institute last winter, the question of small fruits was discussed at length, and the chief objections urged against the business were a scarcity of good pickers, and the prevalence of drought in spring. In the majority of years, the crop is cut short by dry weather, and the drought also interferes with spring setting of plants. Mr. T. C. Kevitt's place is right over the line from Bergen County, and his success with Parker Earle strawberries has had the effect of starting many of his neighbors and friends back into the strawberry business. Our old friend, Mr. A. Johnson, is another man who has made money out of strawberries.

Last week, we told how Mr. Lewis, after 20 years of exclusive chemical farming, has about decided that he may well take the old cow back into partnership. Here, in much the same way, are these north Jersey farmers going back to the old friend who helped them out 40 years ago. In both cases, the old friends came back, but not under the old conditions "Chemicals and clover" welcome the cow again because she brings a creamery. If she were still linked to the old private dairy, they would not have her on the farm. The strawberry is welcomed back after 40 years of wandering, because it brings new and improved varieties that lengthen out the season and give more and larger fruit, and also because it is now possible to grow berries without stable manure, and to irrigate in time of drought. The varieties and manuring have been discussed—now we wish to tell how one man has solved the irrigation problem.

Not far from Mr. Kevitt's place, is the Speer farm. Years ago, strawberries were grown in this neighborhood, but of late years, the usual farm crops of rye, potatoes, grass and corn have been the chief staples. Farmers generally understand how little money there has been in these crops for the past few years, and young Mr. Speer determined to see what there is in strawberries. He set out about an acre of plants in a level field close to a large swamp. As he studied over the question, he became impressed with the idea that an abundance of water, just at the right time, is a necessity in producing first-class fruit. A strawberry is nearly 90 per cent water anyway, and is formed and ripened in a comparatively few days. The water must be right at hand all through its growth and formation, or the fruit cannot be perfected.

Mr. Speer thought that, so long as he was experimenting with fruit growing, it would pay to use water on a part of the field if it could be obtained at slight expense. Close to the field is a swamp of 100 acres, with a constant supply of water at a depth of eight feet. Here was a great reservoir within a few feet of his thirsty plants, and the only problems were how to raise this water cheaply and let it run over the surface of the field. He dug a hole at the edge of the swamp deep enough to sink two barrels—one on top of the other. There was an old rusty pump out in the shed, and this was cleaned up and put down into the water which rose in the barrels. A one-horse tread power was backed down to the barrels and connected with the pump by a wooden rod. A short piece of hose ran from the nozzle of the pump to a wooden trough made by nailing together two narrow pieces of board. Stakes were driven into the ground with wires run between them and along these other wooden troughs were run as shown at Fig 161. Fig. 162 shows how the end trough is run to the ground so that the water soaks all along the surface Fig. 161 shows this simple irrigation plant in operation. Mr. Speer stands by the tread power while the figure showing us his back, with the surprising summer costume of overcoat and straw hat, is our old friend, Mr. Kevitt.

THE SWAMP GIVES DRINK TO THE FIELD. A CHEAP IRRIGATING PLANT. FIG. 161.

The beauty of this outfit is its small cost. Aside from the tread power, it, probably, does not represent a cash outlay of $10, yet the water pours through those troughs in a perfect flood.

Mr. Kevitt's place is on higher ground, and he says that it would cost him nearly $600 for well, pump, engine, etc., to secure the stream of water which Mr. Speer obtains so cheaply. There are, in this country, thousands of places where just such a scheme for irrigation could be carried out. On almost any level field, near a swamp, there will be found an abundant supply of water 10 or 12 feet below the surface. Irrigation consists in finding some cheap way of raising that water, and letting it soak into the surface soil. Mr Speer's experience shows that irrigation is not always so expensive an operation as we have been led to believe.

This year's experiment covered only a part of the berries. The horse was worked in the power two days—the stream pouring over the ground until it was so soft that a man would sink in over his shoes in walking over it No accurate measurements were made to show the increase of crop due to irrigation, but the difference in the plants was easily seen, far across the field. The plants were larger and greener, and the fruit averaged 50 per cent larger on the irrigated parts Mr Speer is a practical man who judges the value of the strawberry crop by the dollars it brings in. His estimate is that this year's irrigating

has been worth $100, and he expects to put in more small fruits at once where the troughs can be run to them. The field is in such a position that, at least, 20 acres can be watered from the swamp. Several other holes have been dug along the line of the swamp, and it will mean but half an hour's work to carry tread power and pump to a new location. A crop of potatoes is now growing in the field, and it is proposed, as an experiment, to turn the water on them in case they show signs of suffering from drought.

The trees in the swamp provide the leaves for a cheap winter's mulch, the water makes the thirsty berries grow, and bone and potash will give them the food they need. If you have such a location on your farm, the chances are that you are falling short of your duty when you fail to get that cheap water to the surface, and let it soak into the soil. It will pay you to do it for a crop of grain or hay—not to mention the fruit crop. H. W. C.

IRRIGATING WITH STEAM POWER IN OHIO.

The modus operandi of our strawberry irrigation is a first attempt, but I will freely tell what we did, and what I think we learned. First, we began entirely too late; we lived in hopes that the usual rainfall for May might come, and we waited until the berries were almost ripe and the vines had begun to wilt in the hot, dry air. I then looked about for the means of irrigation, visiting two of the neighboring cities on the hunt for a cheap, centrifugal or rotary pump. I found a 1½-inch centrifugal, which I bought for $10. This was much smaller than I wanted, but it was the best I could do. I then bought 400 feet of two-inch pipe, which cost in Toledo, $27—very cheap, I thought.

I got the things together at the side of the two-acre pond on May 20, with a 10-horse power gasoline engine. The pond lies 17 feet lower than the highest point of the berry patch. This patch consists of nearly four acres. It has a slight valley running through it, which makes it necessary that the water be taken to the highest points on each side. We tried only the south side, which was the larger, and had the better stand of plants; the north side, owing to drought and White Grubs last summer, did not contain a half stand. After the usual amount of trouble in getting the different parts acquainted with each other, getting the belts tight and willing to stay on, we finally got a fine stream of water going about noon on May 21. It was good to see that two-inch pipe running full, and the water coming out with a force and gush that showed that it was a good, solid stream.

The land, of course, had not previously been prepared for irrigation, but with hoes we directed the water in slight ditches along the highest parts, and let it flow down through the rows. It was glorious to see the parched ground drinking up the warm water, and to watch the curled leaves of the Warfields spread themselves out under the reviving drafts. The Michel's Early were already ripening, and we had been picking them for several days.

For three days and one night, we kept this stream flowing, lowering the water in the pond about four inches, and still we covered but little over one acre of the patch, possibly 1½ acre, as the water spread irregularly, owing to the conformation of the ground. We quit Sunday morning. The main part now irrigated was like a mudhole, one could not walk over it without rubber boots. Monday it began to rain, and rained daily until all the country was soaked, and the streams were out of their banks; so you see we would better have trusted Providence once more. We have had, however, a fine crop of beautiful berries, the Parker Earles doing well with us for the first time.

I think that the yield was not so good where the irrigation was so profuse as it would have been had we trusted to the showers alone. The lesson learned was, to begin at least two weeks sooner. Also, to prepare troughs by nailing two boards together for each section, and have enough of them to reach the farthest high point as a starting place; then when that has received enough water, drop off some of the troughs, section by section, until we finally reach the pipe. By this means, we would not drown out that part next the pipe by the long continued flow in the ditches made necessary in reaching the farthest points. In this case, if I had had about 250 feet of troughs made, say, of eight-inch and nine-inch boards, nailed V-shape together, we could have irrigated, at least, 2½ acres with the water we used, and done it far more successfully, and not unduly flooded any part of the patch. I have now a piece of sod broken this spring, and planted to sorghum and rape, which I expect to set to strawberries next April. This is much closer to the pond, is not so high above it, and I shall prepare to irrigate it beforehand. I have the pump and pipe, and can always rent, either a steam or gasoline engine, for the few days I need one. I was surprised at the power it took to drive this little centrifugal pump. I had calculated that a four-horse power would be enough; but I found that it took about all the 10-horse power engine could do. We run the pump about 2,000 revolutions per minute. I believe that a larger pump, run much slower, would be more economical. I used about 10 gallons of gasoline per day, or 40 gallons for the entire time. Our rainfall here is about 40 inches per year, on an average, while last year it was only about 25 inches, and this not in the growing months in fair proportion. I believe that irrigation will pay on berries of all kinds, and am in it now to find out. S. S. STALEY.

Champaign County, Ohio.

THE STRAWBERRY FIELD. HOW THE WATER IS APPLIED. FIG. 162.

WHAT THEY SAY.

THE MARSHALL STRAWBERRY.—There were good varieties of strawberries long before Mr. Ewell, of Marshfield Hills, Mass., discovered the Marshall; but I believe that there were none quite so good as this one for the particular place that it is adapted to fill. There is satisfaction in growing superior fruit, and the Marshall, as a variety, is certainly well qualified to pay a high premium as a reward for skillful culture. Its sphere of usefulness may have limitations, but, as a fancy fruit, it appears to have a brilliant career before it. L. F. KINNEY.

Rhode Island Station.

THE JAPANESE WALNUTS.—On page 466, F. T. S., of Connecticut, asks about the probable commercial value of Japanese walnuts. While there is no doubt of their hardiness, productiveness and good quality, they are not so desirable for market as the Little Shellbark hickorynut which flourishes in about the same latitude and soil. The nuts of J. Sieboldiana are rather small and very thick shelled. J. Mandshurica is larger, but also very thick shelled and has a small kernel. There is considerable more variation in the nuts of J. Cordiformis, which average in size about with the Little Shellbark, and, as the specific name implies, is distinctly heart-shaped. The shell is smooth and rather easily cracked. The kernel is plump and comes out easily, in some cases being whole. The greatest promise from these Japanese walnuts lies in the seedling varieties which may be originated by crossing them with the Persian walnut. J. regia, and other species. H. E. V. D.

POISON IVY AGAIN.—W. O. E., in his notes on ivy poisoning, does not say that "poison oak" is quite as poisonous as ivy. The former runs on the ground, and has a round, flat leaf; the ivy is a climber, and has three leaves, instead of five, like its innoxious prototype, the Virginia creeper. When a farmer boy, the harvest season was one of intense suffering to me, as I invariably became poisoned on my hands and face first, and then wherever I touched my body, the part became affected. Wearing shoes and stockings, was, as W. O. E. says, a good precaution. I am over 60 years of age, and since I entered the army in 1861, have been little in contact with these noxious plants; yet I find that the poison will appear on my hands if I touch, or on still, damp mornings go within four or six feet of poison oak. I have no ivy on my farm. Free applications of water allay the itching and check the spread, if immediately applied. At times, however, when the blotches are extensive, I take a piece of bread somewhat larger than the poisoned part, soak it thoroughly in water, and after sprinkling it with common washing soda, apply as a poultice. As the bread dries, I drop more water on it. In the space of an hour, the poison is effectually killed. I know of a case where the afflicted person swallowed the leaves as advised by W. H. L., page 482, and came near losing his life. He came out of his experiment permanently afflicted. It is too dangerous a remedy for very susceptible persons; the Rhus Tox of the homeopathist is far preferable.

Washington, D. C. R. S. L.

[Gray's botany gives poison ivy and poison oak under the same name, Rhus Toxicodendron.—EDS.]

COWS WITHOUT HAY.—I believe that E. A. S., page 475, can take care of his extra cows with the foods mentioned, and have them do as well as with hay, and much more economically. Grass may be the natural food of cows, but hay is not. At the present prices of hay and grain, hay is a most expensive luxury. If E. A. S. must buy all of the feed, he should hardly purchase turnips or buckwheat straw. If he has the corn fodder and turnips, I would feed about as follows, depending on the size of the animal and quantity of milk given, feeding all the cow will digest, and return profit therefor. In the morning, two quarts of bran, one quart each of corn meal and linseed meal, and eight to 10 pounds of corn stover; at noon, six quarts of bran; at night, four to six quarts of turnips, five pounds of corn stover, and same grain ration as in the morning. I consider well-cured corn fodder worth $6 to $9 per ton. I know nothing about buckwheat straw. We have fed cows two seasons with scarcely any hay, and they have done well and come out in first-class condition in the spring. The Timothy hay is readily salable at $20 per ton, while bran is now $11 to $12, and gluten feeds $13 to $17 per ton. Rye straw is worth as much as hay, so that, for cows, we depend largely on grain and corn. The hay crop has improved very much within two weeks. H. G. M.

West Winsted, Conn.

IVY POISON WILL SPREAD.—In THE R. N.-Y. for July 18, W. O. E. imparts the impression that poison ivy is not likely to manifest its effects on covered portions of the body. Were he here at this moment, I could quickly convince him of the contrary. In fact, its spreading nature is what I most dread. I am peculiarly susceptible to being poisoned by poison ivy, poison oak, and swamp sumach, and if any one suffers more from their effects, I am heartily sorry for him. There is something peculiar, particularly about the poison ivy. Some persons may even put it into their mouths with impunity, others dare not venture into its very proximity without serious results, while a third class is only partially susceptible. I have tried many remedies. The fresh juice of grindelia robusta as well as the fluid extract thereof are both good. An ointment made by frying the inner bark of the elderberry in lard, is also efficient. To allay the intense itching, nothing acts quicker than a solution of sugar of lead. But I do not know of anything that will surpass in remedial effect the free and frequent applications of alkaline solutions. Of these, I prefer a fairly strong solution of ordinary bicarbonate of soda, the stronger, the better its effect, but if made too strong and applied to a partially raw surface, it will occasion considerable pain, which, however, can be quickly mitigated by the application of cold water. I have tried every remedy in the pharmacopœia and a number outside of it, and the result of my own experience places the solution of bicarbonate of soda at the head of the list of remedies for this trouble. J. C. SENGER.

PASTURING FROM THE SILO.

There is great complaint of drought all over western New York. Pastures were never shorter than now; the cows go lowing about for food, and the owners look in vain for the usual quantity of milk. Many sowed oats and peas, and oats alone, at different times, and are cutting them for food, and some are cutting corn which is scarcely tasseled out. The oats and peas make an excellent food, and the oats, when just right, do fairly well; but the trouble is that neither crop is at its best only a few days, and either, when ripe, is but a poor substitute for succulent food. The green corn has but little feeding value, not much more than a thick mist held together with a little woody fiber. We had a lot of ensilage left over last spring, and have been feeding that to our cows. It does the heart good to see how greedily they eat it, and the pocket good to see how abundantly it keeps up the milk flow. When we realize how much food can be grown on an acre of land in the corn crop, what an excellent food it is for stock, and how easily and perfectly it can be preserved in the silo, is it not strange that so few avail themselves of the silo as a help to tide over the drought that is sure to come nine years out of ten? I have a friend who is a city milkman; and while only about five years ago, he was the great-

est opponent of the silo in all these parts, he now has two large silos, and keeps one for summer feeding. It pleases him to see the weather get dry and pastures short, for he then feeds all the ensilage the cows will eat, and says that his cows give milk equal to the few weeks of best and freshest feed in June. When his competitors are short of milk, he is ready to take their customers, or to sell them milk.

Of course, soiling helps in these dry times, but when so dry that the clover won't grow, and the late soiling crops make but feeble growth, what can we use for soiling? Besides, when we consider the labor involved in daily supplying the stock with a soiling crop, the silo is away ahead of every other help. Silos never had such a boom as they are getting now, and I predict that, inside of 10 years, silos will be the main dependence for summer feeding of stock.

J. S. WOODWARD.

A GOOD CROP OF GRASS.

ITS PEDIGREE, FROM SEED TO MOWER.

A Revolution and a Revelation.

PART I.

On page 431, Mr. Geo. M. Clark told us about his great crop of grass. In this dry season, when there is a general complaint all over the country, that good meadows are cutting less than a ton to the acre, Mr. Clark's statements seemed peculiarly large. Some of our readers were prompt to say that they did not believe the story. Their land, they said, was just as good as Mr. Clark's, and they could not grow four tons to the acre; and even if they could grow it, they could not cure it, for such grass would lie so thick on the ground, that it could not be dried out!

On July 8, I visited the field, and saw some of the standing grass, and the hay as put into the barn. I now purpose giving in detail the life-history of this hay crop as given by Mr. Clark. It seems to me that the reasons for this great success with a crop that is a general failure this year, are made quite clear in Mr. Clark's statement.

First of all, comes the man. A picture of Mr. Clark is shown at Fig. 163. He has been interested in farming and in manufacturing implements for many years. The Cutaway harrow was called into existence because Mr. C. saw the need of a new tool that would do certain needed work faster and better than it could be done by any tool then made. For the past 12 years, Mr. Clark has been studying the grass crop. He concluded that, at the rate the experiment stations were going, it would take him 50 years to learn what he desired, so he went ahead on his own account, experimenting with manures, combinations of seeds, methods of sowing, and preparing the ground, etc., feeling his way along until he could reach the point he had marked out, viz., eight tons of hay to an acre!

The hay crop in New England is a very important one. On many of the hill farms, it is, when labor is taken into consideration, one of the most profitable crops that can be grown. Thousands of tons of baled hay are brought into Connecticut and sold in all the country towns. With eight tons, or even two tons, of clean, bright Timothy, per acre, a farmer will make more clear profit, one year with another, than he can from almost any ordinary crop. Mr. Clark has always seen the importance of the New England hay crop, and that is why he has given it special attention.

With eight tons per acre as his ideal, let us see how near he came to it this year. There are 16 acres in the hay field, 10 of which were seeded last September. Here is a statement showing the yield:

	Pounds.
Total yield on 16 acres	129,185
Yield on best acre	12,340
Yield on next best acre	11,935
Average on the whole field	8,074
Average on six best acres	10,777
Yield on 10½ acres, original field	101,685
Average on 5½ poorest acres	4,986
Average on 10½ acres	9,684

The hay was weighed as it left the field for the barn. When we make a fair estimate for the second crop, we see that Mr. Clark is getting pretty close to his standard, for the best acre yields over six tons, and the average is nearly five tons.

Now, how was it done, and how can you duplicate it? The land is not particularly fertile, and I would not select it for natural grass land, by any means. The upper portion was, formerly, an old huckleberry pasture. A part of the original stone-covered hillside has been left to show the character of the soil. On one side of the dividing line, 10 acres of the old pasture would hardly provide pasturage for one horse, while on the other side, a single acre will provide the hay for three horses! Of course, the stones were all taken out and buried in drains on the lower part of the field. The design was to make the surface of the field as smooth and evenly graded as possible, for that is one of the first requisites of the new grass culture.

Mr. Clark says that our grandfathers failed to raise large hay crops because they did not get a perfect stand, and either did not use enough manure, or used the wrong kind. What he means by a perfect stand, is two or more strong grass plants growing on every square inch or half square inch of soil in the field. Mr. Clark cut the grass on just one square foot of ground, and sent it to us. It weighed 17 ounces when cut, and contained 341 separate plants. Go out into your field that yields less than two tons per acre, and you will find less than one-third as many plants. You will also find bare patches all over the field, from the size of your palm to the size of your back, or larger, where no plants are growing, and where no new plants can be made to grow. It is on these bare spots that the crop is lost, for, even with an abundance of rain and the best of fertilizer, you cannot raise a full hay crop if from one-third to one-half the ground is not producing good plants. Get your druggist to weigh for you a single spire of well-cured Timothy. You will be almost frightened to figure out how many plants are required to make a ton of hay, and how closely these plants must stand in the field to produce three or more tons on an acre.

If you study the question in this way, you will see, as Mr. Clark did, that, in order to obtain a perfect stand of grass, certain fixed principles must be carried out.

1. The soil must be so loose and mellow that the tiny seeds can easily sprout and grow.

2. Nothing else must grow with the grass. All the weeds must be killed before the grass seed is sown, and no grain should be sown with the grass. Weeds and grain will surely kill out the tiny grass plants, and leave bare places all over the field.

GEO. M. CLARK, THE GRASS MAN. FIG. 163.

3. A seeding all over the acre as perfect as the space from which that sample of grass was cut, viz., 341 plants to the square foot, will require 14,853,960 plants on an acre. In order to get that many plants and allow for the seeds that never sprout, we must sow seed enough, and use the tools that will scatter that seed all over the field, so that it will be perfectly distributed. Then you must feed the crop.

That is the theory of the new grass culture. With Mr. Clark's field for our object lesson, we shall try to show the practical side of it. H. W. C.

LAWN AND GARDEN NOTES.

The month of August is a good time to attend to the budding of trees. Budding takes the place of grafting, which often has to be omitted because of the rush of garden work in spring, when it should be done. Besides fruit trees, many ornamental ones would be bettered if budded with other sorts. There is a good deal of pleasure in budding, besides the profit it oftentimes brings.

Crab grass, Panicum sanguinale, is often a great injury to a lawn. When but little of it appears, it does no harm, its bright green foliage being rather cheering in fact. But when it is abundant, its dense, spreading growth crowds out the permanent grasses and clover, and in this way, it does much damage. Because of its being an annual, it is believed by many that constant mowing is all that is required to eradicate it in a season, and so it is if all its tops are reached. But it is a grass which makes shoots close to the ground, and these escape the mower and reseed the ground. These shoots need bringing to the surface, by passing a rake over the lawn, that the mower may catch them. If all the flowering tops are cut off, the season ends the plant.

Aphides are great pests to many plants. Some honeysuckles, notably the variety of the English, known as the Belgian, the flowering cherry, roses, etc., are rarely free from them. It cannot be too well known that any greasy substance is death to them. One of the best preparations is kerosene emulsion. This is quickly sprayed over trees and bushes, and covering the coats of the insects, prevents their breathing, and their death ensues. It is but little to do for the pleasure of having the plants free from insects.

There is no better time to transplant fibrous-rooted evergreens than the close of August, especially should the weather be damp and warm. Pines are not on the list of available sorts, as the most of them are illy provided with roots. Plenty of water, carrying the soil closely about the roots will bring out fresh fibers in a few days, and the work will be a success. The trees become well established by the time winter comes. Retinisporas, arbor vitæs and similar evergreens are more likely to succeed fully than those planted in spring.

I cannot refrain from again calling attention to the desirability of the Gloire de Dijon rose for use as a climber. It is hardy in eastern Pennsylvania—entirely so—blooms from June till November, is creamy pink in color, and has the usual fragrance of the tea rose. The Crimson Rambler and many other roses are being pushed before the public as new and good, and so they are; but there is no other one of which I know, that is an everbloomer and a climber and as good as the old "Dijon." I do not think that it is known that this fine rose is as hardy as it is. My own plant has never been hurt by cold winters, though exposed to three of them, and being in a bad position—the south side of the dwelling—not a good site for anything deemed tender.

Pennsylvania. JOSEPH MEEHAN.

PEACHES IN CANADA.

VARIETIES AND METHODS OF CULTURE.

Mr. W. W. Hilborn, of Leamington, Ont., has charge of one of the fruit experiment stations of the Canadian government. His specialties are peaches and strawberries. Thinking our readers would be interested in knowing something about peach culture so far to the north, we asked Mr. H. a few questions about his crop. In reply to questions about varieties, he said:

"Of course, we are experimenting with all the varieties we can get hold of, to find out which is the most suitable for our climate and location. Our idea is to get varieties that will give us a continuous crop during the whole season, and there are a great many varieties that come in together. To get the best of each, we must plant all of them and then select. In that way, we can get a continuous crop from the earliest to the latest. I like the Alexander for the first ripening; then Hale's Early, Early Michigan and Lemon. The yellow peaches come in about that time, and, of course, when the yellow ones come, we have no market for the white or clingstones. Early St. John is the first; then Early Comfort and Barnard's Early. An excellent one that we have had a few years in Canada, is the Fitzgerald, an improvement on the Early Parker. Then Elberta comes in soon after that, followed by Hill's Chili, Longhurst and Late Crawford. The Lemon, I believe to be the best late peach we have. We also have the Smock and the Salway."

"What about the Crosby?"

"We have used the Crosby, but so far, I am not very favorably impressed with it."

"What objection do you find to it?"

"With young trees, it does not get quite large enough, and does not color up quite so nicely as some. We have planted it quite largely, however, and it may do better when the trees get larger."

"What three varieties would you recommend a beginner to plant?"

"We cannot cut it down to three varieties and cover the season."

"What would be the best one-half dozen varieties, then?"

"Of course, much will depend on the location; but on general principles, in a peach-growing district, I think that the following list would be about as good as I could give off hand. I would cut out the white, or clingstones, entirely, in so small a list: Early St. John, Early Crawford, Elberta, Late Crawford, Lemon and Smock."

"How far south, from your experience and correspondence, would you recommend these?"

"I think that they would do very well about 150 or 200 miles south of us."

"What special methods of culture do you employ?"

"We plant after any crop that leaves the soil in fair condition. If the ground is in condition good enough for corn, it is all right for peaches. We plant a little deeper than in the nursery, and aim to make the soil very firm around the roots. We let the tree get a good start before it is pruned, then prune it down to a little whip. I prefer rather small trees. We give them clean cultivation right along until about the middle of July or the first of August, and then seed down to rye, Crimson clover or something of that kind which makes a covering for the soil, and prevents the ground from getting frozen very deeply. This also keeps a certain amount of nitrogen that might be lost in the fall, if it were not taken up by the crop. This crop, also, by taking out part of the moisture from the soil in the fall, helps to ripen up the wood."

"What manures or fertilizers do you use?"

"I have used some barnyard manure, but chiefly Canada hard wood ashes."

"Do you observe any difference in the color or quality of the fruit where you use the ashes?"

"Yes, it makes the foliage a richer color, improves the fruit, and ripens up the wood. Of course, it is always essential in our part of the country, to get the wood ripened in the fall, because, although the wood might not be injured in the winter, the fruit buds might be hurt. We always select soil that is not too rich, a light, sandy loam."

"Do you have any trouble with the yellows?"

"No, there is no yellows. We have found a little rosette this year, but we have an inspector who goes around, takes this out and burns it. We have some trouble in enforcing this law, but in the good fruit-growing sections, we are very particular."

"How many years out of five do you have a crop?"

"I have been at my present place only six years, but there has been no failure in that time."

"When does your season for ripening begin?"

"We gathered the first peaches this year July 7. We usually get our first frost about October 20, which ends up the peaches. The peach season lasts about three months. We have quite a mild climate there; usually one or two below zero is as low as the mercury goes in an average winter."

NOTES FROM DALE VIEW FARM.

POTTING STRAWBERRY PLANTS; CHEAP POTS.

Those who failed to take advantage of spring planting, yet desire that their bill of fare for next season may include an abundance of fine strawberries, as well as those who wish to increase their present fruiting area for next season, may yet avail themselves of potted plants. That potting strawberry plants is a bugbear to the average berry grower, may be easily attested by going on the market some sultry morning in July, and interviewing a few of them. In the first place, potting plants in the usual manner is tedious work; second, the cost of pots is considerable; third, if the months of July and August be very dry, the bit of earth in the pots, partially cut off from the action of capillary moisture from below, becomes as dry and baked as only a scorching sun can burn it, unless the ground be kept constantly moist and cool by faithful artificial soakings; fourth, earthen pots, by the thousand, are very heavy to handle and must, necessarily, be handled with no little care to avoid breakage.

But why discuss so unpleasant a subject, when we may completely revolutionize the good (?) old way by employing an entirely different method—one without a defect so far as I have been able to see, in which the cost of pots ought not to exceed one-half of a cent each; one in which the pots, weighing but six or seven pounds to the hundred, may be shoveled about like corn or potatoes without any per cent of breakage; in which, instead of having to fill the pots with earth one by one, by hand, they fill automatically as they are sent into the prepared soil at a single thrust; in which, if there be the least moisture in the ground, the soil in the pot has the full benefit of capillary action; in which the roots never become "pot-bound," no matter how long the plant may be left in it, as when they have completely filled the cup, they strike down into the soil in search of nutriment that will further develop it into a truly "business" strawberry plant.

The method is the most simple of any imaginable, one that I have tested to my entire satisfaction, and is not patented so far as I know. After deciding how many pots are required, go to a tinner, and have him cut as many strips of tin, 2 x 6 inches. They make short work of such a job on a modern shearing machine. Next, make a "form" or roller 1½ inch in diameter, and about a foot long. With a plane or sharp knife, take off a "shaving" lengthwise of this roller, leaving a flat surface about one-half or three-fourths inch in width. Upon this flat surface, tack a quarter-inch strip of tin about three inches long. Fig. 164 fully illustrates the construction of the form. In making the pots, insert the end of the tins under the little quarter-inch strip, and upon a smooth, solid bench or table, roll the tin neatly around the form. Owing to the elasticity of the tin, this makes a cup 1¾ inch in diameter, with a one-quarter-inch lap. These little, bottomless cups, may be made to last indefinitely by a good coat of roofing paint, which may be very rapidly applied by dipping them into the paint, and tossing them out on a sunny spot to dry.

In potting the plants, first thoroughly prepare the soil along the rows by making it fine and mellow to the depth of two or three inches, and raking down smooth and level. The pots are then quickly placed in position by setting them upon one end at every point that a runner is desired to be rooted. Then, with a light trowel, press the keen-edged little pots down into the soil until the upper rim is upon a level with the surface, and place the runner in the proper position so that the embryo plant will strike root in the cup. A small clod or stone will hold the runner to the place, if gently laid upon it.

Plants rooted in this manner may be safely planted at pleasure during August or September, and with good culture and a comfortable winter overcoat, will bear a good crop of the very finest berries next season. The little pots or cups, not being soldered but merely clasping by their own elasticity, are remarkably easy to remove from the "ball" of soil and roots which they contain. Never use zinc in the place of tin, as its galvanic or chemical action with the minerals in the soil, will burn the roots entirely off wherever they come in contact with it.

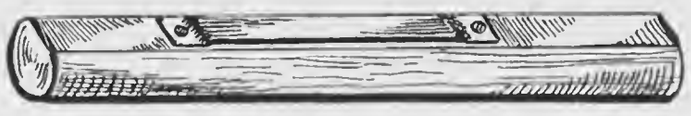
Ohio. F. H. BALLOU.

THE R. N.-Y.'S FRUIT REPORTS.

HILBORN RASPBERRY IN VERMONT.—Hilborn raspberry is making a good showing with us this year. It is medium early, and ripens its berries very evenly. It has borne an abundant crop of large, finely-flavored berries. It is a first-class blackcap, as far as this year's evidence goes to show. F. A. WAUGH.

Vermont Experiment Station.

SOME MICHIGAN NOTES.—The Fountain is again one of the finest and best strawberries on my grounds.



TO MAKE TIN POTS FOR POTTING. FIG. 164.

With one season's fruiting, the Clyde promises to outrank in yield of good-sized fruit our old friend, the Haverland. I am satisfied that the Brandywine is all that was claimed for it, and a most desirable variety. Bisel, Gandy, Marshall, Mary and Greenville, were all good. Beder Wood was the most productive, well-known, early sort. Gandy is still a prime favorite for late. Of a few Michigan received last fall in good condition, I counted only two weak plants this spring; those received this spring have made a good growth. If it's anywhere as good as Gandy, it is worthy of trial. I have nearly 100 sorts including several seedlings, some of which are very promising.

Ingham County, Mich. C. N. FLANSBURGH.

DELAWARE STRAWBERRIES.—Our strawberry crop suffered from dry weather and, later, a severe hail storm swept a large part of our beds, leaving neither leaf nor berry. Plow City, which sold at $2.50 per dozen the past season, proves entirely worthless with us this year, while Gertrude, which comes from the same parties, is a very promising, early berry of good size, somewhat pointed, long and of good color and quality. The vigor of the plant, along with its other good qualities, makes us hope that it will prove an acquisition. Ideal, we think the best berry we fruited, although it suffered very much from the unfavorable season. It ripened rather earlier than usual, coming just after the first early sorts. Berry large, uniform and shapely; color the brightest and best we have ever seen. Plant strong and healthy, and sets lots of fruit. Of the very early kinds, we get the best results from Meeks's Early, and of the medium varieties Bubach, Haverland, Greenville and Bisel all do very well here fertilized with Saunders, Lovett or Tennessee. The last sort looked anything but promising last year when it gave its first crop here; but it has certainly reëstablished itself in the estimation of growers. It is much like Crescent, but of larger size, and a perfect bloomer. Brandywine is a fine berry of the Gandy type, of the best quality and, apparently, more productive; but growers are much pleased with Gandy, and it will be largely planted next year, especially on the heavy land, where it has the necessary moisture to enable it to bring up its late crop. Parker Earle is a failure here, on account of its liability to rust. Wm. Belt is a most promising new sort that gave large, fine berries, and seems likely to give more of them than any of the extra-large berries we have. Our growers are greatly pleased with the Miller raspberry, which is admitted by all who have seen it to be the finest red raspberry ever grown here for market. There will be heavy planting of this raspberry, and also of Lucretia dewberry next year. Berries never fail to pay well for careful attention, and the crop is becoming one of greater importance to our Peninsula every year.

Delaware. A. W. SLAYMAKER.

A MASSACHUSETTS PLUM.—I have about a dozen trees of the Greeley plum with which I am much pleased. It is a large size, purple, of excellent quality, and very early, ripening only a few days after the Abundance. The trees did not come into bearing so early as some varieties, but they are now bearing their third crop, and much thinning was necessary. It is a native of Maine, perfectly hardy, and I think is known very little outside of New England. The Abundance plum has borne full every season since fruiting, until this year. It is bearing some this season, though most of the fruit buds were killed by the severe freezing of last January after the soft weather of December. All peach fruit buds in this vicinity were killed, with many of the tender branches. M. M.

Medway, Mass.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Accident to An Apple Tree.

F. W. B., Portchester, N. Y.—I have an early red apple tree near the house that has dropped its fruit for the last three years. We, at that time, built the house and, in blasting the cellar, a piece of rock fell against the tree and broke off one of the largest branches. Can you tell me of any remedy?

ANS.—The breaking off of a large branch I would not think to be the cause of the premature falling of the fruit. However, it might have very seriously injured the vitality of the tree. There may be something else the matter with it. "Dig about it and dung it," using plenty of potash, and if it do not become healthy, cut it down and plant another.

H. E. V. D.

Advice About Planting Plums.

R. F. P., Shanesville, O.—1. Do you think the fall the best time of year to plant plum trees? 2. Will you name a few of the best varieties to plant? Our soil is a rather close, clayey nature, and situated on a hill with a northwest exposure. Raspberries have done very well on this land. 3. Do you think my scheme a good one?

ANS.—1. As R. F. P. lives within the territory where fall planting of the stone fruits is risky, I would advise him to get his trees next fall, and bury them almost or entirely, root and branch, in a well-drained spot, and plant them next spring. 2. Abundance, Burbank, Berckmans, Chase, and Red June, among the Japanese kinds; and Wild Goose, Moreman, Hawkeye, and Wayland, of the native American type. These are all partly proof against the curculio, but never entirely so. If R. F. P. is willing to fight a battle with "the little Turk," he might plant of the European class of plums, Clyman, Spaulding, Lombard and Niagara. Almost any of the Damson varieties ought to do well at his place. 3. Yes, plum growing, wisely conducted, ought to pay him and many others similarly situated. Watch THE R. N.-Y.'s advertising columns. I have not seen a nursery advertised therein from which I would be afraid to order. H. E. V. D.

Root Pruning; Chestnut Grafting.

G. G. G., Vail, N. J.—1. I am satisfied that Mr. Stringfellow's method of planting trees is all right for fruit trees set in the spring; but will it do for fall setting? 2. Will it do for nut trees? 3. I have some seedling chestnut trees that I wish to move, and would like to know when and how best to do it. I wish to graft them next summer.

ANS.—1. In any climate where fall setting of trees is advisable, I can see no reason why the close pruned method of preparing trees for planting, will not work as well then as in the spring. My own experience with fall setting is, that young rootlets start out during the cool fall weather, and prepare the trees for an early growth in the spring. Try it. 2. I would be afraid to cut back severely the roots of nut trees, which are never very easy to transplant. However, I have never tried it, hence, cannot positively say that the plan would not suit them. Try a few and report the result in THE R. N.-Y. next year. 3. If the seedling chestnuts are in the forest, there is little hope of making them live well in the open. If they are nursery trees, and not too large or too

crowded, the better plan to get them into grafted trees in the orchard, would be to graft them next spring where they now stand, and move those that succeed, the next year. If they were transplanted this fall or next spring, and grafted next spring, the chances are that few of the grafts would take. It requires the full vigor, of a nut tree, especially, to unite the stock and scion. If the ground where the seedlings now stand must be cleared before another year, transplant them next fall, cut back the branches severely to lessen evaporation during the winter, and, after they have made a year's growth, graft them the next spring. My experience in grafting chestnut trees for the past two years, has confirmed my former opinion that the tongue method is far better than the cleft graft, especially for small stocks. Where large trees or branches must be used, the crown graft is the best system I have tried. Always cut the scions in the fall or early in the spring, and keep in a cool place as in the sawdust of an icehouse, to hold them back until the stocks have started into leaf. This is one of the main secrets of successful grafting of nut trees. H. E. V. D.

Is It True Abundance Plum?

G. S., Monroeville, N. Y.—Why do not my Abundance plum trees bear more? I have six of them planted near a chicken house, where 150 White Leghorns keep the ground bare. They are set 15x20 feet apart, and grow from three to five feet each year, which I cut back to about two feet, making them strong. Two years ago, the frost killed the blossoms. Last year, there was a big storm in the middle of the blooming season, but this year, they had fine summer weather, and I thought we would have a bushel to the tree, as they were white with bloom; but nine-tenths of them grew to about the size of No. 4 shot and then fell off. Some get stung with the curculio, and then drop off before ripening. If they need some other plum to fertilize them, what kind will bloom at the same time? I would prefer some other Japan that I could bud into them as suggested by J. C. L., page 402.

Ans.—The statements of G. S. accord so poorly with the almost general behavior of the Abundance plum, that it leads me to doubt the genuineness of his trees. It may be that he has some other variety—possibly the Satsuma, which is a poor bearer, but a good grower. Abundance is not deficient in fertility when planted alone, as many trials have proved, and does not need another variety budded into it. There is something quite remarkable, if not positively wrong, in this case, but it is not possible to know just wherein it lies. It may be that he has the true Abundance, and that a fungoid blight of some kind destroyed the young fruit. There have been many cases of that kind, with the plum and cherry in particular.

H. E. VAN DEMAN.

Picking and Packing Grapes.

A. B., Bordentown, N. J.—Will you put me in the way of learning how to gather and pack grapes for market?

Ans.—If A. B. has learned how to grow his grapes so that the quality will pay for the extra work necessary to put them on the market in an attractive condition, I will tell him how I do it. I have a light, spring hand-cart upon which I place nine carriers such as we use in strawberry picking. I take this into the vineyard, cut the clusters of grapes and place them carefully in the carriers. When full, I draw to the packing house. I use three-pound tills, first placing in them the stamped, lace-edged, fancy colored papers, that can be bought in all grape sections, cut to the length of the till and put two colors in each, placing them so that they will cover the grapes when packed. I handle the clusters carefully so as not to remove the bloom, and pack as close as possible without injury. These tills are put into cases holding eight each. We find that this sized till sells better than the larger ones, as grapes can be sold by the package without loss in handling.

In cutting from the vine, I cut only large, well-ripened clusters, leaving others to mature later, which the vine is enabled to do after being relieved of a portion of its fruit. I pack only first-class fruit, and find a commission man that has customers for such fruit, who are willing to pay for it. Extra fruit, neatly and carefully packed, can always be sold at fair prices, and many times, greatly above market rates; but one must first make a reputation for it, and then the way is easy. W. F. TABER.

Winter Lettuce Without Frames.

S. H., Ansonia, Conn.—I would like to hear what the gardeners have to say concerning growing lettuce in winter for the spring market. Last fall, I planted seed late in September. The seed came up and grew to small plants before cold weather set in. I then covered the plants with hay when I covered my strawberries. This spring, not one could be found when I took off the hay, Can any one give me advice? It was an experiment with me last year, and it failed. I cannot afford to lay out more for glass frames. We are about 12 miles north of Bridgeport. The land lies exposed to the north. It would be quite a saving to me if I could succeed in my undertaking.

ANSWERED BY E. G. LODEMAN.

It is no easy matter to winter lettuce successfully without the protection of glass. Lettuce is strictly an annual plant, maturing its seed the same year that it begins growth. On account of its moderate hardiness, however, this character of the plant has been partially modified so that seed may be sown one year, but the crop does not mature until the following season. This radical departure from the normal habit of the plant has exerted a marked influence upon seedlings so treated, and European gardeners have obtained several varieties which are especially adapted to withstand the cold of winter.

Any one who wishes to grow lettuce by wintering it in the open ground, should first secure the hardiest varieties. Lettuce is, ordinarily, supposed to suffer severely if the mercury falls lower than 10 degrees F. This is, however, scarcely low enough under all circumstances. The French have several winter varieties, the most important of which are probably Madeira, White Boulogne, Hardy Red Winter Cabbage and Roquette Cabbage. The American varieties have not been sufficiently tested to warrant any decided recommendations. Having determined upon the varieties to be grown, the next important factors are the soil and the location. My experience has led me to favor a sandy soil, one which is inclined to be dry, although the plants should, in no way, suffer from want of moisture. But a soggy soil should be avoided. If such a soil is situated where plenty of snow will lie during the winter, the conditions for successfully wintering a lettuce crop are promising. I have grown several varieties with the above treatment, with very satisfactory results. The seed was sown the first week in September, so that the plants had time to make a fairly good growth before winter set in. A light covering of leaves, straw, or similar material should be applied as late as possible. If the plants are well established and well hardened when they go into winter quarters, they should come out in fairly good condition in the spring. Too high a temperature must be avoided in winter, as well as the opposite extreme; the protection given by snow is ideal.

The Harlequin Bug or Calico-Back.

E., Johnson City, Tenn.—I inclose a black, red-spotted bug. Is it a Harlequin squash bug? I found a lot of horseradish plants literally covered with them, the leaves of which would wilt and die in a short time under their work. Are they propagated the same as the Colorado beetle, and are they of similar habits? That is, do the matured bugs lie dormant in the ground over winter? What is the remedy?

ANSWERED BY M. V. SLINGERLAND.

Yes, the black, red-spotted bug was a Harlequin Cabbage bug or Calico-back. They feed readily upon many mustard-like plants, but make their presence felt the most upon cabbages and radishes. They belong to an entirely different group of insects from the Colorado Potato beetle. The latter bites off and swallows the particles of its food, and the form which comes from the egg—the grub or slug—is a very different creature from its parent, the beetle; when full grown, these grubs go into the soil, there form a little earthen cell in which they shed their skins and appear as very tender white objects—the pupæ—which develop into the hard-shell beetles. The Harlequin Cabbage bug, however, takes in only liquid food which it obtains with a sharp beak that pierces the skin of the leaf and then pumps out the juicy interior; and its young which emerge from the egg resemble their parents in form, but have no wings; as they increase in size the skin is shed from time to time, and at each of these moults the young bugs take on more and more of the aspects of their parents, the wings gradually enlarging as pads on the sides of the body; their growth is gradual and continuous until the adult stage is reached, no quiescent stage corresponding to the pupa of the potato beetle intervening. The potato beetle usually hibernates in the soil, sometimes in rubbish, while the Calico-backs always pass the winter in any sheltered place above ground. The Calico-backs are astir very early in the spring, during the first warm days, and they make for the nearest mustard-like plants that may be up. They feed upon these and if no cabbages or radishes are out when they are ready for egg-laying, the eggs are laid on the weeds and the first brood develops there. The eggs are beautiful little objects, white with black markings, resembling small white barrels with black hoops; they are usually laid in two parallel rows of about six each. The eggs hatch in three or four days, and the young bugs go through all their moults and are ready for reproduction in about two weeks. There are thus many generations during the season, probably as many as seven or eight in Tennessee. The insect is a very difficult one to kill, and the destruction of the hibernating individuals is the important point to be attained. They mostly gather upon mustard and radishes in the early spring, and the pest has been greatly checked by growing very early crops of these plants to serve as traps. When the bugs are found in large numbers on these trap-crops, hand-pick the bugs or spray the plants with pure kerosene, killing bugs and plants also. Radishes grown between cabbage rows will often attract a majority of the insects. I know of no insecticide that can be used on cabbages which will kill the bugs and not the plants. Hand-picking is the only sure method that can be resorted to, if the trap-crop method is not practiced. It is very doubtful if the pests can be reached in the winter, for it would prove no easy task to find them, so securely are they hidden. Clean cultivation and the destruction of all mustard-like weeds and rubbish heaps near cabbage fields, will tend to discourage this most destructive of all southern cabbage pests.

Anthracnose of the Raspberry.

J. F., Waterloo, Iowa.—What is anthracnose of the raspberry? My red raspberries send up strong, healthy shoots every summer, but the following spring, they are nearly all dead. They look as though burned, the skin blistered, and there is generally the mark of a small worm on some part of the dead cane, which looks as though a small, red-hot wire had been drawn along it for an inch or two; but if there is a worm there, I could never find him. Perhaps, I have not looked for him at the right time. My varieties are Cuthbert and Turner, and I know that it is not the severity of the winter that causes the trouble, as the Turner was always regarded here as perfectly hardy.

Ans.—Without specimens, I cannot say whether J. F.'s raspberry canes were killed by the anthracnose fungus or by an insect. The Raspberry anthracnose "generally appears late in the spring or early in summer, on the young shoots, when about a foot high, in the shape of small reddish-purple spots, scattered irregularly over the surface near the ground. As the canes grow, these spots increase rapidly in size, their centers becoming grayish-white, and other spots appearing on the upper portions. There is an elevated dark purple margin around each spot, representing the division between healthy and diseased tissues. As the season advances, the spots continually enlarge, many of them finally running together to form irregular, longitudinal blotches, which, sometimes, run clear around the cane and thus girdle it. The injury extends through the outer bark, frequently rupturing it, and sapwood, but, usually, does not penetrate the pith. As the tissue dies, the purple color of the margin changes to brown. The disease is not fatal the first season, neither does it seem visibly to affect the growth of the young canes; but the next season, when last year's young canes bear fruit, its destructiveness becomes but too apparent. Its effects are most noticeable at the time of the ripening of the berries, which do not attain to a normal size, but shrivel, and finally dry up; the leaves are much smaller than healthy ones, and have a generally unhealthy appearance, later turning yellow, then brown. The canes finally become blackened and die."—From Weed's Fungi and Fungicides.

This fungous disease is proving a very hard one to combat. Thus far, the application of fungicides, like Bordeaux Mixture, to prevent it, has not been sufficiently definite or successful enough to warrant any general recommendation being made as to spraying for it. At present the only safe recommendation that can be made is to cut out and burn the diseased canes as soon as they are seen. Watchful and thorough work in this way will eradicate the disease.

M. V. S.

Barley and Rye for Fall Fodder.

G. S. T., West Medway, Mass.—I wish to sow some barley and rye together as recommended by A. W. Cheever. How much of each shall I sow per acre? Could I sow peas also? How many?

ANSWERED BY A. W. CHEEVER.

When winter rye and spring barley are sown together in August for producing a late green crop to be fed the last of October or early in November, and for a rye crop the following year, I would recommend five or six pecks of rye and six to seven pecks of barley per acre. I think that I would not sow peas in addition, but would sow them separate from the rye. I have never tried peas and barley, but think that the experiment would be worth trying. Peas often mildew sown in warm weather, but I have seen them remain bright and green, and make excellent late fall feed. The character of the weather has much to do in determining the quality of the crop. Common Canada field peas are usually grown for fodder, but if sowing for a late crop, I think that a large Marrowfat would yield more. It would take about two bushels to sow an acre. Of small varieties, not so many would be required, as there would be a greater number of seeds in a bushel. Your correspondent, Monroe Morse, has grown heavy crops of late peas for fodder.

The Cure for Alkali Soil.

A. C., Pilger, Neb.—Is there any remedy for alkali such as we have in the soil here?

Ans.—Before seeking a cure, let us look for the cause. As a rule, an alkali soil is sterile because it contains too much soda in a form that makes it harmful to plants. The cure is either to get the soda out of the soil, or change it into such a form that it will not hurt the plants. The only way to get the soda out, is to drain and then flood the soil; in other words, to wash it out. It is not likely that this can be done in your case, and the next best remedy is to use 700 pounds or more per acre of gypsum or land plaster. This will change the form of the soda so that the plants will not be injured.

Notes from Rural Grounds.

THE R. N.-Y.'S STRAWBERRY REPORT FOR 1896.

PART II.

SEE'S No. 1 (B.)—From H. S. & A. J. See, Geneva, Pa.—April, 1895. May 27: One of the earliest in our present collection. Berries round, scarlet in color, and of high quality for so early a berry. Medium size, moderately firm, white flesh. May 30: Exceedingly prolific. The leaves are upright and rather small. Peduncles rather short and slender. As judged to-day, it is, all things considered, one of the best earlies we have tried. June 6: Vines very productive, berries firm and of fair quality. The objection is that they are too small. June 10: Many small berries. June 15: Still bearing many small berries, both green and ripe. June 19: Many small berries still.

SEE'S No. 2 (P.)—From same.—April, 1895. May 31: Berries large, heart-shaped, pointed, the tips sometimes white; high quality. June 2: Very productive, vines vigorous. June 4: Very productive; berries from small to medium, irregular in shape. Peduncles weak. Color of berry, bright scarlet; quality good, firm. Vines vigorous. June 10: Still ripening. The vines continued in bearing until June 19.

SEE'S No. 3 (P.)—From same.—April, 1895. June 6: None ripe yet. June 8: Berries medium to very large, scarlet color, broadly heart-shaped and regular; fairly firm and good quality. June 19: Still bearing a large quantity of ripe berries; dark red when fully ripe, of good quality and fairly firm. A promising variety.

SEE'S No. 4 (P.)—From same.—April, 1895. June 2: Ripening a few, heart-shaped, regular, not very firm berries. Vines vigorous and fairly productive. June 8: Berries large, bright red, *uniformly* irregular in shape; sour. June 10: Very productive; the peduncles do not hold up the large clusters at all. June 15: Lots of green berries of medium size, a few ripe. June 19: Many green.

SEE'S No. 5 (P.)—From same.—April, 1895. June 2: Ripening a few berries of conical shape, medium size and fair quality. Bright red in color, somewhat necked; not firm. June 10: Not desirable.

JAMES TRUITT, No. 32 (P.)—Chanute, Kan.—August, 1894. June 2: Medium to large size; ripening. Conical shape, round tip, medium as to firmness; good quality; low vines. June 8: Not very productive; berries of medium size, scarlet and of good quality. Not recommended.

ANNA KENNEDY (P.)—From J. T. Lovett, Little Silver, N. J.—August, 1895.—This is described as "the most beautiful strawberry ever produced—a cross between Jersey Queen and an unnamed seedling—a selection from 3,000 plants raised by Mr. Lovett. Fruit wonderful, round, as smooth as if molded; flame color; so glossy that the light is reflected as if from jewels. Rich, sweet, medium as to size and season of ripening." June 2: Ripening; seeds yellow and prominent; scarlet color, roundish n shape; good form, fine quality; moderately firm. June 4: Not very productive; another season required.

JOE (B.)—From J. H. Black, Hightstown, N. J.—September, 1895. Fine plants, tall, strong peduncles; another season required.

MICHIGAN (B.)—From the same.—August, 1895. It is claimed that "this is the latest of all strawberries—later than Gandy, and of a higher quality. It originated in Michigan, Van Buren County, in 1891. Handsome, firm, as large as Gandy, and ripening 10 days later." June 4: Beginning to ripen. The peduncles are short and do not support the berries above the soil. Medium size, oval in shape; of the finest quality. June 8: Another season required.

COLUMBUS (B.)—From J. H. Hale.—August, 1894. May 30: Broadly heart-shaped with broad tips; often irregular, prominent seams; calyx often double. Prominent yellow seeds; medium as to firmness and quality. It is a mealy berry, large size; vines vigorous and productive, peduncles rather short. June 2: Ripening a few; roundish in shape; medium size, irregular, fair quality. June 4: Good quality; not productive. June 8: Not productive. June 10: Not productive.

SEEDLING (P.)—From Jackson & Perkins, Newark, Wayne County, N. Y.—September, 1895. "Selection from 1,000 seedlings." June 2: Ripening a few. Reminds one of Timbrell in shape and color; good quality. June 4: Berries large and vines productive. June 8: A few very large and spongy berries. June 10: Promising. June 19: The berries now are round-oblong and all the same shape; crimson in color, good quality, prominent seeds and very prolific for plants set in September last.

CHAIR'S EARLY (B.)—From J. S. Collins, Moorestown, N. J.—Not so early as many other kinds. June 8: A great bearer. June 19: Still productive, but the berries are not well held up.

GREENVILLE — From J. T. Lovett.—April, 1894. June 2: Beginning to ripen; broadly heart-shaped, fair quality. June 4: Some of the berries are irregular, and others seamed through the middle. June 8: Very productive of berries varying in size from small to large. June 15: Many small berries. June 19: Berries small to medium, not firm.

ROBBIE (B.)—From J. H. Black & Son, Hightstown, N. J.—September, 1895. June 10: Ripe and ripening; berry broadly heart-shaped and perfectly regular; fine quality; vigorous vines; berries large. June 19: Ripening freely for September vines. Berries only fairly firm, of good quality and medium size.

REBA—From same.—September, 1895. June 2: Ripening; rounddish, scarlet, fairly firm, fair quality.

NAN (B.)—From T. J. Dwyer, Cornwall, N. Y.—April, 1894. May 30: Medium size, heart-shaped, scarlet. Medium as to firmness and quality. Among the earliest. June 8: Berries regular, but small. Our last year's report of this variety was more favorable.

WILLIAM BELT (B.)—From C. A. Green, Rochester, N. Y.—June 4: Ripening; leaves large, dark green. Berries large, finest quality—often broadly heart-shaped, sometimes irregular. Another season required.

RURAL, proposed, (B.)—From Samuel G. Winant, Roseville, Staten Island, N. Y.—September, 1895. June 4: Ripening; round with pointed tip; good quality, but rather soft. Another season required.

H. W. BEECHER—Discarded.

STROUSE CHAMPION (B.)—From David Strouse, Royers Ford, Pa.—July, 1895. June 4: Ripening well at this date; berries long, conical, some neck; scarlet, good quality, red flesh. Vigorous vines. July 19: Ripening freely from medium to very large berries; quality fair, medium as to firmness. Another season required.

HULLESS—August, 1894. We have little to add to previous reports. Quality, medium, rather soft. Berries large, broadly heart-shaped. It is a productive variety—and ripens its berries through a long period. Its peculiarity is the readiness with which the berry parts from the receptacle; usually, however, a piece of flesh goes with the receptacle leaving a conical hole in the berry.

GLEN MARY (B.)—From E. T. Ingram, West Chester, Pa.—April, 1894. June 2: Ripening a few. June 7: Ripening a great quantity of berries from medium to largest size. June 8: Berries among the largest at this time, varying in shape from Sharpless to heart-shaped; good quality, often with white tips; peduncles weak, vines need mulching. It ripens through a long season. Quality, very good.

EDITH (P.)—From the Cleveland Company, Rio Vista, Va.—April, 1894. June 4: Ripening a few; deep red in color, rather soft. Not valuable.

NO NAME—From same.—April, 1894. June 2: Beginning to ripen; medium size, very irregular in shape, very productive. June 5: Resembles the Sharpless in shape and color, but does not average as large. Dark red flesh. Not valuable.

ANNIE LAWRIE (B.)—From M. Crawford, Cuyahoga Falls, O.—May, 1894. The vines are, this season, low and unproductive.

BLONDE—From G. Cowing, Muncie, Ind.—April, 1894. June 4: First ripe berries; broadly heart-shaped, good flavor, large size. June 8: In color between crimson and scarlet, varying from small to very large in size. Shape vary-

(Continued on next page.)

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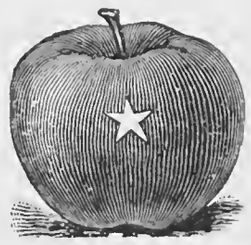

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The R. N.-Y. Strawberry Reports.

(CONTINUED.)

ing from heart-shaped to Sharpless shape Quite firm, fairly prolific, fair quality; red flesh. Vines vigorous. Its season ends about June 19.

MAYTROTT (B.)—From S. T. Dowler, Vineland, N. J.—June 8: This is to-day one of the most productive varieties that we have. Though the peduncles seem stout, they are not strong enough to hold the very heavy clusters of fruit. The variety bears through a long season. Berries, crimson color, heart-shaped, generally regular; above medium size; fairly firm; fair quality.

EQUINOX—From Cleveland Company, Rio Vista, Va.—Not desirable.

TENNESSEE PROLIFIC AND THOMPSON'S No. 66—From same.—Not desirable.

CHARLIE (P.)—From same.—April, 1894. June 2: Beginning to ripen; small to medium size. This berry is remarkable for its perfcet shape, that is all.

SATISFACTION—From G. W. Howard, Stevensville, Mich.—May, 1894. June 2: Beginning to ripen; medium size; perfcet shape; scarlet color, good quality, fairly productive. June 7: Ripening freely; firm; berries not well held up. Nothing remarkable about it.

BARNETT (B.)—From same.—May, 1894. Not recommended.

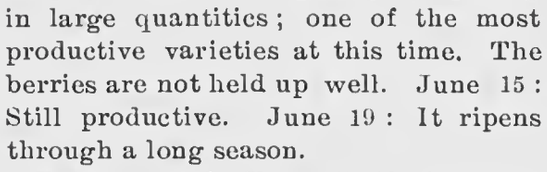
MARSTON (P.)—From C. S. Pratt, Reading, Mass.—June 2: Beginning to ripen. June 8: Berries small to a little above medium in size; between crimson and scarlet; moderately firm; heart-shaped; fair quality. Very prolific, but the berries are not held up well. June 10: Still bearing many rather small berries. June 19: A few little berries.

MELE (B.)—From A. H. Griesa, Lawrence, Kan.—September, 1894. June 2: Ripening a few; vines healthy and very productive. Berries large and of good quality, though not very firm. June 5: Exceedingly productive; berry broadly heart-shaped, with a blunt tip. Large size, scarlet, soft, medium in quality. June 8: The berries are uniformly heart-shaped and of mild quality. Ripening in large quantities; one of the most productive varieties at this time. The berries are not held up well. June 15: Still productive. June 19: It ripens through a long season.

ELEANOR (B.)—From J. T. Lovett.—September, 1894. May 30: A few ripe; heart-shaped, regular medium size; crimson inside and out. Fairly firm and fine quality. Among the most productive during this early season. June8: Vines rather low, but vigorous; peduncles strong. June 10: Past its season.

JUNE 24.—The following kinds are still bearing a few berries: Bouncer, Giant, Hudson, Eric, Seedling of Geo. Stone, See's No. 4, Chair's Early, Ridgeway, Brandywine, Shuckless, Equinox, Maytrott and Mele.

JUNE 26.—The following varieties only among our collections are bearing fruit now: Giant, Erie, Seedling of Geo. Sloan, See's No. 5, Ridgeway, Brandywine, Equinox, Mele and Glen Mary.



MCKINLEY is the name of a strawberry which Ellwanger & Barry now offer for the first. They have tried it thoroughly on their grounds, and find it superior to any other kind, new or old—superior in size, shape, color and quality. It is a bisexual variety.....

LAST fall, we destroyed, as we supposed, our Common Catalpa. A stump was left about three feet high about which we purposed to set vines. This spring, shoots started all over the stump, and have made an immense growth. Some of these stems are the best examples of flattened or fasciated growth we have ever seen. Some of them are fully two inches wide and but a quarter inch thick. These stems start as a single stem, and then grow as if wanting to separate into from five to ten branches. Some of them have separated and themselves become fasciated.....

OWING to a disarrangement of labels, we had overlooked a specimen of Red Jacket gooseberry received years ago from Mr. Josselyn, who introduced it. The berries, which are of medium size, nearly an inch in length, are red when fully ripe. A number of plants of the Pearl gooseberry were sent to us about five years ago, by Prof. William Saunders, of Canada, as we have already stated several times. The Pearl ripens with the Red Jacket, is about the same size, and of a light-green color when fully ripe. Pearl has the thinner skin, and is, we think, a trifle sweeter. Neither has shown a trace of mildew. Columbus ripens at the same time, and for the Rural Grounds, we greatly prefer it to either Red Jacket or Pearl, because it is more prolific, and the berries are much larger. Columbus berries are smooth and of a medium green color when ripe .....

FOR three seasons, we have tried the Manhattan sweet corn, offered by Thorburn & Co., as the "earliest sweet corn grown." Last season, the tornado destroyed it. The first season, the trial didn't amount to anything. The soil was too poor. It requires a rich soil to show of just what it is capable. This season, the plants average scarcely over two feet high, measuring to the very tip of the tassel. The ears are borne only an inch or so above the soil. They are very small—rarely over four inches in length and an inch in diameter. The kernels are, for the most part, yellow and smooth, like field corn. Nearly all the ears have a few kernels of a lighter color. The quality is, we think, not as good as that of the Cory. The kernels were planted May 5. Cold weather prevented an early germination. The first "mess" was taken July 10—66 days from planting. On the same day, we planted trial quantities of Buckbee's First of All, Maule's First of All, Ford's Early, Melrose, Early Butler, Extra Early Vermont and White Cory. On July 10, when we gathered the first mess, the silk of the above kinds was fresh and green, only a few of the silks of the Extra Early Vermont and White Cory showing that they had passed the receptive period.

As the plants of the Manhattan are so dwarf—the dwarfest sweet corn we have tried—the seed corn may be planted much closer together than that of other first early sorts. Earliness is all the variety has to commend it.....

JULY 14.—The cherries are now ripe and ripening upon one (the best) of our Dwarf Rocky Mountain cherry bushes. The largest cherries are three-fourths of an inch long and not so wide as long. Each cherry shows an obscure suture like that of plums, and the stems are short like those of plums. The color is dark purple, nearly black when ripe, the flesh astringent.....

WE have just (July 14) received a few ripe Strawberry-raspberries from each of two friends, the one, William Parry, of Parry, N. J., the other, Dr. Van Fleet, of Little Silver, N. J. The berries on our own bushes have not yet begun to color. The berries from our friends are the size of large-sized raspberries, the drupelets much smaller, the shape more conical than raspberries, which must have suggested the "Strawberry-raspberry" name, for there is nothing else to indicate that there is any strawberry about it. The berries part from the receptacles just as do raspberries. The color is a dull red, the flavor insipid or sour, according to the stage of ripeness.

We shall have more to say regarding this singular fruit when our own berries ripen. If obliged to found an opinion upon the specimens sent, it would be that Rubus sorbifolius is not worth cultivating except as a curiosity or for hybridizing purposes.....

Lay aside your prejudices and do that which experiment and experience has determined to be the best. Your soil may have been robbed of its fertility by the past system of agriculture. It can be restored and made fertile and productive easier, cheaper, quicker and more lastingly so by a liberal use of our standard brands of

COMMERCIAL FERTILIZERS

than by any plan known. They are suited to every variety of crop, and in them the various chemical constituents are proportioned to the requirements of all classes of plants. They are uniform, dry and drillable. Every brand is guaranteed to be of best quality and carries its analysis with it, stamped on the bag. Our prices are very reasonable—quality of goods considered. We also carry a full line of high grade Agricultural Chemicals to supply those who wish to mix their own fertilizers. Write us.

THE CLEVELAND DRYER CO., Cleveland, O.

KEMP'S MANURE SPREADER

15 Years on the Market. Improved for 1896.

SPREADS any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. **Largest and oldest manufacturers of manure spreaders in the world.**

KEMP & BURPEE MANUFACTURING CO., Box 38, Syracuse, N. Y.

"SUCCESS" Jr.

A DIGGER THAT DIGS.

IMPROVED POTATO DIGGER

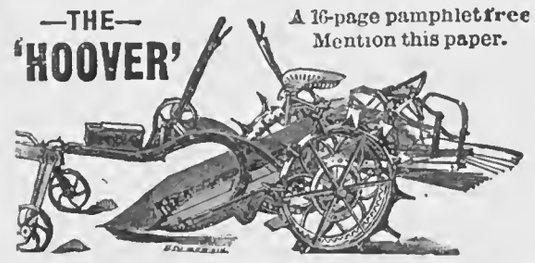
YOU WANT a digger that will please you. We want to put 10,000 samples ON TRIAL for introduction. FREIGHT PAID. If your dealer cannot show you our improved "SUCCESS" send at once for particulars.

D. Y. HALLOCK & SON, Box 805 York, Pa.

POTATO DIGGER *Price Reduced for 1896*

—THE— 'HOOVER'

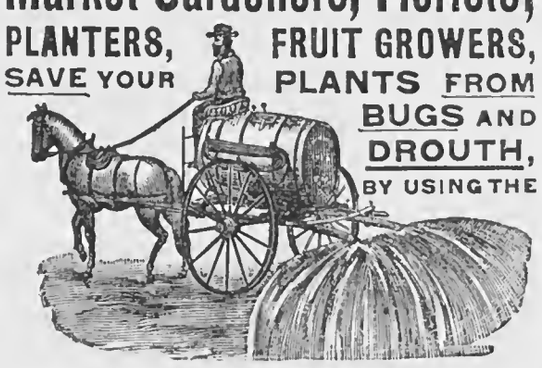
A 16-page pamphlet free Mention this paper.



HOOVER, PROUT & CO., Avery, O.

Market Gardeners, Florists, PLANTERS, FRUIT GROWERS,

SAVE YOUR PLANTS FROM BUGS AND DROUTH, BY USING THE



Studebaker "Little Gem"

One Horse Farm, Garden, Flower-Bed & Lawn SPRAYER. (Capacity 150 gal., 4 in. tires). Most practical device for the DISTRIBUTION OF LIQUID MANURE, PARIS GREEN OR OTHER LIQUID MATTER, ON POTATO VINES, YOUNG TREES, ETC. FOR WATERING CELERY PLANTS. Can be readily adjusted to apply the stream directly on one or two rows at a time. Will not clog; Easy to operate. Flow of water regulated from driver's seat. SPRAYER PUMP hose and nozzle for spraying fruit trees, vines and shrubbery furnished at extra cost. Write, mentioning this paper, for illustrated catalogue and price to

STUDEBAKER BROS. MFG. CO., South Bend, Indiana

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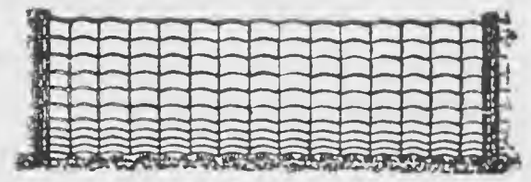

The Only Buffalo Fence.

The late Austin Corbin firmly believed it to be the Page. He used it freely on his great park in New Hampshire, and when he donated half his herd of Buffalo to the city of New York, he attended personally to having our fence enclose them. Not every farmer owns buffalo, but no one objects to a strong fence.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Dusts two rows of potatoes at a time, wide or narrow planting, as fast as a man walks; two acres per hour.

Extra tubes furnished for orchard work, with each Will pay any farmer having one or a hundred acres of potatoes, tomatoes, tobacco or other crops.

LEGGETT'S FUNGIROID, a dry powder. Prevents blight on Potatoes, Tomatoes and other crops. Ask for Leggett & Brother's Pure Paris-green. 24-page catalogue free.

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ADAM THE FENCE MAN

Makes Woven Wire Fence that "Stands Up." Cannot Sag. Get his 1896 catalogue. It tells all about The Best Farm Fence Made.

W. J. ADAM, Joliet, Illinois.

DEATH TO POTATO BUGS

GRAY MINERAL ASH.

Goes three times as far as Paris-green or London-purple, and acts in half the time. Absolutely harmless to man and beast. Price, 50 cents for 5-pound can or 8 cents a pound in 10, 20, 30, 40, 50-pound cans. To introduce this wonderful new product, will send, free, 5-pound can to at least two farmers in each county. Five pounds make one barrel of spray for field plants, or two barrels for garden plants.

NATIONAL MINING & MILLING CO., 5 East Lexington Street, Baltimore, Md.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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Advertisements inserted only for responsible and honorable houses
We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders payable to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, AUGUST 1, 1896.

FRUIT REPORTS.

You will notice that these reports are coming in. We want a full crop of them. Tell us what new varieties are best on your soil, what sort of soil you have, what the standard sorts are—and while you are about it—put down anything else you have learned. Give us the whole story.

⊙

IT costs $37 to carry a horse from Chicago to Ireland and feed him on the way. At a recent auction sale in Dublin, American horses brought all the way from $97 to $214. These horses were mainly of trotting blood, and averaged six years old. There seems to be a small market for good horses in Ireland but it would seem that a six-year-old horse must bring, at least, $200 in order to pay any profit.

⊙

WHERE do the army worms go? They appear suddenly, and as suddenly disappear. They don't go away at all. They are still with you like an evil spirit, waiting for a favorable season. When the conditions are favorable again, they multiply by the million and go forth on the march. When you fail to notice them, you may know that they are still with you, but in numbers too small to do damage. They are not likely to do damage two years in succession.

⊙

OUR Oklahoma correspondent, on page 523, gives the price of cheese as being higher there than that of butter, which seems strange to those living in the East, where butter prices are generally more than double those of cheese. The price of milk, too, as he gives it, is out of all proportion to the price of either butter or cheese, and no one can afford to make either at those prices. It seems odd that the proportionate prices of these articles should vary so widely in different parts of the country, and it would be interesting to know the reasons.

⊙

LAST spring, Prof. Watson suggested rape as green food for poultry, and it seems that a number of our readers have tried the crop for this purpose. Fred Grundy writes this report:

> I am feeding rape to confined poultry this year for the first time, and the way they tear the broad leaves to bits and swallow them, would surprise a pig. In fact, I had to confine them to prevent them from entirely destroying the one-eighth acre of rape that I sowed as an experiment.

At the Rhode Island Experiment Station, this year, rape has been used for pasturing geese, with great success, as it grows up rapidly after being eaten down, and gives a heavy yield. It is worth trying. It is not yet too late to sow the seed.

⊙

WE have had a good deal to say about the value of swamp lands. These low places have, for ages, received the drainage from higher places. Soluble fertility has been leached out into the swamp, and while some of it has, undoubtedly, passed away, most of it remains, either in its original state, or in the form of decayed vegetable matter. The soil of swamps is good enough to use as manure on the lighter hillsides. The plan of carting muck out of the swamp to the upland, is an old one, and is scientifically correct, for we thus replace the fertility that has been leached away. Another plan for utilizing the swamp is to drain it—take out the water—and then plant such crops as hay or corn. These will grow on the rich soil, provide food for stock, and make manure that can be used on the lighter soils. It is a question of carrying the swamp away as muck or as stock food. Mr. Speer has utilized the swamp in a new way. Undrained, it is a reservoir and, with his simple irrigating plant, he is able to make the swamp water his berries at will. A man may take his choice of these methods of utilizing the swamp, but surely he should, at least, think about one of them.

⊙

THE Department of Agriculture mentions three cases where horses have been killed by eating Crimson clover hay. Death was caused by the formation of balls in the stomach or intestines. These balls vary from 3 to 4½ inches in diameter, and weigh about four ounces. They are composed of the stiff hairs found on the overripe Crimson clover heads, mixed with a small proportion of earthy matter. Crimson clover pasture, or hay cut before the plants are fully ripe, would not be likely to cause this trouble. In most of the reported cases, the horses seem to have been fed on clover straw or vines left after thrashing out the seed. In such cases, the heads were hard and stiff—in just the right condition for forming these balls.

⊙

IT is evident that the managers of the railroads running through New York State have determined to do all they can to prevent the sale of 1,000-mile books. The law requires them to sell these books at all stations as readily as they sell single tickets; yet they still attempt, in various ways, to make it as difficult as possible for a customer to secure these books. They are liable to a fine of $50 for every such refusal and, if farmers who have been unable to buy the books, would bring suit at once, the railroads would soon learn to be reasonable. An individual suit here and there will never move them, but thousands of such suits, pouring in from all quarters, will quickly bring them to time. A representative of THE R. N.-Y. has entered such a suit, and if half of our New York State subscribers would do the same, these mileage books would soon be about the easiest things to buy at the railroad stations.

⊙

THE State of Connecticut has the reputation of giving greater encouragement to sheep killing dogs than any other State in the Union. There are thousands of acres of wild land well suited to sheep pastures; yet the laws are such that dogs get most of the mutton. A writer in the American Sheep Breeder copies this advertisement from an agricultural paper:

> SHEEP KILLER FOR SALE—Price $25. The thoroughbred English mastiff, Druid, very large, and handsome; affectionate, obedient, and fond of children. Does not molest poultry or horses. Has only the one fault specified.

Such a dog as that, kept in some little town, would soon ruin the sheep industry in his neighborhood for, as this same correspondent says:

> All other domestic animals are under legal restraint here, but the lineal descendant of the wolf goes scot free in four cases out of five, because the village sheep killer generally does the killing two, three or five miles from home, and the law says the damage must be paid where the damage is done.

We have heard of sharp Connecticut Yankees who bought a flock of cheap sheep expecting to have them killed by dogs in order to have the town pay more for them than they originally cost. We have also heard of men who bought cows that they knew had tuberculosis, on purpose to have them tested, condemned and paid for by the State! The farmers of Connecticut cannot say that their laws are made by townspeople, for they have a majority in every legislature. They are themselves responsible for the dog laws.

⊙

DENMARK, not twice the size of Massachusetts, and with a much smaller population than that State, exported into England in a single year, 10 times as much butter as the whole exports of the United States, and 20 times as much as we exported to England. And this trade is on the increase, too. Why? Denmark has no advantage over its competitors in facility or cost of transportation. A special correspondent of the Journal of Commerce says that the butter of Denmark is bought in England for British consumption because it is found to possess qualities superior to the product of other countries. The superiority is ascribed to the practical education given to farmers' sons and daughters. In the schools, instruction is given in all that concerns agriculture. Agricultural papers are generally read. Practical lecture courses are given in every village during the winter months and are generally attended, too. The Danish farmer, like the American, has met hard times; he has found his grain growing unprofitable, and turned to cattle raising only to have that become in turn, unremunerative. But his thorough, practical education stood him in good stead, and he has achieved success in the production of butter. He meets the requirements of the market he seeks to supply. He packs his butter in tins of varying sizes which are so packed in cases as to protect them from the heat. The Danes have built up such a trade in their butter for export that they are said to import butter, and even oleomargarine for their own use, so as to have more butter to sell for high prices. Such is the value of a reputation. In eating oleo themselves, they are equal to some Yankee dairymen about whom THE R. N.-Y. has told. These people are also making plans for the shipment of frozen milk to England, and other places. They also have an immense butter trade on the continent of Europe. Where are the progressive American farmers?

⊙

WE learn that F. E. Dawley has been appointed director of the New York State farmer's institutes, by Agricultural Commissioner Weiting. Mr. Geo. M. Smith, the former director, has been made the dairy expert of the department. Mr. Dawley's appointment is supposed to have been made from the civil service list; but we understand that there was no competitive examination for the position, and that the civil service commission agreed to allow Mr. Weiting to select a candidate from the eligible list of milk experts! They, probably, thought that a milk expert must combine all the qualities required to conduct our institutes. Events are proving the truth of THE R. N.-Y.'s charges that this "agricultural" department is a mere politician's nest. Mr. Dawley earned his appointment by circulating petitions and "working up an interest" for Mr. Weiting. Now is a good time to read over the articles printed on page 405.

⊙

THE Southern Farmer, in discussing the agricultural situation, says, among other things:

> One of the best things that each and every farmer can do, is to produce as nearly as possible at home, all of those articles required for home consumption, the doctrine of the advantage of division of labor to the contrary notwithstanding. If the agriculturists of the United States were to-day as economical as are the people of France, our country could readily sustain triple or quadruple its present population, with but little evidence of severity in our modes of life. The great secret of economy at the present time is to utilize the resources that surround us; to avail of the advantages that Nature has given us, and to learn to be self-sustaining in every possible direction. The problem of life that confronts the American farmer is one that each one can solve for himself if he will do the very best that he can with the resources under his control.

Let us assume, for the sake of argument, that the majority of American farmers accept the advice and go back to old-time principles. What would become of the thousands of workmen in town and city who, at present, wait on the farmer? These men may not like to have the thing put in just that way, but in truth, they do wait on the farmer. Their chief business is to manufacture and carry to him articles that he needs, and carry away from his railroad station his produce in exchange for these articles. Let the farmers of this land actually *make* on their farms everything that can be made there, and pay as little cash as possible for articles made by others, and the whole business fabric of town and city will fall down, because the town cannot live without the trade of the farm. The trouble with the country to-day is that cash has been driven out of farming districts into the cities. It is for lack of the cash trade from the farm that business stands still.

⊙

BREVITIES.

"MALARIA."

Despair sits at the door—in every bone
A pain lies ambushed—misery is near
And, hateful, chuckles with exultant tone
As courage struggles in its fight with fear.
The head is full of buzzing, whirling sound,
And hateful voices whisper in the dark,
How Hope was murdered; shadows gather 'round
The home—pale specters, hideous, grim and stark.
Hot Fever's hand comes with its touch of fire,
Then, swift as thought, the very chill of death,
Cooling mad Fever's furnace of desire.
Chilling the very heart—stopping the breath.
Dragging the very soul to dark despair,
Blunting the conscience, darkening the mind,
Turning to foulness all that we hold fair.
Malaria—thou bane of humankind.

BORROW rhymes with sorrow!

THE "Ah Me!" worm is abroad!

EVER know a dog to kill a belled sheep?

ARE they overdoing the plum business?

OH! If the army worm would only eat rag weed!

"LIE low!" Lie in whispers if you must lie at all.

THE best New England market demands a big strawberry.

ANOTHER report of a "frog farm" turns out to be a "fake."

WHEN Pyrethrum is "caught on the fly," the fly is certainly put out.

WINTER lettuce without frames—page 513. We want all possible facts about it.

WITH us the Tetofsky is a very satisfactory early apple. It is just coloring now.

DON'T forget that hay is a very different thing from grass. Get them as close together as possible.

ONE of our readers reports damage done to peach trees by dendrolene. Who can give experience with it?

DON'T let any one paint an advertisement on your barn or fence except it be your name or the name of your farm.

A PAIR of rubber boots can be bought for the cost of one doctor's visit, a bottle of liniment and a bottle of rheumatism cure.

WHAT sort of milk will we get by feeding a healthy cow of nervous temperament on a ration of corn meal and green celery? We would like to see it tried.

DON'T use profanity at the army worm—call it by its scientific name as hard as you can—Leucania unipuncta. That sounds enough like swearing to give you a great reputation—if that is what you are after.

"STERILIZED AIR" FOR PEACHES.

NEW METHOD OF LONG DISTANCE SHIPPING.

The greatest problem that confronts the modern produeer, is to get his produets into the eonsumer's hands quickly, safely, and eheaply. They are now rushed to the market with the speed of the wind; modern scienee has done much to preserve them, though there is yet great room for improvement, but the eost is yet out of all proportion to the serviee rendered. Perishable produets are now sent largely in refrigerator ears; but this serviec is costly, the iee used makes added weight, and when fruits are removed from the eold storage, they must be soon used, as they will not last long thereafter. There is still a demand for some other better and eheaper method of transportation.

Experiments have been made on the Pacifie eoast with other proeesses; but only last Saturday did the first ear for this market whieh is built to use sterilized air for preserving fruit in transit, arrive in Jersey City. It was loaded with peaches from the great orehards of the Hale Georgia Orehard Co., which were deseribed in THE R. N.-Y. last summer. It was an experimental shipment, and although not, apparently, a sueeess because of some untoward conditions, it may pave the way to other trials in the future. This is known as the Perkins method.

The car was built espeeially for the purpose, the aim being to make it as nearly air-tight and non-eonducting as possible. It is built of wood and paper, with several dead-air spaees, and one live-air space, the latter being open around the bottom of the car, allowing the outside air to eireulate. The dead-air spaees are packed with tule, a kind of bulrush which grows in California, and which is itself made up largely of air cells. The floor of the car is covered with a wooden grating, which keeps the packages from the floor, and leaves a space for the air to eirculate, under the fruit. Running lengthwise along the top of the car through the eenter inside, is a ventilating pipe to earry off the moisture that arises from the fruit. The air that comes into the car comes from the air pump on the engine whieh draws the train. and is supposed to be thoroughly sterilized by heating. It passes through a eoiled pipe in one end of the car, which may be surrounded by iee or brine, thus cooling it again before it enters the ear. A small pump in one end of the car connecting with the ventilating pipe before mentioned, partially exhausts the air from the car, and this rarefieation of the air cools it. This is the principle so far as the writer could gather it from an attendant who was either unwilling or unable to explain the details in full.

Was this shipment a sueeess? Hardly. To follow their original plan, the ear of fruit should have been thoroughly cooled after being paeked and sealed up; this was not done. Some other details, also, were not fully earried out. The car was delayed somewhat in transit, but the peaches eame out in fairly good condition, probably not much different from those in refrigerator ears handled under the same conditions. The reeeiver of these peaches said that he believed that they would have eome through in nearly as good condition in an ordinary ventilated car. He said that it was claimed that the fruit could be left in this car for a number of days after arrival without harm; but that as soon as it arrived, he was notified to unload it at onee. It should have been in about midnight Friday, or very early on Saturday morning. Instead, it arrived about 7 o'clock, after the market was practieally over, and it was necessary to unload the fruit and put it into eold storage to save it. Of eourse, it eould not be sold until Monday, and it was then in sueh eondition that it didn't bring nearly so high priees as it would have done early Saturday morning. It was claimed, however, that some of the fruit was overripe when put into the ear. The writer saw a number of the earriers opened as they were taken from the car. They eomprised a number of different varieties—Crosby, Elberta, Stump, Belle of Georgia, and others—and most of them seemed in good condition. Some were badly deeayed, but this season has been very favorable to decay.

The peaches were loaded in the car in a perfeet manner. They were packed in six-till carriers, eaeh carrier said to hold 35 to 40 pounds of peaches. These earriers are made of thin stuff, and are very open, so as to ventilate the contents perfectly. A row of these carriers is set aeross one end of the car, leaving a little spaee between them. Then, a light strip of wood is taeked across each end of the row, fastening each carrier so that it eannot shake around. Another row is plaeed on top of these, the strips preventing the carriers setting elose together. More strips are tacked aeross, more earriers added, until the top of the car is reached. Then another row is begun, and so on until the car is filled. No two carriers touch each other in the whole ear, and the air can circulate freely around and through every carrier. The peaches are not wrapped in paper. It is said that it is doubtful whether the Georgia fruit would endure this, but that it would eolor up better if it would.

THE POETS TURN LOOSE.

THE R. N.-Y. is highly eomplimented to think that it has been the means of inspiring some of its readers to try to mix a little poetry with the every-day affairs of life. Poetry certainly tends to oil the machinery of life, and the three poets who favor us this week, certainly pour in more than their share of oil. Let us first hear from Mr. Warren Vreeland, the inventor of a new weeder to be pictured next week. Mr. Vreeland considers prose too weak to paint the virtues of his maehine, henee the following:

SURFACE CULTURE.

Surface culture's my theme, and sure as you're born,
'Tis the doctrine for cotton, potatoes and corn.
Surface culture, dear friends, must I say it again?
It surely saves labor, yes, money and rain.
And now, brother farmers, if you'll listen a minute,
I'll just tell you how, and you'll surely be in it.
The Automatic weeder is the tool, without doubt;
It will clean out your crops, four rows to a bout.
'Tis handled so easy, and works like a charm,
You'd not be without it for half of your farm.
A small horse and boy can handle, I say,
And do 20 acres in the space of one day.
For cultivating strawberries, just ask Mr. Speer,
Whose homemade irrigator we'll show you so clear.
The new Automatic, it works to perfection,
'Tis sure death to weeds, they can't grow in its section.
Beats all straight-frame weeders by whomever made,
They ean't touch the whole surface by no human aid;
The long slender teeth the crops will not harm,
For they turn and they spring by the plants like a charm.
'Tis so easily handled on the field or the road,
The slide follows the horse and earries the load.

The Grand Army of army worms that has been marching over the land, has had very little poetry about it; yet a lady in Plymouth County, Mass., sends the following:

THE ARMY WORM.

[The army worm made its appearance in the oat field last week, and the following poem tells how they were conquered.—M. M. B.]

They come! the black crusaders of '96,
99,000,000, 99,0000's strong.
A mighty invasion of '96,
99,000 and 99, a vast throng.

They traversed the oat field till brown and bare,
A mighty throng of reckless mith and moth.
The belligerent farmer was heard to declare,
He'd fight and fight against the corn field North.

He plowed his furrows long and wide and deep,
Around and around agalnst the wall.
Declared he'd neither eat nor would he sleep.
He must harvest that corn this very fall.

He galloped to town with old black Kate,
And back with a barrel of kerosene oil,
Six boxes of Paris-green would seal their fate,
Six more of whale oil soap to add to the spoil.

"And now," said he, "I'll burn the pesky things,
I'll pizen the mean torments left and right,
I'll make the critters snap and wish they had wings.
I'll rid the farm long before it is night."

So he fired and fired and fired till dark
And strewed the poison along the trench.
With whale-oil soap he flew like a lark,
For the farmer was mad and called 'em a wench.

And when the farmer conquered and the day was done,
And his neighbors came over to help him out,
"Old fellow," said they, "after all there's some fun,
Though it does change matters wonderfully about."

But sometimes one pest takes care of another,
The little brown Englishman worked smarter than ever,
And picked and picked at his ruthless brother.
We'll wish him good will henceforth forever.

A year or so ago, we printed an extraet from a poem by Dr. H. W. Wiley, the Chemist of the Department of Agriculture. It has since been copied into almost every agricultural paper in the country. Now we print the entire poem, and it is worth repeating:

FARMER JOHNSON AT THE "INSTITOOT."

You seen the notice, William, of the meetin' up to town,
Of the farmers in the Institoot, they come from all aroun'—
There was Billy Woods from Haw Patch, and old Sam Mapes from Hope,
And Peter Hughes and Barney Flinn and Tecumseh Sherman Swope,

And half the town of Taylorsville, and you had orter seen
Judge Edginton a mixin' 'round amongst us playin' green.
And Lawyer Sims wuz there also, you see it seems ez how
He's up for the Legislatur an' wants to larn to plow.

And the fellers from the College of Agriculture, they
Wuz thick as lightning bugs in June and had a heap to say.
There wuz one they called a chemist, and he kind a seemed to know
All that wuz in the air above and in the ground below.

He said we needed nitergen, and showed us how the stuff
Wuz awful high and skeerce for crops, while in the air enuff
Wuz found to make us 'tarnal rich if we could only git
Some cheap and sartin projeck of hitchin' on to it.

He sed that peas and clover, and other crops like them,
Wuz jist the stuff to do it and store it in the stem,
And the yearth is full of critters that eat this stuff you see,
And change it in a twinkle into ammoniee.

That arternoon the sheriff he as't us out to see
Some Jerseys in his pasture; the professor he rode by me.
We crossed the creek at Haskell's and passed the clover field
Whar he hed wheat last summer with sich a bustin' yield.

The professor he wuz lookin' and when the field he spied,
"Them 'taters lookin' splendid fur the time o' year," he cried.
"Them ain't 'taters," said I, laffin'; "why, professor, don't you know
Thet's the clover which you told us would give us such a show?"

Sence I come back from the Institoot, it really appears
Thet potash, nitrate, fosferous, wuz ringin' in my ears,
And, William, it seems pretty tuff thet you and Jim and me
Have went along so ignorant of what we daily see.

Jist hauled manure out on the pints and plowed and hoed and mowed,
And worked so hard for little pay, and never, never knowed
Thet clover, peas, and beans, and sich ez the chemist mentioned there,
Hev the mighty useful knack of suckin' niter from the air.

THE APPLE CROP IN WESTERN NEW YORK.

Since 1889, when western New York produeed the largest apple crop in her history, comparatively few apples have been grown. As years of successive failure followed, many large orchards failed to produee fruit sufficient for family requirements, and much that was grown was, not only small and imperfeet, but of inferior quality. So the question naturally arose as to whether western New York would ever regain her past reputation in the produetion of sueh superior exeellenee as would again give it prefereneee in the leading fruit markets of the world. Present indications point to a yield far exeeeding any former year. In portions of Genesee County, never before were the prospeets more favorable for an enormous crop of exeellent quality; the fruit is large, well formed, and eomparatively free from fungus and insect depredations. Already, large orehards are showing the effects of the inereasing size and quantity of fruit; heavily laden branches are bending nearly to the ground beneath the burden of fruit. The Baldwin, of late years, has proved one of the most fiekle and uneertain as a erop-produeer, but seems to be taking the lead of other winter varieties, all of which, with the exception of the Northern Spy and Roxbury Russet, give evidenee of large returns. Early and fall varieties also promise a full crop. Never has the outlook for the favorite 20-ounee apple been more encouraging; its perfeet freedom from scab, and the uniformly smooth surface of nearly every speeimen, afford a pleasing eontrast to this variety as grown in former years. An orehardist in the town of Sweden, Monroe County, is reported already to have ordered 2,000 apple barrels, and expeets to be able to fill 2,000 more. Thousands of barrels of the choieest fruit, mostly Baldwins, will be grown on roadside trees the present year. The miles of apple trees, in many instanees skirting both sides of the highway, and nearly all heavily laden with fruit, afford a unique and delightful prospect. Many of us have, in faith, eontinued spraying to a greater or less extent, for several years, with results affording but little eneouragement, while those who have never made any effort in this direetion, seem in a fair way of receiving a full share of the present season's bountiful crop, a result that gives rise to the further query, "Is it essential that we eontinue this work in the future, regardless of the above facts?"

IRVING D. COOK.

FROM the notes on page 522, it appears that potted plants of the Parker Earle strawberry averaged about one quart to three plants this spring. These plants suffered considerably from the drought, both last fall and this spring. In order to learn something of the value of irrigation, a number of plants were watered from time to time—giving water enough so that the ground was never dried out. These plants averaged over one quart of fruit eaeh, and were nearly 50 per cent larger than those not irrigated. The fruit was large and highly colored, but not so firm as that on the non-irrigated plants. In faet, we overdid the watering business, and kept it up too late, making the berries too soft for shipping. After this year's experience, we would not water after the berries begin to set. We would keep the ground moist until after blooming, and then keep the water away.

BUSINESS BITS

HENRY A. DREER, 714 Chestnut Street, Philadelphia, Pa., has issued an illustrated catalogue of pot and layer strawberry plants, celery and cabbage plants, and seeds for summer and fall sowing.

Do you grow beans? If so, you would, probably, like to know all about a bean harvester. The Farmers' Handy Wagon Co., Saginaw, Mich., will tell you all about their new harvester if you send them your address.

THE Ellis Keystone Agricultural Works, Pottstown, Pa., make one and two-horse powers suitable for all kinds of farm work, such as thrashing, cutting ensilage, sawing wood, cream separating, etc. They also make the thrashers, cutters, saws, etc. A postal card addressed as above, will secure their catalogue.

ELLWANGER & BARRY, Rochester, N. Y., send out a circular of pot-grown strawberries. Plants now ready. Shipped only by express, the rates being, when shipped in boxes, 20 per cent less than the regular merchandise rates. Layer plants will be ready after September 15. The new variety, McKinley, is a specialty.

THAT "Gem" automatic wrench seems to us like a good thing, especially for oiling spring wagons. It is adjustable so as to fit any sized burr, grasps it automatically, and holds the burr when removed from the axle. It saves greasing the hands, or dropping the burr. D. Y. Hallock & Son, Box 805, York, Pa., are the manufacturers.

A BOTTLE of liniment is a good thing to have in the house or stable for the use of both man and beast. For best results, it should be on hand to use promptly in an emergency. Tuttle's elixir is one of the reliable liniments. Samples will be sent free, if you send three two-cent stamps to pay postage, to Dr. S. A. Tuttle, 27 R Beverly Street, Boston, Mass.

IT is generally admitted that stock of all kinds do better when they have free access to water, so that they can drink at any time needed. The effect is, of course, most apparent with milch cows, though it is apparent with horses and dry stock. Buckley's Improved basins furnish a constant supply of fresh water, and many dairymen who have put them into their stables claim that they pay for themselves the first season. C. E. Buckley & Co., Dover Plains, N. Y., are the manufacturers, and will send catalogue on application.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

Some of our readers have added some of the little known vegetables to their gardens, as we have frequently advised, and are in a quandary as to how to prepare them for the table. Some time ago, we had a question about okra. Now some one asks how to prepare cardoon. Who can tell us? Why do not the seedsmen have printed directions how to prepare these novelties for the table?

*

Don't retail guess-work as facts. If your memory doesn't serve you well, apologize for it, and let your friends know that your statements are not always reliable. Often the intentional liar does less harm than a more honest person who lacks the faculty of "telling things straight." However well-meaning a person may be, his misstatements will make trouble sooner or later, and it is best not to speak positively of a matter where there is the least possibility of being mistaken. Yet the people with poor memories are frequently those who make the most positive assertions.

*

We are to consider, later on, the subject of social intercourse between farmers' families. Our contributors seem to think that there is less visiting between country people than in the good old times. Is this so? Some say that there is more intellectual recreation to take the place of visiting, etc. There must be less harmful gossip then, which is a most desirable state of things.

*

Has it ever occurred to those who deprecate the independence of woman, that the working woman in entering the business world, leaves behind her many petty faults which do not fit into the conditions of business life, and must be dropped? It is usually the case that a person's behavior is better abroad than at home. The behavior in the workshop must come up to the standard of one's company conduct. Petty fault-finding, disagreeable criticism, etc., must be repressed, and by and by, the good habit becomes confirmed, and self-respect becomes strong enough to be the restraining factor when one feels like grumbling at home.

TEACHING THE CHILDREN.

The responsibilities of motherhood are not properly understood by nine-tenths of the mothers. The thought, with many of them, is to avoid being "bothered" by the troublesome little ones, and they send them to school as early as possible, allow them to inflict themselves on neighbors, or even to play in the street, in what company they know not. If they find that the children have been associating with one very objectionable, they will say, "Now, don't you play with that one any more!" This done, they go on their way with an easy conscience. Have they not forbidden their children to go in bad company? What more can any one expect of them? They are well-meaning women, in the majority of cases, and strain every nerve to have their children as well clothed and fed as those of their neighbors. The trouble is that they do not think, except in a very superficial way, if at all, on the subject.

The true mother thinks. She feels an anxiety so intense that it is almost a pain, concerning the treatment of her children. She trembles lest, in avoiding the Scylla of over-indulgence, she strike the Charybdis of too strict discipline. She knows that a certain freedom is essential to the wholesome moral and mental growth of her darlings. She knows, also, that too much freedom is license. What is she to do? The answer is, think. As each case comes up, she should search out all the bearings. She must listen to what the children have to say, and withhold any decision until she has learned more of the subject from others.

As an instance, it is right that children of the same locality should meet together socially sometimes, but not too often. It is natural for them to enjoy these meetings, and the probability is that they will ask permission to attend them oftener than advisable. The wise mother will listen sympathetically to their petitions. She will ask who will be there, and the character of the exercises that will take place. She will tell them that she will think about it. When she has thoroughly canvassed the subject, she will, sometimes, find a refusal necessary. In this case, it is better to point out the reason for it; but from the decision, there is no appeal. The hand that governs wisely, must be of iron, but by all means, clothe it in velvet.

Another point that cannot be emphasized too strongly is in regard to threats. I heard a lady say to her little daughter, "Mabel, if you don't stop, mamma will cut your ears off." The child knew that her mother spoke untruthfully, and the silly threat passed by her "as the idle wind."

But first, last and all the time, the mother must watch herself, lest she set her children a bad example. Should she find herself convicted of having done so, it is much wiser to own her fault. Not long since, a lady was heard to request her little girl not to use the word "fool," as it was not "nice" to do so. "You said it," was the child's answer. "Did I, darling? When?" "The other night you said that you never saw such a fool cat as Tom was," said the little one triumphantly. "Well, dear, maybe I did; but it wasn't very nice of mamma, and she will not do it any more. Neither will you, I am sure; will you?" was the mother's persuasive answer. "No, mamma," said the little girl, her respect for her mother not a jot lessened by the frank confession of a fault. May June.

ONLY A LITTLE THING.

"Oh, I wish you wouldn't talk to me! I don't feel like talking or being interrupted!" This remark was made by a girl of 14, as she got up from her comfortable chair and left the room that her brother had just entered. He had begun an enthusiastic description of a football contest that the boys had had at school. But meeting with this rebuff from his sister he said, "Very well, Miss Pouty, you may want to hear about the next one, and I'll tell you, over the left! It's a pity if a fellow can't talk to his sister without her cutting him off as though he wasn't worth hearing. I'm sure that she talks enough to me when she gets started, about her old parties and dresses; and what do I care for them?"

But just then he heard a familiar whistle, and bounded out of the house to his particular friend, Tom Mason. Then he could talk to his heart's delight, for they both talked at once, and neither heard what the other said. And you think Thad (for that was his name) forgot all about his sister and her remark! Maybe he did for the time, but there was still a little sore spot that would not heal up at once. Boys are no more hard-hearted by nature than girls, and very often we think that they have forgotten when they have not. "Oh, he is only a boy!" is too often said in a slighting manner, that hurts the boy quite as much as though he were a girl.

As Ruth May saw her brother walk down street with his chum, she thought, "I wish that I hadn't spoken so quickly, but I was busy thinking, and he interrupted me so. I suppose that it wouldn't have hurt me to listen to him; but he has forgotten it by this time, and so I'll let it go and try not to be so hasty next time."

It didn't occur to her that it was her duty to go and apologize to him. When supper time came, they were both at supper. But she acted as though she had forgotten, and he seemed to think that she had never thought about it. And neither could feel at ease with the other, although both talked indirectly. Now, you may say, "What is the use of parleying over such a thing as a heedless remark?" There is just this much use: that boy was not on such intimate terms with his sister that she was the confidante he needed. The sister had dropped from his ideal of her, and she was not entirely unconscious of the descent, because she felt it. She felt that her duty had not been done.

But after a day or two had passed, and she said nothing, her courage failed, and then she thought that she couldn't own up. So it went on and on. How much better it is to acknowledge the wrong and set things straight, for it will never live itself out. May Shepherd.

A JAR OF JELLY.

How it is made and sold.

Part IV.

Pickles and Peaches.

After small fruits are finished, there is a degree of rest for a time, till the coming of peaches, usually in September, though the small cucumbers and plum tomatoes come during this time. The cucumbers are carefully washed and put into a large jar. A large handful of salt is placed on top, then they are covered with boiling water. This is done five times in succession, leaving them in the water until cold. They are then drained, covered with vinegar, and spices added as desired. We let them come to a boil, put into the jars in as fanciful a manner as we wish, cover with the boiling vinegar, and put away. They are very pretty in the jars, and make a pleasing contrast in color to the preserves on the sweetmeat shelves.

Then the plum tomatoes, which we grow ourselves. We remove their jackets by giving them a bath in boiling water, drop in weak vinegar overnight, then drain and boil in a spiced vinegar syrup. We put the spices in a bag and cook slowly. If one is fond of sour pickles, these are nice put in the jar whole, without cooking. Put in bits of red pepper and strips of horseradish, some spices if liked, put a teaspoonful of salt on top of each jar, cover with cold vinegar, and put away for use.

A little later on, the large cucumbers and peppers, and the little melons for mangoes, must be put down in salt, to be used the last thing in the season for stuffing for mangoes. The okra and tomatoes for soup come in any time when one can procure the okra. It may be grown here, but it is much cheaper to buy it. Philadelphia and New York, I think, are the best markets. If the green pods cannot be procured, I have found the plain canned okra equally good to use with tomatoes.

The second season of hurry is ushered in with the advent of peaches, usually in September. The never-failing cry that the peach crop is a failure has reached our ears, but we are so accustomed to the annual alarm that now we give it no heed. We usually find our supply in the large peach orchards along Cayuga Lake. If they fail, Delaware or Maryland usually can furnish us; if not there, perhaps Michigan. But a supply can almost always be depended on from some direction, only we must look out for them in time. If possible, we get assorted peaches, those of a uniform, medium size; sometimes this cannot be done, then we carefully sort them, making three grades. The very large ones for preserves, the medium for pickles, and the bruised ones for jam. For mangoes we buy very large ones.

Those for preserves are peeled, cut in halves, the pits removed, and laid in sugar over night—a layer of sugar, then a layer of peaches. In the morning, the sugar will be dissolved by the juice from the fruit, and they are ready for cooking.

For pickles, we remove the down by brushing with a soft brush; it is more quickly done than by rubbing with a cloth. Each peach has to be handled five times before it is in the jar. We then thrust two cloves and two cassia buds into each one. We make a heavy vinegar syrup, and when boiling, put in enough peaches to cover the top of the syrup, forcing them under occasionally with a long-handled skimmer; cook till tender, then put into a colander to drain, and place them in the jars carefully. When the syrup has boiled clear, we skim it closely, pour it over the fruit, seal up the jars, and turn them on their sides to cool. We do not use any of the syrup that had drained off, but this is very nice boiled down and bottled to use in mince meat; it gives a most delicious flavor.

For jam, we slice the peaches very thin lengthwise toward the pit, boil till tender, add sugar, pound for pound, and cook till transparent. For mangoes, we do not peel them, only brush carefully, split them enough to remove the pit, which is replaced with a filling, tie them together with a string, and cook as pickles. They are very delicious.

Peach chutney is considered, by some, an excellent relish for fish, but I find it too expensive to put up in quantities, as there is so little call for it. One can make a greater variety of dainties from peaches than from any other fruit. Occasionally, we have small homegrown peaches which we can for the home table. We make a medium strong lye of wood ashes, let it come to a boil, and put in some of the peaches; they will need to remain in it but a short time. Take one in the hand and by rubbing a little, the skin will all slip off, leaving a beautiful, clean, smooth surface. Drop immediately into cold water, and leave them until enough for a cooking are prepared; then boil in as rich a syrup as desired. Mrs. O. P. Howland.

FRAGRANT CUSHIONS.

When the clover is in full bloom, quantities of the heads should be gathered, put loosely into paper bags, and dried in a cool, dark room, to be used in filling head rests, or for cushions. Although these will make acceptable presents at any season, they seem especially appropriate for holidays or for winter birthday gifts. The cover for such a cushion should be of white or gray linen, and should be embroidered with sprays and single heads of the clover, dotted here and there in natural colors done with Asiatic outline wash embroidery silks, and should be made removable so as to be readily laundered.

Other fragrant flowers or plants may be used for the same purpose, such as sweet violets, rose geranium leaves, etc. If the latter two be used, the cushion would better be filled with some other material, and enough of the blossoms or leaves added to give the odor. The cushion covers would, of course, be embroidered in violets, or in the geranium leaves.

What more acceptable present could be given to a semi-invalid, or one troub-

led with sleeplessness, or with nervousness, than a square cushion filled with hops, to be substituted for the pillow at night or while taking a nap? The odor of hops is most soothing and health restoring. For such a cushion, the cover should be of white linen embroidered with a graceful trail of hop vines across one end, done in Asiatic twisted silk for leaves and vines, and Roman floss for the hops. At night, a plain cover should be substituted. CLARA S. EVERTS.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6828. Ladies' Waist with Applied Basque.

This stylish waist is made from white organdie, over violet silk linings, and is decorated with lace, insertion and ribbon to match the color of the linings. The waist linings are glove-fitting and close

6827—Ladies' Waist with Applied Basque.

in front. A narrow vest trimmed crosswise with insertion is sewed to the right front, and closes over on the left. Wide box-plaits that taper towards the waist are formed on the edge of its front, meeting those on the back at the shoulder seams. A blouse effect is given in front by gathers at the lower edge of the vest and box-plaits. The ripple basque is joined to the lower edge of the waist, box-plaits meeting those of the waist at the back. A narrow belt with a buckle encircles the waist. The crush collar of violet silk has large fans of lace on each side. The epaulettes are made from lace mitered at the edges to form three points over the full puffs. Pattern No. 6827 is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure.

ODDS AND ENDS.

THE KID.—Charles, aged seven, was reading to me the story of Joseph, "Then they killed a kid, and in its blood dipped Joseph's coat" (this in an awe-struck tone). A happy thought came to me, and I interrupted, asking, "What is a kid?" Straight came the answer, "A little boy." Evident relief of Charlie when explanation was made. SWEET FERN.

COUNTRY LIFE.—Women on the farm usually have the mistaken idea that their lives must, of necessity, be narrow, and their opportunities for improvement limited. The average city woman does not come into direct, friendly contact with as many people as does the country woman. If the farmer's wife or daughter will watch for and improve every opportunity for self-improvement, and learn to be sociable and sympathetic, her sphere will be an ever-widening one, and her life as satisfactory and happy as any. ULELA HADLEY.

BENEFITS OF CYCLING.—The benefits of the bicycle, says Bicycling World, are too many, by far, to enumerate, and there are, practically, no off-setting objections whatever. When properly used, the wheel annoys nobody, and adds nothing to the sum total of unnecessary noise, the elimination of which is one of the major problems of urban civilization. On the other hand, cycling is one of the chief beneficiaries of the present century. It is teaching men and women anew the uses of their muscles, and rescuing tens of thousands from their former complete dependence upon horse power, steam or electricity for the means of local transit. It is teaching them to rely upon themselves for locomotion, as their forefathers did before Americans adopted the habit of doing their walking "with their limbs in the horse cars." This latter fact alone, would build a lasting monument to the ubiquitous bicycle.

Wearied minds, too, find rest in cycling, for while one who merely walks, may drag his tiresome train of thought after him, the cyclist must attend strictly to the work on hand and to his surroundings, and for the time being, forget the cares that weary the mind and sap the vitality.

PECULIAR PEOPLE.—Nothing better illustrates the conceit of human nature than the freely expressed opinion of some people that they are so different from the rest of the world, so peculiar in fact; their experiences of all kinds have been so unlike those of what they, to themselves, style, the "common people." Hearing their acquaintances speak of some state of mind, some feeling they have had, always reminds them how very singular life has seemed to them, how out of the ordinary course things have affected them. Most of this class of people extend their views to their families, particularly their children and their friends.

Good grandma Smith was spending the summer with a married daughter, and one morning, while assisting her to do the weekly mending, blandly remarked, as the shouts of her merry grandchildren came through the open door, "Emmiline said she thought I would not enjoy my visit here on account of the noise of the children."

"Do you think," said her daughter, "that the children are more noisy than common, active little folks?"

"Oh, no," promptly responded the old lady; "only they make so much more noise than mine ever did." Good old lady; the clatter of her own healthy flock in the days of her happy motherhood was forgotten, or remembered as a peculiar experience. AUNT RACHEL.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

Miscellaneous Advertising.

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Poor Pilgarlic,

there is no need for you to contemplate a wig when you can enjoy the pleasure of sitting again under your own "thatch." You can begin to get your hair back as soon as you begin to use

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Hyomei,

will cure your sneezing, sniffling, nagging

Hay-Fever

and do it quickly. Don't wait until your regular attack has come—*prevent it.* Hyomei also *cures by inhalation* asthma, catarrh, bronchitis, etc. Don't dose the stomach to cure the respiratory organs.

Price by mail, $1.00.

Dear Sir: BROOKLYN, N. Y., Feb. 8, 1895.
Booth's Pocket Inhaler works like a charm. The first inhalation gave relief. It is a blessing to humanity and I am sorry it is not better known. I add my name to the "Pass-It-On-Society."
Sincerely yours, (Rev.) J. M. FARRAR, D. D.

Hyomei is a purely vegetable antiseptic, and destroys the germs which cause disease in the respiratory organs. The air, charged with **Hyomei**, is inhaled at the mouth, and, after permeating the minutest air-cells, is exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It is highly recommended by physicians, clergymen, public speakers and thousands who have been helped and cured.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, to any part of the United States; consisting of pocket inhaler, made of deodorized hard rubber, a bottle of **Hyomei**, a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** cures. Are you open to conviction? Extra bottles of Hyomei inhalant by mail, 50 cents. Hyomei Balm, for all skin diseases, by mail, 25 cents.

R. T. BOOTH, 23 East 20th Street, New York.

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"A" Grade, $44. Style, Finish.

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The Illinois Central Railroad Company offers for sale on easy terms and at low prices, 150,000 acres of choice fruit, gardening, farm and grazing lands located in

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They are also largely interested in, and call especial attention to, the 600,000 acres of land in the famous

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$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address **S. S. Ware Co. Box 5308, Boston, Mass.**

Presidential Campaign News.

The Presidential Election next November promises to be one of the most exciting and important since 1860. We can't print all the news about it in THE R. N.-Y.; but we have made special arrangements with the leading National papers of both parties in the following list, so that we can send your choice of them for the rest of the year at a trifling cost. This will give you all the political news during the campaign, and the results of the election in November. Every regular issue of any paper in this list will be sent from the date your order is received, until January 1, 1897, together with THE R. N.-Y. for one year for the price opposite the name of paper. Agents and club raisers may take these orders, and retain their regular commissions on THE R. N.-Y., but no discount can be allowed on the other papers.

THRICE-A-WEEK WORLD, New York	$1.45
THE BALTIMORE SUN. (Weekly)	1.30
THE DEMOCRAT AND CHRONICLE, Rochester. (Weekly)	1.30
THE CINCINNATI ENQUIRER. (Weekly)	1.20
THE CINCINNATI GAZETTE. (Weekly)	1.20
LOUISVILLE COURIER-JOURNAL. (Weekly)	1.40
ATLANTA CONSTITUTION. (Weekly)	1.30
THE INTER-OCEAN, Chicago. (Weekly)	1.30

Remember, these prices are for the papers mentioned until January 1, 1897, and THE R. N.-Y. one year, or we will send any paper in the list free to any subscriber who will send $1 for a new subscription (not his own) to THE R. N.-Y.

THE RURAL NEW-YORKER, NEW YORK.

"ON TIME."

Many of our friends have been having exciting experience with the army worm during the past few weeks. This pest suddenly appeared on thousands of farms, and began its disastrous work without warning. Here was a new peril, and one that called for immediate action. No wonder these farmers were eager for true information about this worm. They went to all the friends they could think of, and many of them went straight to THE R. N.-Y. One of our people was visiting in the country when a farmer came in with a sad story about a worm that was eating up his corn—he brought a specimen of the corn with him. Within a few hours, that specimen was on the way to Prof. Slingerland, and last week we had a photograph of it—the most life-like picture of the army worm that has ever been printed. Before that picture and article were printed in the paper, we began to mail copies to people who wrote asking how to fight this terrible pest. And now, let us continue the story by reading this note from one of these men. When he first wrote, the worms were in the oats, and the day he wrote us, he cut the oats down:

FIGHTING THE WORMS.

As soon as we got your slip, we put the team on the plow and plowed a furrow around the oats, turning it in towards them; then, with shovels, we made the out or land side smooth, and as the oats are on flat, sandy land, with no stones, it was not much of a job. Now didn't we just trap those worms! Not another one got in the corn, and as we have a nice flock of those S. C. Brown Leghorns, we got them on that field of oats as soon as we could, and they had a great feast. On Friday and Saturday, we drew the straw off the ground, and there was hardly an oat left on it, and in some places, the straw was badly eaten. On Saturday, we could find but few worms alive, but there were plenty of dead ones where the hens had not been. By looking close, we found a good many in the pupa state; can't we destroy the most of these by plowing the ground quite deep at once, or will they come out? I would like to seed the ground this fall, as the worms have eaten up all the seeding, and there was a nice catch. I suppose that they were working in the seeding a long time before we noticed them. If it had not been for the prompt reply of THE R. N.-Y. I would have lost my corn, and as our hay crop is very short, would have had to sell our cows. As we make winter milk, we would have been out of pocket several hundred dollars.

LaPlume, Pa. E. A. B.

We are glad that we were able to render such prompt assistance. Advice must be given, and work must be done *on time*, or the true flavor is sure to get out of it. The results of a failure to do things on time are very evident all about us. Here is one of them:

PANIC GRASS.

Just a word of caution to those who intend to experiment with Panic grass as a forage crop. I have grown three varieties of it, and find it excellent in every way, yielding immense crops, and thriving on rather poor soil. But be sure you cut it early! If the seed has formed, it will succeed in ripening a portion, and itself seeds with great freedom. With a good crop of seed once in the soil, one will have all the Panic grass he cares for, for a good many years. It especially delights to creep slyly into a corn or potato field after the last cultivation, and in a surprisingly short time, it will take possession. I saw a man one day gazing earnestly at what I supposed was an extra fine field of millet. I remarked to him, "That's the best millet I have seen this year." No smile rose to his features, but without turning his head, he solemnly replied, "*Them's my taters!*" C. P. A.

You see the point! This man got behind, and that grass formed seed. The grass crop was a fine one, but what about the potatoes? The business of THE R. N.-Y. is to get in ahead with facts and information about worms, weeds or anything else that might go to seed and make trouble in your house or field. Lots of your friends or neighbors are working with ideas, methods and tools that have gone to seed, and which will turn their potatoes into grass if they do not cut down at once. THE R. N.-Y. is the scythe with which to do this work! It costs only $1 per year! We look to you for a new subscriber this fall! Don't let us look in vain!

CONDENSED CORRESPONDENCE.

FROM VERMONT.—The Cabbage-root maggot is making some unpleasant inroads upon our cabbages, cauliflowers and broccoli, especially the latter. The first intimation of its presence is the wilting of the infested plants in the hot sun. After this, the damage is rapidly finished, and the plant usually soon dies. Mr. Slingerland has recently published an exhaustive bulletin on this subject from the Cornell Experiment Station.

Burlington. F. A. W.

LACKAWANNA COUNTY, PA.—The weather for the last few weeks, has been just suited to the buckwheat crop, and I never saw it make a better growth; present indications are that it will be a big crop. Corn looks fair where planted early. Potatoes are few in a hill, and small; will not yield one-half of what they did last year. Apples promise an enormous crop; if they yield all over as they have here, they won't be worth picking.

E. P. B.

THE CARMAN NO. 3 POTATO.—The half of a Carman No. 3 potato received from THE R. N.-Y. in April, was planted in the garden May 20. I cut to five single-eye pieces. They received common garden culture, and are just three feet two inches high (July 14). I thought that they would do better with tops erect, so I have twined them as I sometimes do peas. The blossom buds are beginning to show, and cultivation will cease; but I shall mulch them heavily to-day with coarse horse manure. I shall write you again when I dig them. Any farmer with THE R. N.-Y. and Farm Journal in his home, cannot be a good business man if he does not make a success of farming. They are two good ones. G. E. H.

Layton, N. J.

NEW VARIETIES OF SMALL FRUITS.—Golden Mayberry.—This highly lauded and advertised novelty is not worth space on any one's ground north of the orange belt. Its defects are that it starts to bloom so early that the frost is sure to kill the blossoms. It would be productive enough, as it sends out a single bloom in the axil of each leaf, and a large bush would aggregate a large amount of fruit. The bush is hardy here.

The Logan Raspberry-Blackberry.—My advice to those that have it is to propagate all you can, as it is a grand acquisition—a red blackberry with red raspberry flavor, large as Snyder blackberry and very productive. It will make a good shipper, comes in about the middle of the strawberry season, and its appearance will surely command fancy prices. Bush hardy, vigorous grower on our thin soil, and I am sure that it will displace all other early raspberries now on the market. J. C. B.

Arkansas.

Miscellaneous Advertising.

Women go on, heedlessly ignoring the dangers that lie right in the path of their thoughtlessness. They neglect little warnings until they get used to them. The warnings become louder and louder, and still they do not heed them. Their sickness increases like a snowball rolling down hill. The sickness comes on gradually, and they get used to it gradually, but it ruins their lives just the same. One woman in a hundred, perhaps, is perfectly healthy. Sometimes her weakness is inherited, sometimes acquired by carelessness. In every case, care and Dr. Pierce's Favorite Prescription will give her new life and strength and vitality. It will fill out the hollows in her cheeks, bring color to her lips, brighten her eyes, and make her really and truly a woman. The "Favorite Prescription" is of inestimable value at three stages in the lives of every woman—when the girl becomes a woman, when the woman becomes a mother, and when the mother becomes incapable of maternity. At these times it gives safety and strength. It is the only medicine now before the public for woman's peculiar ailments, adapted to her delicate organization by a regularly graduated physician—an experienced and skilled specialist in these maladies. It cannot do harm in any condition of the system. Its sales exceed the combined sales of all other medicines for women.

Every woman should have and read Dr. Pierce's Common Sense Medical Adviser, a great book of a thousand pages, profusely illustrated which will be sent free on receipt of 21 one-cent stamps, to pay for mailing *only*. Address, World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

FOR SALE.

Gentleman's Country Residence and Fruit Farm, in Cheshire, Conn., between three cities, ¾-mile from railroad and center. Address Box 64, Cheshire, Conn

50 AND 40 ACRES, divided by road. Light loam land. N. WILLOUGHBY, Hobbs, Caroline County, Md.

Continued Victories for the IMPROVED UNITED STATES SEPARATOR.

Competitors delight in trumping up old testimonials referring to our old style machines, because the IMPROVED UNITED STATES SEPARATOR beats them so that they are compelled to go back to these old dates and old styles. These actions on the part of competitors are confessions that the IMPROVED U. S. SEPARATOR is too much for them.

"I tried a No. 5 Improved U. S. beside a No. 2 Sharples and a No. 2 De Laval and a No. 3 De Laval. The Improved U. S. will run strong 400 pounds per hour, and runs much easier than either of the other machines. I am making ten per cent. more butter now then when I used my pans.

CAMBRIDGE, VT., June 28, 1896. H. B. CURTIS."

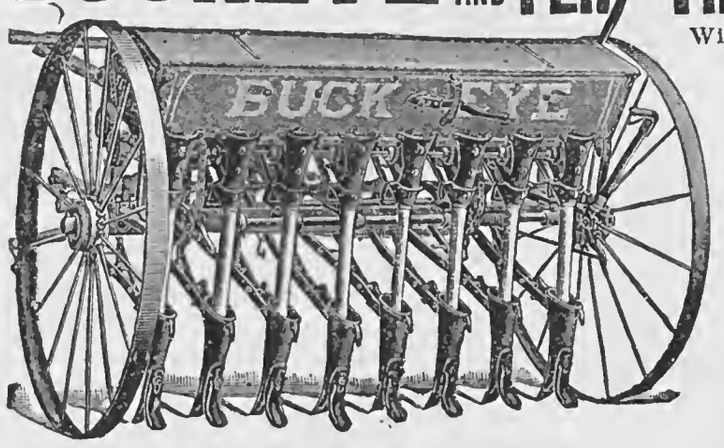
Remember, always, in reading these testimonials, that they are backed up by reports from the Experiment Stations. The IMPROVED UNITED STATES excels its competitors everywhere. Just read once more the reports from the Stations:

At CORNELL UNIVERSITY Experiment Station, in nineteen tests, running through two months (see bulletin 105, page 609) the average of the tests was only **0.05**
At VERMONT Experiment Station, - - **0.03**
At PENNSYLVANIA Dairy School, - - **0.04**
At INDIANA Dairy School, - - - trace.

Send for new Catalogue No. 143.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

BUCKEYE STEEL FRAME, GRAIN AND FERTILIZER DRILLS



With the **Celebrated Glass Disc Fertilizer Distributer** and **Entirely New Force Feed Grain Feed, Chain Gearing** and **Ratchet Drive Wheels.** Our New Lifter Bar raises the Hoes **easier** than any **other Lever ever invented. New Single Shifter Bar** with **New Lever** for **shifting Hoes.**

ESTABLISHED 1854.

Also manufacturers of BUCKEYE Riding and Walking Cultivators, Broadcast Seeders, Cider Mills and Hay Rakes.

Branch House: PHILADELPHIA, PA.

Send for Catalogue.

P. P. MAST & CO., 9 Canal Street, SPRINGFIELD, O.

DON'T POT YOUR PLANTS!

but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. **Agents Wanted.**

F. RICHARDS, Freeport, N. Y.

HENCH & DROMGOLD'S FORCE FEED

GRAIN & FERTILIZER DRILL

Positively the **neatest, lightest,** and **strongest grain drill** on the market. Many points of **superiority;** it is geared from the centre. Quantity of grain and fertilizer can be **changed while in operation** without the use of gear wheels. Fully guaranteed. Positively **accurate in quantity.** Give one a trial and be convinced. Agents wanted. Circulars free. Address **HENCH & DROMGOLD, Mfr's, York, Pa.**

THE "GEM" Automatic Wrench

USE the GEM Wrench

When oiling your spring wagon and keep your hands clean. Do not need to touch the nut during operation and do it all with one hand. Is the **BEST** selling article **ever offered AGENTS.** Sample 60c., two for $1,00 by mail, postage paid. Get sample at once and secure territory. Big profits. **D. Y. HALLOCK & SON,** Box 805 **York, Pa.**

FOR SALE—High-Grade Farms. Also a few cheap Farms. Write for my list J. LELAND HANNA, Baltimore, Md.

Burlington Route

HARVEST EXCURSIONS

TO THE FARM LANDS AND PRINCIPAL CITIES OF THE

West, Northwest and Southwest

The Burlington Route and many eastern railroads will sell Excursion Tickets at

VERY LOW ROUND-TRIP RATES

ON

August 4, 18, September 1, 15, 29 and October 6, 20

Take this opportunity to go and see the splendid crops that Nebraska, Northern Kansas and other Western sections have produced this year. Ask your nearest ticket agents for particulars, and see that your ticket reads via the BURLINGTON ROUTE. Send to the undersigned for a pamphlet (no charge) about Western Farm Lands.

P. S. EUSTIS, General Passenger Agent, CHICAGO, ILL.

THE APPLE CROP.

RURAL SPECIAL REPORTS.

In regard to the apple crop of Indiana, I judge that it will not be more than 50 per cent of the crop of last year. The quality, however, will be up to the average, as growers are beginning to learn the value of spraying, and are doing more of it every year. The 1895 apple crop was the largest that we have had for many years; consequently, many trees are bearing only a moderate crop this year, and some not at all. J. TROOP.

Indiana Experiment Station.

The apple crop will be very large through our Champlain Valley this year, and the fruit will be fine. Last year there were but a very few good apples; it was an off year. Greenings and Baldwins are the heaviest yielders. There has not been much spraying. Pears are scarce in this locality. We shall have only two-thirds of a crop of hay. Potatoes will not be a large crop on account of dry weather; they will be superior to those of last year. O. H. ALEXANDER.

Vermont.

Our apples will hardly be one-half of a crop this year. The large surplus of last year is partly the cause. Some parts of the State, and some few scattering orchards in other parts of the State, will have all the apples that the trees should hold. Older trees are bearing the best. Spraying has been growing in the minds of the fruit men, and they are doing it more each year. We are all satisfied that it is a good thing. The only questions are, When? How? What? L. A. G.

Westport, Mo.

Orcharding is not carried on to any great extent here, but the few orchards there are, promise a large crop, and the fruit looks fair and nice. Baldwins and Long Island Greenings are the varieties most planted in this locality, and they are yielding as large crops as, if not larger than, any other varieties. Spraying apple orchards has never received any attention in this neighborhood, except the little we have done at it ourselves; but we are firmly convinced, from the results of our spraying, that, in order to raise good fruit, apple orchard spraying will have to be adopted generally. EDWIN HOYT.

Fairfield County, Conn.

In 12 years, we have not had such a promise for a great crop of apples, and they are wonderfully free from blemishes. The latter fact does not owe its existence to spraying entirely, although the use of the spray pump has been a factor in it. As I have traveled over our State, I can hardly say that any varieties take the lead in productiveness. Baldwins, Kings, Spys, Hubbardstons, Wageners, and R. I. Greenings are all heavily laden. Fruit is maturing exceptionally early; Wageners and Baldwins are more than two-thirds grown, and getting their color. The value of the crop will depend largely upon the weather, which, to produce the most desirable results, should be retarding rather than stimulating. A hot, dry August would make our winter varieties into autumn sorts. C. W. GARFIELD.

Michigan.

The apple crop of this locality is nearly a full one, the largest for five or six years. Spys, R. I. Greenings, Talman Sweets, Baldwins, and Tulpehockens seem to be yielding the best. Spraying is on the increase among the specialists who make fruit growing a business, but will, probably, never be very generally done by the rank and file of farmers, until it is done by a neighborhood outfit. I promised myself, last spring, that, by another season, I would try to spray by steam, and have a tank holding, at least, 200 gallons. Consequently, I was much interested in Mr. Wilson's experience on page 446. We must drain, till, prune, feed and spray, and then use lots of push and commercial common sense in marketing, and we can keep fruit growing well to the front for many long years yet. W. W. F.

Waterville, O

In Tompkins County, N. Y., the apple crop will not be more than 50 per cent of last year's yield. There are a few spots, generally in some valley, where the yield is promising, but many trees barren in all parts. Owing to the unusual earliness of the season, apples are large, and, I think, smoother than for several years. Should they keep growing and not mature until the usual time, there will be extra large specimens. Near here, there has been less damage done by fungous diseases and insect foes, than for several years. This seems to be true of all crops this season. It is fortunate that this fact is true, for no one of whom I know, sprayed at all. There is a good deal of fussing about the process, and one's efforts are liable to be washed away too often to suit any except the professional grower. The average farmer is too busy to stop planting to "wash off his trees," as a neighbor expressed it, and this best paying crop, all things considered, is sadly neglected. The bulk of the crop in this county consists of R. I. Greenings, Baldwins, Kings, Northern Spys, Seek-No-Furthers, Gilliflowers, and some varieties of Pippins, which make up 95 per cent of the yield, of which 75 per cent are of the first two. Contrary to custom, the Baldwin will outyield the Greening this season. Both kinds are well loaded where there are any at all. The other varieties will give a scanty yield. There has been no general planting of orchards in the last 15 years, and with the exception of single trees planted around the house, very few farmers have the newer varieties. But little interest is manifested, and the trees are unpruned, most men taking what fruit they can get as a catch crop. Hence, the spraying is neglected, and fully one-third of the crop is unmerchantable. We are not in what is called the apple belt, but owing to the forethought of our fathers, many thousands of barrels are sold every year. The prospect is that this year's yield, where there is any, will be of more value than that of last year. The manufacture of barrels has already commenced. C. E. C.

The records show this Threshing-machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

CROP AND MARKET NOTES.

The army worms are devastating Canadian farms.

The third annual convention of the National Hay Association will be held at St. Louis, Mo., beginning September 8.

By royal decree, the Italian Government has raised the duty on barley, rice, flour, rye flour, oat and barley meal, white Indian corn meal, linseed and cotton seed, as well as other grains and grain products. The new schedule is expected to prevent dishonest speculation, notably the selling of barley mixed with oats and the adulteration of wheat flour by mixing with it Indian meal.

The official report of the condition of the French crops in mid-July, as compared with the corresponding period of 1895, shows the following: Winter wheat, 74 per cent, as against 69 per cent in 1895; spring wheat, 71 per cent, as against 72 per cent in 1895; rye, 80 per cent, as against 76 per cent in 1895; spring oats, 71 per cent, as against 81 per cent in 1895; spring barley, 70 per cent, as against 83 per cent in 1895.

A select committee of the House of Commons has long been considering certain proposed restrictions of the oleomargarine trade. It recommends that the coloring of oleomargarine, either in imitation of butter or otherwise, be prohibited, and that the selling of mixed oleomargarine and butter be held illegal, even if sold as a mixture. Other restrictions relating to registration of dealers in oleomargarine, labeling, packing, etc., are recommended.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 12@1 15
Medium, 1895, choice	1 00@ —
Pea, 1895, choice	1 02@ —
Medium or pea, common to good	90@ 95
White Kidney, 1895, choice	1 20@1 25
Red Kidney, 1895, choice	1 07@1 10
Red Kidney, common to good	90@1 00
Black Turtle soup, 1895	1 20@1 30
Yellow Eye 1895, choice	1 20@ —
Lima, Cal., 1895 (60 lbs)	1 70@1 72
Green peas, bbl., per bushel	72@ —
Bags, per bushel	67@ —
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @—
Western, firsts	13½@14
Western, seconds	12½@13
Western, thirds	11 @12
State, fancy	15 @—
Common to prime	11 @14
State dairy, half-firkin tubs, fancy	14 @14½
Firsts	13 @13½
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @—
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9 @10
Thirds	8 @ 9
Factory, fancy	10 @10½
Factory, firsts	9½@10
Factory, seconds	9 @—
Factory, thirds	8 @ 8½
Old butter	7 @10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾@—
Colored, good to choice	6½@ 6⅝
Fair to good	5½@ 6¼
Fancy white	6⅝@ 6¾
White, choice	6½@ 6⅝
Small, colored, fancy	7 @—
Small, white, fancy	7 @—
Small, good to choice	6½@ 6¾
Small, common to fair	5½@ 6¼
Light skims, choice	5 @—
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1½@—

EGGS.

Near-by, new laid, fancy, per doz	16 @ 17
State, fresh gathered, average receipts	13½@ 14
Penna., country marks, average best	13½@ 14
N. Ohio Ind., Ill. and Mich., prime	12½@ 13
Other Western, prime	12½@ 13
Western, fair to good	11 @ 12
Western & South'n, poor to fair, per case	2 25 @3 00
Western culls, per case	1 00 @2 00

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6 @ 6¼
Choice, 1895, per lb	5¼@ 5½
Prime, 1895, per lb	4¾@ 5
Common to good, per lb	3 @ 4½
N. C., sundried, 1895, sliced, fancy	3½@—
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	2½@ 3½
Western, sundried, quarters, bbls	2½@ 3½
South-West'n, sundried, quarters, bbls	2¼@ 3⅛
Southern, sundried, quarters, bbls	2 @ 2⅜
Southern, sundried, coarse cut bags	2 @ 2⅜
Chopped, 1895, per lb	2 @—
Cores and skins, 1894, per lb	2 @ 3
Peaches, Sundried, 1895, peeled, per lb	3 @ 6
Cherries, 1895, per lb	9 @10
Cherries, 1896, per lb	10 @10½
Blackberries, 1895, per lb	5½@ 6
Raspberries, evaporated, 1895, per lb	15 @—
Sundried, 1895, per lb	14 @15
Huckleberries, 1895, per lb	5½@ 6
Plums, Southern Damson, 1895, per lb	4 @—

FRUITS—GREEN

Apples, Md. and Del., per crate	40@ 65
Nearby, Nyack Pippin	1 50@2 00
Nearby, other k'ds, h'd-pick'd, per bbl	1 00@1 50
Nearby, windfall, per bbl	50@1 00
Blackberries, Jersey, per quart	3@ 7
Up-River, per quart	5@ 8
Currants, per quart	2@ 5
Per lb	2@ 5
Gooseberries, green, per quart	3@ 5
Prime green, per bushel	1 00@ —
Extra large, per quart	6@ 8
Grapes, Southern Niagara, per carrier	1 25@1 75
Southern Moore's, per carrier	1 00@1 25
Southern Delaware, per carrier	1 25@1 75
Southern, common, per basket	15@ 20
Huckleberries, Md. and Del., per quart	5@ 7
Jersey, per quart	6@ 8
Mountain, Penn. and State, per quart	8@ 10
Muskmelons, Md. and Del., per carrier	75@1 50
South Jersey, per bushel-crate	40@ 60
N. C., per bbl	40@ 60
Virginia, per bbl	50@1 25
Baltimore, per basket	50@ 75
Peaches, Md. and Del., per carrier	1 00@1 50
S. C., per carrier	1 00@1 50
S. C., per flat case	50@ 75
Georgia, good to fancy, per carrier	1 50@2 25
Georgia, unsound, per carrier	50@1 00
Md. and Del., per basket	30@ 60
Md. and Del., per crate	40@ 75
Plums, Md. and Del., Damson, per quart	5@ 6
Md. and Del., Wild Goose, per quart	4@ 6
Fla., Japanese, per carrier	1 00@2 00
Pears, LeConte, Southern, per bbl	1 50@3 00
Nearby, Manning's Elizabeth, per bbl	2 25@2 50
Nearby, Bell, per bbl	1 75@2 25
Nearby cooking, per bbl	1 50@1 75
Raspberries, Red, Up-River, per ⅓ cup	2@ 5
Red, Jersey, per pint	2@ 4
Watermelons, choice, large, per 100	16 00@20 00
Small to medium, per 100	8 00@15 00
Per car-load	100 00@200 00

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

GRAIN.

Wheat	61 @78
Rye	52½@40
Barley	27½@32
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	32 @37
Oats	20½@27

HAY AND STRAW.

Hay, No. 1 Timothy	87@ 92
No. 2	80@ 85
No. 3	60@ 70
Clover, mixed	65@ 70
Clover	55@ 60
Salt	45@ 50
Straw, No. 1, long rye, old	95@1 00
New	75@ 90
Short rye	65@ 70
Oat	40@ 50
Wheat	35@ 45

HONEY.

State, white clover, comb, per lb	—@—
Buckwheat, comb, per lb	7 @ 8
White clover, extracted, per lb	5 @ 6
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	10 @12½
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @55

HOPS.

N. Y. State, crop of 1895, choice	7 @ 7½
Medium to prime	5 @ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	8 @ 8½
Fair to good, per lb	7 @ 7½
Com. to med., per lb	6 @ 6½
Small, per lb	4 @ 6
Buttermilks	4½@ 5½
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	5 @ 5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4¾@ —
H. p., extra, per lb	3¾@ —
Shelled, No. 1, per lb	5 @ 5¼
No. 2, per lb	3¾@ 4
Spanish, shelled, No. 1, per lb	6 @ 6¼
No. 2, per lb	4¼@ —
Pecans, ungraded, per lb	3½@ 4

POTATOES.

Southern Rose, fair to prime, per bbl	1 00@1 12
Seconds, per bbl	60@ 75
Culls, per bbl	30@ 40
Long Island, in bulk, per bbl	1 00@1 12
Sweets, yellow, per bbl	2 00@3 50
Sweets, red, per bbl	1 00@1 75

POULTRY—LIVE.

Spring chickens, per lb	9½@ 12
Fowls, local, per lb	10 @ 10½
Western, per lb	10 @ 10½
Southwestern, per lb	10 @ 10½
Southern, per lb	10 @ 10½
Chickens, yearlings, per lb	10 @ 10½
Roosters, old, per lb	6 @ 6½
Turkeys, mixed, per lb	8 @ 9
Ducks, local, per pair	75 @ 85
Western, per pair	65 @ 80
Southern, per pair	50 @ 55
Geese, local, per pair	1 00 @1 37
Western, per pair	90 @1 25
Southern, per pair	75 @1 00
Pigeons, old, per pair	20 @ 25
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ —
Average toms, per lb	9 @ 10
Chickens, Phil., selected, per lb	17 @ 18
Phila., ordinary, per lb	14 @ 16
L. I., scalded, per lb	14 @ 16
Pennsylvania, per lb	14 @ 16
Western, dry-picked, per lb	13 @ 14
Western, scalded, per lb	12 @ .2½
Western, small, per lb	11 @ 11½
Fowls, Western, dry-picked, choice	11½@ —
Dry-picked, fair to good, per lb	11 @ —
Scalded, choice, per bbl	11 @ —
Old cocks, per lb	5½@ 6
Spring ducks, Eastern, per lb	13 @ 13½
Spring ducks, L. I., per lb	13 @ 13½
Spring geese, Eastern, per lb	17 @ 18
Squabs, tame, white, per doz	2 00 @—
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @—

VEGETABLES.

Beets, per 100 bunches	1 00@ —
Cabbage, L. I., per 100	2 00@3 00
Carrots, per 100 bunches	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 50@2 50
Celery, fancy, large, per doz	50@ —
Average, prime, per doz	25@ 40
Small, per doz	10@ 20
Cucumbers, Baltimore, per basket	50@ —
Jersey, per basket	75@ —
Long Island, per 100	75@ —
Egg plant, Jersey, per crate	90@1 00
Jersey, per bbl	3 50@4 00
Green corn, Hackensack, per 100	1 00@ —
South Jersey, per 100	40@ 60
Green peas, Western N. Y., per bag	75@1 00
Long Island, per bag	50@ —
Lettuce, per bbl	50@ —
Onions, Egyptian, per bag	50@ 90
New Orleans, per bbl	1 75@ —
New Orleans, per bag	70@ 75
Southern potato, per basket	50@ 65
Orange County, red, per bbl	75@1 25
Connecticut, per bbl	1 25@1 50
Peppers, S. Jersey, per crate	60@ 75
Spinach, per bbl	40@ 65
Squash, L. I., yellow, per bbl	40@ 50
Long Island, white, per bbl	40@ 50
String beans, Jersey, per basket	—@ —
Long Island, per bag	25@ 50
Tomatoes, Monmouth Co., per crate	60@1 00
Norfolk, per carrier	30@ 65
South Jersey, per crate	30@ 40
Turnips, new, white, per 100 bunches	1 00@2 00
Russia, per bbl	65@ 70

MILK AND CREAM.

The total daily supply has been 23,656 cans of milk, 231 cans of condensed milk and 974 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

Miscellaneous Advertising.

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23,469

Collections of different Columbia advertisements were submitted in competition for the Columbia Bicycle recently offered as a prize. The winning collection was sent by H. F. Wendall, Leipsic, Ohio, and contained 2,089 different advertisements of

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This contest has demonstrated in a remarkable manner the secure popularity of Columbia bicycles and the wide-spread desire to secure one. If Columbias could be sold for less, the use of Columbias would be universal. But Columbia quality can only be maintained at its unvarying standard by asking one unvarying price **$100 TO ALL ALIKE.**

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Send for our little book, "Suggestions to Shippers," Market Reports, Special References, Stencils, etc., all free.
Inquiries and Correspondence Invited.

NOTES FROM "LUAVA."

LAST SPRING, Charles P. Augur, of Connecticut, sent us two ears of the Dwarf Adams corn. Mr. Augur has grown this corn for 31 years, the original ear being brought from Michigan, and was known as "Squaw corn." He praised it as a strong, thrifty grower, a heavy yielder, good enough, in its green state, to eat as sweet corn, yet making an excellent feed corn when mature. A part of the seed was planted in the garden on May 1, and the rest planted later, on the farm, to test its value for field culture. The first picking of green ears was made July 19—79 days from planting. The stalks, with us, are thrifty and strong, and average over five feet high. Crosby, planted 10 days later than the Adams, was just beginning to tassel when the first ears of Adams were picked. As to quality—the Adams is not a sugar corn at all; yet, to our taste, some of the best ears were fully as sweet as Crosby. It would sell without difficulty as sweet corn. The plants do not sucker, may be planted close together, and we would judge that a heavy crop could be grown on an acre. When the field crop is harvested, we shall have more to say about the yield and quality of the grain.

‡ ‡ ‡

OUR early cabbage, this year, has been grown between the rows of asparagus. The asparagus roots were set out in the early spring, in trenches four feet apart. The cabbage seed was drilled in midway between the asparagus rows, and the plants were thinned out as they grew large enough. Both asparagus and cabbage were highly fertilized, and the cabbages are large and fine. As they are cut out for use, plants of later varieties are put in their places.

‡ ‡ ‡

LAST year, on September 3, we set out 1,200 potted plants of Parker Earle strawberries. On part of the land, we had already grown a crop of Crosby sweet corn, and on the remainder a crop each of lettuce and early cabbage. The weather was dry, and the ground, a tough old sod, was full of White Grubs, so that some of the plants were killed. This spring, we measured off a space 18x30 feet—a fair average of the entire bed—in order to ascertain the yield from potted plants eight months from setting. The first ripe berries were picked on Decoration Day, and the last ones June 29. The total yield was 47 quarts—seven of which were used for making jam, and the rest were eaten fresh. The plants were set 30x15 inches apart. Counting out the misses, there were about 140 plants on this plot. At this rate, an acre of such plants would yield about 3,800 quarts. Even with this low yield, the crop would pay us, for the plants were set on ground that had already produced one and two crops.

‡ ‡ ‡

WE shall not use any more potted plants, however—except, possibly, for newer varieties. The Richards's transplanter enables us to get better plants, and re-set them with a surer chance of success. This spring, we set out a dozen plants each of some 25 varieties. Now we wish to set, say, 200 good plants each of Brandywine, Idcal, Oriole, Mary, Atlantic and Eureka. By fastening the runners down with a hairpin, we are able to root plants wherever they are wanted, and with the transplanter, they are quickly taken up with a ball of earth larger than one's fist, and put out in a new place without the sign of a wilt. We call our little experiment plot the "breeding pen," and by properly handling the runners, we can obtain thousands of plants, better in all respects, than those in pots.

Early in June, Mr. L. J. Farmer sent us a dozen strawberry plants kept after his "new method"—that is, heeled into the ground close together. These plants were set out at once, and are now fully as large as the plants set in April. We are taking plants from them with the transplanter, the same as from those set out earlier. The convenience of this transplanter on places where space is valuable, is quite evident. For example, we have a patch of early corn that will be off by August 1. The stalks can be cut off, the soil worked up and fertilized, and in a day, plants from the breeding pen can be taken up with the transplanter and set out in their new places. They will never stop growing, and will outyield potted plants next spring. Of course, where one has acres of berries, the transplanter might not pay except for newer varieties; but for intensive culture, on soil free from stones, it will prove a very valuable help. H.

Live Stock Matters

FEEDING FARM POULTRY.

The question of feeding poultry on the farm has many advocates of as many methods. Some methods are purely theoretical, others are contrary to the nature and habits of the fowls, while others, again, are impractical, as they involve too much extra labor; the routine being the same for a small flock as for a large one, demands more time and labor than the average farmer can, or is necessary that he should, devote to it, where he is not making this his principal business. When the Creator placed fowls on the earth, he placed food within their reach, not in patent hoppers and troughs, but required them to search for it; the efforts put forth in the search being absolutely necessary to their well being. Man has transplanted them to climates where nature withholds her supply during a portion of the year; therefore, he must supply their needs by as nearly as possible duplicating the natural supply.

The presumption is that you are raising chickens for profit and not for ornamental purposes. The greatest source of profit is in the eggs they produce. Broilers are profitable, but to make them so, one must be equipped to raise them artificially; this requires much time, labor and very close attention. The slightest deviation from certain lines, accidentally or otherwise, will result in severe losses, so great that fancy prices must be obtained for the early birds to offset even the average losses and the low prices that follow later. Beyond all question, eggs are the most profitable branch of poultry raising under ordinary conditions. There are two important points, the foundation upon which success is based; the first is the

Stock That Is to Produce the Eggs.

Suppose that you wish to raise a crop of early potatoes to mature in June, would you go to market and buy anything that looked like a potato, plant it, and then, after discovering that it was a mixture of all kinds—early and late—save the seed and continue planting it from year to year? How about the hens? You call them common stock, which means that they mature at various ages, and have the characteristics and qualities of the blood that predominates in each fowl, and they all descend from some of the standard breeds. You hatch the chicks as early as possible in the spring, so as to have early winter layers, and then can't understand why they don't lay, and are surprised when you find some May and June hatched chicks laying in November when egg prices begin to climb upward, and when you should reap your egg harvest. Or, suppose that you have one variety of purebred stock, whatever it may be! Unless you hatch the chicks at the right time, you need expect no eggs when you should have them in abundance, but of course will have plenty when everybody else has, and prices are down. Some one has remarked that it doesn't pay to peddle ice in winter. Neither does it pay to peddle eggs in summer. How can you avoid it? Remember the following rules and be governed by them and you have taken the first and important step:

First, get rid of your mongrel stock; you can't figure ahead on it with any certainty, while with purebred, you can. If you wish eggs in November, set the hens so that they will hatch as follows: Brown Leghorns, 4½ months previous to laying; Black Spanish or Minorcas, 5 months; Wyandottes or Langshans, 5½ months; Plymouth Rocks, 6 months; Brahmas or Cochins, 6½ months. If you hatch them earlier than this, they will moult into premature hens, and then you need expect no eggs until spring. A hen can't grow feathers and eggs at the same time. No system of feeding will alter this fact, and to this alone, much of the scarcity of eggs in winter is due.

I long ago found the Brown Leghorn the best layer. I hatch my chicks in May and June, and in October and November, I can depend on my hens shelling out eggs in abundance. The next important point is

Feed.

I am not a believer in all sorts of mashes, slops and soups, advised by many to be concocted for poultry. Hens dislike wet food; they can gradually be

(*Continued on next page.*)

Miscellaneous Advertising.

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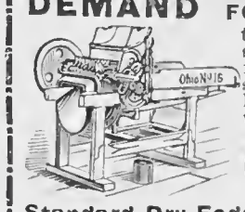

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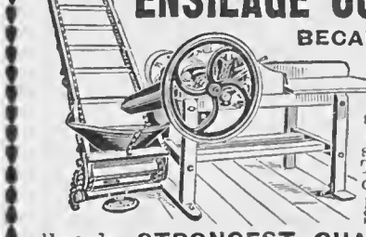

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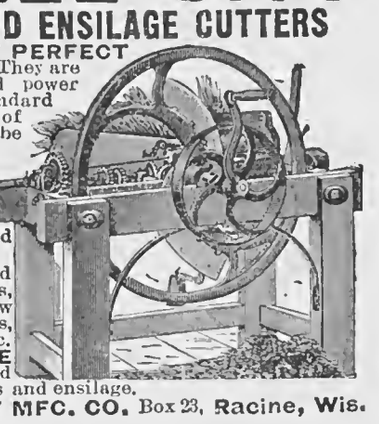

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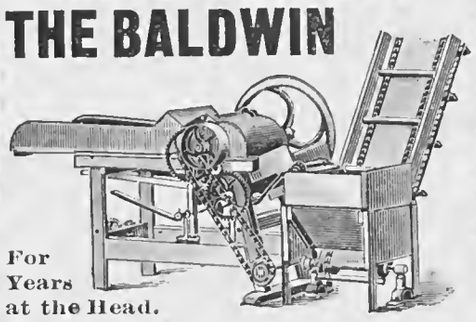
THE BALDWIN



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No RUST nor RATTLE. *Outlasts tin or iron.*
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Manufacturer of and Dealer in Agricultural Drain Tile, Salt-Glazed Sewer Pipe, Red Pressed Brick, Mortar Colors, Fire Brick, Oven Tile, Flue Lining, Chimney Tops, Encaustic Sidewalk Tile, Rosendale and Portland Cement, Lime, Plaster, &c.

LIVE STOCK MATTERS.

(CONTINUED.)

taught to eat it, but it is contrary to their natures. These mashes have been devised and used principally to supply the necessary vegetable food. I find it better to supply the vegetable food green or raw, as Nature intended they should eat it. I try to furnish the same elements in the same condition in winter that Nature does in summer. The keynote is, variety. Their natural food is grain and seeds of all kinds; bugs, worms and insects, with an abundance of green food, which is the foundation of vigor in poultry. Let the winter feed be whole wheat, barley and buckwheat; use but little corn, and then at night only, and not to exceed a bushel per month for 100 hens. Remember that you wish eggs, not fat! Keep the hens hungry except at night; send them to roost with full crops. Keep green food in the shape of cabbage, turnips, carrots or beets constantly where they can peck at them. Be sure that they can always find plenty of grit and sand.

To take the place of insect food, I feed granulated bone that is very rich in hypophosphites and lime, and a prepared dried blood which furnishes albumen and ammonia. The bone is placed where they can help themselves, but when I feed the blood, it being a powder, I mash a few boiled potatoes and mix it in a very dry mass. I alternate the grain food, and scatter it in litter, where they must scratch to find it. Exercise must be kept up as well as food. Pure water in clean vessels is, of course, a necessity.

Feeding Chicks.

My experience leads me to conclude that bread and milk are the very best food with which to start a chick. It cleanses the crops and digestive organs, and prevents bowel trouble, which is the cause of much mortality among them. I feed this for a few days or a week, until I let the hen run with them, then I feed cracked wheat and corn, equal parts, and when three weeks old, whole wheat—on which they thrive as on no other food.

My breeding rules differ from those of breeders who breed for feathers, and exhibition purposes. If a hen is unproductive, off goes her head, no matter how many points she may score. If one is heavier than the maximum allowed by the standard, I keep her, as any large bird of its kind, is sure to prove strong, vigorous and productive.

The Meat Side of the Question.

Broilers can be made profitable if raised artificially. Eggs are more profitable, and require no artificial conditions; but ducks for meat are more profitable than either. My specialty is raising Pekin ducks artificially for market and breeding purposes. The mortality among them is very light. They are very hardy, subject to no disease, and will thrive under conditions that would kill a chick. Lice never bother them. All they ask is plenty to eat and drink, and they will take on flesh at a rate that will astonish you. When you can make a duckling weigh from 4½ to 5 pounds in nine weeks, at a cost of 2½ cents per pound in feed, and sell him for 40 cents per pound early in April or 15 cents in July, there is a larger percentage of profit in it than in any farm crop or any other legitimate business. In selecting my breeders, of which I have now 300 the same principle governs—utility. As I wish flesh, I select those with long bodies, wide and deep breast and keel. For quick returns and large profits, they have no rival in the poultry line. The demand for ducklings is always greater than the supply in nearly all markets. It is commonly believed that ducks must have water in which to swim; this is true of puddle ducks. The Pekins have been raised for many generations without it; the desire is virtually bred out of them, and to admit them before they are full feathered would be injurious. I can merely allude to the duck question when the subject of meat is being considered, but what I have said may demonstrate which is the most profitable branch of all in raising poultry. Our ideas may differ, but the proof of the pudding is in the eating.

Missouri. H. E. MOSS.

STOCK GROWING IN OKLAHOMA.

I keep purebred Short-horn cattle to raise young stock to supply my neighbors here in the Territory. This is a stock-raising country; no matter what the season is for other crops, there is always a bountiful supply of stock feed raised here. Last year, when hay was short elsewhere, hundreds of car-loads were shipped from here to Chicago, St. Louis and Kansas City. Wheat seems to do very well here, but most farmers raise fodder crops, corn, Kaffir corn, sorghum, millet—and some are starting Alfalfa, which, I believe, will do well.

I have a milk dairy, and keep a number of grade cows and some Jerseys for my milk supply, selling the milk in the city of Newkirk. I prefer to let the calves have the milk from my Short-horn cattle, believing that better calves can be raised by the cows than when fed by hand. The calves from my grade stock I do not raise, unless I have an oversupply of milk, but sell them to the neighbors at $2 per head when about three days old. The calves from my Jerseys are hard to get rid of, unless they are heifer calves.

The reason that I prefer Short-horns is that I can do better with them than with a lighter breed. While milk sells here for only 15 cents a gallon, butter for six cents a pound, and cheese for eight cents, it does not pay farmers to keep cattle for the milk supply, excepting for their own family use. The calf from a Short-horn makes a much larger veal than from any of the strictly dairy breeds, and when grown for beef, pays almost double for the amount of feed consumed, unless it be for the exception of the Hereford cattle, which are raised here also.

With corn at 15 cents a bushel, it pays better for farmers to sell it on the hoof than from the crib, and most of the well-to-do farmers keep either cattle or hogs to eat their corn. These farmers will not purchase any other than half-breeds of cattle, and among them, they get very many good milkers, sufficiently so, at any rate, for all home consumption.

Newkirk, O. T. E. H. L.

WESTERN STOCK NOTES.

Prof. W. A. Henry, of Wisconsin, was recently "caught on the fly," and requested to bat at a few questions that were pitched to him:

"What seems to be the outlook for dairying in the West?"

"We have, in Wisconsin, at this time, about 2,500 creameries and cheese factories. As agriculture has declined, this has been a great help in our State. Our farmers are getting three-quarters of a million dollars a week for dairy goods. The present low prices are discouraging our people quite a little. We are feeling it in butter this year. With the low prices for pork, horses and grain, there is a considerable feeling of dissatisfaction. Our State is more prosperous than many of the western States. People stick closer to business, and attend to their knitting. We had, in Wisconsin, 100 farmers' institutes, and 50,000 farmers came to those meetings. Our mortgages, nine times out of ten, represent purchases. They represent ambition to own more land. The Germans are good farmers. They have more faith in the institutes and the schools than our Yankee farmers."

"What is the tendency of the West as to breeds of cattle?"

"The Babcock test has done a great deal for the rich milk breeds. It has unduly stimulated this idea. A farmer will talk about his test regardless of the quantity of milk. If he has a cow that gives six-per-cent milk, and she is giving 20 pounds a day, he will think her a greater cow than one that is giving five-per-cent milk and 50 pounds. I think that, for the farmer, the grade is the cow. Grades of Jerseys, Guernseys and Holsteins are among the best. We have some exeellent Holsteins in our State, but, of course, there are some very poor ones. The average farmer likes the Short-horn, and that breed has formed the basis for many of our grade herds."

"Is the hog business in the West booming now?"

"Southern Wisconsin is a good hog country, and our farmers have made a good deal of money on hogs. Southern Wisconsin is in the hog belt, which reaches into Iowa and Nebraska. It is an enormous industry in the West. Most of the hogs raised are black. The black hair and black skin stand our hot sun better."

"Do you know whether farmers are using dried blood, ground bone or tankage for feeding hogs?"

"I know of a little being used occasionally. It is usually used for show animals, and the results are fairly satisfactory. I know of one of the most successful growers of hogs in our State who uses a little dried blood. I hear men say, in Nebraska, that they do not care to use it."

KILLING THE HORN.—I have been interested in what has been said about dishorning and preventing horn growth. The former I have never tried, but I have for two years, killed the coming horns with common concentrated lye, using that bought for soap-making. I am a veritable shut-in, having come here in 1890 for my health, and failed to find it. I have been to my stable but three times in considerably more than two years, so that what I have done has been by others, and when and where I could have no personal oversight of the matter. I directed that the calf, in every instance under 10 days of age, be fastened to a post so that its head would be immovable. The embryo horn was then clipped short of hair with scissors, moistened, and about the mass of a half of a grain of corn of the lye made into a paste and rubbed into each horn. Care was taken that the paste was not moist enough to run at all, but that it would remain where placed. In no case has a second application been necessary; and in every instance, the horn has been perfectly destroyed. My success under circumstances where it had to be done by other hands, and beyond my sight, has prompted me to give my method.

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The lightning-bug is brilliant,
But he hasn't any mind;
He blunders through existence
With his headlight on behind.
—*Chicago Record.*

CAN a hammock be called a spoon-holder?—*Atchison Globe.* It might hold a pair of spoons.

IT is not the proper thing to say that a man will make a good husband. It is the wife who makes the good husband. The bad ones only are the the self-made article.—*Boston Transcript.*

"WOULDN'T it be terrible, Robbie," said little Mabel, as they drank their morning's milk, "if there wasn't no cows." "Yeth," said Robbie. "We'd have to dwink condenthed milk then, and it's horrid."—*Harper's Bazar.*

"IF women have not finer sensibilities than men," asked the defender of her sex, "then why is it that men laugh and women weep at a wedding?" "Because they are not the ones who are getting married," answered the coarse, heartless man.—*Credit Lost.*

LITTLE TOMMY, while alone, had bumped himself pretty severely against the edge of a door, and related the accident to his mother. "Did you cry, Tommy?" she asked. "No, mamma. What was the use? There wasn't anybody around!"—*The Household.*

PAT HOOLIGAN: "I wonder, Mr. Moriarity, whoi they always put a cock atop of the weather vane, and niver a hen d'ye see?" Moriarity: "Shure, Pat, me boy, it'd be the difficulty they'd have collecting the eggs if they was to put hens there."—*Alley Sloper.*

MRS. SUBURBS (an old resident): "Well, how are you making out with your gardening?" Mrs. Newcome (fresh from the city): "Why, we are not making out at all! The man who sold us these potato seeds cheated us. The vines came up splendidly, but there isn't a sign or sight of a potato on one of them John is going to tear them all up to-night."—*Puck.*

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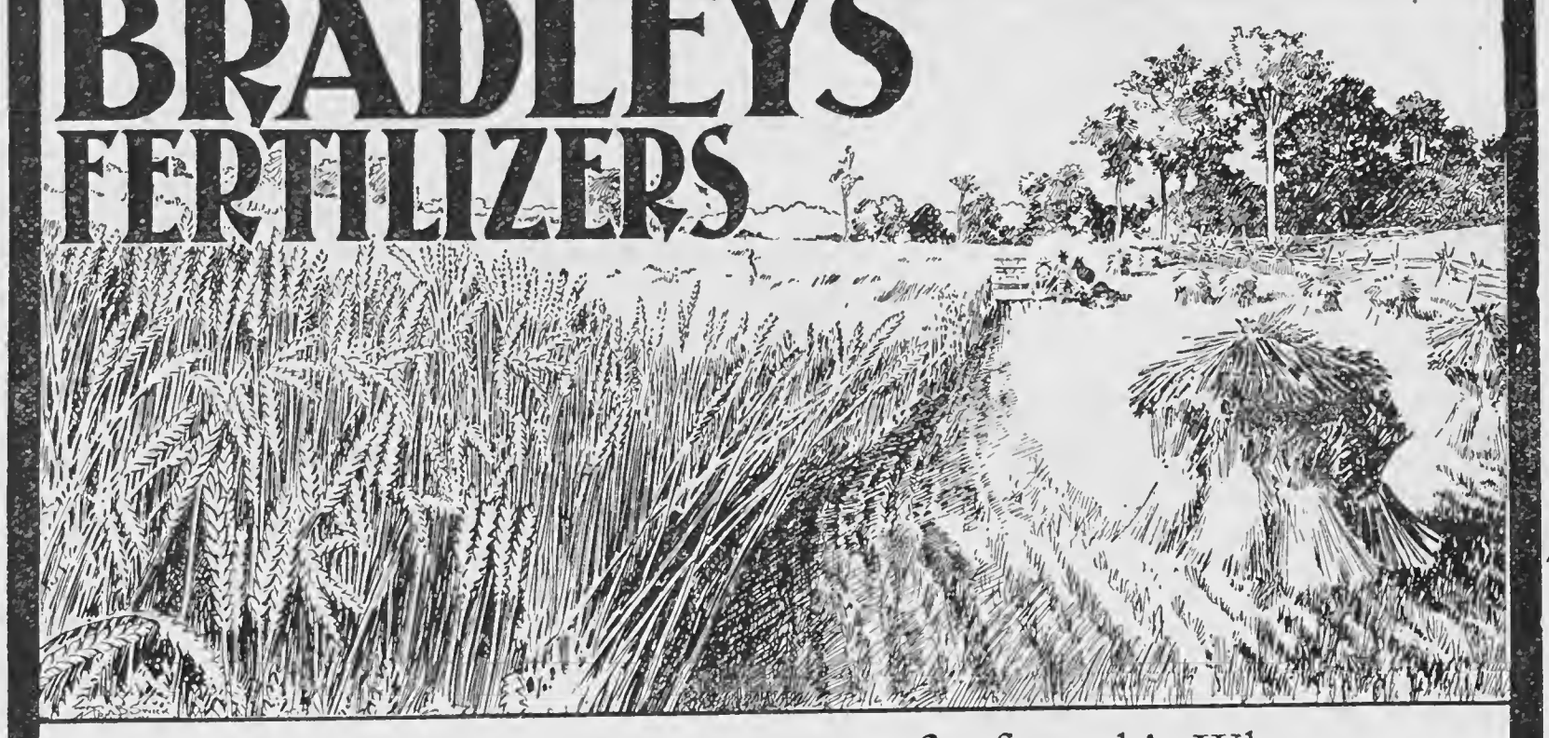
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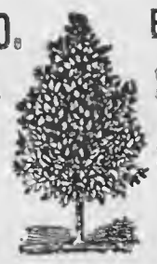
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG CO. N.Y.

VOL. LV. No. 2428. NEW YORK, AUGUST 8, 1896. $1.00 PER YEAR.

A GOOD CROP OF GRASS.

ITS PEDIGREE, FROM SEED TO MOWER.

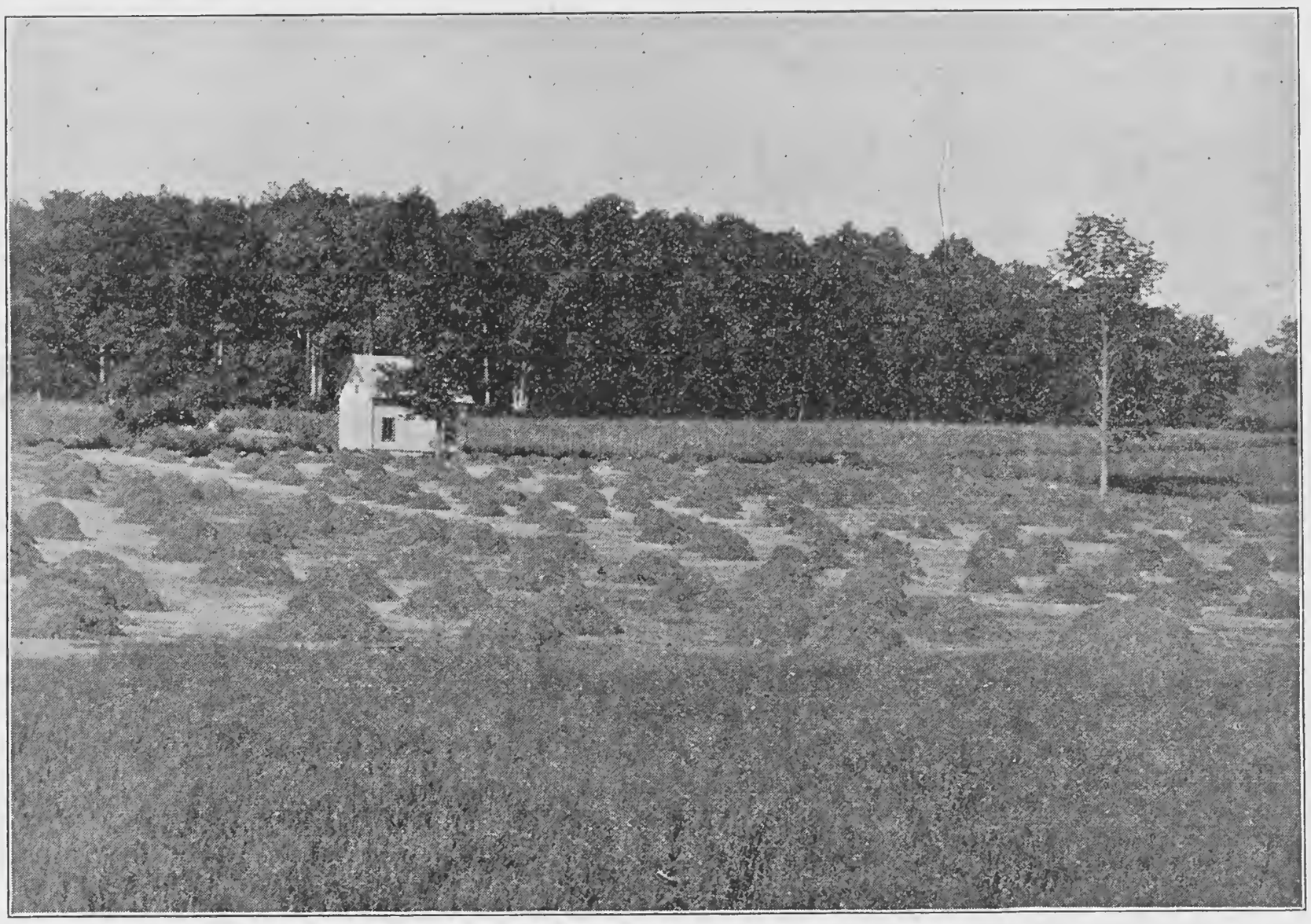
A Revolution and a Revelation.

PART II.

Let us start with an old meadow or pasture, or any other field that we wish in grass. It is easy enough to say, "Plow and harrow thoroughly, sow Timothy and Red-top, and roll." That is only the backbone of the answer—all the other bones and the flesh must be added. A view of a part of Mr. Clark's field is shown at Fig. 165. This part of the field contains the acre from which 12,340 pounds of well-dried hay were cut this year.

On July 15, 1895, the field was in sod, much like many other meadows, except that the stand of grass was better than the average. The sod was not plowed, but cut up with a Right-lap Cutaway harrow or plow. This tool has three disks at the right, shaped with teeth much like those on the ordinary Cutaway. On the other side of the pole, are three round, flat plates—not disks—with teeth somewhat like those on a saw. As the machine works around the field to the left, the outer disks tear the sod apart and turn it over while the plates on the inside cut the tough sod into narrow slices. At the next round, the disks work on these slices while the plates are slicing another round. The effect of this slicing and turning is to tear the sod into shreds and leave most of the roots turned up to the sun. I saw the machine working in a tough old pasture. It was loaded down with two men and a bag of fertilizer with three horses to haul it. The sod was torn and twisted and turned until it looked like a garden sod turned over by a spade. A plow would have left the sod in tough, hard chunks and strips, and even the best of spring-tooth and Acme working could hardly have gone deep enough to break them up thoroughly. The Right-lap, instead of leaving the sod in long strings and chunks, cut it into pieces varying in size from the fist to the head, and threw each piece over by itself.

I think that most farmers would have said that one such working, with one or two harrowings, would fit the ground for any crop. That is where the "new method" comes in. Before that field was seeded, every living thing was killed—by cultivation, air and sun. That sod was worked over, not once, but 25 times, with that tool. Up and across, and then diagonally, as often as any green growth showed on the surface, the Right-lap went over the field. A good team will work over 10 acres per day after the first breaking. The object is to have the upper six inches of soil as fine and open as a heap of dry wood ashes. That is the only way you can cultivate the grass crop. Corn, potatoes, orchards and vineyards are cultivated as the crops advance, thus letting the air and sun into the soil, and forming a "dust blanket" to carry the crop through the drought. You can cultivate these rowed crops while they are growing, but for a crop of grass that will stay in sod four or five years, the cultivation must all be done in advance. You cannot hoe the weeds out of a meadow after the grass starts—they must all be killed before the seed is sown. If you cultivate a crop of corn five times each season, for five years, you can well afford to work your grass land 25 times if you are to cut it five years!



A VIEW OF THE HAY FIELD THAT CUT SIX TONS TO THE ACRE. FIG. 165.

The hay crop is worth more than any other crop grown in this country; yet it is the most neglected of all. For centuries, grass has been made a sort of hired man for grain crops. It has had the second place at the table, and has been expected to be tough enough to stand anything. One of the singular old traditions is that Timothy needs a nurse crop to carry it through the winter. Accordingly, the grass seed is sown with the grain, with the result that a year is lost in getting a crop of hay, while the yield is cut down, at least one-half of what it might have been if the grass had been seeded alone. We saw, last week, how nearly 15,000,000 plants were growing on one acre of this hay field. With a fair seeding of grain, not half this number of plants could be grown. There would not be room for them, for the grain plants crowd them out, and not only that, but in a dry season, the grain will kill more than they crowd out by absorbing the moisture needed by the tiny grass plants. When the grain is cut, you will find where every grain plant stood, a bare spot as large as your palm or larger. There ought to grow on that bare spot, at least 20 grass plants if you are to have the average found on Mr. Clark's field. You cannot possibly cut over 2½ tons of hay to the acre if these little unproductive bare spots are to be found all over the field.

In his 12 years of experimenting, Mr. Clark says that he has spent much time in trying to reseed these bare spots, but has never been able to do it. He has scratched them over and reseeded, and has even gone so far as to "graft" them by cutting little pieces of good Timothy sod and setting them out carefully in the largest of the bare places! He has never been able perceptibly to increase the number of desirable grass plants on an acre after the sod is well established. His rule is, whenever the hay yield falls below four tons per acre, to cut up the old sod and reseed. This experience has convinced him that the only safe way to insure a large crop of hay, is to *start* with as many grass plants as can be made to grow. From this point of view, weeds and grain are only in the way The former are to be killed, root and branch by turning them up to the sun again and again in the 25 times of thorough working before the seed is sown. As for the grain, keep it out of the grass. If need be, buy it of your neighbor who is willing to give away half his grass crop for the sake of growing the two together. Some folks may think that it pays to keep a few big steers in the calf pen to eat out of the same racks and boxes that the calves are to patronize. It is all right for the steers, but woe be unto the calves. It won't do to say that the steers are needed to keep the calves warm, for you should have made the pen comfortable beforehand. The steers are like the grain, and the calves are like the little grass plants. The grass needs the nurse crop only when you have failed to fit the ground so that the grass seeds will start properly. If you wish to raise grain, sow it by itself, and when it is harvested, prepare the stubble just as Mr. Clark does the old meadow, and sow it to grass. You will have more grain and more grass to pay for it. This may be a hard thing for

some farmers to believe, but the crop proves the theory.

We have told how the ground is worked with the Right-lap until the upper six inches are as fine as an ash heap. Work the ground after every shower. Let the air and sunlight into the soil. You know how the best grape growers put the fertilizer midway between the rows, because they know that the feeding roots are strongest where there is most sunlight. You literally make future crops of hay when you permit the sun to shine into and through the upper soil. The sun in the hay field does not "make" the hay, it only dries the grass. The "making" is done all through the growing season, and before the seed is put into the ground.

Another thing of great importance is to have the field properly graded; all hollows where water can stand should be filled up, for the grass in these places will be killed out. Mr. Clark uses a tool for this purpose which is a combination of the tooth harrow and scraper. The harrow is made somewhat like a Thomas harrow, only that it is much lighter and with smaller, slanting teeth. A board behind it can be raised or lowered at will, so that when, in harrowing, one sees a little hollow ahead, he can bear down on the board scraper, carry a load of soil to the hollow, then lift the scraper and dump the load into the low place. In this way, it is comparatively easy to get a good grade on the field.

Mr. Clark's field is half wet and half dry—the lower part being almost wet enough to be called a swamp. This wet part, in starting, was ditched—the ditches running 100 feet apart and from three to six feet deep. The stones dug and picked from the higher parts of the field were thrown into the ditches to within a foot of the surface, and covered with earth. He says that made the land too dry at first; but as the soil worked down among the stones, the drains did better. Good surface drainage, with a perfect grade that will let the surface water run off, is more desirable than ditching.

For seeding, Mr. Clark uses for each acre, 14 quarts each of Red-top and Timothy, and four quarts of Red clover. The Timothy and Red-top seed are mixed, and half sowed one way and the other half sowed across the first sowing. The Red-top makes good hay, and will give, at least, 1½ ton extra yield above what Timothy alone could do. Of course, the ground is in perfect condition before the grass seed is sown.

In some cases, even the Right-lap cannot reach and throw out deep grass roots or weeds along the fence; in that case, a tool known as an underground cultivator is used. The teeth on this cultivator are somewhat the shape of hooks, and they can be set to catch and pull at any angle or depth. They work down under the surface and snap off and drag out many roots that could not otherwise be brought to the surface. And now, with the ground ready and the seed in hand, let us see how the grass is started. H. W. C.

WHAT THEY SAY.

A New Weeder.—Last week, Mr. Warren Vreeland, of New Jersey, gave us some verses praising the work of his new Automatic weeder. This week we show a picture of the tool at Fig. 166. As will be seen, it embraces several ideas. The teeth are so adjusted that they turn and twist, thoroughly stirring the soil and dodging the plants. Several parties who have used this weeder in corn and potatoes, speak highly of it.

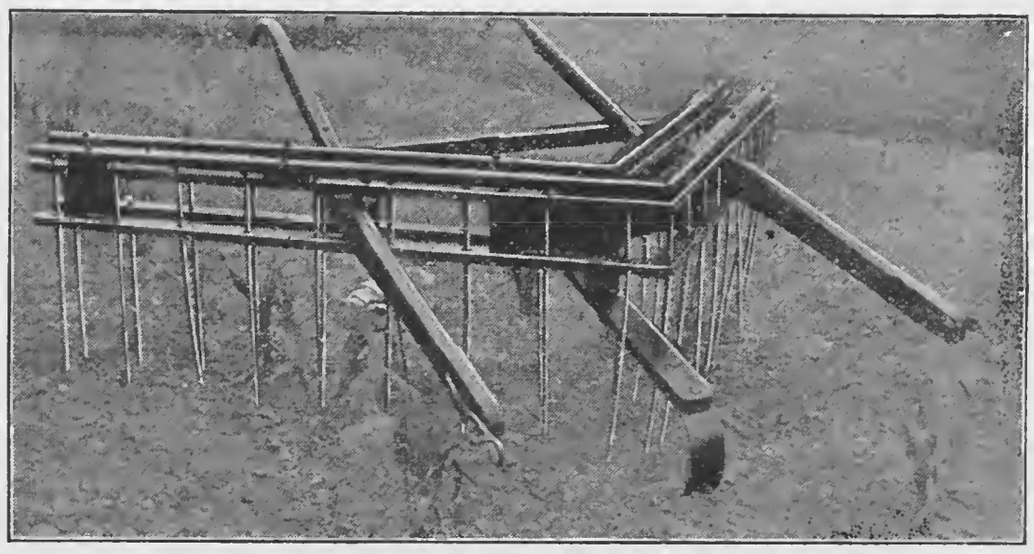
Crimson Clover and Berries.—Just a year ago (July 20), I gave my strawberry patch (about one-seventh of an acre) a good dressing of well-rotted horse manure, plowed it under, and sowed it to Crimson clover. It made a good growth during the fall, was covered with snow all winter, and came out fresh and green when the snow went off; but a hard freeze soon after seemed to kill the most of it. I plowed it under and planted potatoes; never had such a rank growth of vines before, but it is too early to tell what the yield will be. The soil is a gravelly loam. For the past three years, I have been testing some 20 kinds of strawberries to find which is best adapted to my soil—a dry, gravelly loam, subsoil mostly sand. Of those grown three years, Bubach, Jessie and Haverland stand highest as regards productiveness and ability to stand dry weather. Crawford, Timbrell, Parker Earle, E. P. Roe, and Michel's Early are entirely worthless on my soil; Eureka, Middlefield and Leader do fairly well. I fruited Brandywine, Marshall, Annie Lawrie, Staples, Belle, and Noble for the first time this year. Noble rusts badly, and Belle, although one of the most healthy and rank growers, and berries very large, is of such poor quality that I shall drop it. The others I shall give further trial. Annie Lawrie promises to be one of the best I have yet tried in quality, but seems to be a shy bearer. I have on trial, Wm. Belt, Ivanhoe, Splendid, J. Gould, and Jucunda Improved, which have not fruited yet. S. Y.

Dresden, N. Y.

Japan Plums in Indiana.—Here is my experience with a few of the Japanese plums. The first trees of this class coming to this locality were planted by a neighbor and myself in the spring of 1892, the varieties being Abundance, Satsuma and Burbank. They have set a good crop of fruit buds every season since being planted, but did not succeed in producing a blossom until this season. Some of the Burbank trees are overloaded, many of the branches having to be propped. The fruit is of very good size, considering the overloaded condition of the trees, frequent specimens measuring five inches in circumference. The Satsumas have a fair crop of nice fruit, while Abundance trees of the same age, and having equal chances with the others, do not average a half dozen fruits per tree, though they are giving us a sample. The Burbanks, now ripening, produce the finest plum show ever witnessed in this locality. This shows the tenderness of Abundance over Satsuma and Burbank, the last being hardiest of all. I am inclined to believe, however, that all become hardier in fruit bud with age. I. M. H.

Sycamore, Ind.

Canker Worms.—Some years ago, I noticed that the bottom of a stack of hay that a neighbor was moving, was filled with the cocoons of canker worms. The stack stood near some trees that had been badly eaten. It occurred to me that it might be a good



A NEW WEEDER. Fig. 166.

plan to furnish the worms with a similar wintering place, as a means of destroying them. I had a few trees in the center of my orchard that had been eaten to some extent, and I found that the pest was spreading quite rapidly. As the trees most infested were of no particular account, the worms had been unmolested; but I saw that they would soon spread to some bearing Baldwins if steps were not taken to prevent them. So, early in the fall, I spread swamp grass under the trees affected, and quite a distance under others surrounding them. As early as possible in the spring, I loosened up the mulch to let it dry a little, cleared it away a foot or so from around the bodies of the trees, and then set fire to it; it burned slowly, but clean, and only a few worms showed that season. The next autumn, I repeated the work, and I haven't seen a canker worm in the orchard since. Aside from that, the trees have taken on new life, and I have gathered one fine crop of fruit from trees I had considered worthless, and I have another on the trees at present. The experiment cost me nothing but some very poor hay and a little labor, and I am sure that I would have been amply repaid if I hadn't destroyed a single canker worm, or rather, prevented one, in the increased vigor and fruitfulness of the trees.

Connecticut. C. P. A.

To Avoid Harness Bruises.

Nearly all the sores on the farm teams, from the harness, can be avoided by intelligent care. Collar boils and bruises are not a necessary result of hard work, but they are certain to follow negligence. When the collar, or any other part of the harness, presses heavily, the point of contact is compressed so that the circulation of blood is interfered with. If the pressure be continued long, the vessel walls are partially paralyzed, and the muscular fiber about them bruised. When the pressure is finally removed, the blood rushes into the weakened vessels, and the colorless liquid portion passes through the walls and accumulates in the connective tissue beneath the skin. This produces the soft, fluctuating swellings. When such accumulations are not too large, they may be reabsorbed, though the blood plasma contains the tissue matter that forms callouses, and a greater or less thickening usually results. The way to obviate such bruises is to lift the harness frequently, thus removing the pressure long enough for the circulation to be restored. Manipulating the parts with the fingers will assist this. When plowing or doing any heavy work, stop frequently, but not long, every time raising the collar.

When the collar is removed at night, wash the shoulders with cold water. This prevents such rapid expansion of the blood vessels, by contracting the muscles, and greatly lessens the liability of the soft swellings. Should they occur, or bruises occur accompanied by fever, the affected parts should be bathed frequently with cold water, ice water if possible, for 12 to 24 hours, or until all fever has subsided. After that, bathe with warm water, and rub gently to hasten resorption. In case the swelling be so large as not to be removed in that way, open with a knife at a point where it will have free drainage Should this have been delayed a few days, there will be an accumulation of light-colored matter in the connective tissue beneath the skin of which the callous forms. This should be removed with the finger. Keep the incision open, and bathe with moderately warm water for a few days. Gentle rubbing will greatly assist restoration. The wound should be bathed twice a day with an antiseptic to prevent infection. H. P. MILLER.

Ohio.

Western New York Apple Crop.

We have now on the trees, one of our old-time apple crops. All orchards that have been well cared for are loaded with apples of good size and of the best color ever seen on the trees. They are very free from worms, and no scab can be found on leaves or fruit. For the past nine years, we have had no fair crop of apples in western New York, and now we are making up for lost time. The bulk of the orchards are Baldwins and Grecnings; but there are, also, a good many trees of Spys, Kings, Russets and a few orchards of Duchess, 20-Ounce and Maiden's Blush.

A good deal of spraying was done, but no one can see the difference between sprayed and unsprayed trees. This is one of the years of general health, when every tree is doing its best, and I predict that not half the spraying will be done next year as this. The fact is that spraying is a sort of insurance poliey. It is only in the bad years that it is so very marked in beneficial results. An insurance does the insurer no good unless he has a fire; so spraying does no good when there are no insects or disease. But the prudent man keeps insured all the same, and the prudent orchardist will continue to spray so as to be protected when the bad years do come.

In some sections of western New York, the Canker worm was very prevalent, and in others, the tent caterpillar, and where these got in their work, there will be no apples. Only for the damage done by these, we should have picked the largest crop ever grown, and even now we shall have 1,000,000 barrels or more of very fine apples in Niagara County.

J. S WOODWARD.

An Iowa Portable Fence.

Some time ago, I devised and constructed a portable fence that, at the time, quite took my fancy. It did not differ materially from styles that I have seen illustrated in agricultural papers since. The panels were ordinary four-board ones. The posts were triangular concerns, and the wide base was supposed to make them steady on the ground. But I never built any after the first I made. I soon found that the posts had to be pegged down to keep the hogs from moving them, and the wind from blowing the fence over. Also, the ground had to be nearly level, or the panels would lose their hold on the posts. Lastly, the posts were too costly and hard to make.

This summer, I have made another style of portable fence, and, so far, I like it. It is around a pig lot. It might not do so well for larger stock. The panels are made of three boards of six-inch fencing, about 12 feet long, and the end pieces are set back six inches from the ends. The posts are round willow, three to four inches in diameter, and four feet long, sharpened, and driven with a maul. One panel is nailed to one side of the post, and the next panel to the other side. Soft wood is used so that the nails may be drawn without damaging the panels when it is desired to move the fence again. This fence can be put up quicker than the other style, and the ground does not need to be so level; besides, the cost of posts made of sawed lumber is saved en-

tirely. The willow posts cost only the getting, and that is less than the making of the other posts. If we have to drive a peg to hold down the patent post, why not make the peg a little longer, throw the patent post away, and nail the panel to the peg? The willow post will last as long as the fence is needed in one place. If willow is seasoned before it is used, it will last several years. Green willow will rot off in one year.

For horses and cattle, the portable fence in general use here is the barbed wire. Light posts are driven two rods apart, and two wires are put up. Only the end and corner posts need bracing. It is cheap, efficient, easily put up, and, if well done, fairly safe, and comes near to being a model temporary fence.

Newton, Iowa. E. B. W.

The Workshop on the Farm.

A room for doing odd jobs of repairing, is a place for saving many cents, if not dollars. Of course, some men have no knack or faculty for repairing or making things; but the average farmer should have a place for some carpenter's and blacksmith's tools, some bolts of various sizes, extra nuts and washers, and a small quantity of band iron. He should also have pieces of wood of various dimensions, white ash being one of the best. It is also well to have pieces of leather, copper rivets of various lengths, iron lasts and brass clinch nails, and wire nails of various lengths. One of the handiest tools I have is an iron vise and anvil combined. It is large enough for all ordinary purposes, and costs only $1.25. If farmers knew how convenient such a tool is, they would not be without it. It is exceedingly convenient, many times, for a farmer to be able to bore holes in iron. Every one should have a good bit brace. A ratchet brace is a great convenience. After buying a cheap brace and finding it good for almost nothing, I purchased a good, strong, ratchet brace for 80 cents, which works perfectly. I find the Syracuse twist drills to be the best for boring iron. Do not try to bore thick iron with a small drill. One must bear on heavily, and a small drill will be sure to bend or, rather, break. But it is best, if one is able, to have a set of twist drills. They bore wood, iron, or stone, and if one hits a nail in boring into wood, it does no harm.

It is also very convenient to be able to saw iron, and a Star hack saw can be got for 15 cents, which answers every purpose. But one needs to be very careful in using it, for if the blade be cramped, it will snap off, or a nick will break out. I sawed off a mowing machine cutter bar with one without injuring it, but broke it on a large wire. New blades cost at the rate of 55 cents per dozen to fit the cheap frame. They are also good to saw wood. A cold chisel is often very handy, so are files, rasps, a draw knife and a heavy steel riveting hammer. Cronk's pliers and wire cutters are very convenient tools. A steel prick punch can be used to make holes in hoop iron, and a reamer can be used to make it larger. Nuts often jar loose on farm machinery. I screw them down tight, then put the point of the prick punch against the bolt where the threads first appear above the nut, strike a few blows, and it will not work loose again until wanted. An old file can be used as a punch by sharpening the handle end, and striking on the top of the file. Flat-headed bolts are a nuisance, generally, but there is a new bolt called the patent agricultural bolt, which has a flat head and no shoulder, but has coarse threads which keep it from turning. Screws of various sizes can often be used where nails will not do. A countersink which will cut wood or iron, I find very handy, as it lets the screw in so that the head does not project. Wire nails make good rivets, and hold where a nail would be useless. Washers should be used on wood. J. W. NEWTON.

Vermont.

Power from an Old Mower.

I have made use of an old mower frame on my farm in constructing a power to operate the churn, separator and other machines, and find it quite a useful contrivance. It requires but little expense to rig up the frame into a serviceable power. At Fig. 167 is shown the appliance set up all ready for business. I first took off the cutter-bar, seat and pole, and removed the ratchet from the right wheel—if it is a left-hand machine, remove the left one. I set the frame up on the loose wheel, in a convenient place to operate, and fastened firmly to the ground by means of forked stakes, driven deep; also, drove down two 4 x 4-inch posts, one on either side of the gear frame, and bolted firmly. If preferred, one might twist a stout wire around the tops, and this will hold the frame securely. Next I clamped the pole on to the top wheel by means of clevis bolts, as shown in Fig. 167. The driving rod, or shaft, will have to be extended, and a gas pipe 1¼ inch in diameter, and long enough to clear the sweep, will answer very well.

Arranging the pulley wheel on one end and attaching the gear at the other, is the only operation that may require outside help; but every rural community has a blacksmith that is hankering for just such a job, for a small consideration. The machine should be set up on level ground, and the line shaft shored up with pillow blocks so as to obviate any vibration on the pulley. The speed of the movement can be regulated by the size of the pulley. Better start with a pulley 24 inches in diameter, and if too fast, cut down smaller, or else put on a larger pulley on the churn. Any one familiar with applying belts to pulleys, will soon get just the speed desired. This power is no better than a specially-built machine for that purpose, possibly not so good; but it has the recommendation of being economical, strong, and easily operated. C. W. SCARFF.

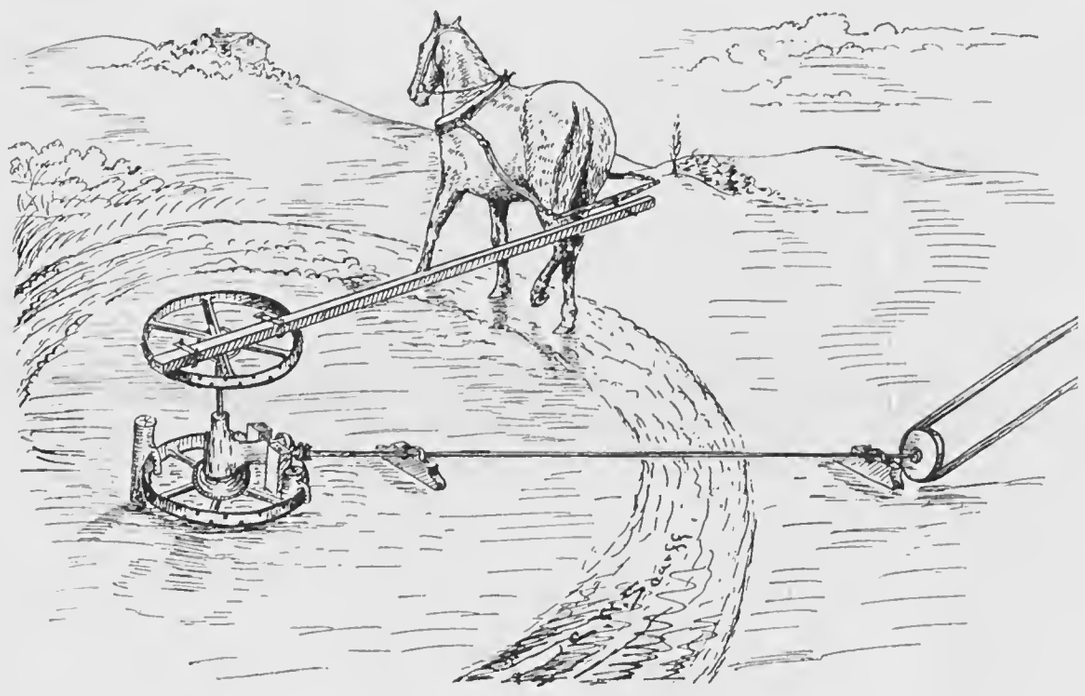
Vermont.

"THE NEW CELERY CULTURE."

SOME CHANGES THAT IMPROVE IT.

In my market garden, in which I grow from one to two acres of celery each year, I have been experimenting for three or four years with what is called the New Celery Culture. The results of my experiments have not been very satisfactory until this summer. I am now satisfied that I can grow good, marketable celery in rows at an average distance of one foot apart, with plants six inches apart in the rows, and blanch it on the ground where it is grown.

In my other experiments, I tried growing different varieties in rows from one foot to six inches apart, and found that, with irrigation, I could get a good growth with rows one foot apart, and adopted this plan for the most of my winter celery. This would blanch in the trenches when stored for winter. I found it very inconvenient to use boards in blanching my White Plume and Golden Self-blanching celery for summer and fall use, for there was but little room to walk between the rows when placing them. I had read about growing the plants so close together that they would blanch by their own shade. My experiments with this plan gave me small bunches, and these at a distance of six or eight inches apart each way, would blanch very imperfectly, and would not sell in market, when celery was offered that was grown by the system of banking with soil.



HORSE-POWER FROM AN OLD MOWER. FIG. 167.

This year, I have used the following plan, which has produced good, marketable early celery, with the rows at an average distance of one foot apart, and plants six inches apart in the row. The plot of ground used had been heavily manured for several years with stable manure, and it also received a dressing of the same this year. After the soil was put in good condition, the plants were set May 1. They were set in double rows six inches apart, with a space between the double rows of 18 inches; this space was cultivated with a wheel hoe, and the bed was kept clean until the plants were 8 or 10 inches high. Then boards were set on both sides of the double row, with stakes on both sides of the boards to keep them from falling on the plants. The space between the boards was mulched with stable manure.

Near the brook which flows through my farm, I have a large tank. The water from the brook is lifted into this tank by a large hydraulic ram. Iron pipes are laid in different directions from the tank over the farm. With hose attached to one of these pipes, the plot of celery was frequently watered. The mulching of manure retained all the moisture, prevented the soil from baking, and the weeds from growing. My neighbor, who lives near it, said that he could see the celery grow. The result at the present time is a very large growth.

When the plants became large enough to blanch, I crowded the boards closer to the rows, so as to bring the tops of the plants close together. The celery, which is the White Plume, seems to be blanching finely. From one-fifth of an acre, on which I am growing celery after this plan, I expect to get 10,000 marketable bunches, which I expect will net me $200, or at the rate of $1,000 per acre. I get but very few culls when I grow celery by irrigation. I can blanch it in less time, and it is not tough, stringy, or hollow, but is very tender and crisp. Only one-half the number of boards is required that there is when it is grown in single rows, which is a considerable saving in money and time. There is no washing to be done, which, for me, is the most disagreeable part of the work in growing celery.

For winter celery, where I can irrigate it, I set all the rows one foot apart, with some 18-inch rows in which to stand when hoeing or weeding. This is placed in the trenches for winter use without any banking or handling, and I find this late crop nearly as profitable as the early one, especially the portion that I keep until spring and sell when celery is not so plenty.

This plan of growing celery cannot be made a success except on very rich soil, and with irrigation, and a good deal of water is needed, too. I find that an inch stream of water flowing continually, will go but a little way towards irrigating my two-acre field of celery; but I prefer to keep a part of it thoroughly wet, instead of distributing the water over the whole of it. The irrigated portion has made a much larger growth, and I expect to find it profitable to sell water in the form of celery.

Delaware Co., N. Y. W. H. JENKINS.

RENEWING OLD STRAWBERRY BEDS.

I was much interested in the question asked by Subscriber in THE R. N.-Y. of June 27, as to whether there is any way by which he can set strawberry plants in August and be sure of a fruit crop the following spring, and in the various replies thereto. There seem to be various opinions about the matter, and some of the plans to accomplish the desired result seem to involve much more expense than any possible crop would pay for. I think August rather late to make any such attempt; but if July be substituted for August, it can be done if one have a bed of his own to take his plants from, but not otherwise. Some of the answers suggested potted plants. In my humble opinion, potted plants are a delusion and a snare. I know that all the catalogues tell us that, set out in mid-summer, they will produce a fine crop in the spring. Possibly they will, but not the next spring. I know that writers on strawberry culture advise plowing weedy or grassy beds, planting late potatoes, cabbage or other crops, and in the spring resetting; but unfortunately, that does not suit my case. If I had plenty of land, that plan might do; but as I have only a limited amount suited to the three crops I grow (strawberries, onions and celery), I cannot afford to lose a whole year with potatoes or cabbage, both of which, nine years out of ten, would bring me in debt.

Last year, I found myself confronted with this problem: My bed of Gandys was very foul, so much so that plowing out the middle, and then hoeing out the row, gave me no promise of success. How should I keep it in fruiting? After thinking the matter over, I set the reversible plow at work, and plowed a strip about 20 feet wide on one side of the field. This was thoroughly harrowed with the Acme harrow, and marked out in rows 3½ feet apart with the plow. The men were then set to work with spades taking up plants from the unplowed portion, with instructions to get a generous portion of soil, and to avoid as much as possible disturbing the roots. These were carried across and slipped from the spade into the furrow, and the earth drawn to them with the hoe. Afterward we put the plants into a cart, and drove along the rows where they were to be planted.

I instructed the men to select the young plants, those which had not borne, as far as possible. A few rows were set out in this way, and while watching the work, I kept thinking, and the result of this thinking was that I could see no common sense in taking a young plant that yet needed some months of growth to establish itself before it could be ready to

reproduce itself by runners, when there were thousands of strong established plants all ready for business. So I changed my instructions, and told the men to take the strong plants, avoiding the original mother plant, and also the young plants. The result was that, where the young plants were set, I had, possibly, one-fourth of a crop of vines and fruit, certainly three times as many as from some very fine potted plants set three weeks earlier, while the old vines formed as fine a matted row as one would wish to see, and produced a fine crop of berries.

This year, I have not hesitated; when there were varieties that were not satisfactory, I plowed them under and replaced with those that suited me. Plants put out three weeks ago, are already throwing out runners and give evidence that, before fall, they will have "occupied the land."

I wish to indorse the words of praise THE R. N.-Y. gave, a few weeks since, to the Richards transplanter. It is a boon to the strawberry grower, and a great improvement over the spade. We have used it exclusively this summer in transplanting, and certainly would not do without it for 10 times its cost. We use it somewhat differently, however, from that intended by the inventor. The plant, after being taken up by a transplanter, is slipped out into a cart until the floor is covered, hauled to the new bed and dropped in the hole made by the excavator, which it fits perfectly; the planter steps on it, and it is as ready to go right on growing as though it remained in its original location. This plan, I presume, would not answer in a sandy, loamy or crumbly soil; but in our meadow soil, especially when wet, the cylinders cut by the transplanter stand up like bricks.

When we wish to renew beds, or increase new varieties, we aim to do the work at the very earliest possible moment after fruiting is over, for in this, every day counts. R. L. HOWELL.

Burlington County, N. J.

"DRY" BORDEAUX MIXTURE.

The recent articles in THE R. N.-Y. on this subject, have again called attention to the use of powders as fungicides. In this connection, we may be pardoned for referring to a statement of ours made three years ago, which, from recent experiments, we have seen no reason to change. In speaking of powders *vs.* liquids as fungicides, we said:

Powders, especially lime and sulphur, have been used as fungicides for many years. At the beginning of the present century, they were employed to a considerable extent in combating plant maladies; but it was not until about 1847 that the practice of treating plants with sulphur and other powders assumed notable proportions. The large increase in the use of powders as fungicides at this period was, unquestionably, due to the rapid spread of the grape Oidium, a fungus which, at one time, threatened the vine industry of Europe. With the spread of this great pest throughout France, Germany, and Italy, the use of sulphur became almost universal. In 1857, we are informed that the consumption of sulphur for the purpose of combating the Oidium in France, reached the enormous amount of 7,700,000 pounds. Sulphur, in the form of powder, continued to be the chief agent for the destruction and prevention of parasitic fungi until about 1878, when the appearance of the downy mildew in France made it necessary to look for more efficient remedies.

From 1878 to 1885, many experiments with both powders and liquids were made, in the hope that a means of preventing the downy mildew might be found. In 1885, it was discovered that a mixture of lime, milk, and copper-sulphate solution would, when properly applied, almost wholly prevent the attacks of the downy mildew. The preparation in question was nothing more than the now widely-known Bordeaux Mixture. The success attending the use of this fungicide directed attention to the value of liquids as preventives of parasitic fungi, and in a short time, many solutions, mixtures, etc., were on the market. For the past five or six years, liquids have been extensively used, and we believe that it has been conclusively demonstrated that, for general work, they have been far more successful than powders. In other words, all the evidence seems to show that most of the well-known liquids in use more nearly fill the requirements of an ideal fungicide than the best powders on the market.

Of course, there is, as yet, no really ideal fungicide. In order that any preparation should be classed as such, it must have, in addition to properties detrimental or destructive to the growth of fungi, other qualities equally as important. It must be cheap; easily prepared and applied; not readily removed by rain, wind, and dew; harmless to the most tender growing parts; and finally, as free as possible from qualities which would make, or tend to make, the parts treated injurious to health when used as food. This, we will admit, is rather a formidable array of requirements, and it will likely be some time before they are all combined in one preparation. When we come to apply them to the best powders, we find the latter lacking in several points. Admitting that the powders will destroy or prevent the attacks of fungi, that they are cheap and easily applied, they still have the serious objection of being easily removed by rain and wind, and what is more important, they are, in most regions, at least, likely to injure certain crops unless used with great caution.

Last year and the year before, the writer made a series of experiments with several of the best-known powders, sulphosteatite (powdered copper sulphate, sulphur and powdered soapstone), and precipitated sulphur being among the number. The principal object of this work was to obtain some reliable data as to the value of the powders as fungicides when compared with the well-known ammoniacal solution of copper carbonate and Bordeaux Mixture. Grapes, celery, potatoes, and wheat were the principal crops under treatment, the diseases combated being black rot and downy mildew of the grape, leaf blight of celery, and rust of wheat. In the case of grapes, it was found that, where Bordeaux Mixture saved 90 to 100 per cent of the crop from rot, the best powder, namely sulphosteatite, applied in the most careful manner, saved little more than 20 per cent. Besides this, the sulphosteatite seriously burned the foliage, young wood, and even green fruit, while the Bordeaux Mixture did not cause the slightest injury. In our experience, a single rainfall of three-fourths to one inch was sufficient to remove nearly every trace of powder, while after continued heavy rains of two, and even three, weeks, the Bordeaux Mixture showed plainly on the foliage. Looking at the matter in the light of all the facts at hand, it seems evident that the use of powders is warranted only when they may be applied as curatives.

To explain, it may be said that there are certain fungi whose growth upon the host or affected plant is almost wholly superficial, as, for example, the various powdery mildews attacking the grape, apple, cherry, and other economic plants. Here the application of a powder, sulphur or sulphosteatite, would immediately destroy the reproductive bodies and vegetative organs of the parasite; but at the same time, in case it should rain in an hour, two hours, or a week, it would be necessary to make another application.

A liquid, such as the ammoniacal solution of copper carbonate or Bordeaux Mixture, would, not only effectually destroy the reproductive bodies and mycelium, but would, also, by its adhesiveness and other equally important properties, protect the plants for two, or even three, weeks regardless of rainfall. In a climate where rain seldom falls, or under glass, where this question does not necessarily have to be considered at all, powders for superficial fungi, like the powdery mildew, will answer as well as liquids. The superficial fungi, however, are few in number, and the regions where the rainfall does not have to be considered are comparatively limited in extent; hence liquids, for the present, at least, are the safest and most reliable remedies under all circumstances.

It must be remembered, in considering this matter, that, because powders are often effective insecticides, is no reason that they will prove successful against fungi. The treatment of most fungous parasites is preventive, not curative, as is often the case with insect enemies.

We do not know the composition of any of the so-called "dry" Bordeaux Mixtures on the market; but from our knowledge of the chemical and physical properties of this preparation, we do not believe that a powder can be made warranting the name. In other words, Bordeaux Mixture, properly made, has certain marked physical and chemical characteristics, and to have these characteristics, it must be a liquid.

U. S. Dept. of Agriculture. B. T. GALLOWAY.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

HOW MUCH HAY FOR A HORSE?

HOW MANY TONS A YEAR?

Our opinion is that farmers generally feed too much hay to their horses. Ten or twelve pounds per day of good, bright hay, ought to be enough for a horse at moderate work.

From 10 to 15 Pounds Enough.

You are quite right in saying that farmers, particularly, generally feed too much hay; 15 pounds per day, and in some cases but 10, are sufficient for an ordinary driving horse of from 800 to 1,000 pounds, unless the horse be driven every day for many hours. In addition to the hay fed, it is well to keep bright straw in the bottom of the manger. The horse will eat a part of it if the hay fed be not sufficient to distend his stomach. He will not over-eat of straw, and the refuse may be used as bedding. Our horses, grade Percherons, weigh, on an average, about 1,350 pounds each, and during last winter, they ate 20 pounds of hay per day each. These horses were used every week day to draw coal for the University. The loads averaged two tons each, and the road rises, from the coal pockets to the University buildings, 400 feet. You can see how severe the work of these horses must have been; yet they remained healthy and fat during the whole winter, and drew the 4,000 tons of coal required for the University.

New York. I. P. ROBERTS.

Farmers Feed Too Much Hay.

Farmers, as a rule, and with very few exceptions, feed more hay than is good for their farm horses, even those that are at slow work. I would not be willing to cut my driving horses to 12 pounds; 20 pounds will keep an average horse in better shape, year after year. Of course, when we wish for a supreme effort, either on the track or road, we cram the horses with a muscle-maker up to their ability to use it; but it is like feeding a cow for a test, she has to be let down some time, and so with a horse. I think that 20 pounds of hay per day will give better results, through the natural period of usefulness of the horse, than less or more. A horse of a nervous disposition, inclined to scour, should have all the hay that can be got into him, in addition to the regular grain ration; that is, however, my opinion, which may be erroneous. I have had horses in training which were such gross feeders that I was obliged to get peat moss for bedding, in order to keep them from stuffing with bedding. Of course, we could have muzzled them, but I do not like to make a horse wear a muzzle all the time.

Vermont. C. A. CHAPMAN.

It Depends Upon the Horse.

It is difficult to say what amount of hay should be given to a horse to keep him in good condition for a year. Horses vary greatly as to the amount of hay which they will require, depending something upon the animal, as well as the weight. A horse that is inclined to be lank, lacking in barrel, would require much more hay than one of the opposite form. A horse that is snugly made, full barreled, and an easy keeper, would require a very small amount of hay, with grain three times a day, especially if given oats and bran. We are satisfied that horses, generally, especially in the hands of farmers, are fed too much hay to have them in good working condition, especially for the road; but no prescribed amount can be fixed upon as a ration for all horses. The attendant should use good judgment, depending upon the horses in charge, and after a few trials, can decide for himself just what the proper allowance should be.

New York. SMITHS & POWELL CO.

Opinions are Divided.

I have talked with several persons about the matter. One says that four tons of hay will be right for a 1,000-pound horse, a year. Another says that a horse should have 18 to 20 pounds per day. The stage driver insists that 25 pounds per day are none too much. My own observations of 20 different horses in nearly the same conditions, and over a period of seven years, make me think that one can tell no more about it by rule, than one can about what different people will eat and still keep healthy. The horses that I have noticed differed greatly; one I have in mind that would not have eaten 10 pounds if hitched to a hay mow. All agree that an over supply of hay hurts any horse. C. M.

Vermont.

Half the Ration in Hay.

My opinion is that, while each horse should be considered by himself and fed accordingly, an animal of 1,000 pounds requires about 20 to 25 pounds of food each day. I think it better to give not more than one-half of the amount in hay, the larger portion of which should be given at night. The grain ration should be adapted to the individual and the work he is required to do. As the horse likes a variety in his food, as well as the rest of us, I think it wise to supply it. Perhaps the best single food is oats; but often, it is better to make a mixture of oats and shorts or oats and corn with some oil meal. For a very high-spirited horse, which is sometimes needed for farm work, barley may be better than anything else. Study the needs of each horse, giving what is best for him, and water before, not after, the grain feed.

New Hampshire. W. K. DEAN.

A WINTER OVERCOAT FOR WASHED SOIL.

SOMETHING TO DIE IN SPRING.

My land washes badly in winter and spring, if exposed with nothing green on it. The work of repairing gullies, and the waste of fertility, are serious. Is there any crop which can be sown as late as August 1, or later, which will make a good growth before winter, and all die in winter, so as not to be troublesome in spring cultivation? A nitrogen gatherer would be preferable. I tried Crimson clover; but when I wanted it to winterkill, it would only do so in part, and when I wanted it to live, it wouldn't. Peas are good, but the seed is expensive. M. MORSE.

Massachusetts.

Winter Rye or Turnips.

In my own case, I use winter rye for this purpose, and either graze off in the spring or cut for soiling. This, of course, does not die in the winter, but I have no trouble in plowing it under in the spring. Neither is it a nitrogen gatherer from the atmosphere, but it is a hustler after what is in the soil, and is well suited to moist soils in Massachusetts. Prof. Brooks of Amherst recommends white mustard sown about August 1, and says that it usually continues to grow until the middle of November. I have thought some of trying rape for this purpose, but it is considerable trouble to get seed of either rape or mustard. I am inclined to think that, perhaps, the common early strap-leaved turnip would serve the purpose well; 50 cents or a dollar's worth of seed would, I think, be ample for an acre. F. A. PUTNAM.

Massachusetts.

Some Suggestions From Rhode Island.

We have leguminous plants which respond to cultivation, but most of those of which the seed is small and cheap when a sufficient amount for an acre is considered, require about the whole season for their growth. If some other than a leguminous plant were to be used, oats or barley would answer the purpose, and so, also, would round turnips or rape, of which the Dwarf Essex produces very abundant foliage in a very short time. Either of these four would be sure to do well until winter weather. I think that M. Morse could very safely try either the black or white

podded adzuki Soja beans. These beans are about two-thirds the size of Canada peas, and the plant is quite prolific, so that a comparatively small area would yield sufficient seed for planting, at comparatively little expense. We have not sown any of these seeds so late in the season as August 1, but they grow rapidly in warm weather, and if the soil be mellow, I see no reason why sufficient growth should not be made by them before frost to protect the soil from washing. Southern cow peas would, probably, serve the purpose, but the seed would cost at least $1 a bushel, or the same price as Canada peas, and, at least, two or three bushels would be required so late in the season in order to cover the ground. Much more seed would be required fairly to cover the ground than if sown early in the spring and given more time to grow. Canada peas would have the advantage over Soja beans or southern cow peas, in that the first frosts would kill the latter while the former would grow well through the early fall months until severe freezing weather came on, perhaps, until the ground froze, so that their period of activity as nitrogen gatherers would be nearly twice as long as that of the tender varieties.

Rhode Island Ex. Station. CHAS. O. FLAGG.

Turnips for Soil or Pigs.

As a winter cover, we much prefer rye to anything else we have ever used, as it gives a good, even coating to the soil. If cultivation is possible early, or the land can be plowed, I think that it is the best thing. It can be safely sown as late as September 1. If the land cannot be plowed or cultivated, I would sow the common field turnip rather thickly, although the latter advice is scarcely necessary. It will form a thick, green mass, and will all die in the winter. Sow from August 1 to 15. If one wish to keep a lot of pigs cheaply through the winter, now is the time to sow field turnips in the corn field, or on early potato ground. In connection with bran or middlings, a large number of them can be fed to good advantage. We prefer the Purple-top variety.

Connecticut. H. G. MANCHESTER.

Canada Peas and Buckwheat.

If Crimson clover would live through our winters, this question would be, in a great measure, solved; but not entirely, as I believe that the use of clover every year would supply too much nitrogen for some crops, such as peaches, and I would suppose that the land would become clover sick after a time. I am expecting to try 1½ bushel of Canada peas, and 1½ bushel of buckwheat and oats mixed. The peas are already sown deep with a grain drill, and as we have had a nice rain since, and the weather is warm, I shall, within a day or two, sow the grain as shallow as possible, with the drill, the other way or across the peas. The cost is:

1½ bushel peas	$1.87
1½ bushel mixed oats and buckwheat	.75
Total	$2.62

This does not seem to be a very costly seeding if it will keep the land from washing, preserve the nitrogen already in the soil, and add some nitrogen. Where bees are kept, the peas and buckwheat will make a valuable late feed. I hope that M. Morse will try this, and report his success, as I also will.

Connecticut. THOS. J. STROUD.

Rye or Crimson Clover.

The question is a difficult one to answer, as it is not stated for what purpose the land is used; but spring cultivation is mentioned. After August 1, either of two things can be used—rye, or Crimson clover. Rye will not die out, but it is easily plowed under in the spring, and if sown thickly, 2¼ bushels per acre, the roots will hold the soil well and prevent washing. As a nitrogen gatherer, nothing is better than Crimson clover, and if it does not die in the spring, is easily subdued by plowing under early, as any kind of a covering should be in an orchard or vineyard. Few plants will grow in the autumn sufficiently to fill the soil with roots that will prevent washing. For that purpose, Crimson clover should be sown as early as possible. Rye can be sown as late as September 1, as it grows rapidly in cool weather. GEO. T. POWELL.

New York.

Secretary Gold Describes His Practice.

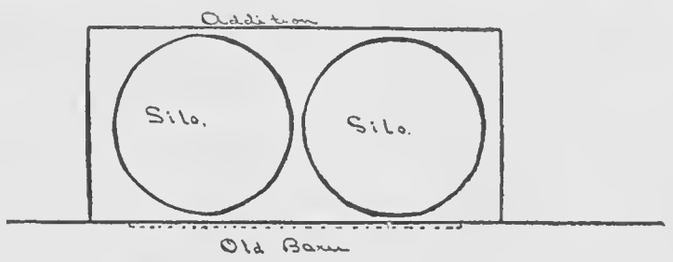
This question has too many requirements to be met by one single plant. Peas would cover the surface, die, and prove an enriching crop; but the roots would resist washing but little. Oats would hold the soil better and die. Rye would hold the soil still better, save the soluble fertility of the soil, laying hold at any time the ground was thawed; but it would live to be in the way in spring culture. This could be met by close pasturing in the spring, so that only the roots would be in the way. In a young orchard I am keeping under the plow, I sowed peas in the spring, last year, turnips and rape in the summer, and pastured with sheep in autumn. This left no roots to hold the soil, and it washed badly, as the turf was decayed, and a part was a hillside. This summer, I have peas, and as soon as they come off, I shall sow rye and turnips, pasture with sheep, and sow peas again next year. T. S. GOLD.

Connecticut.

Outside Round Silo.

A. J. S., Oswego County, N. Y.—Is there any objection to building a silo on the outside of a barn? Will you compare the condition of the ensilage in outside silos, with that of those built inside the barn? With first-class ensilage, is there any danger of injuring the cows in any way? I have heard that the acid in ensilage injured the teeth and stomach of cows, but have never fed it.

ANS.—There are no objections to building a silo on the outside of the barn. My experience teaches me that circular silos are far superior to square ones; therefore, I would advise the building of two circular ones on the outside of the barn, and then erecting a cover over them; or, in other words, I would build an addition to the barn, say, 14 or 15 feet wide and 30 to 32 feet long. It may be covered with inch barn boards battened. Place the silos inside of this. As it is pretty cold in Oswego County, it would be well to fill the corners, during the winter, with straw, which could be used for bedding late in the season. I am well satisfied that this system is to be preferred to the old one with square corners, which require such heavy timber and so much boarding that they soon rot out, and the silos are never quite as tight as they should be. If it is possible to arrange these silos so that the material may be drawn on the second floor of the barn preparatory to being cut and elevated into the silo, so much the better. During the past year, I have seen several of these silos covered with straw thoroughly saturated with water, and the material has come out in a very satisfactory condition. There is



SILO OUTSIDE THE BARN. FIG. 168.

no danger of injuring the teeth or stomachs of cows by feeding them ensilage, even though it is quite acid. Forty pounds per cow per day are about the limit that can be fed. If the ensilage is not of the best, it should be fed in the evening, after the cows are milked. The dotted line in Fig. 168 shows where the old barn boarding might be removed. The triangular space between the two silos at the front, would be ample room for temporarily storing material which was thrown out of the silo, or for any other similar purpose. I. P. ROBERTS.

Have Patience With the Pear Trees.

H. G. D., Loyalville, Pa.—I have 12 pear trees that are 10 years old, on good ground. They are very thrifty, but do not bear. There will be blooms coming out all summer. What is the matter?

ANS.—H. G. D. does not say what variety or varieties he has, or whether they are standards or dwarfs; but it is quite sure that they are standard trees. As they are set in good soil, and are growing thriftily, it is no great wonder that, at 10 years old, they have not borne a crop, if they are of one or more of the late-bearing kinds. Pear trees often send out blooms now and then all summer. Be patient for a year or two more. H. E. V. D.

Propagating Marianna Plums.

F. M. M., Peru, O.—For some time, I have been trying to propagate Marianna plums from cuttings. The method followed has been to store the cuttings in the cellar or out of doors, under manure, through the winter, and set them in the spring. They have been well cared for, but have nearly all died; not more than five per cent have grown, and, usually, much less, sometimes as low as one per cent. At the same time, I have noticed that a friend's success has been as poor, and he has had good success with currants, etc. What is the matter?

ANS.—The trouble with the Marianna plum cuttings is, that they root with great difficulty in the northern States. In most regions of the South, especially the lighter lands in Georgia and Texas, they grow quite readily. It is a common practice among northern nurserymen, to have Marianna stocks grown in the South, or to buy them of the southern nurserymen and have them sent north to be reset and used as stock upon which to bud other plums. H. E. V. D.

Varieties of Sweet Corn, Peas and Tomatoes.

D. J. S., Aitkens Ferry, P. E. I., Canada.—What are the best varieties for canning, taking quality and productiveness into consideration, of sweet corn, peas and tomatoes?

ANS.—We would choose White Cory for *first* early, notwithstanding the claims made for many other kinds, that they are earlier. Extra Early Vermont comes in two days later, and is better in quality. Then we would choose Melrose, Moore's Concord, Stowell's Evergreen and Black Mexican—the last for home use only. Peas: For home use, none of the first early smooth sorts; Nott's Excelsior, Station, Abundance, Heroine, New Life. Tomatoes: Thorburn's Long-keeper, Stone.

Some Carman No. 3 Potatoes.

C. H. G., Black Hall, Conn.—I received a section of Carman No. 3 potato last spring, rather late, but made three hills of it, which have done finely. It has a blue bloom. Some time later, I received a large potato claiming, also, to be Carman No. 3, from which I made 13 hills. But, while the vines are very similar, the blossoms are white. Why is this? June 9, I planted 38 hills of R. N.-Y. No. 2, putting one bushel of hen manure in the 38 hills, well worked into the bottom with a hoe. I dropped a one-half pound potato well sprouted, in each hole, and covered by hand. Now they are two feet high, and in blossom, very strong plants all of them. A neighbor says that I will get big tops, but no potatoes. Is he right?

ANS.—If the blossoms of the vines from the large potato are white, it is a sure sign that the variety is *not* Carman No. 3. These potatoes, evidently, need potash. There is not enough potash in the hen manure.

The "Old-fashioned" Potato Beetle.

G. C. B., Maplewood, Pa.—I send some of our new potato bugs. This is their first appearance with us. By their actions, they are worse than the old kind. They eat very rapidly, all the time, and are very spry on foot. Like the old kind, they can play 'possum when approached, and tumble off the vines. The large ones are the females, and the small ones the males. It has been reported to me that Paris-green has no effect on them, but it is a mistake; Paris-green will kill them. When caught in the hands, they will discharge a little drop of liquid out of the joints of their legs on either side.

ANSWERED BY M. V. SLINGERLAND.

G. C. B.'s new "potato bugs" proved to be the "old-fashioned" potato beetles, known as Blister beetles. I gave an illustrated discussion of one of these curious beetles in THE R. N.-Y. for August 24, 1895. The species now at hand lacks the stripes of the one there discussed, and is known as Macrobasis unicolor, the Ash-gray Blister beetle. These beetles were recognized as serious potato pests throughout the country for many years before the advent of the Colorado beetle in the East; but their outbreaks are, usually, local and irregular. The transformations which these beetles undergo are remarkable, both as to the changes in form, and in the great number of changes. One mother may lay from 400 to 500 eggs; these she deposits in masses of about 130, in holes which she makes in the ground, and then carefully covers with earth. In about 10 days, long-legged, active grubs hatch from these eggs, and go running about on the ground searching for food. They are very fastidious in their diet, for nothing but grasshopper eggs will satisfy them. Should more than one grub get into the same pod or mass of grasshopper eggs, a deadly conflict sooner or later ensues, until one alone remains as an example of the "survival of the fittest." The grubs feed on the eggs for several weeks, meanwhile passing through several quite different stages, finally reaching a pupa-like stage in which the winter is usually passed. In the spring, another grub stage comes from this pupa-like object; this grub feeds but little, and soon enters the true pupa stage from which the beetles emerge in about a week. This complicated and interesting series of changes is only a fair sample of the wonderful stories these, to many, insignificant creatures—the insects—have to tell to those who care to spend some time with them.

Thus these Blister beetles are decidedly beneficial as grubs destroying grasshoppers' eggs, and are often very injurious to our crops as beetles; it is a noteworthy fact that the beetles are always more numerous the next season after a grasshopper year. This dependence upon grasshopper eggs for a living during their early stages, explains their great variation in numbers from year to year. The beetles are ravenous feeders, and are thus capable of doing much damage in a short time; thus we must be on the lookout for them, and be ready to fight them at once.

The beetles were still alive when they reached me, and I had the pleasure of verifying G. C. B.'s interesting observation on the discharge of a liquid from the legs. When I pinched the body of one of them, it secreted from each knee-joint a small drop of a yellow liquid. This liquid is said to have a disagreeable odor, and to contain uric acid; it thus, doubtless, serves as a means of defense against birds or insect foes. The liquid has been shown to be the blood of the beetle.

Dendrolene for Borers.

G. G. G., Vail, N. J.—I have an apple tree about 14 inches in diameter, that is badly infested with borers—so badly that the bark is off and the wood dead more than half way 'round the base of the trunk. The foliage looks thrifty, and the tree has on it a fair crop of apples which seem to be developing all right. Will dendrolene save the tree? If so, how much will it require?

ANS.—Dendrolene has not yet been tested sufficiently to warrant the definite statement that it will keep borers out of fruit trees. It is one of the most promising substances now under discussion for this purpose, I think. An extensive experiment with it against the peach borer is now in operation here at the Cornell insectary, and next year, results of some kind will be forthcoming. At present, I do not feel warranted in strongly recommending it as a preventive against borers; it may save G. G. G.'s tree, and it may not. It is worth a trial; four or five pounds, costing about six cents per pound, ought to be enough to treat the tree described. M. V. S.

We do not feel quite happy unless we have a bed of double portulaca. Having had some 20 years of experience with these brilliant flowers, we may be able to offer a suggestion or so to our readers who value beds of the *double* flowers, that may save them a deal of trouble and greatly precipitate getting rid of the plants bearing single flowers. The plants begin to bloom in late June or early July. The buds of the single flowers are sharply conical. The buds of the semi-doubles are between the slender conical buds and the nearly round buds which give the fully double flowers. Just as soon as buds appear on the plants we may in this way know which will bear single flowers, which semi-double and which fully double flowers. Destroy the plants at once which bear the sharply conical buds. Or wait for the first blooms. If the first flower is single, all the rest which that particular plant will ever bear will be single also. It is well to allow the plants which bear semi-double flowers to remain, since the fully double flowers do not make seeds, while the seeds of at least 25 per cent of the semi-double flowers will give double flowers the next year. So tenacious of life is the portulaca plant that it may be transplanted even in August, so that the colors may be distributed as one fancies. It is many years ago that the writer discovered the interesting fact that the *color* of the flower may be closely determined by the color of the stem. For instance white flowers will always be borne on light green stems; dark colored flowers on purplish stems; variegated flowers on striated stems, etc. Fully double portulaca flowers are as beautiful as carnations and even more brilliant in color...

"Double" Sweet Peas.—The flowers of these new strains of sweet peas are called double because some have two and three banner petals instead of one as in the old kinds. All pea or papilionaceous flowers—like clover, locust, wistaria, etc.—bear irregular flowers consisting of five dissimilar petals. The upper and largest petal is called the standard or banner (vexillum); the two smaller side petals, wings (alæ); the two lowest, often united, the keel (carina). The last inclose the stamens. We have many strains of these so-called double sweet peas, but the "doubleness" is confined to an increase of the banners, from one to two, three, and occasionally four, the wings and keel remaining single as in the old strains.

Seeds of the Bride of Niagara were sent to us from James Vick's Sons. The first blooms were July 7, the vines four to five feet high. The color of the flowers is similar to that earliest variety Blanche Ferry. Not over 10 per cent of the flowers are double. Often when the flowers are borne in pairs, one will have two or three banners, the other but one.

Double Butterfly (H. A. Dreer), is a charming variety. The flowers are large and of a lavender color edged with dark blue, the vines three feet high. Double Apple-blossom also bears very large flowers of white and pink. About 10 per cent of the flowers have two or three banners. The vines are over five feet high.

Katherine Tracy, from D. M. Ferry & Co., is a fine variety. The vines grow over five feet high and bear an abundance of large flowers of a delicate pink..

The New Cucumber, Eskimoso, from Johnson & Stokes, is a novelty as to earliness and perfection of shape. The vines are quite dwarfish and bloom profusely in every part. We gathered our first pickles July 10, before the flowers of any other kind had set any fruit. On July 14 several were ripe, yellow in color, perfectly smooth, three inches long and two in diameter, being a perfect oval as regular as any of the little ornamental gourds. The seeds are small and few.....

Paris Pickling Cucumber, from W. Atlee Burpee & Co. We have tried this for three seasons, and prefer it to any other kind except Tailby's Hybrid, whether for pickles or cucumbers for slicing. When young, the seeds are so few and small, that the cucumbers are virtually seedless. The flesh is as tender and crisp as it can be. The shape of the fruit is long, often curved and slender, and the surface, all but the neck, is covered with fine, short black hairs—they are too soft to be called spines or even prickles. The color of the skin is a very dark green. Perhaps, the Paris Pickling would not take in the market, but it will please the home people who care less for appearance than for quality....

The Cupid sweet pea, introduced by W. Atlee Burpee & Co., was planted at the Rural Grounds April 13. Rather, we would say, seeds were planted. The first blooms appeared July 13. The tallest plants were at that time 10 inches high. The flowers are, as represented by Mr. Burpee, of a pure white color and of ordinary size. How profuse a bloomer the plants may be, it is as yet too early to determine. Many of the seeds did not germinate, and many of the plants, for reasons we know not of, died. The plants are all dwarfs without an exception. Thus far, we are disappointed in Cupid.

We have stated that of our two Saghalin plants, one was sent to us by Mr. Blanc, of Philadelphia, Pa., the other by a friend whose name we do not recall. On July 18, the Blanc plant was in full bloom. The other plant is not even in bud. This is worth noting. The later variety to bloom is probably of more value as a fodder plant than the earlier to bloom.....

Michael H. Walsh is the name of a new rose to be introduced next year by Peter Henderson & Co. According to F. S. Matthews, this rose "contains the darkest color, combined with pure color, of which Nature is capable." We do not quite understand just what that means, or how Mr. Matthews knows that Nature could not make a darker combination. This rose was awarded a gold medal by the Massachusetts Horticultural Society, and it is said that the variety is considered by all who have seen it to be the finest hardy dark rose yet introduced...

There is yet another new rose in which we are greatly interested, to be called the Yellow Rambler, which may prove a fitting companion to the famed Crimson Rambler. Its hardiness is not, as yet, fully tested; but, judging by its parentage, we may hope that it will prove quite hardy in the North, as it has stood in the grounds of the originator, Peter Lambert, the well-known German rose grower, two degrees below zero without harm. The parentage of Yellow Rambler is the Japan rose, Rosa sarmentosa—crossed with the Noisette rose, Reve d'Or, so that, probably, the Yellow and Crimson Ramblers are half sisters. This relationship, we are told, is shown in foliage, habit and manner of blooming. Well-established plants of the Yellow Rambler, it is said, will make a growth of from eight to ten feet in a season. The flowers are produced like those of the Crimson Rambler, and in immense panicles, often over 100 to a stem, and they have a decided advantage, that of being "sweetly fragrant."

The stock of Yellow Rambler is controlled, in this country and Canada, by Jackson & Perkins, Newark, N. Y., who kindly send us a couple for trial.....

Mr. David Miller, Camp Hill, Pa., sent us July 1, a box of blackcap raspberries which, in size of berry and weight of cluster, surpass anything we have seen. There were from 10 to 15 berries to the cluster, and the berries were larger than those of the Gregg—an inch in diameter—slightly better in quality, being less seedy, jet black, with slight bloom. We have no word from Mr. Miller as to its name or origin.....

The Rhode Island Station (Kingston), gives a very simple formula for the Bordeaux Mixture to be used on potato vines. It is:

Equal parts of quicklime and sulphate of copper, with four to eight gallons of water for each pound of the sulphate of copper.

It seems that all the potato fields near the Station were more or less seriously injured by blight. The Station vines were sprayed from time to time, and the crop was not appreciably injured.....

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CRIMSON CLOVER—Nature's Fertilizer and Ideal Hay Crop. New Circular, "Reasons Why Every Farmer and Trucker Should Plant Crimson Clover"; SENT FREE. We are headquarters for home-grown, hardy seed, and furnish at lowest prices. Also, Turnip, Spinach and other seasonable seeds. HOLMES & MACKUBBIN, Harrisburg, Pa.

2,000 BUSHELS **CRIMSON CLOVER.** Wholesale or Retail. Write for prices and samples Germinating Qualities thoroughly tested. H. W. DOUGHTEN, Moorestown, N. J.

BUDS OF THE TRIUMPH PEACH now ready for shipment. "Cash with order" prices: By mail, postpaid, 50c. per doz., $1.00 per 100; by express, not prepaid, $5.00 per 1000. **Emperor Orange, Free** and **Japan Dwarf Blood** at same prices as Triumph. **Standard** varieties of **Peaches** by express, not prepaid, at $1.00 per 1000. Write us for special prices on trees of these New Peaches for fall of 1896 and spring of 1897. Address JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

LOOK AHEAD and save money by planning to plant your trees this fall. Our little book, sent free to business farmers and fruit growers will tell about the success of practical men with fall planting. "Nothing Succeeds Like Success," and we guarantee the success when you plant ROGERS' FRESH-DUG DANSVILLE TREES. Write to-day to **ROGERS, DANSVILLE, NEW YORK.**

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WHY NOT PLANT IN THE FALL and gain nearly a year? With well ripened stock fall planting is safer than spring. THEN WHY DELAY? Send for new illustrated catalogue mailed free on application. Estab. 1869. 150 acres. Geo. A. Sweet Nursery Co., Dansville, N. Y.

FOR WINTER WHEAT you should use a complete fertilizer, one which will PRODUCE THAT STRONG GROWTH OF ROOT so necessary to enable the plant to stand the rigors of winter. The residum left in the soil WILL HELP THE CROP through the coming season and insure a good catch of grass. We recommend a line which meets every requirement. Cleveland Dryer Co., Cleveland, Ohio.

THE BEST FERTILIZERS

produce large crops, maintaining the fertility of the soil. To use proper fertilizer materials is of first importance to every grower of crops. High-grade Bone Fertilizers furnish the *cheapest* and best plant-food known. We manufacture our goods to supply a constant supply of food for the needs of the plants and to keep up a vigorous growth. You will have the right material at the right time by using our goods.

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I. P. THOMAS & SON CO., Philadelphia.

Spraying for the Curculio.

B. B., FARMINGDALE, ILL.—I cannot see the spraying question quite in the same light as does S. B. S., page 478. I do not concede that "many of our choicest varieties of fruits would be worthless without bees," for I think that there are other agencies or factors in the work of cross-fertilization. Whether a poisoned bee would deposit any honey whatever, I think may be a matter of some doubt; but I do not doubt that nearly every one who sprays throws more or less of the poison on flower and foliage of grasses, weeds and other plants, where bees are likely to come and partake of the poison.

There has been, as all remember quite well, a difference in opinion as to the worth of the arsenical spray for, not only the curculio, but the codling moth, also. It has been claimed by entomologists, that the curculios ate first from the dead leaves beneath the tree; later on, from the first tender leaves as they started. Is it not possible that they eat of the bloom, also? If I have learned (and I do not say that I have) that it is possible to stop the immense damage from curculio—more, probably, than the whole bee product is worth—is it a crime to give the knowledge away? After all, would it not be a pretty good plan for bee men to study the needs of their stock at different seasons, and sow and plant for their maintenance, just the same as other stockmen do, thus averting, at least, part of the trouble?

The Russian Plums.

DR. T. H. HOSKINS, VERMONT.—I saw a statement in an agricultural paper (which I have mislaid) that the Russian plums are poor bearers, or do not bear at all. One man, we are informed, who had planted a large number of these plums, has rooted up his whole stock of several thousands, and consigned them to the brush heap. I think that this is too hasty an act, judging from my own experience. I have only a dozen or so young trees, received from Prof. Budd, of Iowa; but these are fruiting this year, quite as well as any other sorts, either native or foreign. Unfortunately, I have lost the names of them, by the loss or misplacing of stakes; but as the Russian names are so utterly unpronounceable, if we give the same value to the letters that we give in English, I must regard the loss as a benefit to any one who undertakes to cultivate them, or to sell the fruit. Those I have, quite closely resemble older English varieties, or their American seedlings, except in their resistance to winter cold, which is here perfect; though none of the old kinds, except Moore's Arctic (and that imperfectly), will endure for more than a few years.

In this connection, I may say that I believe we, of the cold North, have the most to look for in the way of plums from our American native sorts; the latter, perhaps crossed with the Russians to give a firmer flesh without loss of hardiness against winter cold. There is yet a great deal to be done in these directions before we can get to the end of our possibilities, not only in plums, but in other tree fruits. For instance, by a cross of the Russian pears with the hardier varieties of our standard sorts, hardiness may be acquired, without loss of quality or size, or of keeping. I believe that Prof. Budd, of the Iowa Agricultural College, is experimenting in all these directions with hopeful results.

For myself, after 30 years' work, I feel more and more confident that orcharding can, by the careful selection of varieties, be extended from 100 to 200 miles further north than has heretofore been thought possible, while we were limited to English and French originals. I am now trying a variety of Hungarian apples, sent out by the Department of Agriculture, and have hope to find something of value to the cold North among them.

Columbian Raspberry in Illinois.

S. E. H., CHERRY VALLEY, ILL.—On May 8, 1895, I planted four rows of raspberries, 40 in a row. Three and one-half rows were Columbian, and one-half row was Shaffer. They were planted and cared for exactly alike for a test. The soil is heavy clay, underlaid with limestone 40 feet below the surface—100 feet to water. Fifteen years ago, white oak and hickory occupied the space. Nothing extra in care, culture or soil has been given them. My notes say: June 1, every plant growing. June 15, dug a cavity around each plant and poured in two pails of river water; after it had disappeared, filled in the cavity with the dry earth removed. July 1, 39 of the Columbians dead, and 9 Shaffers. June 1, 1896, 102 Columbians alive to the tips; Shaffers all dead to the ground. July 4, made first picking of Columbians.

Comments: On my ground, they are hardier than Shaffer, Marlboro, Cuthbert, Muskingum or Superb. In fact, they are the only variety except Eureka (black) that was not injured by the winter. They are 10 times as productive as any other variety on my ground. They are immense in size and superb in quality. They have two very bad faults, first, the color is away off; second, the aroma is too strong; it calls the birds in flocks. They come for miles, and will not touch a berry of any other variety. They will sit on the bushes and sing Thief! Thief! Thief! at me, until I wish that the birds or berries were in the sweet by and by.

The seedlings from four bushels of peach pits were killed to the ground. The Crosby and Champion were not injured, and are loaded with fruit. I wrote this because H. A. T. of Crescent, Iowa, had such a contrary experience.

Miscellaneous Advertising.

In writing to advertisers, please always mention THE RURAL NEW-YORKER.

Dusts two rows of potatoes at a time, wide or narrow planting, as fast as a man walks; two acres per hour.

Extra tubes furnished for orchard work, with each

Will pay any farmer having one or a hundred acres of potatoes, tomatoes, tobacco or other crops.

LEGGETT'S FUNGIROID, a dry powder. **Prevents blight** on Potatoes. Tomatoes and other crops. Ask for Leggett & Brother's Pure Paris-green.

24-page catalogue free.

LEGGETT & BRO., 301 Pearl Street, New York.

DEATH TO POTATO BUGS

GRAY MINERAL ASH.

Goes three times as far as Paris-green or London-purple, and acts in half the time. Absolutely harmless to man and beast. Price, 50 cents for 5-pound can or 8 cents a pound in 10, 20, 30, 40, 50-pound cans. To introduce this wonderful new product, will send, **free**, 5-pound can to at least two farmers in each county. Five pounds make one barrel of spray for field plants, or two barrels for garden plants.

NATIONAL MINING & MILLING CO.,
5 East Lexington Street, Baltimore, Md.

FOSTITE FOR MILDEW

on Grapes, Gooseberries, Potatoes, Roses, etc. For circulars address
C. H. JOOSTEN, 193 Greenwich St., New York.

Rooted to the Ground.

The Anchor Posts stand fast, and will not move for frost or heavy strain. All kinds of WIRE, WIRE NETTING or WOVEN STOCK fencing are used with our posts.

Write for *Farm Circular.*

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"LET WELL-ENOUGH ALONE" is a safe maxim to follow in painting—as in everything else. Pure White Lead and Pure Linseed Oil are and always have been the best and standard paint. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands).

For colors tint White Lead with the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. They are the best and most permanent.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

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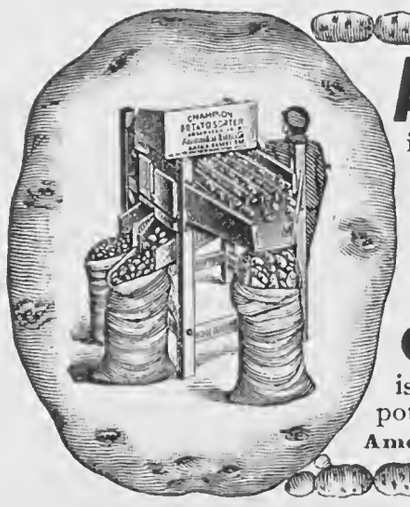

A Peck of Potatoes

is "A peck of trouble"—if sorted by hand. 1200 bushels of potatoes can be sorted in a day with no trouble and little expense with a Champion Potato Sorter. A new machine, operated on a new principle. Wonderfully simple and as effective, practical and durable as it is simple. The

Champion Potato Sorter

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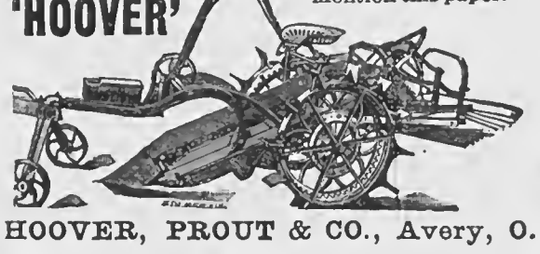
—THE— **'HOOVER'**

A 16-page pamphlet free Mention this paper.



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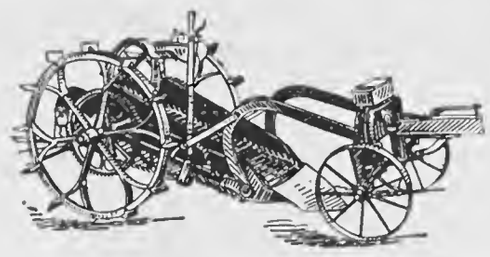

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DOWDEN POTATO DIGGERS,

Cutters, Sorters, Etc.

Warranted to do all that we represent them to do.

PRICE REDUCED.

Write for Catalog. Mention this paper.

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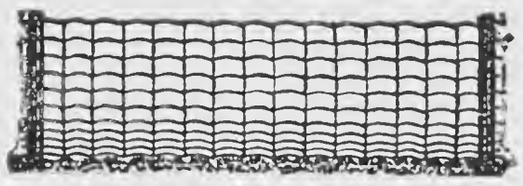


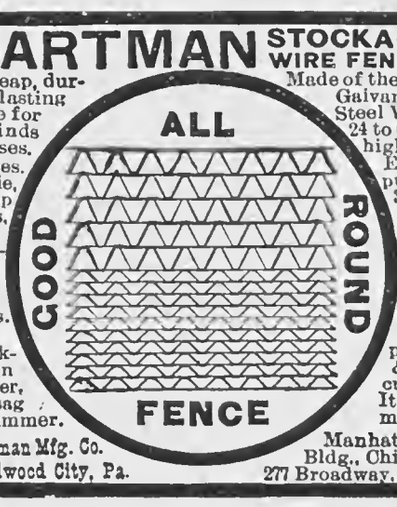
The Only Buffalo Fence.

The late Austin Corbin firmly believed it to be the Page. He used it freely on his great park in New Hampshire, and when he donated half his herd of Buffalo to the city of New York, he attended personally to having our fence enclose them. Not every farmer owns buffalo, but no one objects to a strong fence.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

HARTMAN STOCKADE WIRE FENCE

A cheap, durable lasting fence for all kinds of uses. Horses, Cattle, Sheep, Hogs, and Poultry. Fits all cases. No breaking in winter, nor sag in summer.



Made of the best Galvanized Steel Wire. 24 to 60 in. high. Is Easily put up 3 and 6 in. mesh 20 rods in a roll. Send for prices & circulars. It saves money.

Hartman Mfg. Co. Ellwood City, Pa.
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"SUCCESS" Jr. IMPROVED POTATO DIGGER

A DIGGER THAT DIGS.

YOU WANT a digger that will please you. We want to put 10,000 samples ON TRIAL for introduction. FREIGHT PAID. If your dealer cannot show you our improved "SUCCESS" send at once for particulars.

D. Y. HALLOCK & SON, Box 805 York, Pa.

HENCH & DROMGOLD'S Potato Digger

Agents Wanted. Circulars mailed FREE.

Positively the simplest, neatest, most effective and cheapest Potato Digger made. Will dig more potatoes in a day than any other digger for the price.

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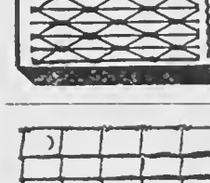
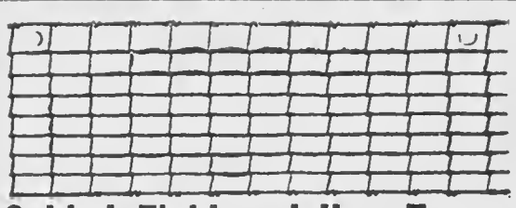
WOVEN WIRE FENCE

Over 50 Styles



Best on earth. Horse-high, Bull-strong, Pig and Chicken tight. You can make 40 to 60 rods a day for 12 to 20c. a Rod. Illustrated Catalogue Free.

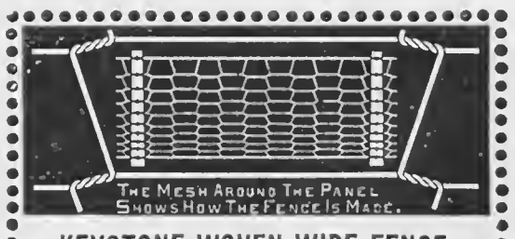
KITSELMAN BROS., Ridgeville, - Indiana.



Cabled Field and Hog Fence,

24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.

DeKALB FENCE CO., 17 High St., DeKalb, Ill.



KEYSTONE WOVEN WIRE FENCE

Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.

WRITE FOR CATALOGUE.

KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
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Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders pay able to

THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, AUGUST 8, 1896.

SOME of our readers are trying the experiment of cutting the Timothy with a grain binder instead of mowing it in the usual way. The grass seems to cure well in bundles, and is much more easily handled. It takes up less room in the barn by one-third, and is easily fed out. It is a good way to cut the hay. It is a good thing to cut some of the oats that way—about a week before you would cut them for grain. That makes "oat hay" or grain and fodder on the same stalk.

⊙

THREE years ago, THE R. N.-Y. described Mr. Francisco's plan of making and advertising "Certified Milk." At that time, both the name and the plan were new; but now it is hardly possible to take up a dairy paper without seeing how some one is making "certified milk." That is good, so long as the certificate back of the milk is honest. Mr. Francisco had a good idea, and was glad to make it public. In one way, Mr. Clark's new hay culture is just as remarkable as the certified milk scheme.

⊙

MR. WOODWARD gets the spraying question about right, on page 526, when he compares spraying to insurance. The past year has been free from many of the insects and diseases that, in years past, have done so much to ruin fruit. Therefore, some unsprayed orchards will produce just as good fruit as those that were sprayed. In many cases, it has been the same way with potatoes, and some farmers may reason that it does not pay to use the Bordeaux Mixture. We think that they will make a mistake if they do so. THE R. N.-Y. would spray on general principles just the same as it would cultivate or manure.

⊙

ON page 500, THE R. N.-Y. called for information about flies and sweet peas. It has been reported that the blossoms of the sweet pea, in some way, are offensive to house flies. We would like to learn what our readers have observed about this matter. Mr. Wm. Ives, the librarian of the Buffalo Library, sends this report:

> Referring to a notice of the effect of sweet pea blossoms upon flies, in a late RURAL NEW-YORKER, I would say that I observed, a few days ago, a number of dead flies lying around a large vase of sweet pea blossoms on my desk. A few live flies were upon the peas, but were, evidently, very sick or intoxicated, and were soon numbered with the dead below.

We shall be pleased to have reports from others.

⊙

SOMETHING new in American agriculture is the summer class now being conducted on the farm of Geo. T. Powell, in Columbia County, N. Y. The students are young men from the cities who have capital, and who desire to invest that capital in farming or fruit growing. They spend three summer months on the farm in orchard and field, doing such work as spraying, pruning, shipping fruit and cultivating—learning all they can of the necessary work on a well-ordered fruit farm. In the fall, they will go to Cornell, and take a scientific course—in the meantime, selecting farms of their own and planning to lay them out while studying. This, as we have said, is a new thing in American agriculture. During the year, we receive many letters from city men who desire to move into the country, but who do not just know how to begin. Some of them make a trial of working with some chance acquaintance who owns a farm, but such people are seldom satisfied, because, in this way, they do not learn just what they need. Mr. Powell's plan will appeal to a class of young men who have the capital required to conduct farming on a genuine business basis, and such farmers will benefit any neighborhood in which they operate. Among other remarkable propositions, Mr. Powell says that he has one from a large manufacturing company, a member of which proposes to come and take a course of study that will enable him to instruct and advise their mill operatives how to cultivate a garden plot to the best advantage, and thus have something in the way of support when there is no work in the mill.

⊙

LET me go it alone! said Mr. Hay, as he saw the farmer making ready to plow up the old meadow for a reseeding. I haven't a word to say against Mr. Grain—he's all right in his place; but it goes against my grain to have him come in and crowd me out. He's only a lodger, anyway! He doesn't intend to stay with you a full year, while I am going to hold the fort for five or six years. He just comes in with his great feet, and crowds my folks out until they quit in disgust, so that, when he finally goes out, I can't get tenants for half the ground. This talk that I couldn't get through the winter unless he stood by to "nurse" me, is all nonsense! Don't you believe a word of it! It's just an old superstition that this fellow has kept alive in order to keep himself in a fat job. Give me the whole field this year, and I'll guarantee to pay for it in an increase of hay.

⊙

WE have no doubt that many of our readers have asked themselves those questions about a winter crop that Mr. Morse has put in words on page 528. Most of us, however, would not find a good growth of Crimson clover or of rye troublesome in the spring, for we would quickly work it under for green manure. It is true, however, that for some truck or garden crops, green manuring would not answer, and it is an advantage to have the crop die down in the spring. On page 430, Mr. Geo. T. Powell told us that there was no loss when the spring killed most of it, for it had served its purpose by living through the winter and protecting the soil. The use of turnips, and the plan suggested by Mr. Stroud on page 529, are well worth trying. Few farmers in this country seem to realize the great value of the turnip crop. The seed may be sown late in the season, after some other crop, and the turnips will furnish an immense amount of food for stock. The cheapest way to carry breeding pigs through the winter is to keep them in warm quarters, and feed them on turnips and a little bran and corn meal. Turn to the turnip.

⊙

SEVEN years ago, Mr. D. H. Nash, of New Jersey, seeded a field to Timothy. His plan was to use about a bag of a high-grade fertilizer to the acre, with the seeding. Through some mistake, the men who put on the fertilizer failed to regulate the drill, and for quite a stretch of ground, the fertilizer went on at the rate of a ton to the acre. That was seven years ago, yet this year, the best piece of grass on the farm was on that part of the field that received the heavy dressing of fertilizer. The difference between that part and the rest of the field is quite remarkable. For seven years, that extra fertilizing has given superior crops. Mr. Nash says that he was quite annoyed when he came back and found this "waste" going on. Now he wishes that he had stayed away until the whole field was covered at the rate of a ton to the acre. We have often heard of cases where the effect of fertilizers was manifested for three or four years, but this grass was certainly the most striking illustration of the lasting effect of chemicals that we have seen. It was the more remarkable because Timothy is supposed to need constant supplies of nitrogen in order to keep up its growth.

⊙

A READER of THE R. N.-Y., for some years has used a certain brand of potato fertilizer. This year, he was induced to change his former practice and use another brand made by the same company. As the potatoes grew, they did not show a satisfactory color and size, and the farmer began to suspect that the fertilizer was not what it should be. The only way to make sure seemed to him to send a sample of the fertilizer to the State experiment station, and have it analyzed, and then compare the analysis with that guaranteed on the bags. He sent his sample, but was informed that the chemist could not make an analysis until the name of the company making the fertilizer was given. The farmer refused to give this name, as he felt that it was none of the chemist's business to know who made the goods. The demand for the name, probably, made him a little suspicious that his sample would not be fairly examined. He does not yet know whether his goods were genuine or not, and he naturally wants to know how he is going to find out if the station chemists will not tell him. What are these stations for—he asks—if they are not to help farmers in just such a case as this? We have no doubt that many other readers have asked the same question, and THE R. N.-Y. is going to try to get an answer for them. Next week, the directors of some of our leading stations will give their side of the matter, and then we shall hear from farmers.

⊙

THE newspapers report that the Council of the Borough of Columbia, Pa., has passed a resolution prohibiting the sale of milk, except such as is produced by tested cows. All cows must be tested with tuberculin by the State Veterinarians, and no milk is to be accepted from animals that respond to this test. This action, it is said, has created quite a little excitement among dairymen, and it is reported that the farmers' organization of Lancaster County will bring suit to restrain the council from enforcing this resolution. It will, certainly, make a very interesting case, for it is of much importance to know whether a local government has any right to pass resolutions that will interfere with the business of those who supply the town with food. We expect to have the facts in this case from both sides—viz., producers and consumers of milk. It is well enough to hear the whole story, since this same question may be raised in any town or city.

⊙

J. B. LOZIER, of New Jersey, has, probably, the largest establishment for boarding horses in this country. Valuable horses are sent to his place on about the same principle that humans are sent to summer hotels or comfortable boarding houses. In speaking of the amount of hay needed by a horse in good working order, Mr. Lozier says:

> I think from eight to ten pounds of hay per day sufficient for a horse in driving condition. Hay is always fed in excess; the horse has a very small stomach, and the purpose of the hay is to distend it so that the other foods may be properly digested. A large amount of hay, therefore, is detrimental to digestion, and gives the horse what is vulgarly called, hay-belly. Horses in training seldom get over six pounds a day.

Our opinion is that those who have really weighed a day's ration of hay and observed the effects of heavy feeding, will generally agree with these statements. The trouble is that most people estimate by "forkful" rather than by pound.

⊙

BREVITIES.

When Farmer A within one crop
  Puts in another called a "catch,"
He might as well shut up his shop
  If on the henhouse door the latch
Has rusted down or fallen off;
  For out comes Biddy with her hatch
Of thrifty chicks that run and scoff,
  And with their toes dispatch the patch.
The catch crop then they dispossess,
  For art and science are no match
For chicks that tack an r and s
  Upon the catch and spell out scratch.

HAVE you a tool room?

THE baby is watching you.

UNDER the lash for lack of cash.

GET rid of the bear spots in your temper.

MR. CLARK has the hay fever—and, also, the hay!

"A PRESERVED pair"—a happy old married couple.

WHAT have you to say about the horse—hay question?

GET the grocery stores to advertise and sell your bottled milk.

THE harder you think on a wrong thought, the worse off you are.

THE good daughter never leads the father's heart to slaughter.

THE poison O. K. Saying a thing is all right when you know it isn't.

Is it the coming woman or the woman coming? It makes some difference!

LIKE to the house that's founded on a rock, are apple trees on Northern Spy stock.

"BAITED breath"! when the drinker uses cloves or coffee to hide the smell of whisky.

A POISON IVY vine growing on a street corner is more dangerous than a dozen so-called "mad dogs."

IT is reported that farmers who fed cotton hulls to cows last winter, are now troubled with cotton worms.

THE country is full of bolters this year. Give us the hen that will bolt her moult and keep on laying all through it.

THAT is a back-handed compliment for the Columbian rasp berry on page 531. Are birds as good judges of fruit as they are of worms?

YOU can cultivate tastes in the hen and teach her to like food that she would hardly look at, if given for the first after she began laying.

THERE is a grim humor in Dr. Hoskins's remark that it is a good thing that names of Russian plums are lost or mixed up. Such jawbreakers would kill any fruit.

MANY an acre of good oats has gone to straw and grain when they should have made good oat hay. A week's difference in cutting turns strong food into weak.

SOME one has said that the Puritan's idea of hell was a place where every one was compelled to mind his own business and keep away from the affairs of others. Strange as it may seem, that would be nearer heaven for some people.

THE latest proposition for shipping butter long distances is to pack it in boxes made of glass sides held together with gummed paper—the whole thing covered with a layer of plaster of Paris a quarter inch thick. This, it is claimed, will keep the butter and prove much better than cold storage.

HERE is a poison ivy note from a Massachusetts reader: "Apropos of ivy poisoning, I wish to say that thick whitewash is excellent, and, combined with blue vitriol as thick as Bordeaux Mixture, is still better. I once knew a boy to eat some ivy leaves in foolish bravado, and it made him very sick."

KAINIT TO KILL BORERS.

WILL IT INJURE PEACH TREES?

A subscriber in Virginia wishes to know whether two handfuls of kainit put around each peach tree close to the collar or base of the tree, will have any effect in destroying borers and root lice. He also wishes to know whether it will injure the trees to put this salt so close to the lower bark. In your opinion, is this a safe plan to follow? May he expect any results from kainit as an insecticide?

Washes for Borers.

The subscriber need not fear injury from the application of two handfuls of kainit put around the collar of the tree. Whether it will do good or not, I am not prepared to say from experience. I know that two gallons of strong fish brine poured about the collars of ten-year-old peach trees will not injure them; neither will gas-house lime, if allowed to cool thoroughly before applying. The latter remedy seems to prevent, in a measure, their ravages. So also, does fresh wood ashes, half a peck to the tree. But, no doubt, the wash used by Hale Bros., composed of the following mixture is the best remedy known at the present day: In 100 gallons of water, dissolve 25 pounds of common potash, add one gallon of crude carbolic acid, and lime enough to mix to the consistency of thick whitewash. Apply in the months of April and May, after careful hand worming, with a stiff painters' brush, into the cracks and crevices of the exposed collar of the tree, and also in the crotches of the branches, for the rains to soak down the trunk. The moth which deposits the eggs producing the borers, will not choose such a spot to stop at.

Maryland. R. S. COLE.

Various Practices in North Carolina.

I have never tried any such application, but do not think that it would have much effect upon the borers. There would be no injury, I suppose, to the tree, but for any good that would come to the tree, I would greatly prefer to scatter the kainit broadcast where the feeding roots of the trees are to be found, that is, out about the drip of the branches. A strong lye made from hard-wood ashes, has a good effect in destroying the borer if poured quite hot around the collar of the tree. If the borers are there, I would certainly cut them out first, and then try to prevent any more eggs being laid. The kainit might have some retarding effect upon the moth that lays the eggs. My practice is to pull the earth away from the collar in the fall, and expose the junction of the main roots in winter, so as to make the bark there harder, and thus discourage the moth. The soil is, of course, pulled back in spring. Washing the stem with a wash made of lime and ashes has been found to have a good effect. A thick coat of tobacco dust spread on the surface all around and up to the stem, is the best preventive and destructive remedy for the aphides or plant lice. Soaking the ground with kerosene emulsion made with tobacco tea in place of pure water, is also good.

North Carolina. W. F. MASSEY.

Will Do No Harm.

I hardly think that kainit would do any harm if the tree were not too young, and I don't see that it will do much good. The potash it contains would be so close to the body of the tree that the feeding roots could not get it, and what salt there was would act only as an insecticide for a short time—nothing permanent. For root lice, I would use a good handful of tobacco dust; clean away around the tree with a hoe, and apply the dust, then cover up again. No insecticide I have ever tried will make a final finish of borers. To apply it, one must clean the soil and gum away, and while he is doing this, it is but a small matter to clean out the worms with a knife at the same time, and then he is sure that they are killed. The habit of the moth which lays the eggs for these borers, will readily show any one the utter folly of trying to use an insecticide to make a complete destruction of it. We often worm our trees three times a year, and always once. The yellow appearance of the leaves and gum oozing from the bark, will show that borers are there, and must be removed or a dead tree will be the result. CHARLES WRIGHT.

Delaware.

Don't Use too Much Kainit.

No, the application of kainit as contemplated by your Virginia correspondent, for the destruction of peach borers and aphidæ, or "root-lice," will accomplish neither. The probability of injury to the tree from its use, would be largely governed by the age of the trees. A few years ago, a customer who had purchased 1,300 peach trees from me inquired, after the trees had been planted in November, whether I regarded kainit as a good fertilizer for a young peach orchard. When told that an application of 400 pounds per acre would be beneficial, he inquired the cost of kainit per ton. The price being so low in comparison with other commercial fertilizers, and the customer being liberal and able, bought and hauled kainit for his orchard, spreading broadcast with a shovel—having given special directions to apply it liberally around the trees. Not a tree survived this misdirected liberality. Trees six or more years old, doubtless, would sustain no perceptible injury from an application of "two handfuls of kainit" immediately around the collars; neither would the borers or the root-lice, by which is meant the black aphis, I presume. If I wish to combat the aphis, tobacco dust, such as this subscriber can buy at the factories in the capital of his State at about $20 per ton, would be liberally applied close around each tree, and as far from the bodies thereof as the branches extend, well worked into the soil, by plow or hoe. No danger of injury to the trees from its use, however heavy the application. A safe insecticide, to kill borers, is nowhere in use yet. J. W. KERR.

Maryland.

APPLES FOR THE ENGLISH MARKET.

HOW TO SHIP; CROP PROSPECTS.

Judging from THE R. N.-Y.'s reports from the leading apple-growing districts of the United States, the crop, this year, will be a large one. The aim should be to get the most possible out of it. In general, the fruit seems to be of unusually good quality. This means that a larger proportion than usual will be fit to barrel for the best markets. Prospects are good for low prices in this country, hence the need of careful assorting and packing, and the use of the best packages.

THE R. N.-Y. interviewed Mr. Josiah Rich, of the firm of Otto G. Mayer & Co., extensive apple exporters, as to the prospects for a market for our apples in England. Their shipments are largely to the firm of J. C. Houghton & Co., Liverpool and London. This firm reports that, from information gathered by them, the approaching apple crop, both in England and in the European countries usually supplying the English market, they look for very short supplies indeed, as the crops seem to be considerably below the average. They say that this should make certain an extra favorable demand for the apples of the United States and Canada. They add their invariable recommendation for shippers to their markets about "the importance of *large size* and *high color*, as these are the best paid for in the English markets."

Already apples have begun to go forward, several small shipments of early varieties having been made. Mr. Rich says that the best of these varieties for the English market is the Oldenburgh. The Alexander, on account of its large size and fine appearance, would be a good one if it would stand the voyage, but seems to be a poor keeper. He also says that the 20-Ounce never seems to take well in the English market. Baldwins and Northern Spys are great favorites, the former, probably, leading all other varieties in the number of barrels shipped. Tompkins County Kings are much liked, but the quantity of these shipped is not large. Spitzenbergs are also desired. In general, the red varieties take the preference except for the Newtown Pippins. The last were formerly considered the acme of excellence, but the trade in them has been sadly injured by dishonest packers who have labeled barrels of Peck's Pleasant and other inferior varieties with the name of the favorite, and thus injured its reputation. Large lots of a single variety sell to the best advantage, and bring the best prices.

Mr. Rich says that there has been no change in the methods of packing and handling required, which have been so many times described in THE R. N.-Y. The method is about as follows: No fruit should be overripe, and early varieties should be picked quite green. Remember, it's a long journey, and on board ship, often under unfavorable conditions. Only the most desirable varieties should be sent, especially this year. They should be carefully sorted, and only choice fruit packed. The man who will persist in putting fine fruit in the head of the barrel, and then filling the middle of the barrel with trash, has no business to pack apples for the foreign markets. The method of selling there will show up such dishonesty in short order. On arrival, sample barrels are taken at random from each lot, taken to the market place, and dumped on a platform in view of all buyers. Then the different lots are sold at auction from these samples. Not much chance for deception there!

The standard barrels should be used. The apples should be handled carefully, the barrels well filled, and the heads be pressed in as firmly as possible without bruising the fruit, so that the contents can't shake around. The barrels should be well nailed, plainly stenciled with the name of the variety and the name of the shipper, or any mark that he may use to designate his goods. They are then ready to be sent to any apple exporter, who will look after them, and make returns after they are sold. The exporter will attend to all the details, see to putting the apples on board the vessel, attend to insurance, freight, etc. He should be notified by mail when a shipment is made to him. The expense of sending apples to the English markets is about $1 per barrel, and it costs just as much to send a barrel of poor ones, as one of the choicest fruit. The bulk of the shipments from this country are made from Boston and New York. Canada sends many apples and is our chief competitor.

COAL ASHES ON CLAY SOIL.

A Success Around Trees.

In answer to Q.'s question, page 478, about coal ashes, I have had actual experience with them on heavy clay land, also on low muck land, around my currant and gooseberry bushes, cherry and peach trees, grape vines, and I use all I can get hold of. Almost the first coal ashes I ever used, were around my peach and cherry trees, and were piled about six inches deep around them. The next evening I was working in the garden close by, but not in sight of the trees, when along came some women who were out for an evening walk. When they came in sight of the trees, one of them said, "Oh, my! that man has killed all of his trees! That's the way I killed that big apple tree of mine!" I said not a word, and lost no sleep about the matter. This all happened about six years ago, and I have had peaches and cherries when others have, and my trees are all right to-day. I have used the ashes on the same trees since, and shall continue to use them as long as I can get them for the drawing. I don't bother to sift them; it won't pay. G.

Grass Lake, Mich.

Potatoes From An Old Walk.

I sift the ashes (hard coal), saving the cinders for making walks, and using the fine ashes for poultry-house and garden—clay soil—which is gradually getting as mellow as an ash heap. I dug up an old garden walk, made of ashes and cinders, put in a little stable manure, and planted potatoes. The best potatoes came from the two rows in the old ash path. I expected none at all from that portion of the patch.

Pennsylvania. A. A. K.

Fred. Grundy Says, Don't.

In a portion of my garden, I applied about a bushel of coal ashes to the square yard; on another portion, one-half bushel. But I never repeated the experiment, because one dose was enough. For about four years thereafter, I carried a file in my hip pocket whenever I hoed that portion of my garden, and at the end of each row, put another cutting edge on my hoe. The ashes were run through a grinder before being applied, and not a particle larger than a pea went on the ground; but they did no good whatever. The soil was no more friable than before, but it was so injured by the sulphur contained in the ashes, that I did not grow a full crop on it for three years. The best way in the world to make a heavy soil friable, is to fill it with humus. Q. should apply about six inches of well rotted manure to his soil, and by repeated plowings and harrowings, or diggings and rakings, thoroughly mix the two. He should mingle the two to a depth of, at least, 14 inches, and if he get down 24 inches, so much the better. If he get in enough manure to make his soil about one-third humus, it will be friable enough for him, and rich enough to grow anything.

IT is reported from England that a great demand for purebred live stock has sprung up in South America. Breeders in the Argentine Republic are buying largely of Short-horn, Hereford and Angus cattle, and also of Lincoln sheep. The Short-horns seem to be most popular, and great numbers of first-class bulls are being sent to use on the vast herds of native cattle that roam over the South American pampas. While there has always been more or less of a demand from this quarter, this year it is greater than ever, and the chances are that, within a few years, the exports of good beef from Argentine will be greatly increased.

BUSINESS BITS.

GRAY mineral ash is a new bug exterminator to take the place of Paris-green, London-purple, and similar insecticides. THE R. N.-Y. has not yet tried it, but hopes to have a report on it later. It is prepared by National Mining and Milling Co., 5 East Lexington Street, Baltimore, Md., which offers to send a five-pound can without charge to at least two farmers in each county.

IT seems to THE R. N.-Y., that one of those Granite State boilers and cookers would find many uses on the farm. They are very simple in construction, and may be readily moved from one place to another. The boiler is galvanized iron, and is removable, so that, with an extra boiler, the furnace may be used, not only to cook food and heat water for stock of all kinds, and even for washing, but it may also be utilized for preserving fruit and vegetables. The manufacturers send free a very interesting pamphlet on the value of cooking food for stock. The address is Granite State Evaporator Co, 200 Main Street, Marlow, N. H.

THE well-known agricultural implement manufacturers, P. P. Mast & Co., 9 Canal Street, Springfield, O., have invented and just put on the market a self-dump wagon. It is claimed for this wagon that it will save, at least, one-third of the team work required by other wagons. The saving of time would naturally be great, as the new wagon is dumped automatically, consuming, practically, no time at all. We have not seen it in operation, but from the description and illustration, and the knowledge that this house puts out nothing but the most satisfactory farm tools and machinery, we incline to the belief that this new addition to their list, will do all that is claimed for it. If interested, direct as above for description.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

OUR readers have, probably, been amazed at the extent of the enterprise described in "A Jar of Jelly." It begins to look very business-like when one buys fruit to sell again. Yet this woman has conducted her business successfully, and wisely. The closing sentence of this week's article is a good business maxim. Be satisfied with the profits on your own labor.

*

WE expect soon to give an account of a work being done among the poor children of New York which is designed to fit them for good citizenship, and to show them the advantages of country life as compared with their city surroundings. We think that the plan followed in teaching the laws of our country to these city children might be adapted very successfully to the pupils of the country schools. With an ambitious teacher's help, a young republic could be organized and carried on so as to be at once a pastime and an effective educator.

*

THE country girl or boy who has a horse at his command, need not envy the city cousin his bicycle. One who has known the pleasure of the companionship of a horse, will find in the wheel only a diversion, not in any sense a treasure to compare with a horse. The people who have never known horses, are the ones who have gone wild over bicycling. But it is fortunate that those who have never owned and cannot afford horses, can have bicycles. May they continue to enjoy them.

CALLED TO BE A COOK.

IT was the year of the World's Fair at Chicago, when people were coming and going, and having little "reunions" everywhere. "We girls" had met for the first time since our schooldays in the beloved institution we were wont to call "the asylum for state paupers"—otherwise the Normal School. Just now, we were in the full tide of reminiscences that go to make up a good time between friends long separated.

Mellie, who had been, in her girlhood, the gay one of the trio, the flame around which all the disengaged moths, (and I fear some of the engaged ones,) were wont to flutter, had, of course, soon married. Not finding housework to be either agreeable or, in her case, conducive to health, she had settled down to regular outside work to help keep the pot boiling. A sable Phyllis, who did not mind blackening her hands (Mellie *did*) watched said pot boil, and took it from the fire when it threatened to run over. Our giddy Mellie had, in fact, become a "new woman" mainly because she could do some things better than she could cook or keep house. And Fred, her husband, evidently believed the epigram that the best thing to do with the new woman was to marry her and love her. They were really as happy as though she were "old."

Gertrude was "new," too, if new means having sense and spirit of one's own, and working out one's own ideal of life, so far as possible. She came of an aristocratic, but "reduced" family, and showed her blue blood in every line of her sensitive face. Yet circumstances had combined to render her intensely practical. She had gone to a distant State and engaged in teaching. At the same time, she had privately pursued her studies in the accomplishments, and had now come back to us so improved, both in mind and in person, that we hardly knew her, and with an opinion about everything. As she had never been noted for suppressing her opinions, she now proved a constant source of amusement to us, and often of practical help as well.

I, Myra, had been obliged by ill health to leave school just before being graduated; but had, eventually, been persuaded by a silver-tongued graduate from the same school, to take a school of one. My health still remained uncertain, as did also our income, the graduate of the silver tongue not being otherwise amply endowed with the precious metal, and not having yet attracted it in sufficient quantity to make us independent. In other words, we were poor. This being the case, I had often pondered long and earnestly on the question as to what I might be able to do should it befall me, as it had so many others, to be left, by the loss of my husband, without adequate means of support. True, I had written an occasional article for the press; but—as the young and freshly initiated who have tried it know only too well—this, also, was decidedly uncertain business. And as I intimated, many anxious hours had been given to the consideration of the question as to what a woman with slender strength could do in case self-support became a necessity. Such hours as have come to many another, after it became a necessity.

After we had discussed all our mutual friends of whose movements we still retained any knowledge, it followed, as a matter of course, that we should talk over some of our numerous pranks and escapades while "rooming."

"Oh, Myra, do you remember the night that Gertrude was going to show you that Mr. Meeks who used to call upon me occasionally; and the folding doors, instead of opening just a crack, opened half way without warning, disclosing your horrified faces to our astonished vision?" laughed Mellie.

"I think that Gertrude and I should remember that, if we forget everything else," was the smiling reply. "The look of amazement on that young man's face was too delightful to be forgotten. But I think that we had much the worst of it, for you were as cool as need be. No doubt we deserved it."

"Oh, and do you remember the time the boys inveigled the Chinese student into asking Nell Murray to go to an entertainment with him, because she had declared that she thought it mean for the girls to treat him so differently from the others?" asked Gertrude.

"Yes, I remember it, and she went, too. She was 'game,' and wouldn't retract what she had said. But wasn't it rich! The excruciatingly polite note of invitation which he addressed to her, and his remarks on the way were eminently appropriate, coming from a native of the "flowery" kingdom. We slyly called Nell Mrs. Chun Lee, for weeks, I remember. How shamefully we did behave—and what fun it all was. I wish I might go to school again," said Mellie, trying to look a little ashamed of her pranks, but not succeeding very well.

"And the afternoon that two of the Latin class were accidentally locked into the capitol building," said I. "Our next week's Society paper had a note inquiring if it were anybody's business if the Latin class should go to the summit of the capitol to conjugate *amo*. I believe I had a hand in that mischief."

"But the worst of all was the night we were locked *out* on parade," said Mellie, "with the family away for the night, and not a key among us that would unlock the door that treacherous night-latch had fastened after us as we rushed out a moment to see the procession. What was the ticket that year? Was it Cleveland against Blaine? Strange, I can't remember, when we were so interested."

"And do you remember how we looked?" she rattled on. "Bare-headed, and without wraps, and in our comfortable study dresses. The policeman to whom we, in our ignorance, appealed for help, looked askance at us, and after scaling a ten-foot fence for us in the futile hopes that the back door might be unlocked, he finally left us to our own resources. Was it you, Gertrude, who at last courageously broke the glass in the area door, and let us in about midnight?"

"I believe so; and we went to bed with lessons unlearned, sadder and wiser girls," replied Gertrude, looking as though she hardly recognized her dignified self in Mellie's picture of the undignified trio.

After several more stories of old times, the talk drifted idly here and there, and finally touched the question of servants. Gertrude had made several invidious remarks concerning the married state, averring that *her* husband (a myth) never quarreled with her; that he always carried the parasol to suit her; that he was invariably amiable. *Her* servants were never impudent, they never left without warning, and so on. MYRA V. NORYS.

(To be continued.)

A JAR OF JELLY.

HOW IT IS MADE AND SOLD.

PART V.

Pears and Plums.

PEARS are used only for preserves and pickles in two ways. We use only Bartletts. They are peeled carefully, cut in half, the cores removed, and dropped in cold water to prevent coloring. When enough have been prepared for a cooking, we drain them, and boil in a pound-for-pound syrup.

Pickles are prepared in the same way, and put in a spiced vinegar syrup. Everything is put in the jars while hot, and care is taken that they shall not get cold before they are sealed. A great deal of care is needed that everything is properly skimmed before being put in the jars. We also pickle some whole. They are done the same as pickled peaches, only we remove the skins and leave on the stems. They look beautiful in the jars.

Of plums, we make preserves, pickles and jams. When we can get them, we use the large, white varieties for the first, and Green Gage and Damson for the rest. The white ones are steamed and used with heavy syrups. Pricking the skin with a needle in a good many places, will help to keep them from breaking. For jam, we boil them till free from the pits, add the sugar, and boil.

We make no use of grapes for our trade, and only for catsup for our own use; we think it the finest catsup we ever tried.

Quinces make preserves and jelly. We peel, halve and remove the cores, then steam till very tender, put in the boiling syrup, and cook till they reach a beautiful, bright red. For jelly, we slice the whole quince, skins and all, cover with water, and cook till very tender. We then press the same as currants, and use one pound of sugar to one pint of juice. Care should be taken that the fruit is not too ripe; the jelly will be more sure, and a handsomer color. The appearance of an article is what makes for it a sure sale. An attractive jar of fruit will be purchased much sooner than its uncomely neighbor, though its quality might be greatly inferior. For marmalade, we slice the quinces without peeling, and boil till they are very soft; put through a colander, add sugar the same as for jelly, and boil thoroughly a long time. It requires constant stirring.

The ripe cucumbers and cantaloupes for pickles are next. They are peeled and cut in long, narrow strips, and put in quite strong salt water over night, then drained thoroughly and cooked in a spiced vinegar syrup. They require considerable cooking. English mustard pickle or chow chow, requires the vegetables cut up in small pieces, laid in salt water over night and cooked in the same the next day till tender. Then drain and cover with a mustard paste.

This covers the ground, so far as the articles on our list are concerned. Many more might be added to make the list still more attractive, but we selected these as being likely to be most in demand, and we find them quite enough to keep us very busy nearly all the season. We have always maintained that the limit of profit was reached when one does what he can without paying out much for help, and it is surprising how much one can accomplish in the course of one fruit season.

MRS. O. P. HOWLAND.

SOME FLORIDA PRODUCTS.

HOW THEY ARE UTILIZED.

ON our journey southward, we first saw Spanish moss in southern Alabama. This lovely, graceful parasite grows on a variety of trees, but finds its most congenial host in the huge live oaks of the South, festooning them so heavily as to produce a sort of weeping-willow effect. In winter, it is of a silvery-gray color, merging into a greenish gray in summer, and has tiny, straw-colored flowers, hanging yards below some of the branches. Swayed by every passing breeze, sometimes whirled by stronger winds into ropes, it forms one of the charms of a Florida landscape. Its possibilities for decoration are unlimited. The teacher in the primary department here, lacking curtains in the schoolroom, has draped the windows with the moss, forming some very odd and pretty lambrequins.

The practical southern housekeeper hangs huge quantities of it over the back fence, where the bright, fierce sunshine will fall on it all day, and the hot rays soon dry up every particle of moisture in the plant. It then turns a glossy black, looking very much like curled hair. It is then put in water, thoroughly washed and hung on the fence again to dry. After being picked over, it is ready to be used in filling mattresses, etc. Many tons of it are prepared every year, and shipped north to be mixed with the genuine curled hair. In the winter when the wire grass is tough, and lacks nutriment, cows and horses eat the moss when it hangs where they can reach it.

There are 10 feather beds in the South to one in the North. Every farm has its flocks of geese; particularly in Tennessee and Kentucky, and the numerous beds in each house look high, light and fluffy, just as our grandmothers' did years ago. In the extreme South, cooler materials than feathers are found, the three substitutes most in use being Spanish moss, corn husks and palmetto leaves.

Sawtooth palmetto, alone, is a mine of wealth to Florida. It grows all over the State, and struggles with the wire grass for possession of the soil. The average height of the plant is about two feet, being a cluster of leaves the size and appearance of a palm-leaf fan, each sharp-pointed rib being separate nearly to the stem. On good, rich soil, these grow as tall as a person, the stem then being three or four feet long. The natives often tie a bunch of these largest leaves together for a broom, the long stems forming the handle. A northern woman would have hysterics trying to keep the house clean with one of these funny little brooms. The roots of the palmetto are from one to six inches in diameter. From the larger ones, are made hair brushes, flesh brushes, scrubbing brushes, etc. The berries of the plant are dried and sold to druggists.

The leaves are picked, hung in the sunshine to bleach, then torn into strips one-eighth inch wide; these strips are woven into straw, both plain and fancy, for the manufacture of hats. These hats are so pliable that they may be doubled up and put in one's pocket, and so durable that they will last several seasons. The leaves torn into wider strips and dried, are used for filling mattresses, making mats, etc. As the leaves are supposed to possess health-giving properties, the mattresses find ready sale, and many are shipped North.

JOSEPHINE STARR.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6834. Girls' Sailor Suit.

The full gathered skirt is joined to a plain lining shaped with shoulder and under-arm seams. The front is faced in shield shape with the stripes of material running crosswise, the standing collar being of dark blue linen. The blouse is simply adjusted with shoulder and under-arm seams, and closes in front, the neck

6834—Girls' Sailor Suit.

being cut away to expose the shield. Elastic is drawn through the hem that finishes the lower edge of the blouse to adjust the fullness at the waist line. Pattern No. 6834 is cut in sizes for girls of 6, 8, 10, 12 and 14 years of age.

ODDS AND ENDS.

PATTERNS.—Make a set of roomy flat pockets by fulling on wide strips of fancy cloth to a stout foundation. Stitch them down into as many compartments as there are members of the family to sew for, and write each name on the front. Then be particular to keep the patterns belonging to each person in his own pocket, tied with a strip of cloth from the garment last made.

MARY BURWELL.

THE FARMER'S WIFE.—Too much has been written about the "overworked farmer's wife." Such articles may help to open the eyes of some thoughtless husbands, but they also serve to frighten some city wives, whose husbands would like to live on a farm, if only the wife were willing. I remember that, when my husband first told me that he would like to live on a farm, I though it grounds for a divorce, and told him so. All I knew of farm life was what I had read, and all I could seem to remember of that, was that the farmer's wife worked from morning until night, day in and day out; that she never could go anywhere, or if by any possible chance she could, she never had anything fit to wear. Now, I know that there are farmers' wives who just enjoy themselves, and who have far more of the comforts of life than most city wives. If there are others who have to work too hard, let us not tell or write of it, but like the skeleton, shut it in the closet that it may not frighten others, for the man who would thoughtlessly overwork his wife in the country, would let her starve in the city. M. T.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

CRUMBS FROM DIFFERENT TABLES.

"Few are both true and tender, and he grew,
In time, a little tenderer than true."
—*Caroline Duer.*

....PHILLIPS BROOKS: "We are so apt to see only what souls go from. When our friend dies, we think of all the warm delights of life, all the sweet friendships, all the interesting occupations, all the splendor of the sunlight which he leaves behind."

....WINIFRED BLACK IN N. Y. JOURNAL: "Men have a whole lot more sense than women. They will not bore themselves just to be polite. Women have a whole lot more conscience than men; they will not hurt people's feelings just to be truthful."

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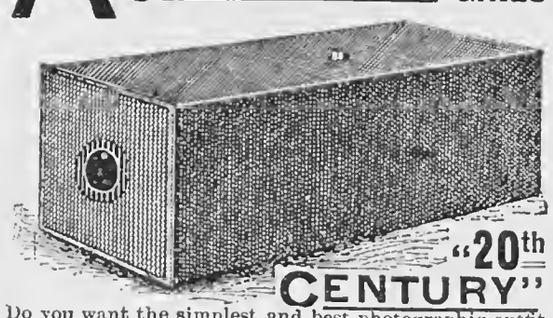

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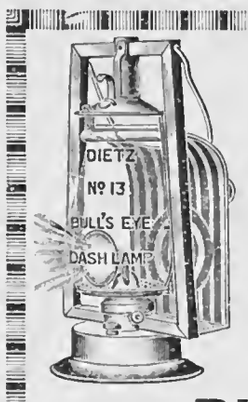

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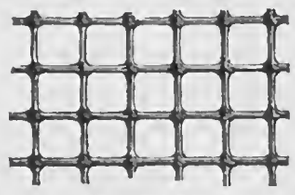
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"NITRAGIN."

Dairymen now generally understand that the changes known as ripening or souring, are produced by the work of bacteria—minute forms of life which, under favorable conditions, increase with wonderful rapidity. Dr. Conn, of Connecticut. has found that there are many different forms or classes of the bacteria that work in the dairy. Some of them are capable of producing the finest flavor in butter, while others will produce only a disgusting odor and taste. "No. 41" is the name given to one form of bacteria which always gives good butter. To sweet cream, add a certain amount of this "No. 41," and it will spread and grow all through the cream, ripening it in such a way that the butter will be of the finest flavor. This is no mere theory, but a fact which has been amply proved by experiment.

It is also pretty generally known now that such plants as peas, beans, clover, vetch, etc., are able to absorb a certain amount of the free nitrogen in the air. The nodules or "warts" on the roots of these plants, contain the bacteria or organisms that enable the plants to obtain this nitrogen. Dr. Nobbe of Ger many has devised a plan for scattering these root bacteria somewhat on the same principle as that employed by Dr. Conn in dairying. Dr. Nobbe has found no less than 17 different varieties of these bacteria, each one of which has a marked effect in increasing the growth of some particular plant. For example, the bacteria from pea nodules acted well on the pea crop, but not at all on clover. Hence he concludes that every leguminous plant is influenced by its own bacteria. At first, it was proposed to "spread" these bacteria by taking soil from a good field and scattering it over a new one, just as some dairymen take a cupful of buttermilk from one churning to act as a "starter" for the next one. This did not prove entirely satisfactory, so Dr. Nobbe has separated these different bacteria, bred them extensively, and now offers them for sale in bottles under the name of "Nitragin." For example, a bottle of pea "Nitragin" contains a given quantity of the bacteria that, in the nodules on the pea roots, work to take the nitrogen from the air. The "Nitragin" is used in two ways. It may be diluted in water and sprinkled over the seed before sowing. Another way is to use more water—enough to wet about 60 pounds of soil. This soil is dried and then scattered all over half an acre of land and cultivated in to a depth of about three inches.

This, as you will see, carries out the principle employed with the dairy bacteria, viz., that of scattering them all through the soil where they may grow and help produce stronger plants. This is no theory. It is a regular business in Germany, and this summer, Sir J. B. Lawes is testing this "Nitragin" at his experiment farm. We have no doubt that there is something in it, and we think it likely that the use of this Crimson clover "Nitragin" would give success in places where failure has been the rule.

We speak of this thing here merely to call attention to a new thing in agricultural science. While our readers may not be in a condition to experiment with it yet, it is well enough to keep it in mind, for something of the sort is surely coming.

There is, however, another form of this "nitragin" that any of you can try. For example, let us read this letter from the secretary of a Pennsylvania Grange:

THE R. N.-Y. of July 25 is just received, and I notice, in particular, the article on the Army Worm. As it has invaded within five miles of this place, I thought that, if I had 12 or 15 copies to distribute at our next Grange meeting, it would be a point nailed for THE RURAL NEW-YORKER, and might result in more subscriptions. I have been in the habit of handing out extra copies, and very often, some of the members come and ask for them. I expect they will soon receive their own papers regularly; but just now (and always) they say, "Times are too hard," etc. But they soon get to look for the extras, and then find that they cannot get along without THE RURAL, and they are converted.

Now you see that issue of the paper is really the "Nitragin" of subscription to THE R. N.-Y. It contains the bacteria of need, because it brings help against the dreaded army worm, and the people who read it will naturally conclude that a paper that tells how to kill army worms, can, also, tell how to kill other injurious things. It is the nodule on a man's brain that permits him to absorb new and useful ideas, and THE R. N.-Y. is the "Nitragin" that will make these nodules grow. Scatter it. We look to you to bear a hand in doing it.

THE RURAL'S FRUIT REPORTS.

SOME OHIO NOTES.—In strawberries, Greenville is doing very well; Timbrell is a failure. Parker Earle is among the poorest, and Annie Lawrie is not phenomenal. Haverland is my standby; it yields twice as many merchantable berries as either Timbrell, Parker Earle or Cumberland. I have tried Marshall and Brandywine, but not thoroughly. Brandywine seems to have too much husk. I have a few of Wm. Belt, but have not formed an opinion about it. The Kansas raspberry cannot be too highly recommended; it is early, large, heavy yielder. Columbian is too much like Shaffer to give much room. Erie and Minnewaski blaekberries are very good; they will not yield with Taylor. Eldorado promises well. The North Star currant is small and not as good a bearer as the older varieties. The Abundance plum is all that has been claimed for it. J. H. B.

Croton, O.

THE CARMAN GRAPE was set three years ago, has thrived exceedingly well each summer, but has been killed down to the ground eaeh winter, until last winter, when one of the stems, only, killed down to within eight inches of the ground. The vine has been bent down and covered with soil each winter, and none of the winters has been hard enough to kill unprotected Concords. It has made an enormous growth this summer. Four shoots were allowed to grow—two on the old vine, and two from the ground. The two on the vine are (July 21) four feet, and five feet seven inches respeetively. One of those that springs from the ground is 9½ feet long, and has some side shoots. The other one is as big as my thumb, is 13 feet long, and has a vigorous side shoot at nearly every joint. Two small clusters of grapes are growing on tendrils. The foliage is light-colored. E. B. W.

Newton, Ia.

SOME RASPBERRY NOTES.—I have one plant of the Loudon raspberry, set one year last spring, and one Royal Church set two years ago. The mercury went to 24 or 25 degrees below zero, but both came through alive to the tips without any protection. The one-year Loudon is bearing more and better berries than the two-year-old Royal Church. The canes do not grow so tall, but more vigorous and stocky. I have a few Shaffers in a rather sheltered corner, that are very satisfactory. It might be of interest to some to know that raspberry suckers from six inches to one foot high can be successfully transplanted during the summer. The season has been very dry so far; the hay crop is the lighest ever known. Oats, corn and potatoes are looking fine. We have myriads of grasshoppers, and farmers that fed cotton-seed hulls to their stock last winter, are having a good deal of trouble with cotton worms. Apples will be abundant if they mature well. J. A. W.

Hancock, N. Y.

AMATEUR STRAWBERRY TEST.—The season of 1895 was so dry here on the southern end of the Chesapeake peninsula, that strawberry plants made a very poor growth, and consequently, were in poor condition to produce fruit this year. I had 40 kinds in beariug—Haverland, Warfield and Bubach were fully up with the best of them in a general way. The best variety I have ever tested for home use, all things considered, is Brunette. It is strong and healthy, bears well, the berry is large and well shaped, and the quality is fully equal to that of Banquet, if not better. In fact, if I were limited to one strawberry for family use, it would be Brunette. Shuster has always done well with me. Through wet, dry and frosty seasons, it has stood out bravely in both plant and fruit. It is not extra large, neither is it firm enough to ship well; but it is a good home berry. Beebe is another superior berry for home use.—[It is so at the Rural Grounds.—EDS.] It has all the good points of a strawberry except that it is soft. Princess is one of the good ones.—[Not as good as Bubach or Sharpless with us.—EDS.] It has about everything to recommend it. Splendid does not dishonor its name. Woolverton is well worthy of a place in an amateur's garden. Jucunda Improved will delight the grower in every way except yield. It is about the most handsome in form and color of any strawberry I have ever seen. It comes very late, and if one wish a few very choice berries at the end of the season, plant it. We do not wish to do without it. Parker Earle is so productive and so late that it fills an important niche in our home economy. My own namesake, Van Deman, rusts badly, but it is early, bears well (too well for its own good), is large when not too heavily loaded, and of high quality. Lady Thompson has done remarkably well, not only in my own garden, but all about the neighborhood in fields for market. It has a very strong, healthy plant, stout fruit stalk, bears abundantly of large berries and is among the extra early varieties. H. E. VAN DEMAN.

Virginia.

A SMALL FRUIT REPORT.—The past season has been a favorable one for testing fruits. In strawberries, the Tennessee Prolific is a fine grower and very productive of rather large, handsome fruit of fair quality. Lady Thompson is smooth and handsome, but not productive enough on my soil (a sandy loam). My strawberries are all grown in matted rows. Cyclone is a good grower and productive, but does not equal Lovett in size. Aroma resembles Gandy, but is a week earlier, more productive, and not quite so large; a good berry. No Name, I believe, has been named Gandy Belle. It is productive, of good size and color. Were this as early as Crescent (our main market berry), it would be a strong rival to it. Marshall is the best large berry I have ever grown. I believe that it would do finely under hill culture. It is a magnificent grower, and bears a fair amount of large, firm fruit of good quality. Brandywine does not take kindly to my soil. Wm. Belt is a fine grower, but did not have a fair opportunity to show what it could do this year. I have fruited, this season, a host of other varieties. The Lovett has given us excellent results as a pollenizer.

Our crop of raspberries was a fine one. We made our first pickings for market on the following dates: Early King (red), June 8; Eureka (black), June 15; Palmer (black), June 15; Conrath (black), June 19; Lotta (black), June 21; Gregg (black), June 23; Loudon (red), June 21. We picked from 2½ acres of Eureka, set in November, 1894, 137½ bushels of berries, jet black in color, as large as Gregg, and better in quality. The bush is perfection in habit of growth and hardiness, and a marvel of productiveness. Palmer has been our main early variety for several years, but is so greatly inferior to Eureka that the bushes have all been dug up to make room for the latter. Conrath is a vigorous variety of fruit, nearly as large as Eureka, but has fruited only on one-year-old plants. In that case, it did not yield as much as Eureka. I believe that it will prove a valuable variety. It is a vigorous grower. Lotta is somewhat similar to Gregg, and I hope that it may be an improvement on that valuable old variety. The plants were quite small when set, and have not yet had a fair trial; but I believe that it will prove valuable. Loudon is productive of fine fruit, but comes in competition with Cuthbert. It may prove hardier than the latter. Were it earlier, it would be more valuable. The fruit that created the greatest sensation in field and in market, was the Eureka raspberry. Erie. Ohmer, Minnewaski and Edlorado blackberries are all doing well. Lovett is not a sueeess. W. F.

Waterville, O.

MICHIGAN BERRY PICKINGS.—Strawberries have fruited the earliest in this locality ever known. Ripe fruit was picked as early as May 15; my first picking for market was May 20, and the last, June 19. This made a shorter season by two weeks than in former years, owing, no doubt, to the extreme hot and wet weather we had early in June. The berries at that time, ripened so rapidly that, before we could get them picked, large quantities softened, and where exposed, the rains washed large portions of the berries away. Owing to the scarcity of straw this spring, many growers mulched very lightly, and some not at all, with the result that many berries were so sanded as to be unsalable. One grower near me had 91 crates at one picking, that were a dead loss to him. It was also noticeable that, where a liberal supply of mulch was used, the fruit was firmer and remained so longer than upon a light mulch.

FIRMNESS OF VARIETIES.—In such a a season as this, where it rained nearly every other day, with a hot sun between times, the firmness of a variety of fruit is equally as important as its productiveness. It has taught growers not to bank their all upon a few varieties that in a comparatively dry

Miscellaneous Advertising.

Even Blacksmiths, who are supposed to represent great strength and perfect health, are likely to die of consumption. Mere muscularity isn't always health. Disease will develop rapidly once let the germs of consumption get into a man's system, and it will kill him certainly and surely if he doesn't take the proper measures to get rid of it. Exercise and work and dieting and all that sort of thing are good enough in their way, but consumption is one of the things that they won't cure. The bacillus of consumption is a living organism. It is infinitesimal, but it is alive. The only way to get rid of it is to kill it. If it isn't killed, it will develop and multiply. Germs are wonderfully prolific. In the quickest imaginable time, one becomes a thousand, and a thousand a million. Dr. Pierce's Golden Medical Discovery is a germ hunter and a germ killer. Wherever a disease germ lurks in the body, the "Discovery" will find it—will render it harmless. It doesn't make any difference what you call your disease, or what kind of a germ it is. All germs circulate in the blood. The "Golden Medical Discovery" purifies the blood—purges it of germs—enriches it with life-giving properties. It not only kills disease, but it builds up health. It is a tonic, a nervine, or nerve-food, or invigorator and blood-purifier, all in one bottle.

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THE RURAL NEW-YORKER, New York.

season are a success, but are a dismal failure in a wet one like this. Several growers have mostly such varieties as the Bubach, Cumberland and Beder Wood, which greatly disappointed their expectations this year. With me, the Crescent is as firm a variety, as well as a profitable one, as any I ever have found, aside from the old Wilson, which, in these days of large berries, does not stand a ghost of a chance. If the Crescent is allowed to mat too closely, it will act simllarly.

PRODUCTIVENESS OF VARIETIES.—A variety which is very productive on one soil, may be very disappointing on another. A neighbor has the Jessie, which he claims is ahead of anything else he ever tried. Another grower has the Warfield No. 2, which he prefers, while another has the Lady Thompson. These I have tried and discarded, as they are utter failures with me. What we want is a variety that can be depended upon each year.

COST OF A QUART OF BERRIES.—There is such a wide difference in the cost, even in the same locality, that it is difficult to get a true estimate. Here, where we use but little commercial fertilizer, but depend upon stable manure and clover, the cost of producing may be less than in the Eastern States, where dependence is placed more upon the commercial manure. The cost to me, this year, of growing a quart was 4.95 cents, though another year, I expect to lower that, as the plot from which I made the estimate, fruited for the first this year. Another year, I will not have the expense of plants and setting them added to the account. One grower estimated that it cost him 40 cents per crate to harvest and market them, and as he marketed only 800 bushels from 15 acres, it did not leave him a very large profit, as he contracted them at $1.40 per bushel.

Kalamazoo County, Mich. B. A. W.

CONDENSED CORRESPONDENCE.

ALBANY COUNTY, WYOMING.—The crops that we raise in Wyoming—especially grass—are looking very fine. We have had abundance of rain. Cattle are looking well and commanding good prices.

H. A. W.

MIDDLESEX COUNTY, N. J.—Potatoes bid fair; the early varieties are fit to dig. We shall dig a part of the Hebrons next week. Later varieties are better, and will be a good crop, though not so good as last year. Blight, to some extent has struck the vines, and of course, they will soon cease growing. Corn bids fair to become an unusual crop in yield, and is secure beyond any question. Our experiment in a gradual change from the usual rotation to a dairy business is working admirably, and while milk is cheap, it appears to us likely to prove a profitable venture. We have so much faith in it that we shall increase our herd as fast as we can, and thus through our cows work up the products of the farm, and have less bulk on which to pay the railroad unreasonable freights. D. C. LEWIS.

ALFALFA, CRIMSON CLOVER AND WINTER OATS.—May 7, 1895, I sowed one-fourth acre of rather low clay loam land to Alfalfa. Two tile drains crossed the plot. No other seed was sown with it. A very heavy rain drove me from the field just as I was through harrowing it in. It came up nicely and made a growth of six or eight inches by the middle of the summer, when it began to turn brown; I then clipped it with the mower, and it quickly sprang up again. Owing to the shortage of pasture from dry weather, I pastured it very closely in the fall, contrary to all directions. Much to our surprise, this spring, it made an early and vigorous start. Every plant seemed to be alive, while the Medium clover, under more favorable conditions, was badly killed out. By June 1, this year, it was 18 inches high, and ready to cut. It did not give a large yield of hay, but better than Red clover this year. On June 30, it was more than a foot high again. I have sowed two more experimental plots on different parts of the farm this year.

Last August, I cultivated 10 spaces between corn rows, and sowed Crimson clover, sowing one-half before and the other after the cultivator, it being a very light one with fine spring teeth. It made a nice start last fall, wherever there was moisture enough to sprout it. This spring, on rebreaking the ground for corn, in May, we found enough just out in bloom to make my wife a bouquet. About September 25, I sowed 1½ bushel of winter oats on well-drained and well-prepared corn stubble. The ground continued so dry that they made very little growth in the fall, save a small patch where we top-dressed with fine manure. Not a single plant was alive this spring. But then, had wheat been on trial in our section, last winter, it certainly would have been pronounced a failure. H. P. MILLER.

Ohio.

SUPPLYING THE HOME MARKET.—Winter hung on so late that we had no time for spring here this year; summer jumped in where winter left off. No spring frosts, hence we have a big crop of most kinds of fruit. It was too dry in May for grass, so the hay crop is light, but oats are the best I ever saw, and potatoes are good. Potatoes, cabbage and strawberries are my money crops. People here will pay 10 cents a quart for water in strawberries and not growl. Anything new you can give about strawberries, is welcomed by me. When speaking of varieties, it would be a benefit to me if you would tell us which varieties are adapted to hill culture. I planted my strawberries this year where I can get water to them next year if necessary. We are all beginners in strawberry culture here, but expect soon to be able to supply the local market in season. On trial, I have Brandywine, Greenville, Timbrell, Lovett, Saunders and Gandy; have fruited Cumberland, Haverland and Bubach.

The following clipping is from a local paper and shows what we are doing: "Heretofore, Phillipsburg has been almost entirely dependent upon foreign producers for the large supplies necessary to meet the demands for fruit and vegetables, and we have always had well supplied markets. But within the past few years, local market gardeners have forged to the front and competed most successfully with eastern gardeners. Of course, the very early demand for fruits and vegetables ahead of the season must still be supplied from the East, but during the summer months, great quantities of local products are raised and marketed in superior condition to those brought from a distance. The local strawberry crop this year, as we learn from several of the growers, has been fine. Messrs. Miller, Hess, Shontz and Frank Waring have marketed a total of not less than 10,000 quarts. We have no reports from smaller growers, but we consider this a pretty fair showing for the top of the Alleghany Mountains." F. W.

Center County, Pa.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 12@1 15
Medium, 1895, choice	1 00@ —
Pea, 1895, choice	1 00@ —
Medium or pea, common to good	8 @ 95
White Kidney, 1895, choice	1 20@1 25
Red Kidney, 1895, choice	1 07@1 10
Red Kidney, common to good	90@1 00
Black Turtle soup, 1895	1 30@1 40
Yellow Eye 1895, choice	1 20@ —
Lima, Cal., 1895 (60 lbs)	1 65@1 70
Green peas, bbl., per bushel	72@ —
Bags, per bushel	67@ —
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @—
Western, firsts	13½@14
Western, seconds	12½@13
Western, thirds	11 @12
State, fancy	15 @—
Common to prime	11 @14
State dairy, half-firkin tubs, fancy	14 @14½
Firsts	13 @13½
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @—
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9 @10
Thirds	8 @ 9
Factory, fancy	10 @10½
Factory, firsts	9½@10
Factory, seconds	9 @—
Factory, thirds	8 @ 8½
Old butter	7 @10

CHEESE—NEW.

State full cream, large, colored, fancy	6¾@ 7
Colored, good to choice	6⅝@ 6¾
Fair to good	5½@ 6½
Fancy white	6⅞@ 7
White, choice	6⅝@ 6¾
Small, colored, fancy	7 @—
Small, white, fancy	6¾@ 7
Small, good to choice	6¼@ 6½
Small, common to fair	5½@ 6
Light skims, choice	5 @—
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1 @ 1½

EGGS.

Near-by, new laid, fancy, per doz	16 @ 17
State, fresh gathered, average receipts	13 @ 14
Penna., country marks, average best	13 @ 14
N. Ohio ind., Ill. and Mich., prime	12½@ 13
Other Western, prime	12½@ 13
Western, fair to good	11 @ 12
Western & South'n, poor to fair, per case	2 25 @3 00
Western culls, per case	1 00 @1 80

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	6 @ 6¼
Choice, 1895, per lb	5¼@ 5½
Prime, 1895, per lb	4¾@ 5
Common to good, per lb	3 @ 4½
N. C., sundried, 1895, sliced, fancy	3½@—
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	2½@ 3½
Western, sundried, quarters, bbls	2½@ 3½
South-West'n, sundried, quarters, bbls	2¼@ 3⅛
Southern, sundried, quarters, bbls	2 @ 2⅜
Southern, sundried, coarse cut bags	2 @ 2⅜
Chopped, 1895, per lb	2 @—
Cores and skins, 1894, per lb	2 @ 3
Peaches, Sundried, 1895, peeled, per lb	3 @ 6
Cherries, 1895, per lb	9 @10
Cherries, 1896, per lb	10 @10½
Blackberries, 1895, per lb	5½@ 6
Raspberries, evaporated, 1895, per lb	15 @—
1896, per lb	14 @—
Huckleberries, 1895, per lb	7 @ 7½
1896, per lb	8 @—
Plums, Southern Damson, 1895, per lb	4 @—

FRUITS—GREEN

Apples, Md. and Del., per crate	40@ 60
Oldenburg, per bbl	1 50@1 75
Nearby, Nyack Pippin, per bbl	1 25@1 50
Nearby, other k'ds, h'd-pick'd, per bbl	1 00@1 50
Nearby, windfall, per bbl	50@1 00
Blackberries, fine and large, per quart	6@ 8
Soft and poor, per quart	3@ 5
Currants, per quart	2@ 4
Per lb	2@ 4
Grapes, Southern Niagara, per carrier	50@1 25
Southern Moore's, per carrier	75@1 00
Southern Delaware, per carrier	1 00@1 50
Southern, common, per carrier	50@ 75
Huckleberries, Md and Del., per quart	4@ 5
Jersey, per quart	5@ 6
Mountain, Penn. and State, per quart	6@ 7
Muskmelons, Va, Jenny Lind, per bbl	50@1 00
Virginia, other kinds, per bbl	50@ 75
Baltimore, per basket	40@ 75
Md. and Del., per carrier	50@1 25
South Jersey, per bushel-crate	25@ 50
Anne Arundel per bbl	1 50@2 00
Peaches, Md. and Del., per basket	25@ 75
Md. and Del., per crate	40@ 80
Plums, Md. and Del., Damson, per quart	5@ 6
Md. and Del. Wild Goose, per quart	4@ 6
Fla., Japanese, per carrier	1 00@2 00
Pears, LeConte, Southern, per bbl	1 50@3 00
Keiffer, Southern, per bbl	2 25@2 75
Bartlett, per bbl	2 00@3 50
Clapp's Favorite, per bbl	2 75@3 00
Clapp's Favorite, per keg	1 50@ —
Nearby, Catherine, per bbl	2 25@2 75
Nearby, Bell, per bbl	2 00@2 50
Nearby Scooter, per bbl	2 00@2 25
Nearby cooking, per bbl	1 50@1 75

Our Readers who are in want of a Thresher, Horse-power, Engine, Dog power, Ensilage-cutter, Saw machine, Feed mill, Fanning-mill or Land-roller, will, we believe, be **sure to get the best,** and at the **lowest price** consistent with quality and value of goods, if they deal with the old and reliable manufacturer, **KINARD HARDER,** Cobleskill, New York; who sends free his beautifully illustrated and plainly and clearly descriptive catalogues to all applicants mentioning this paper.

Watermelons, choice, large, per 100	16 00@20 00
Small to medium, per 100	8 00@15 00
Per car-load	100 00@200 00

GRAIN.

Wheat	61 @78
Rye	53½@39
Barley	27 @32
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	31 @36
Oats	20½@30

HAY AND STRAW.

Hay, No. 1 Timothy, per 100 lbs	87½@92½
No. 2	80@ 85
No. 3	60@ 70
Clover, mixed	60@ 75
Clover	50@ 60
Salt	45@ 50
Straw, No. 1, long rye, old	95@1 00
No. 2	80@ 90
New	75@ 90
Short rye	65@ 70
Tangled rye	50@ 60
Oat	35@ 45
Wheat	35@ 40

HONEY.

State, white clover, comb, per lb	—@—
Buckwheat, comb, per lb	7 @ 8
White clover, extracted, per lb	5 @ 6
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	10 @12½
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @55

HOPS.

N. Y. State, crop of 1895, choice	7 @ 7½
Medium to prime	5 @ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	8½@ 9
Fair to good, per lb	7 @ 8
Com. to med., per lb	6 @ 6½
Small, per lb	4 @ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	4½@ 5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4 @ 4½
H. p., extra, per lb	3 @ 3½
Shelled, No. 1, per lb	4½@ —
No. 2, per lb	— @ —
Spanish, shelled, No. 1, per lb	6 @ 6½
No. 2, per lb	— @ —
Pecans, ungraded, per lb	4 @ 4½

POTATOES.

Southern Rose, fair to prime, per bbl	75@1 00
Seconds, per bbl	60@ 75
Culls, per bbl	30@ 40
Long Island, in bulk, per bbl	1 00@1 25
Sweets, yellow, per bbl	2 00@2 50
Sweets, red, per bbl	1 00@1 50

POULTRY—LIVE.

Spring chickens, per lb	9½@ 13
Fowls, local, per lb	10½@ 11
Western, per lb	10½@ 11
Southwestern, per lb	10½@ 11
Southern, per lb	10½@ 11
Chickens, yearlings, per lb	10½@ 11
Roosters, old, per lb	6½@ 7
Turkeys, mixed, per lb	8 @ 9
Ducks, local, per pair	75 @ 85
Western, per pair	60 @ 80
Southern, per pair	40 @ 50
Geese, local, per pair	1 00 @1 37
Western, per pair	1 00 @1 25
Southern, per pair	90 @1 00
Pigeons, old, per pair	20 @ 25
Young, per pair	15 @ —

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ 10½
Average toms, per lb	9 @ 10
Chickens, Phil., selected, per lb	17 @ 18
Phila., ordinary, per lb	14 @ 17
L. I., scalded, per lb	14 @ 16
Pennsylvania, per lb	14 @ 17
Western, dry-picked, per lb	13 @ 14
Western, scalded, per lb	12 @ 12½
Western, small, per lb	11 @ 11½
Fowls, Western, dry-picked, choice	12 @ 12½
Dry-picked, fair to good, per lb	11½@ 12
Scalded choice, per bbl	12 @—
Old cocks, per lb	6½@ 7
Spring ducks, Eastern, per lb	13 @ 14
Spring ducks, L. I., per lb	13 @ 14
Spring ducks, Western, per lb	7 @ 10
Old ducks, Western, per lb	6 @ 8
Spring geese, Eastern, per lb	17 @—
Squabs, tame, white, per doz	2 00 @—
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @—

VEGETABLES.

Beets, per 100 bunches	75@1 00
Cabbage, L. I., per 100	2 00@2 50
Carrots, per 100 bunches	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 50@2 50
Celery, fancy, large, per doz	50@ 60
Average, prime, per doz	25@ 40
Small, per doz	10@ 20
Cucumbers, Baltimore, per basket	50@—
Jersey, per basket	50@ 60
Long Island, per 100	50@ 75
Egg plant, Jersey, per crate	1 00@—
Jersey, per bbl	1 50@1 75
Green corn, Hackensack, per 100	1 00@—
Other Jersey, per 100	50@ 75
Green peas, Western N. Y., per bag	50@ 65
Long Island, per bag	50@—
Lettuce, per bbl	40@ 50
Onions, Southern potato, per basket	50@ 75
Southern, potato, per bbl	1 25@1 50
Orange County, red, per bbl	1 25@1 50
Connecticut, red, per bbl	1 50@1 75
Connecticut, white, per bbl	2 00@—
State, Multipliers, per bbl	1 25@1 37
Long Island yellow, per bbl	1 50@—
Long Island, Red, per bbl	1 25@1 50
Peppers, S. Jersey, per crate	30@ 35
Spinach, per bbl	—@—
Squash, L. I., yellow, per bbl	40@ 60
Long Island, white, per bbl	40@ 50
String beans, Jersey, per basket	—@—
Long Island, per bag	25@ 40
Tomatoes, Monm'th Co., J'y, fancy, per crate	1 50@1 75
Monmouth Co., Jersey Grant, per crate	75@1 00
South Jersey, per crate	60@ 75
Baltimore, Acme, per basket	50@ 60
Philadelphia, common, per basket	40@ 50
Turnips, new, white, per 100 bunches	1 00@2 00
Russia, per bbl	65@ 75

WOOL.

XX and above, Ohio	18 @19
X, Ohio	15 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

MILK AND CREAM.

The total daily supply has been 21,977 cans of milk, 187 cans of condensed milk and 656 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

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Are universally used with wonderful results. They are great wheat producers. Before ordering your fertilizers for fall use, inquire for the Quinnipiac. If not sold in your town, write us direct.

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NOTES FROM "LUAVA."

THE month of July has been very wet thus far. Our garden is low, and while the drainage is fair, a part of the ground has been like a sponge most of the past three weeks. Under such circumstances, is it safe to recommend perfectly level culture? On part of the sweet corn and Lima beans, a workman made the mistake (?) of hoeing up a steep ridge along the rows. It is like the deep "plowing" which we find in some old-fashioned corn fields. In this wet season, however, the hilled-up corn and beans are the best we have. We have observed a number of wet fields of corn and potatoes, and in almost all such cases, the hilled crops are better than those that have level culture, because the hilling seems to enable the soil about the plants to dry out more rapidly. In a dry season, or in one of average moisture, surface culture would give the better results for just the opposite reason that the hilling helps this year. On land with perfect drainage so that the surplus water would be rapidly taken off, we would want nearly or quite level culture; but this year's experience goes to show that, on naturally wet soil, ridge culture is best.

‡ ‡ ‡

LAST spring, we sowed three acres of oats on an old sod that was badly run out and had, evidently, not been manured for years. The sod was plowed and worked over with the spring-tooth. We then broadcasted on the three acres, a mixture of 600 pounds dissolved rock, 600 pounds nitrate of soda, and 350 pounds muriate of potash. These chemicals were put in layers of one bag each, and mixed with hoe, rake and shovel. The field was then paced off and divided into as many strips as there were bags of the chemicals. In broadcasting, one bag at a time was placed on the stone boat and driven down each strip, the driver scattering the fertilizer right and left with a shovel. This gave a very fair distribution when the fertilizer was harrowed in, though, of course, not equal to the work of a grain drill. The oats have made a fine growth—an average of nearly five feet high and are well headed out.

This same mixture has been used on six acres of Hungarian grass with equally good results. On sweet corn, we have used 100 pounds less nitrate of soda and 50 pounds more muriate. This was simply a rough-and-ready mixture of materials that happened to be on hand. A less expensive mixture, and one that would give more lasting results, would contain about half as much nitrate of soda and 600 pounds of cotton-seed meal. The large amount of nitrate has forced the oats and Hungarian in this wet season, but the seeding to follow will need nitrogen every year if it is to be kept up.

‡ ‡ ‡

WE have six bushels of cow peas for planting in the corn. It is, probably, too late to mature the vines, but we hope to obtain growth enough to pay for plowing under. Our corn fields are too late for Crimson clover. We planted late varieties of sweet corn in the early part of June, making successive plantings in order to delay the crop until September. We think that Late Mammoth and Evergreen will bring more money then than will the earlier varieties. For field culture, we have the Early Black cow peas. They will be sowed between the rows of corn at the last working, and also dropped in the hills and covered with the foot. The latter plan is merely an experiment. It has been tried with some success near Philadelphia. On July 24, we planted, in the garden, a small quantity of an improved variety of cow pea sent by J. O. Loftin, of Mount Olive, N. C. This seed was from this year's first crop, and Mr. Loftin says that he has always succeeded in maturing two crops of seed when the second crop was sowed as early as July 15. Our seed broke through the ground three days after planting. Any cow pea that can be planted as late as that with us and give a fair growth of vines before frost, will be of great value in our farming.

Twelve years ago, THE R. N.-Y. planted 11 different varieties of cow peas on the Long Island farm. They were planted in drills six feet apart and six inches in the drill. The soil was poor with no manure for eight years previous. The peas were planted May 18. A variety called Whippoorwill, or Java, ripened seed September 5 with vines two feet high and six feet long. Conck did not ripen seed, but grew 12 feet long. The Goat pea was ripe September 1, but made a small growth. Poor Land pea ripened from August 15 to September 25 with vines four feet long. Little Black ripened September 10, and made an immense growth, while Tory, Red Ripper and Early Favorite were much the same. These early experiments proved that cow peas will ripen seed as far north as Long Island. We now wish to see what use can be made of the plant in our northern system of farming. We have a six-acre corn field that we wish to keep in corn for a number of years. It is planted so late that Crimson clover could not be started in time to make growth enough to stand the winter. If we can start cow peas in the hills, so that cultivation will not interfere with the early growth of the vines, we can make sure of a fair crop for turning under, or adopt the Southern plan of turning in the hogs to eat down the vines. H.

Miscellaneous Advertising.

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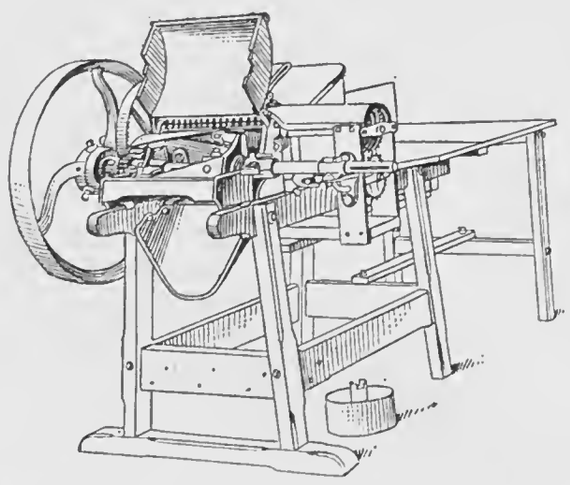

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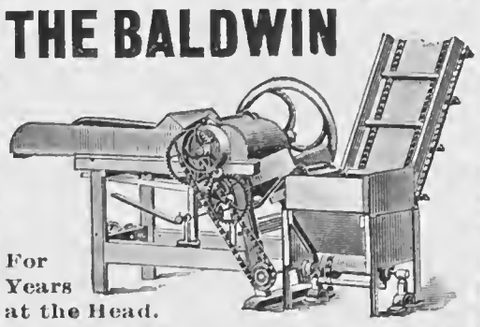

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and costs nothing—Grind your Grain, Shell your Corn, Cut or Shred your Fodder, Churn your Butter, Saw your wood with nature's own free power. You can do it **BEST** with our Power Mills. Points of excellence are too many to explain here. Tell you all about it in our catalogue, **FREE.** We make Steel Tanks and other styles of Wind Mills. Write us.

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RED CEDAR SILOS

will last a lifetime. Labor, Bands and setting up cost no more in Cedar than in poorest material.

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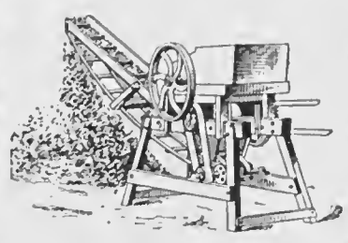

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28 sizes and styles. Every mill warranted.

For All Kinds of Grinding.

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All kinds mill machinery. Flour mills built, roller or buhr system.

Reduced Prices for '96.

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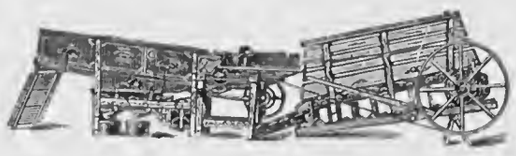

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Feed Cutter, Fodder Shredder and Feed Grinder

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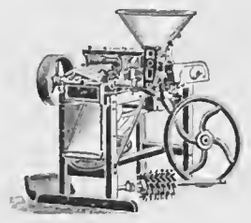

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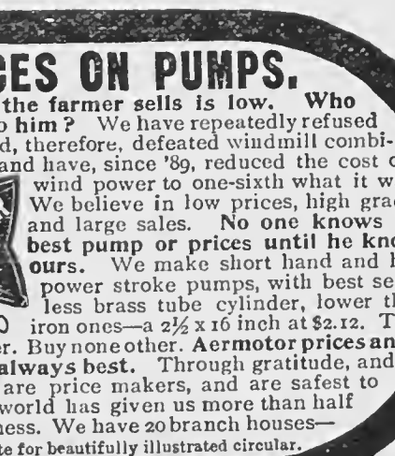
A RECORD

like that of our reliable **COODHUE WIND MILLS** is something to be proud of. We give below a cut of Campton Township, Kane Co., Illinois, where there are $9,000.00 worth of our **POWER MILLS** in daily use. The large dots represent the Power mills the small dots mean **GOODHUE PUMPING MILLS** At first one man bought, and then his neighbors seeing the good qualities of the **GOODHUE** did likewise. The merits of the machine increased the sales so extensively. We make also 2 to 8-horse Sweep Powers. 2 and 3 horse Tread Powers, and the famous **SUCCESS** 1 horse Tread Power, used so largely for cream separators, pumping, etc. A full line of Grinding Mills, Ensilage and Fodder Cutters, Corn Shellers, Wood Saws, &c. If you write us today, will send our new 150-page catalogue **FREE.**



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Everything the farmer sells is low. Who sells low to him? We have repeatedly refused to join, and, therefore, defeated windmill combinations, and have, since '89, reduced the cost of wind power to one-sixth what it was. We believe in low prices, high grades and large sales. **No one knows the best pump or prices until he knows ours.** We make short hand and long power stroke pumps, with best seamless brass tube cylinder, lower than iron ones—a 2½ x 16 inch at $2.12. Tell your dealer. Buy none other. **Aermotor prices and goods are always best.** Through gratitude, and because we are price makers, and are safest to deal with, the world has given us more than half its windmill business. We have 20 branch houses—one near you. Write for beautifully illustrated circular.

Live Stock Matters

THE ARMY HORSE.

WHAT HE IS; HIS CARE.

Although the army horse is intended for a somewhat different purpose from the horse of the farmer and city man, the treatment and care it receives is a model one, evolved from experience extending over 100 years, and can, I am certain, with slight alterations, suiting place and purpose, be adopted by any horse owner. Each troop of cavalry or battery of light artillery, has its own stable, which contains from 50 to 60 horses. An experienced and trusty soldier is appointed "stable sergeant," and is responsible for the proper condition of stable, food and horses. The utmost cleanliness is observed in the stable and its surroundings, and no ill smell permitted to vitiate the atmosphere. Where the stable is a frame building, it is kept well limewashed, and the woodwork in reach of the horses is painted with coal tar to prevent its being gnawed. The feed boxes are commonly of iron and are washed from time to time with salt and vinegar and kept sweet and clean. Every morning, the stable is thoroughly policed, the bedding turned, saturated parts of it and the droppings removed, and the dry parts stowed under the manger for the rest of the day. If the horses are to be kept overnight inside the stable, it is bedded down just before evening feeding time, and enough straw or hay added to make the horse comfortable.

Each animal, of course, has its own permanent stall over which is placed the name of the horse, corresponding with the name in the "Descriptive Book of Horses," which contains a description and short history of each horse. The stable doors are always left open in the daytime, and further to facilitate ventilation, well above the horses' heads, so that the draught will pass over them and the light not injure their eyes, are side openings, which are never closed except in inclement weather, on the windward side. Stable lofts are avoided, so that the foul air can freely pass through the top ventilators. The minimum allowance of air space for each horse is 1,200 cubic feet; the minimum width of a stall is five feet, of a double stall, nine feet, the depth four feet and six inches. A number of box-stalls are provided for sick horses.

Connected with each stable and containing the water trough, is a corral or paddock about three-fourths acre in extent, in which the horses are turned whenever idle, and when the weather permits, winter or summer. During the hot season, horses enter the stable only to be fed. They are never covered or blanketed while in the stable only during exceptionally cold nights.

The grain allowance for each horse is 12 pounds of oats or its nutritive equivalent in corn or bran, supplemented by 14 pounds of hay and, in summer, by grazing on the prairie. Hay is fed thrice daily; at the evening meal, each animal receives, at least, one-half its daily allowance. During the short winter days, the feeding at noon may be omitted without injury to the animal. Salt is constantly kept before the horses. In summer, they are watered thrice, in winter twice, and on cold days, only once, but this must be done at noon, as the horse will not drink enough in the morning. As far as practicable, the water should be, in winter, 15 degrees above, and in summer, 15 degrees below, the air temperature.

The army horses are never permitted to stand idle for any length of time, and are, if not put to work, excrcised even in bad weather. If subjected to severe exertions or long marches, and brought back hot and wet with perspiration, they are rubbed dry with a wisp of hay, and against the hair, and the legs are hand-rubbed, as this removes enlargements and prevents stiffness. Occasionally, the sheath receives a thorough washing, cleaning and greasing. The horses are groomed in field or garrison, at least, once a day, and under ordinary conditions, twice, mornings and evenings. The implements used for grooming are a stiff bristle brush, curry comb and a hook for cleaning the sole of the hoof. The shoeing is done according to the individuality of horse and hoof; some horses are kept shod all around, others on the front feet only, and occasionally, all the shoes are taken off. Each stable is provided with a few necessary medicines and veterinary instruments.

The standard of the army horse is best described in the "Blue Book" (army regulations):

"The cavalry horse must be sound and well bred, gentle under the saddle, free from vicious habits; with free and prompt action at the walk, trot and gallop; without blemish or defect; of kind disposition; with easy mouth and gait, and to conform with the following description: A gelding of uniform and hardy color; in good condition, from 15¼ to 16 hands high; weight not less than 950 or more than 1,150 pounds, from four to eight years old; head and ears small; forehead broad; eyes large and prominent; vision perfect in every respect; shoulders long and sloping well back; chest full, broad and deep; fore legs straight and well under; barrel large and increasing from girth toward flank; withers elevated; back short and straight; loins and haunches broad and muscular; hooks well bent under the horse; pasterns slanting, and fect small and sound."

The artillery horse wanted is a similar one, except that it can be a little heavier, and the shoulders should be a little broader to receive the collar. Although the horse described is certainly nothing better than an average horse should be, and although the price paid for it is a fair one, from $100 to $200, it is with the greatest difficulty only, that a sufficient supply can be secured, and very few of those received conform in every respect to the standard. The difficulty of securing good horses is, indeed, so great, that army officers have proposed that the Government should breed its own horses. There is certainly a golden opportunity for a horse breeder to supply this steady and perpetual demand, which neither bicycle, electricity nor cable will ever lessen.

To illustrate: The yearly demand for this military post—Fort Riley, Kansas—is somewhat over 100 public horses, not counting the demand for private horses of finer stock, which is also quite considerable. Yet not one-tenth of them is purchased in this vicinity. Not that there are no horses, there are only too many good-for-nothing scrubs which eat up their value five times before they can be sold; not that the country or climate is unfavorable to horse breeding, 'tis almost an ideal one for this purpose. The only thing wanting is quality, and whoever cares to breed horses good enough, and adapted to army purposes, will find a willing customer in Uncle Sam.

WILLIAM BULZING.

Sergeant Light Battery "A," Second Artillery, U. S. A.

SOMETHING ABOUT WOODCHUCKS.

They Are Here to Stay.

Woodchucks have, indeed, been a terrible nuisance with me, and they still "hold the fort." My land suits them exactly, and the result is, it seems to me, that I have always had more than my share. I have tried trapping with steel traps, but with indifferent success. With thin, large bodies and short legs, it is difficult to hold them.

I read in THE R. N-Y. a few years ago, of a contributor who fired a heavy pistol in a large number of holes, then covered the hole up quickly to keep in the fumes, and he said that none were ever dug out. I tried that with a few holes, but they were opened; but whether by the occupants or outsiders I could not say. I fed one bold fellow apples doctored with "Rough on Rats." He disappeared for two or three days, and then appeared on duty. I have never tried bisulphide of carbon, neither have I tried gasoline, which is said to be very effective by letting a tin cup of it evaporate in a closed hole.

My neighbor has a shepherd dog that creeps on them, and he is good for but little else; but he has made woodchucks very scarce on his farm. A person who has a rifle and the time to use it, can make almost a clean sweep of them. But few farmers have the time to do that. Gasoline is cheap, suppose we give it a thorough trial and report results.

It looks to me as though woodchucks are here to stay, like the ordinary house rat. They can be thinned out, but soon come back, so it's a continual aggressive fight to keep them down. I am glad that you have taken up the subject, for, quite likely, some one will tell just how to exterminate them. M. H. C GARDNER.

Orange County, N. Y.

Exhaust Both Air and "Chuck."

Woodchucks are surely very annoying. Six years ago, our place was infested with them. We tried various plans with indifferent success. Beans and peas, especially, suffered from their depredations. Finally, we placed leaves, straw, shavings—rubbish of any kind—in their holes, added about a pint of kerosene to the rubbish in each hole, set fire to it and, as soon as burned out, filled and pressed the hole full of earth. Not a hole was ever opened, and there was no more trouble for nearly six years, or until last spring, when the chucks again showed up. But before they had done much damage, our house-dog, a well-trained Bull Terrier, took a hand, and has very quietly and thoroughly interfered with their proceedings. With the use of kerosene, my theory is that the air in the hole is exhausted, and by quickly filling the hole, the animal fails to survive.

B. T. W.

Rochester, Mass.

JAYNE'S EXPECTORANT is both a palliative and curative in all Lung Complaints, Bronchitis, etc. It is a standard remedy for Coughs and Colds, and needs only a trial to prove its worth. The best family Pill, Jayne's Painless Sanative —*Adv.*

THE
MOST SUCCESSFUL REMEDY
FOR MAN OR BEAST.
Certain in its effects and never blisters.
Read proofs below:

KENDALL'S SPAVIN CURE

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DR. B. J. KENDALL CO.
Sirs:—I have used your Kendall's Spavin Cure with good success for **curbs** on two horses and it is the best Liniment I have ever used.
Yours truly, AUGUST FREDRICK.

For Sale by all Druggists, or address
Dr. B. J. KENDALL COMPANY,
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HORSEMEN RECOMMEND TUTTLE'S ELIXIR

Used and Endorsed by Adams Ex. Co.

As a sure, safe and speedy cure for *Colic, Curb, Splints, Contracted and Knotted Cords, Callous of all kinds, Shoe Boils, when first started,* etc. For Ringbone, Spavins, Cockle Joints, etc., nothing else will give surer or quicker relief. It will locate lameness when applied by remaining moist on part affected. The rest dries out. A few more applications will cure.

READ WHAT OTHERS SAY:
DEAR SIR: I have doctored horses for the last 25 years, and I think your Elixir the best liniment I have ever used, and I would recommend it to any one. C. M. GUYER, Wolcott, Vt.
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Tuttle's Family Elixir cures Rheumatism, Sprains, Bruises, Pains, etc. Sample of either Elixir sent free for three 2-cent stamps to pay postage. 50 cents buys either Elixir of any druggist, or it will be sent direct on receipt of price.
DR. S. A. TUTTLE, Sole Proprietor,
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Protect Your Stock From Flies.
Myself and patrons have been so delighted with the effect of "Shoo-Fly," manufactured in Philadelphia, Pa., that I made duplicate orders in May, aggregating 250 quarts. J. W. BUSHER.
Kansas City, Mo.
I have used **Shoo-Fly** two years on my cows. It pays. Send me Twenty-five (25) gallons.
Fallsington, Bucks Co., Pa. H. W. COMFORT.
SPECIAL Send 20c.; will return 1 pint **Shoo-Fly.** Name Express Office. $1.50 per gal. One gal. lasts 3 animals a season. Freight pd. on 10 gals.
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FOR SALE.
One Registered Jersey Cow, four years old.
One Registered Jersey Bull Calf, four months old.
These are both full bloods; will sell at a bargain to lower stock. Box 61, Groton, Tompkins Co., N. Y.

FOR SALE A Thoroughbred Guernsey Bull Calf, 3 months old. All right in color, ancestry and show-ring points. Unsurpassed in any respect. M. SAGER, Orangeville, Pa.

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Willswood Herd
Recorded Berkshire Swine.
Registered Guernsey Cattle.
3 CHOICE Bull Calves. 1 Heifer Calf. Examine at Willswood Farm, Budd's Lake, N. J., or the Fairs. Address WILLS A. SEWARD, 207 Broadway, N. Y.

CLOSING OUT FOR GOOD—All prime registered BERKSHIRES. The famous Boars: Letterbiair 28063; Stelton, 32702. Four Sows in pigs and about 20 young Pigs of last May and June. Very cheap.
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LARGE ENGLISH BERKSHIRES
OF THE BEST FAMILIES. Send for Catalogue.
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WE are selling, at reasonable prices,
POLAND-CHINA PIGS
all ages. Write us what you want; we can please
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W. & B. P. Rocks and W. Wyandottes
Good March to May-hatched Pullets or Cockerels, $1
One-year Breeding Hens, $1; six for $5.
One-year Cocks, $2. Eggs, 75c. per sitting.
Stock and Eggs guaranteed pure.
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Will make wool grow
Kills and Prevents Ticks, Lice and Scab
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100 gal. pkt. $2, 25 gal. pkt. 50c.
If druggist cannot supply, send $1.75 for $2 pkt. to CYRIL FRANCKLYN, Cotton Exchange, N. Y. City

Galled Horses
Breasts, Backs, Mouths, etc., stained, healed, toughened and CURED WHILE AT WORK. It's the best. You will swear to this fact if you will try CALL POWDER. 50 cents by mail.
MOORE BROS. ALBANY N. Y.

DIRECT-UM BIT.

Best Combination Bit made.
Severe or Easy.
as you want it.
Sample mailed, XC $1.00.
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RACINE MALLEABLE IRON CO., Racine, Wis.

BUCKLEY'S IMPROVED BASIN.

We make Watering Basins for Horses and Cattle, with styles adapted to every kind of fastening, at prices from 75 cents to $1.50.
WRITE FOR CATALOGUE.
C. E. BUCKLEY & CO., Dover Plains, N. Y.

Humorous.

Mary had a little calf,
Whieh grieved poor Mary so,
Beeause she knew that on the bike
The ealf was surc to show.

So one day from her preeious lamb
She took its fleeee like snow.
And now wherever Mary bikes
The fleeee is sure to go.—*Life.*

AN Indian definition of a bieyele rider is a "Heap lazy man who sits down when he walks."—*Atchison Globe.*

"FED the eattle yit, Mary?" asked the farmer. "Most on 'em," replied Mary. "Your breakfast 'll be ready in about five minutes."—*Harper's Bazar.*

"Do you think that it is ladylike for a woman to ride a bicyele?" she inquired. "Yes," he replied; "unless she insists on riding like a gentleman."—*Washington Star.*

"ANNUAL bargain sale now going on. Don't go any plaee else to be eheated," is the rather dubious manner in whieh a New York furniture dealer worded his announcement.—*Mid Continent.*

A MAN who stuttered badly went to eonsult a speeialist about his affliction The expert asked, "Do you stutter all the time?" "N-n-n-no," replied the sufferer. "I s-s-stut-t-t-t-ter only when I t-t-t-talk."—*Harper's Bazar.*

OLD LONGNECKER (severely): "Young man. do you love your neighbor as yourself?" Young Tutgall (enthusiastieally): "You bet! And, say, you just ought to see her—eurly hair, dimples in her eheeks and not a day over 19!"—*World*

TIMKINS: "Supposing you were on an isle, Miss Timbers. all alone, what would you do?" Miss Timbers: "Well, if it were a ehurch aisle and the bridegroom waited at the other end, I should endeavor to press steadily forward."—*Cleveland Plain Dealer.*

SOCIETY EDITOR: "Mr. Willis tells me that his family will spend the summer in the mountains, and his wife says they will go to the seashore. Would I better defer mentioning the matter until I get more definite information?" Managing Editor: "I don't see what more definite information you want. She told you they were going to the seashore, didn't she?"—*Cincinnati Enquirer.*

A DRAPER'S assistant in Oxford Street was showing a lady some parasols last week. This particular salesman has a good eommand of language and knows how to expatiate on the good qualities and show the best points of goods. As he pieked up a parasol from the lot on the eounter and opened it he struek an attitude of admiration, and, holding it up to the light, said: "Now, there! Isn't it lovely? Look at that silk! Particularly observe the quality and the finish. No foolishness about that parasol, is there?" he said, as he handed it over to the lady. "Isn't it a beauty?" "Yes," said the lady, "that's my old one—I laid it down there."—*The Queen.*

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MIXED PAINTS
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WANTED competent Club Agents (Women. Men, Girls or Boys) in every town in the U. S. to get orders for our celebrated goods. LIBERAL TERMS; GOOD INCOMES. BIG PRESENTS with every sale. Good Teas and Coffees, 25c. per pound. Send this ad. and 16c. in stamps, and we will mail you a ¼-pound Best imported Tea, any kind, and full particulars. THE GREAT AMERICAN TEA CO., 31 & 33 Vesey Street. New York. P. O. Box 289. RURAL.

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It is no longer the question, "Which breed is best for growing Early Lambs?" but "Where can I best get Dorsets and good ones?" Let us answer you that question. Write to which of us is nearest you.
J. L. HENDERSON & SON, Washington, Pa.
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Are the World's Best by Every Test.
Thirty-five years' experience has proven them to be unequaled for growing the largest crops of wheat at the least expense. Send for evidence to Bradley Fertilizer Co., Boston, Mass., or Rochester, N. Y. Local Agents Wanted in unoccupied territory.

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Office: Cor. William St. and Exchange Place, New York City.
Manufacturers of High-Grade Bone Fertilizers. Agents wanted in unoeeupied territory. By the use of these goods a full erop is insured. Correspondence solicited.
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Fruit and Ornamental Trees, Shrubs, Roses, Bulbs,
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42 Years, 1000 Acres, 29 Greenhouses.
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15 Years on the Market. Improved for 1896.
Spreads any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. *Largest and Oldest Manufacturers of Manure Spreaders in the World.*
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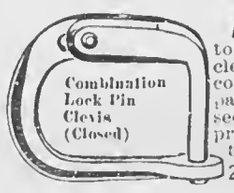

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38 Styles & Sizes for Horse and Steam Power

Send for 64 page illustrated catalogue.
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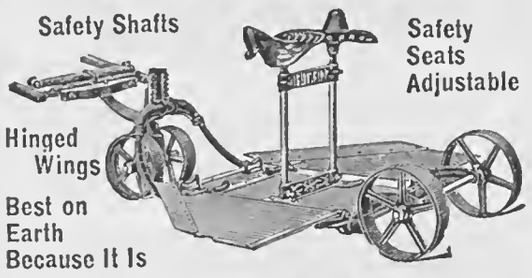
Corn Fodder is the Farmers Gold Mine
this year. Cut it quick and cheaply with
The Scientific Corn Harvester



EASIEST to HANDLE, SAFEST to OPERATE, HANDIEST to STORE AWAY.
Will save many times cost in one season. We have several styles, prices just right. Send for cata.
THE FOOS MFG. CO., Springfield, O.

THOMPSON'S BANNER ROOT CUTTER (Hand & Power.)

Cuts all kinds of roots & vegetables for STOCK FEEDING. The only machine made with self feeder. Warranted to do Perfect work. Feed left in shape to prevent all danger of choking. Used everywhere. Catalog FREE. Address
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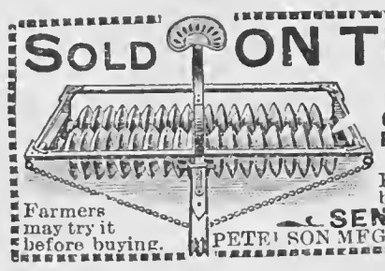

Imperial Pulverizer Clod Crusher, Roller and Leveler
Plainly described in circular SENT FREE.
Farmers may try it before buying.
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Use, and Make Money Selling this Article.

Used on every shock. Pull and it's fast. **Ties itself.** Costs less than string. Never wears out. Thousands easily sold in a town. Good profits. Get your Town Agency now. Complete outfit for 5c., stamps.

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"Your 'Holdfasts' are ahead of anything I have ever seen in practical use. We used the corn binders last fall. All who saw them were loud in their praise. Out of 500 shocks not one became loose, and not a single shock topped over."
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"I used 1,000 of your 'Holdfast' Corn Binders last season. They gave the best of satisfaction, saving labor and holding shocks securely." FRED. M. WELLS, Quarryville, N. Y.

"The 1,000 Holdfast fodder ties that I used this fall gave entire satisfaction. I can recommend them as a great help in harvesting the corn crop. It seems to me in the near future every farmer must have them. The shocks stood up well, went to the barn, were husked without one getting untied; they are a great success, practical and labor saving."
W. S. MOORE, Mt. Upton, New York.

WRITE NOW.
TIE CO., Box 72 Unadilla, N.Y.

Fall Crops
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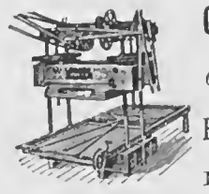

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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THE FATE OF THE CALF.

SHALL IT BE DAIRY OR SLAUGHTERHOUSE?

What To Raise! What Not To Raise!

I asked a prominent farmer recently, what per cent of heifer calves are raised to maturity in New York and the New England States. He replied, "Not one in seven." I also asked him what per cent of heifer calves, the issue of well-bred, profitable cows, were raised, and he said, "Probably not one in three." Inquiries from other well-informed dairymen, while varying above and below these figures, practically conceded the statements to be true. What, then, becomes of the great majority of unfortunates? Many are fed a few weeks to ripen them properly for a veal pie; others are knocked in the head within a few days after their advent, simply to get their skins, while many more are hustled off at once to the compost heap, or thrown to the hogs. Sentiment does not often enter the case at all, and I am inclined to believe that good business judgment is also lacking in a good many instances. I will concede at once that many milk producers on small farms near large cities cannot afford to raise their calves, but find it more economical to buy cows in milk when needed.

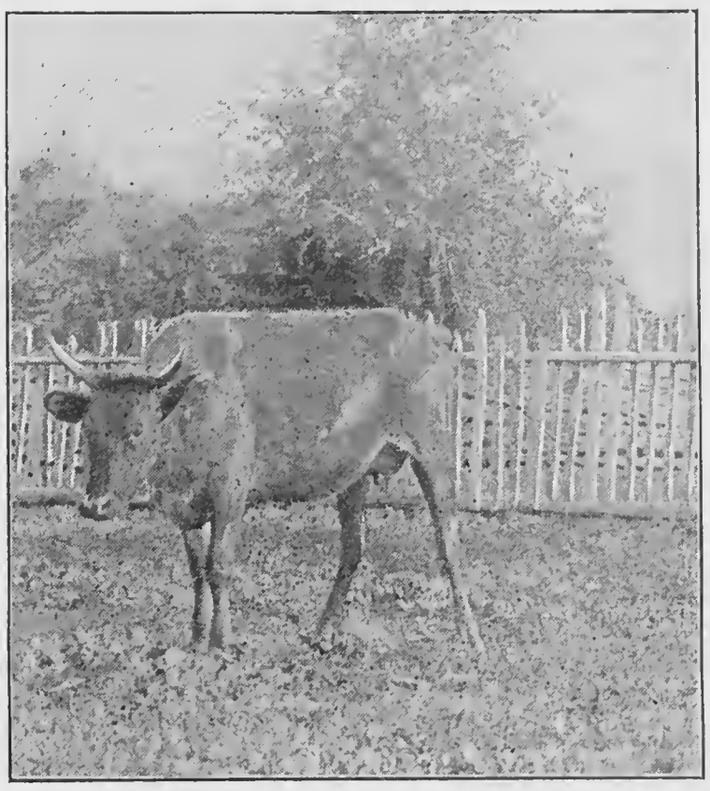
The great rank and file of Eastern dairymen should raise more heifers than they do, for no other reason than self interest. "The first lesson" in a calf's training is, more or less, a lesson of patience to the teacher; but to the farmer who counts the interests of his dairy second only to that of his family, it is really a pleasure to see the calves grow and thrive under his care. From a personal interview with many New England farmers, and a careful study of the tabulated statistics of dairy products, I am convinced that not more than one-half of the dairy cows in New England are paying in full for their board and lodging. In one sense, this is not the cow's fault, but simply her misfortune in not being built on dairy lines; yet the owners keep these same cows to a ripe old age, rather than sell them for what they will bring, and give some promising young heifers a chance.

A short conversation with L. R. Tabor, of Westford, with whom I stopped recently, brought out some very good reasons why farmers should raise their own dairy cows. Mr. Tabor makes butter that was thought good enough to receive the award of a gold medal at the World's Fair in 1893, and also understands his business in other departments of the farm. I asked him whether it paid him to raise his own cows, and if so, why. His reply was, "I like to raise my own heifers, because I can raise a good cow cheaper than I can buy a poor one. Were I to go out to buy some cows to put into my dairy, I would have to pay the price of good cows, but in reality, I would get about the poorest milkers in the herd."

"Can't an experienced dairyman tell a good cow at sight before he pays for her?" I asked.

"Well, some may, but all farmers are not experts in judging animals, and then, there is a good deal of human nature about the cow. She is not always what she looks to be. The secretion of milk is largely a nervous function, and cows sometimes have had such previous treatment as to render them almost worthless for dairy purposes."

Mr. Tabor then showed me several large, well-developed, two-year-old heifers of his own raising, each giving five to six quarts at a milking. "These heifers," said he, "are from my best grade Jersey and Short-horn cows, and were sired by a purebred Jersey bull. They are worth more to me than their mothers were at the same age, as they are bred with more reference to the dairy than the shambles."



THE SCRUB HEIFER. A ROBBER COW. FIG. 169.

I then looked at a bunch of yearling candidates for dairy honors, that the boys had just brought in from pasture. Fig. 170 shows one of them in charge of Master Archie, which is also in training for dairy honors later on. Another reason why Eastern farmers should raise more heifers of the dairy type is, because there are now, and have been for two or three years past, more buyers than sellers. Although dairy products have, at times, dropped to very low figures within recent years, still the demand for a high grade of dairy cattle at remunerative prices, has been continuous, at least, in northern New England. I have heard it said many times, of late, that a cow is worth more than a horse, which is really true of good cows and poor horses. Good cows sell readily in this market at $35 to $50, and buyers have to advertise more or less to get them at that. I asked a successful farmer the other day, what it cost him to raise a good cow to maturity, say, just her second lactation, and he replied,

"Simply the labor of caring for her."

To make the matter more plain, I asked him to explain what brand of atmosphere and what sized ration he fed her on, and he replied,

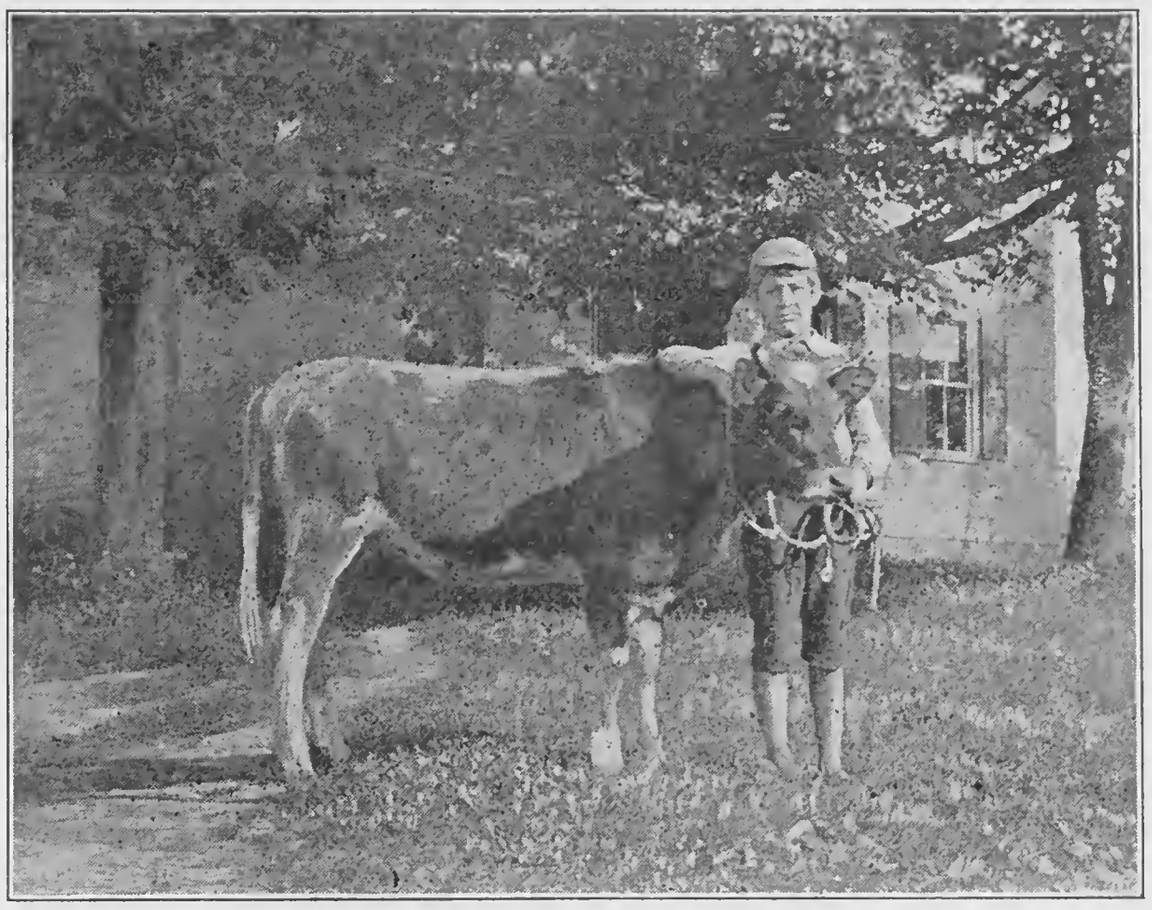
"I divide the life of the cow into two epochs. First, from calf to first lactation, which is about two years. Second, from beginning of lactation to end of the second, which is two years more. Now in the second half of her life, if she doesn't earn enough to pay for what hay and grass I fed her when she was but a mere calf, then she never will pay it. I consider the manurial value I receive from her as well as the milk she gives, in making this estimate, which I believe to be a fair statement of fact."

I suggested something about interest on the investment, and he said,

"There is no interest, because no investment. It is cheaper to turn the calf into the pasture than to kill and bury it."

This proposition does not contemplate the rearing of scrub stock that is mostly head and horns. In order to get some estimate of what others might think of the proposition, I stopped at a farm where very ordinary native cattle are kept, and asked the owner if he would take a calf to raise for me, and when matured, he should have the rent of the cow for a reasonable time as recompense for the material and labor put into her; and if so, how long he thought that he ought to keep the cow to get even. His reply was emphatic and conclusive.

"Life is too short to gamble on such futures. Why, man! I can git all the calves I want for nuthin, and can't make a livin at it either." A picture of such a heifer as he keeps is shown at Fig. 169.



THE DAIRY TYPE HEIFER. A RENT PAYER. FIG. 170.

Still another reason why farmers should raise their own dairy cows rather than buy them, is the risk of buying tuberculosis. One can get all the tuberculosis he desires without buying it. The greatest complaint I have heard from farmers in this and other States, arises from the fact that they introduced tuberculosis into their herds, from cows bought out of infected herds. The records of our State Cattle Commission show a very large per cent of this disease to have sprung from a few herds where young stock has been sold for breeding purposes. My advice to dairymen is first to make sure that their cattle are free from tuberculosis, then raise their own heifers, and they can rest secure against the ravages of this dread disease. Of course, they will need to introduce new blood into their herds, and will be obliged to change sires every year or two; but it is much easier to secure one animal known to be free from disease, than a large number picked at random. It is, also, possible, in these days, to secure animals of excellent breeding, at prices but little above those of common stock a few years ago.

Vermont. C. W. SCARFF.

THE EXPERIMENT STATIONS AND FERTILIZER ANALYSES.

THE DIRECTORS STATE THEIR SIDE.

Last week, we cited the case of a farmer who suspected that his fertilizer was not of the guaranteed quality. He wished to have a sample of it analyzed, but the director of his State experiment station refused to analyze it until the name of the manufacturer and the brand were given. It seems like a good time now to learn just what the fertilizer analyses made at our experiment stations are intended to accomplish. Who is to be benefited by them, and how is this benefit to be obtained? The following letters from experiment station directors will give one side of the story:

From the N. Y. State Station.

As bearing upon the question which you raise, I inclose a copy of the rules adopted by the Board of Control at some time previous to my connection with the Station. It appears to me that the inclosed circular gives sound reasons why the Experiment Station should undertake no work without a clear understanding of the conditions involved.

There is a feeling on the part of some, that they pay taxes to support this Station, and that, therefore, they have the right to ask to have chemical work done for them gratuitously. When we consider that each farmer of the State pays less, on an average, than one cent a year toward the support of our entire work, and that requests for chemical work call for time and materials which cost the State many times that sum, it can be clearly seen how little ground the individual has for claiming the right to demand special work for himself.

RULE VII. The analysis of commercial fertilizers and fertilizing materials for private parties will be undertaken only on the following conditions: (1.) The brand of fertilizer must be one that has not been collected and analyzed by the Station within one year. (2.) The fertilizer must be sampled in accordance with instructions furnished by this Station. (3.) Blanks describing the fertilizer must be filled out; these will be furnished on application. (4.) The samples must be taken by consumers from stock of present season, and from lots of not less than one ton. (5.) All such work for private parties can be done only after the regular Station work in carrying out the provisions of the State fertilizer law is completed each season. Hence, analyses for single individuals may be under the necessity of waiting some months for a report, since *the regular work of the Station in carrying out the provisions of the fertilizer law cannot, under any circumstances, be interrupted or delayed.*

You ask why the Station authorities demand the name of the maker of a brand before making an analysis of a sample of commercial fertilizer. I will say, in reply, that we shall, this year, analyze at this Station, between 300 and 400 brands of commercial fertilizers, these samples having been taken in various portions of the State by the authorized agents of the Station. We have so much to do here that we cannot afford needlessly to duplicate work. It is entirely possible that a sample sent us by an individual farmer is from a brand of goods which we have already analyzed; and, therefore, we may be able to give him the desired information without going to the expense of an additional analysis. For this reason, then, we wish to know the character of the sample. I think that this request is entirely reasonable, and in any case, where a farmer refuses to give it, I would be inclined to doubt the sincerity of his desire to be protected. In my opinion, the easy and desirable method for a farmer to get assistance from us, is to state the case frankly, and we will certainly give him all the aid we can consistently with a proper consummation of the work which we have on hand, and which, for reasons you must certainly understand, cannot be lightly turned aside. A brief experience as director of an experiment station, would convince you, I think, that we cannot afford to work blindly on the basis of such requests as this farmer made.

[PROF.] W. H. JORDAN.

From the Director of the New Jersey Station.

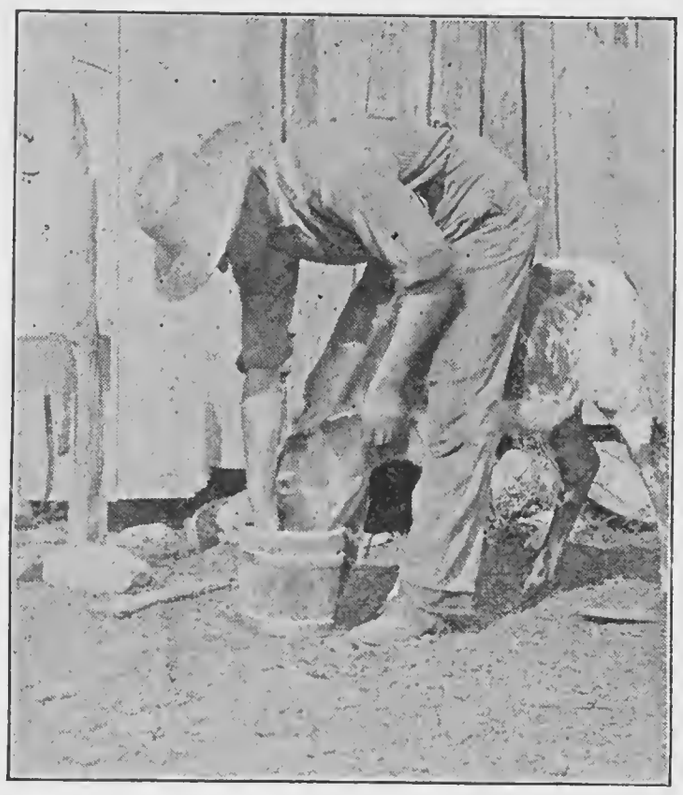
The reasons given by the unmentioned experiment station for not making an analysis of a suspected fertilizer, are, probably, entirely legitimate. This may be illustrated by the experience of our own Station, which has never refused to make an analysis of a fertilizer because the chemists were too busy; but it has frequently been obliged to refuse to make an immediate analysis, because of precedence of other work, which in the judgment of the officials is quite as important. For instance, at the present time, we have in the laboratory something over 500 samples of fertilizers to be analyzed; many of them are finished, many are in process of analysis, and many not yet begun. These must all be analyzed and the results prepared for publication previous to October 31. To take in new samples now, and make immediate analyses, would seriously delay the work of the laboratory, besides giving preference to parties who have no greater claims upon us than those other citizens who are interested in the analyses of the samples already in the laboratory.

Where so large an amount of work is required in this direction as in this and some other States, systematic and business-like methods must be adopted, or it could not be accomplished in a reasonable time with the appropriation now granted for the work. In the second place, the Station has, in my judgment, a right to demand that full data concerning the source of the sample be furnished. Otherwise, it may be found when the work has been accomplished, that it is of no particular value, or if of value, only to the person for whom it was performed. The stations are established for the benefit of the public, not for individuals, and they should first perform work the results of which may, when published, be of service to the public. If any station should occupy its time in performing analyses in response to individual appeals, without proper data concerning the samples analyzed, its work would not only be enormously increased, but a large part would be of doubtful public value.

I think that if the farmer mentioned will write the full particulars in the case to the Station officials of his State, he will receive courteous attention, though it may be that he will not secure an analysis of his particular sample at once, because of the precedence of other work, which will fully occupy the time of the chemists during the year. Should this be the case, and it is his desire to have an analysis, his next course is to apply to some commercial chemist, and pay the required fee. [PROF.] E. B. VOORHEES.

Rules of the Connecticut Station.

It is a waste of time and money, needed for useful work, to analyze samples which have been improperly drawn. Analysis of such samples is likely to do only harm, either to the seller or buyer, or both. It is not the office of the Station to do work which is solely for the benefit of one individual. No work should be



THE CALF'S "FIRST LESSON." FIG. 171. SEE FIRST PAGE

undertaken which does not, or *may* not, benefit all farmers, or a considerable number of farmers. These are the reasons why this Station requires that any one sending an article to be analyzed shall give the Station some assurance that the sample has been properly drawn, and shall describe the sample on blanks provided for the purpose, so that the Station may know what the material is, who made it, who sold it, and what is claimed regarding it. No objection has ever been made to this plan, to my knowledge, by farmers. If no such requirement is made, the Station may easily be "worked" to make analyses which are of no interest and value to any one but the sender or some concern which is using him for the purpose. Attempts to do this thing have not infrequently come to my knowledge. Let me ask, in return, What possible objection can any one have to giving the Station the name of the brand and of the manufacturer if he desire to have legitimate work done by the Station? If a farmer wish an analysis made for his private use, and that of no one else, he should do as any other business man does, go to a reputable analytical chemist, and pay for the work. This Station is never too busy to answer any call for immediate work.

DR. E. H. JENKINS.

The Rhode Island Experiment Station.

The farmer who asked for the analysis may not have stated that he is a farmer, and the Station authorities may have had reason to suspect, owing to his refusal to give any information in regard to the fertilizer, that he was a dealer and was trying this ruse to obtain an analysis for advertising purposes, gratis. In my own experience, I have met with two or three such cases. Stations that are supported by State funds, in part or whole, act wisely, I think, in refusing work which appears to be of strictly private interest, and where no data are furnished, or can be furnished, to make the results of interest generally, or even to a section of the State. Should all such work be done without a question, the laboratory would soon become a place where private work of all kinds would be done at public expense, which should not be the case. Stations supported by the income from the Hatch act, must use the funds in the manner and for the purpose designated in the second section of that act, and in no other way. The work of these stations is to "conduct original researches and verify experiments." The original researches and verification of experiments apply unquestionably to fertilizers. An examination of any new fertilizing material for the purpose of ascertaining its agricultural value, either by analysis or by analysis and test with crops, comes within the province of such stations, but not the analysis of an artificial fertilizer of unknown origin and unknown brand-name, which has been sent to gratify one person only.

Many stations have charge of the State inspection of fertilizers, and by knowing the name of the brand and maker, could refer the party to other analyses of the same goods which might already have been made in the same season, and thus avoid duplicating work; or, by knowing the name of the maker and the brand, the station could, if it were not analyzed, send its collector to draw an official sample so that a public report could be made and the farmers of the State be put on their guard, provided the material were fraudulent in its character. If the brand-name were withheld, the inspector might find that the goods had already been collected and analyzed, while, had he been informed at the outset, much expense for traveling could have been avoided. The license fees paid are in many States small, consequently the time of the chemists who can be employed, is insufficient to allow of duplicate samples being analyzed. How could it be possible, as indicated above, to warn the public when the name of the maker and the brand were withheld? Those stations which exercise great care in the inspection of fertilizers, refuse to analyze and report officially upon samples unless they are collected by their own inspector, and are thus assured that the sample was properly drawn and had not been tampered with. This is impossible if samples not vouched for and drawn with undue care are to be reported upon.

The value of a fertilizer inspection to any State, depends upon the maintenance of care in these particulars, as much as it does upon carefully-made analyses. If the farmers of a State have ground for not having sufficient confidence in their station chemist to expect an impartial report, even if he know the name of the maker of a fertilizer, they ought to do their duty and get rid of him at once. For one who thinks that the position taken is wrong, and who insists upon the use of public funds for private work, my advice would be to go to any good, reliable commercial chemist, and pay for the analysis just as a man in any other line of business would do. My advice to farmers would be to tell the whole story to the station chemist, *i. e.*, the truth, the whole truth and nothing but the truth, and there is no doubt that the station will render all the assistance which it *rightly* can.

[PROF.] H. J. WHEELER.

A GOOD CROP OF GRASS.

ITS PEDIGREE, FROM SEED TO MOWER.

A Revolution and a Revelation.

PART III.

After the land was put in perfect condition, which means that all living plants were killed and the upper six inches of soil made as fine as an ash heap, the grass seed was sown as described last week. Fourteen quarts each of Red-top and Timothy, and four of Medium clover are used on each acre. This will be considered by many farmers an extravagant seeding. All Mr. Clark has to say to this is that he gets big yields of grass when he uses this seeding, and fails when he uses only four to eight quarts of seed. The seed is broadcasted, half being sown the long way of the field, and the other half across. Of course, the object of this is to secure a thorough distribution of the seed. You can see that this is very necessary if we are to get 15,000,000 good plants on an acre. Such a seeding would satisfy almost any one, but Mr. Clark is a hard man to satisfy. After broadcasting the seed, he goes on with the light harrow described last week, and goes up and down and diagonally until every part of the field has been scratched over eight times. The object of this is to scatter the seed more completely, and also to give the surface soil another fining. When the surface has been stirred enough, the whole field is packed with the roller, and that is the end of cultivation for four or five years, or until the acre has produced 25 to 30 tons of hay.

But that is not all. "Tillage is manure," perhaps, but such tillage makes the grass plants eager for more manure than the tillage alone can supply. They must be fed, and fed at once. Mr. Clark does not use stable manure at all. It contains a good many weeds, and should go on a crop that can be cultivated or hoed.

Coarse manure will kill out grass. When cows are turned in to pasture on a meadow, see how each clump of cow manure kills out the grass. Mr. Clark says that, if he had stable manure to use, he would work it thoroughly into the surface soil before sowing the seed. As it is, he uses chemical fertilizers only. Just after the grass seed is sown, he broadcasts from 400 to 600 pounds per acre of ground bone and potash—two parts of the bone to one of muriate of potash. This is worked thoroughly in with the seed. In the spring, each acre received from 300 to 400 pounds of nitrate of soda. This may be put on at any time after the grass starts. Sometimes, they wait until the grass is several inches high, in order to see, from its color, which parts of the field need most nitrogen. This dressing of fertilizer is kept up every year as long as the grass is cut. After seeding down, the fall application of bone and potash is made the last of October, and with each succeeding year of cutting the grass thereafter, the amount of fertilizer used is increased.

There is no such thing as saying "about 400 pounds," in this experiment. The field is accurately measured and lines are drawn across each rod so that in seeding and dropping fertilizer, it is possible to be absolutely correct. The day I visited the field, they were trying a dressing of lime on a portion of it. After the seed and fertilizer have been rolled in, the field is not to be touched until it is mowed except to put on the nitrate of soda in the spring. The grass is never pastured under any circumstances. Mr. Clark says that the stamping of animals or fallen grass is sure to kill out a seeding. After the first year, the field is mowed late in the fall, and the mowing raked off, leaving the ground bare. This, he says, is a bad thing for the mice, but a fine thing for the grass.

This, then, is the story of the "new grass culture." "Oh," said a farmer last week, "there is nothing new about it—good culture, plenty of seed without grain and lots of manure—anybody can raise grass if he will use these three things."

"Did you ever raise six tons on an acre?" I asked.

"No."

"Have you any friend or relative who has ever done it?"

"Well, no!"

"Would such a crop pay you this year?"

"Better than any crop on the farm!"

We think it likely that there are many farmers who would be willing to use the large amount of seed and the fertilizer, but they would fail in giving the needed cultivation before the seed was sown. It will be a brave man who is willing to work grass land 25 times before sowing the seed! Right alongside Mr. Clark's field, are four acres sown at the same time and with the same amount of fertilizer; yet it yields one-third less. The only difference is that this field lacked in cultivation. Another field 40 rods away—with better soil to start with and more fertilizer—yet cultivated and worked in the old way, yields less than half as much hay. Why? Because the lack of cultivation left many old grass and weed plants alive. These now crowd into the field, and take places that ought to be filled by good grass plants. Again, the soil was not made fine enough, and thousands of the tiny grass plants could not start at all. By next year, in this other field, there will be patches all over the field, either bare or filled with weeds and, in order to grow a large crop of grass, the whole field must be worked up and reseeded.

This is the story of a big hay crop. It is all simple enough, except the application of the essential principles. We are only telling what Mr. Clark has really done. You will understand that he does not follow any rotation of crops. The field is to be kept in grass indefinitely. When the yield falls below four tons per acre, the stubble is to be worked up and reseeded. On almost every large farm, there are fields well suited to grass culture, where this plan might be carried out.

Mr. Clark has shown the way. Some farmers will say that he spends too much time in working the ground, and too much money for fertilizers. Take his yield and figure it out, and see whether this is so or not. Mr. Clark says that his hay costs him from $3 to $5 a ton when ready to cut. He can sell it for $10 a ton standing, or for $20 and upwards when held till spring. Under the old culture, his field cut 10 tons of hay—now it cuts 60 tons. He believes in "intensive culture" in the hay field as well as in the garden. Is he right? H. W. C.

A COUNTRY DOCTOR'S MEDICAL NOTES.

PURE BLOOD AND HEALTHFUL FOOD.

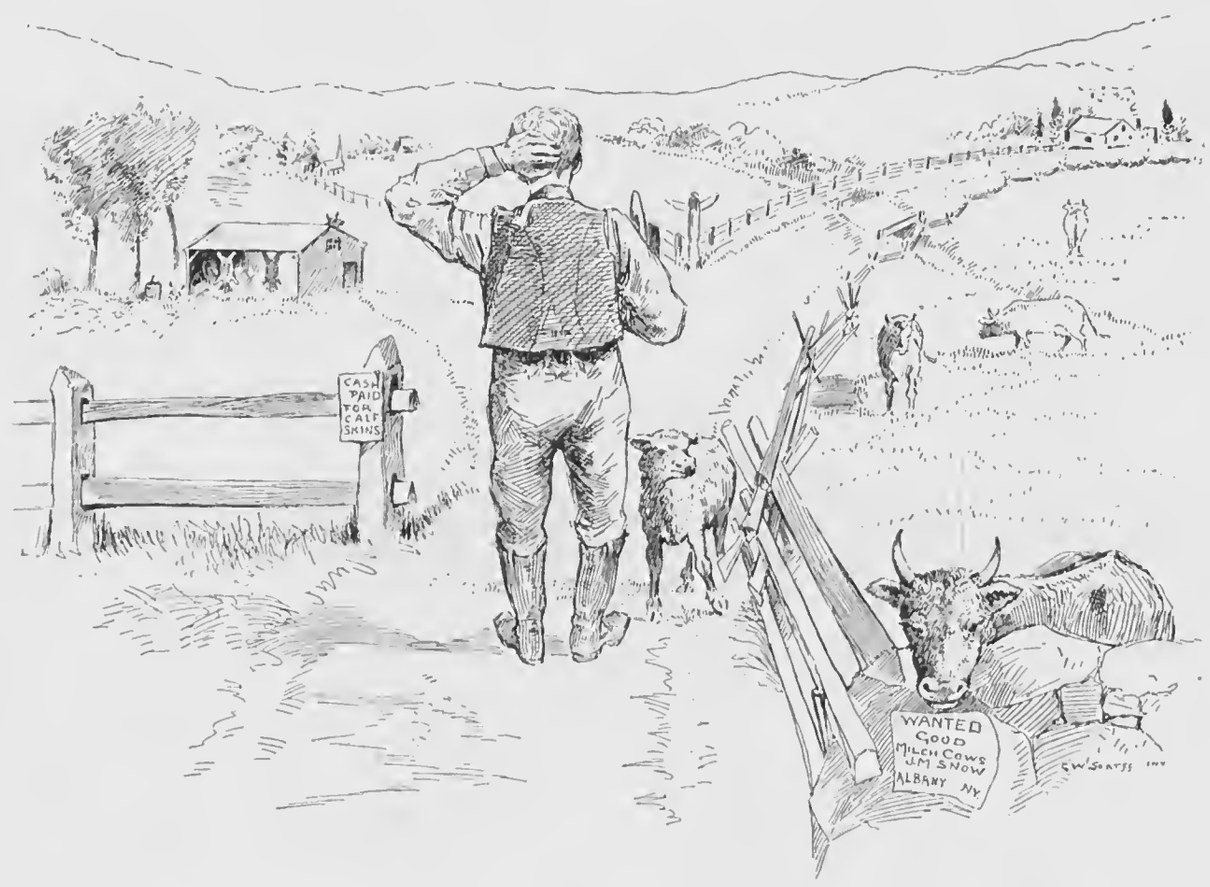
Some Blood Purifiers.—A vague notion, quite generally accepted, is that, without any actual disease being present, the blood may become impure, and in consequence of such impurity, that some medicine is called for to remove it. It seems, too, to be believed that there are medicines possessed of such general cleansing powers as to be capable of laying hold of, and ejecting from the system, any impurity that may be present. Suppose we consider the matter briefly.

The substance of the body undergoes continual change. No action is possible save at the expense of some portion of the material composing it, which, thereby, becomes disintegrated and must be renewed. The blood circulating through every part, brings the new material required for the rebuilding of the spent tissue, and carries away the waste. This doubling of its work seems like an incongruity. That it should be able to accomplish both purposes perfectly, is altogether wonderful. It is manifest, however, that some means of freeing it of the waste speedily and regularly must be provided. In this work, the kidneys, the liver, the skin, the bowels, and the lungs all participate. In such perfect harmony do these operate, that it sometimes happens when, from any cause, one becomes incapacitated from doing its share, that some of the others will, after a manner, take up the extra burden for the time being. In the regular or healthy working of the system, by one channel or another, the waste is got rid of about as rapidly as it is formed, and cannot, therefore, be regarded as an impurity. Should, however, any of the organs charged with the duty of excreting this waste, be rendered incapable, by disease or disorder, of performing its particular function; should the appetite be indulged and a quantity of food in excess of the requirements of the system be taken in; or should any poison, whether vegetable like morphine and strychnine, or mineral such as arsenic or mercury, or animal as cantharides and snake poison, get in from without, or be generated in the blood itself by microbial action, then it may reasonably enough be assumed that impurity is actually present in the blood. It is obvious, however, from the very nature of the case when fairly considered, that each form of impurity must call for special investigation, be treated by its own appropriate methods, and that no one drug, or combination of drugs, can, possibly, meet the requirements for the treatment of impurity of the blood in a general sense, or be entitled to be called a blood purifier.

To keep the blood pure, or to assist in restoring it to a state of purity, it is clear enough that a good deal may be effected by keeping all the outlets, or drains, so to speak, of the body free and unclogged, the pores of the skin cleansed, and a regular action of the bowels secured. A liberal use of water serves a good purpose here, and if anything deserves the name of a blood purifier, water surely can put in a good claim. Then, too, care must be taken to make sure that the work of the excretory organs be not unnecessarily added to by taking too much food, or the appetite for those things that give no real strength, while they task some one or more of the excretory organs to get rid of them, be too freely indulged.

Milk from Tuberculous Cows.—It is exceedingly important that the question whether the milk of a cow whose udder is healthy while some other part of her system is affected by tubercles, be capable of conveying the disease to those that drink it, should be decided one way or the other. Reasoning from analogy, in the absence of facts acquired by observation or experiment, I do not believe that the disease can be conveyed in this way. Instead of at once consigning a cow condemned by the tuberculin test to instant death, it would seem more profitable to use her to experiment with. Let the milk of a number of cows undoubtedly tuberculous, but with sound udders, be used to feed suckling calves not their own, and that have successfully withstood the tuberculin test; the calves to be kept in as nearly perfect a sanitary condition as possible. It would be necessary, of course, to observe all necessary antiseptic precautions in drawing the milk, lest it should become contaminated during the process. If 50 calves were fed in this way for a month or longer, yet remain free from the disease, able, after some months, successfully to endure the tuberculin test, a real addition to our knowledge would have been gained. Why should this question be left to vague surmise, a handy means to play upon the fears of the public by those with a selfish purpose to serve?

We know, by broad, general experience, that the members of some families enjoy a practical immunity from the disease. We know that, while no age is entirely free from the danger of attack, that it is much more likely to be contracted, at one time of life, than at another. We know that bad or insufficient food, impure or moist air; absence of sunlight, confinement; any exhausting disease or condition, or the inhalation of irritating particles of dust, will render an attack more liable, that, in a word, it is not entirely a matter of contagion; that it is quite as essential, if, indeed, not more so, to provide against these contributory causes as against the contagion itself.



"THE FATE OF THE CALF!" WHICH SHALL IT BE? Fig. 172.

To illustrate this point, take some of the more delicate seeds, whose vitality is likely to suffer from a great variety of causes; every farmer knows that he must be careful to observe all the requisite conditions, or they will fail to germinate. They must be fostered. There are other seeds, as he is painfully aware, that need no such fostering care; they are abundantly able to take care of themselves once they secure a lodgment in his carefully-prepared ground. Just so it is with the germs of contagious diseases; some, like those of smallpox, measles and scarlet fever, are comparatively indifferent as to conditions. They strike indiscriminately, while the operation of others is limited to selected victims.

The reasonable conclusion, then, is that the preservation of the health of cows, their protection from contagion, will, so far as tuberculosis is concerned, rather be assured by guarding against the conditions that predispose their systems to an attack, than by care to prevent them from being exposed to its contagion. It might be practicable, though by no means easy, to get rid of every tuberculous bovine; but how much good would that do while tuberculous men, and the other animals that are subject to the disease, are allowed to roam at large, coughing and spitting? At times, one is almost tempted to think that this scourge is expressly commissioned to weed out the too highly specialized, and, consequently, less robust of the several species that are subject to its attacks.

If it were shown by the practical test suggested, that the milk of tuberculous cows was not of itself capable of conveying the disease, then it might be worth while to make sure, in the same way, whether milk from tuberculous udders or milk purposely contaminated by the germs of tuberculosis, is capable of conveying the disease to the calves to which it is fed.

W. O. E.

HORSE SHOE FARM NOTES.

SILO BUILDING; IMPORTANT ITEMS.

The change in the prices of farm products, which are below the cost of production where ancient methods are still used, compels those who wish to accumulate property, to study, to change, and to be careful about adopting systems which call for considerable outlay of cash. The small profit received makes the return of invested principal slow and uncertain; and one should be sure that practice proves what theory commends before investing heavily. Farmers understand this fact, and have been slow in adopting the costly silo as built and managed by experimenters during the years of its introduction. The present (coming) silo, cheap, sure and simple, which needs no covering, simplifies the matter, and the building of silos is on the increase,

hastened, no doubt, by the fact that butter costs, for feed alone, about 16 cents per pound, and is selling for 11 to 15 cents in the general market. Some are succeeding in producing butter for 9 to 11 cents by the continued use of ensilage for most of the year, and their success encourages the average farmer to invest.

Selecting a Site.—The location of a silo is an important matter. The best place is inside the barn at a point near to the stock, to save steps and lifting, yet where the silo can be filled from the outside. I helped fill two silos last season, and found that one needed three men more than the other, from the fact that the corn had to be carried up to the cutter in the one case, and was slid down to the cutter in the other. Where the cutter is placed outside, there is room to drive up alongside easily, and a bank can be constructed to drive on, so that the load will tip toward an inclined table which should connect with the cutter. Then one man can unload as fast as needed. Owing to the great weight and saving of lumber, the silo should be built on the ground. So much more fodder can be stored, that, in most cases, a portion of the bay can be spared. More land will be planted to corn, and there will be less hay. In many cases, the necessity of building a new larger barn can be avoided. By using the bay, the cost is reduced more than half, and the construction requires no skill or extra tools.

Securing Stability.—In building, a solid, air-tight, dry foundation is best secured by digging a trench, so graded as to discharge at the lowest corner, any outside water which may soak into it. The trench should be filled with broken stones and mortar within a few inches of the top. This, if deep enough, will keep out the rats. A wall of masonry should be built one foot high on the broken stone. In this wall, two inches above the level of the bottom of the silo, a 2x12 plank should be imbedded so that the inner edge will project half an inch over the wall. The weight of the wall on the plank will keep it in place. The frame of the barn being large and framed together, but little studding is needed. In a silo 10x14 feet, the first three pieces were two feet apart, and 2x10 inches in size. The next one was 2x6, 2½ feet above. The fifth one was 13 feet from the bottom, and where the boards came together; this was a 4x6. Three others, 2x6, three feet apart, were above this. It takes nine pieces, counting the plank in the wall on each side. These were horizontal, and nailed to the frame of the barn so that the edge was even with the inside of the post. A short post, *a*, Fig. 173, was placed against the larger one to keep the studding from slipping down. A 2x4 piece, *b*, was nailed to each set of studs at the corners, to stiffen the frame and make a broader corner. This piece should be so placed that, when a foot-wide board is nailed to it, the board will just reach the shed on each side. This insures a tight corner, saves the troubles of fitting a board, and does away with the sharp corner in which ensilage is likely to spoil.

Care should be taken that all studs and pieces should be in line with the silo and the beam above, so that there will be no trouble in getting it tight when boarding up. The silo was lined with foot-wide hemlock inch boards. A space 20 feet wide was left from the bottom to the top in one side for the door. The boards were nailed securely to the studs, each acting as a post. Two lengths, 13 feet long, were required to reach the top. The square ends coming together at the wider stud, give no chance for an air hole. A sheathing of tar paper which was oily and pliable, was next put on inside the unplaned boards. This was in long strips which reached from bottom to top, was lapped at the edges, and held in place by tacks with thin tin heads. Great care was taken in handling it so that there should be no holes. Inside of this should be another sheathing of boards, so placed that the cracks should not be in the same place as the first set, if the boards are unplaned.

I found that I could get dressed pine or spruce for nearly the same price as hemlock, and used that. It was matched and six inches wide. With this, we turned the corners without slitting out any pieces. The doorway was closed when filling. We cut boards to reach from one stud to the one above it only. They are not nailed. Then the tarred paper is put against them. Last, doors made of the matched stuff are placed, and the corn filling against them holds them securely. No nails are used, and they come out readily when the silo is being emptied. The space between each stud is a separate door.

I purchased a few cents' worth of coal-gas tar, and painted the inside. Two of us heated the tar, and painted the inside of the silo in one-half day. The tar should be boiling hot, and will then spread easily and fill all the cracks. After drying, it is as hard and smooth as a blackboard. It not only fills all cracks, keeping out the air, but it prevents absorption of moisture by the boards. Our silo did not swell when filled, or shrink when empty, and will not be likely to rot out. A cement of eight parts lime to two parts sand, was worked in under the ends of the boards on the bottom, to prevent them from rotting, and make all air-tight.

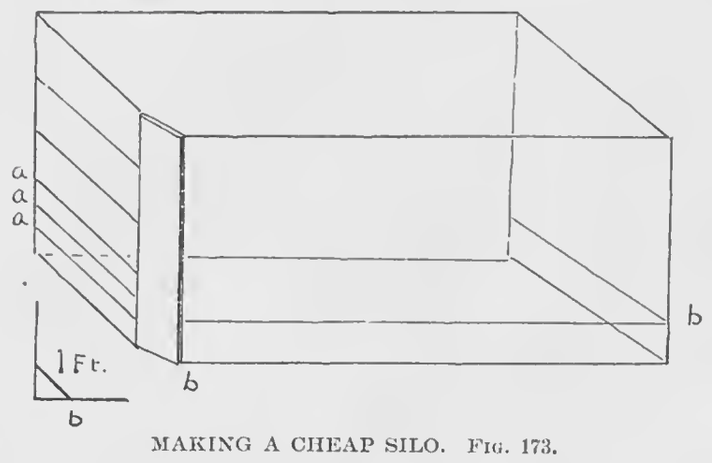
Not a Difficult Job.—Two of us, neither one hardly able to saw off the end of a board square, armed with a hammer, saw, square and ax only, built a silo 10 x 14 feet, and 26 feet high, in six days. The lumber bill was less than $50, and all other expenses did not make more than $75, including labor. It could be made for less, but I made it good, so that it would last and also be sure to save the fodder. I could not build a round silo alone. I would dislike to cart ensilage from an outside silo, and am entirely satisfied with this one. Not 50 pounds were uneaten of all that was put in. This silo will hold about 90 tons, and cost 80 cents per ton capacity. C. E. CHAPMAN.

AN EXPERIENCE WITH "CORN HAY."

HUSKING AND THRASHING THE CORN FODDER.

Last year The R. N.-Y. had several articles about "Corn Hay", which is the fodder as it comes from the machines for husking corn. The whole stalks are put into the machine, the ears are snapped off and husked and the stalk crushed and broken up. Mr J E. Wing last fall estimated that horses will eat about 80 per cent of it; I place it at 75 per cent, but I find that the cattle will eat a little more and place their consumption at 80 per cent. I think that they could be easily forced to eat a greater proportion if made hungry; but it is my rule to feed liberally, and I do not know what proportion a hungry animal would eat.

The corn must have time to cure in the shocks after cutting, and it must be free from moisture when



MAKING A CHEAP SILO. Fig. 173.

shredded, if stored in large quantities and packed in to economize space. If these conditions can be reached, and the fodder be kept dry after being shredded, most excellent feed will be secured that all stock relish and will eat in preference to good Timothy hay, and it will keep them like hay. It packs readily in the mow, and becomes quite solid with moderate tramping; but if at all damp when shredded, it must not be tramped, but tossed back loosely with the fork or it will heat and spoil. If there be more than a few hours' work to be done, this will be found difficult, because of lack of room in an ordinary barn.

I put the largest-sized Keystone machine at work about November 1. The corn was Leaming, heavy in the shock, but having small ears, making little more than a half crop of corn, because of drought which came too late to prevent a full crop of fodder. The fall was very dry; little rain fell upon it after being cut, hence the fodder was at its best—well-cured and very dry. The machine was worked to its full capacity for 33 hours; in that time, about 30 acres of corn were husked and put into the crib, and the fodder shredded and put into the barn. When time was called, I had a little over 1,000 bushels of husked corn, and a solid pile of shredded fodder 40 feet long, 20 feet wide, and 18 feet high, tramped until it was firm and solid, almost approximating that which was baled. I paid the husker $33, six cords of wood for his engine, and board.

It took four teams, five wagons and eight men. We used three low wagons with wheels 24 inches high, and 6-inch tread, to haul the corn from the field; these wagons had racks 18 feet long, and eight to nine feet wide, with smooth, solid floors. To save time and fodder, the shocks should be set upon these wagons upright, and left tied as in the field, until they reach the machine; hence the big racks upon which two rows of shocks will set readily, so that six to eight shocks can be put on a wagon. Hauled in this way, the fodder reaches the machine without waste, and the loader can place it upon the table straighter and faster, which hastens feeding. Two men stayed in the field to load the wagons; they use an ordinary husking horse, strengthened, so that it can be set on edge by the side of a shock, which is tipped over on to it as in husking. These men then take hold of the handles, lift it up to the side of the platform of the wagon, tilt it, and the shock goes back to an upright position upon the wagon. One man and team, with two wagons, took care of the ears and shelled corn, and two men found ample work building that block of shredded fodder. An exchange of men and teams may readily be effected, and so save a cash outlay for that. We much prefer helping for help back to run the machine, than to go out and husk corn by hand so many days.

This is the plain presentation of the facts upon the one side; but there is another—most things have two sides. In most seasons, late varieties of corn can scarcely be cured enough to husk in this way before the fall rains set in, and after that, it will be found difficult to find a time when it is dry enough. The fodder should be too dry to husk by hand. When it is in that condition, many blades are lost; they break up so fine that much passes out through the screen in the bottom of the carrier with the shelled corn, and other portions are so fine and dustlike, that they waste in various ways. Again, when the fodder is as dry as it should be to keep, the ears shell badly. We had 100 bushels of shelled corn at the end of 33 hours' work. This was mixed with two or three times its bulk of finely broken blades, mingled with all the dust and smut the corn contained, until this mass of blades was decided worthless and hauled to the field after the shelled corn had been fanned out. Many farmers will be deterred from this method of husking by the cash outlay of (in my case) $33. This I estimate to be the cost of husking 1,000 bushels of corn and shredding the fodder. The corn must be hauled in any event, and the fodder also, and it is no more work to haul it whole to the machine and mow away the shredded fodder, than it would be to tie it into bundles and haul it to the stack or barn after being husked by hand, and the twine, at least, is saved. Much better feed is obtained, and a much greater proportion is consumed. It may be fed in any place like hay. The refuse is the very best of bedding, and in the end, good manure, easily handled.

Noble County, Ind. W. W. LATTA.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

How Roses Are Propagated.

T. C. A. F., Sheridan, Ind.—How are the "outdoor-grown" rose plants produced? Are they started in greenhouses, and then transplanted to the field? Are they protected in winter, and if so, how? At what age are they generally sold? What kind of cultivation is given them?

ANSWERED BY W. VAN FLEET.

There are, practically, only two methods of propagating roses now in use; the rooting of cuttings of green or ripe wood under glass, and the budding of improved varieties on vigorous species of wild roses, which is usually done in the field during summer. A few rose plants are grafted or layered for special purposes, and the various varieties of Rosa rugosa and the Austrian brier, or hardy yellow rose, are often raised from seed, or propagated from root-cuttings, as the case may be; but the number grown by the latter methods cut a very small figure when compared to the millions of plants annually produced by the processes first named.

Budded roses are chiefly produced abroad—in England, France, Holland, Belgium and the German States—and are exported to this country in immense numbers. They are much used by florists for blooming under glass, and to produce propagating wood for rooting as cuttings. They are not well adapted for outdoor planting in this climate, as unless carefully watched, the stocks push up strong suckers, which rob the bud variety of nourishment, and cause it to languish and die. Although these foreign roses are generally strong, fine looking plants, their use, except for the purposes above mentioned, is sure to result in disappointment, as in addition to the objectionable stocks, they seem more subject to disease than those grown here. Budded roses are generally sold in the fall succeeding the summer budding and are, consequently, only a few months old; but if the stocks are vigorous, they should be as large as plants of a similar variety when grown for two seasons on their own roots.

This process of growing budded roses may be briefly described as follows: The stocks employed are, usually, seedlings of Manetti, or the dog rose (Rosa canina), both natives of southern Europe. They are grown in immense numbers by specialists, and may be imported very cheaply. The stocks are planted out in early spring, six or eight inches apart, in rows either 18 or 36 inches apart, according to whether hand or horse cultivation is contemplated. They are given clean and thorough cultivation through the growing season, and are budded with the desired varieties during July and August, as the canes begin to approach maturity. The strongest plants are usually dug for sale or storage in November. The

weaker buds may be left to take their chances together with the missed stocks, which are to be re-budded next season.

But the greater part of the rose plants produced in this country are rooted from cuttings made of green, or growing wood. This method has been brought to great perfection in our favorable climate, and there are several establishments already claiming an output of a million roses each, every year, while all florists may be said to practice it to a considerable extent. For this purpose, the parent plants, which may be either budded or on the roots, are grown under glass, sometimes in pots or, more commonly, in "borders" of six inches of rich soil, composed mainly of rotted sods, on the greenhouse benches. This may be done at any season, but for strictly propagating purposes, the borders are generally planted in June, and the roses stimulated during the warm months to luxuriant growth. By late September or October, the new wood should be in the best possible condition for rapid and healthy rooting. The cuttings are quickly made by experts, only one "eye," or bud to a cutting, the accompanying leaflets are shortened in about one-half, and the cuttings at once planted in clean, firm sand in the cutting bench. They are inserted less than an inch apart, in rows not over three inches apart. An ordinary propagating house, 10x100 feet, will contain nearly 80,000 of these tiny cuttings. The houses are kept quite close and moist, and are watered or sprayed every day as indications warrant. An effort is made to keep the temperature at about 65 degrees, but in the early part of the season, the day temperature often runs much higher, as ventilation is sparingly given. Light firing is needed as the nights grow cool, so that the thermometer does not fall below the temperature named, for any length of time.

If all go well, the cuttings should be securely rooted in six weeks, and are now rose plants, ready for potting off in 2 or 2½-inch pots, when the cutting benches are made ready for another batch. All classes of roses do not root alike under this treatment; the teas and Bourbons, are almost uniformly successful under good care, while the Chinas and hybrid remontants follow closely. Then come the moss roses and the hybrid teas; the latter are the most uncertain of all, the practical failure of whole batches, being very common. After the little roses are established in pots, they are grown on with as little shifting as possible, until early June, when those unsold are either bordered for further propagation, or planted out in rows, in any good, well-manured loamy soil to become "outdoor roses." As with Manetti stocks, the usual distance apart is either 6x18 or 6x36 inches, according to the mode of cultivation, which is limited to frequent, shallow stirrings of the soil, and perfectly clean weeding.

Any soil that will grow good corn or potatoes, will grow fair roses; but a rich, clay loam is most congenial. To get fine plants, it is necessary to have plenty of available nitrogen at hand during the growing season, and this can be most agreeably presented to rose plants in the form of a heavy dressing of rotted stable manure, mixed with the soil before the roses are planted out.

In November or early December, according to locality, the tender varieties are taken up and stored in frost-proof cellars with the roots well covered with moist, sandy soil. The hardier sorts are left in the ground, unless wanted for sale, or other special purposes. At present low prices, most nurserymen make no attempt to protect their unsold outdoor roses; but if deemed desirable, a light coating of salt hay, coarse grass or evergreen branches, put on after the ground is frozen, should be sufficient. I am sorry to say that roses grown outside one summer, which are, consequently, only 14 to 16 months from the cutting bench, are frequently sold as two-year-olds; but it is a question whether these vigorous young plants are not really better for all practical purposes than those which have actually been grown outside for two seasons.

Alfalfa for Hog Pasture; Grasses for Thin Land.

E. F., Eaton Rapids, Mich.—I would like to sow Alfalfa for hog pasture and hay, my idea being to alternate between two fields and get one mowing from each field for hay each season. Will Alfalfa not stand that much tramping? I dug up a plant that I called Alfalfa, but could find no nitrogen tubercles. Does it not get its nitrogen from the air? My orchard is a light, sandy loam. I would like to seed it, but do not intend to pasture it. Which would be best, White clover or June grass?

ANSWERED BY J. E. WING.

Alfalfa will stand a great deal of tramping in the summer time; it is nearly impossible to kill it in that way. I have seen it, in Utah, get started and grow for years in the middle of a pretty well travelled road. In winter, it is bad for it to be gnawed off or tramped. No hog pasture is equal to Alfalfa. Rather than two fields, I would advise three. Turn the hogs on about April 15, and allow them to graze for 10 days on the first section; then turn to the second field. After 10 days on that, let them take the third field. Then in 10 days, you are back to the first section. Let them run on it for 10 days, which will bring the time to May 25. If not too many hogs have run on it, it will bear cutting after they are taken out, and should be cut in order to remove all the rank places and tall growths that they have not eaten. After this date, leave the hogs for 10 days in each pasture, and always on taking them out, run the mower over the field and cut and make hay of all that they have not eaten. Thus when they get back, there is a nice, fresh growth of even height and tenderness.

Alfalfa gets its nitrogen as other clovers, in part from the soil, and in part through the soil from the air. It is rather difficult to remove Alfalfa roots from the soil without stripping them of the root-tubercles. Alfalfa requires a soil of rather greater fertility than Red clover.

In seeding down that orchard, why not try grasses especially adapted to light, sandy soils? I have had extremely good results with Orchard grass on very light soils. White clover is not a mowing grass, being too short and of a creeping tendency. I would, however, sow some with the grass seed or, preferably, in the spring. June grass (Poa pratensis), is not well adapted to light, thin soils. Rather, let me recommend the Canadian wire grass, or Flat-stemmed Blue grass (Poa compressa). While this neglected and somewhat despised grass will not produce as much pasturage or hay as the June grass or Blue grass on good soils, yet on thin, dry soils, it will produce very much more, and the pasturage and hay are of a very superior quality. Millions of acres of land are being farmed to-day in the United States, that will soon be laid down to this grass and pastured with cows and sheep. In our country, it comes into thin fields of its own accord, and is often a serious hindrance to cultivation. It does not pay to fight it except with manure, for where it is in force, it is a better paying crop than any that can be put in its place, unless the manure be applied.

A Number of Insects and Diseases.

D. E., Normal, Ill.—I inclose some potato tops, beans, grape and plum leaves, and would like to know whether the insects on them are all of the same species. They all work on the under side of the leaf. Some are darker colored than others, but I think that the lighter ones are males and the darker females, or, perhaps, the reverse. Some of my plum trees have lost nearly all their leaves. I have sprayed them three times with London-purple, one tablespoonful to three gallons of water, but it has not been any help. Last year, I was troubled with the same insects, but they are more numerous now than one year ago. The bean and potato leaves, on the edges, look as though they had been burned. Last year, my R. N.-Y. No. 2. potatoes were killed in a very short time, the latter part of August; but I think that, from present appearances, unless something is done, they will die before that time. Last year, I had 4,000 celery plants that looked well until the latter part of August, when they were attacked by the same insect and I did not save a plant. They kept sending out new growth, but blighted about the same as the potatoes and beans are doing now. I have been spraying the grape vine that is attacked the worst with Hellebore, and it has made considerable growth this year, while last year it did not grow any. My little boy has some peanuts growing, and they are being served like the rest of the things. Can you give me any information that will be of help to me? Is there anything with which I can spray the strawberry vines to kill the Leaf-roller?

ANSWERED BY M. V. SLINGERLAND.

Instead of the leaves of the potatoes, beans, grapes and plums all being attacked by the same insect, each one was affected by a different organism. The plum leaves were badly affected with the fungous disease known as leaf-blight or shot-hole fungus. Early in summer, purple spots appear on the leaves; later, as the tissue dries, the color changes to brown, and the affected areas become loosened and drop out. This leaves small, round holes in the leaves, causing them to appear as though pierced by shot. In such cases, the foliage turns yellow, drops during the summer, and the trees are then unable to mature the fruit. The fungus is believed to live over the winter on and in the fallen leaves. It is often very destructive in nursery stock. Fortunately, this serious disease is easily controlled. Spray the trees with Bordeaux Mixture as soon as the leaves appear in spring, and repeat the application at intervals of about two weeks until the fruit is about two-thirds grown; two or three applications will, generally, be found sufficient. As the affection is of fungous and not insect origin, D. E.'s application of London-purple would have no effect upon it.

The potato leaves sent contained many minute, round holes which had, undoubtedly, been eaten out by very small, dark blue, hard-shelled insects known as flea beetles. I suspect, however, that the sudden death of the vines mentioned by D. E. was due principally to the fungous diseases known as potato-blight. Every one whose potato tops die down before they normally should ought to get and read thoroughly Bulletin 113 recently issued by Cornell Experiment Station (Ithaca, N. Y.) The injury to the foliage by the flea beetle seems to be yearly attracting more attention; in many localities the little lively chaps are said to do more harm than even the Colorado beetle. They are not so easily controlled as this latter well-known pest. Paris-green, London-purple, tobacco as a powder or a decoction, air-slaked lime, wood ashes, land plaster and kerosene emulsion are said to be without practical value for potatoes. On a small scale, however, I have had good success with kerosene emulsion. The most promising application seems to be Bordeaux Mixture, which is primarily a fungicide; but it has been shown at the Vermont Station, that, when used thoroughly to control the fungous disease of potato blight, the flea beetles are also checked.

I cannot determine, from the specimens sent, just what has attacked the bean leaves. It does not look like the work of insects, but appears more like a fungous disease. Probably, Bordeaux Mixture will control the affection.

I suspect that D. E.'s celery plants were attacked by a fungus or bacterial disease rather than by insects. Without specimens, I cannot determine definitely. Afflicted celery growers should write to the Michigan Experiment Station (Agricultural College, Michigan) for Bulletin 102 on celery insects and diseases.

The grape leaves sent showed the peculiar small yellow spots (on the upper surface), caused by the little lively insect known as the Grape-vine Leaf-hopper, a few specimens of which were still clinging to the leaves. The adult insect is only about one-eighth inch long, of a light yellowish color, and crossed by three red bands. The young insects, with undeveloped wings, lack the red bands, and can only jump about. The adults winter over in rubbish; the eggs are laid in the leaves, the young appearing in June. As they grow, they cast off their skins, which often remain sticking to the leaves for some time. They are sucking insects, feeding only in the juices of the interior of the plant, by means of a sharp beak which they thrust through the outer skin. This method of feeding renders the use of arsenical sprays against them entirely useless; they could not get any of the arsenic from the surface of the leaf if they wished. Kerosene emulsion, a solution of whale-oil soap, or a tobacco decoction, will kill the young insects if sprayed on to their bodies.

Begin as soon as the little jumpers are seen in June, and drench the under sides of the leaves, repeating the application if necessary. The insects are said to be less active early in the morning, and experiments in Colorado showed that both young and adults could then be killed by a strong spray of kerosene emulsion; dilute the standard emulsion with about 9 or 10 parts of water. Some have caught millions of the hoppers on large sheets of pasteboard tacked to poles and smeared with some very sticky substance. These sheets were carried along close to the vines and another person jarred the vines from the opposite side, causing the hoppers to jump toward and on to the sticky trap.

It is doubtful whether the Strawberry leaf-roller can be reached with any spray; it is too well protected in its folded leaf. Nothing better than the burning over of the field immediately after the fruiting season, has yet been suggested; it is practiced with excellent results in many parts of Illinois. In 1883, Prof. Forbes wrote that Mr. H. K. Vickroy had burned his fields over five or six times, never damaging his plants in the least. He first mows the field over as close to the ground as he can cut with a mower, and leaves the cut weeds and foliage to dry a few days, so that they may burn readily. He then loosens and stirs up the straw mulch, or sprinkles on some straw, and fires the field in a gentle breeze.

How to Grow Ampelopsis.

C. S., Accord, N. Y.—How can I cultivate Ampelopsis in a clay soil? I have been trying for four years to train a vine to cover one side of a stone house with a western exposure. Last summer, the vine seemed healthy and grew some six feet. This spring, it had died down, and started afresh. What are the neeessary conditions for its successful culture?

ANS.—C. S. has neglected to state which species of Ampelopsis he has—whether our native Virginia creeper or Five-fingered ivy. Ampelopsis quinquefolia—or the Japanese form (A. Veitchii), which is a much weaker and more slender grower, especially when young. All species of Ampelopsis, like their near relatives, the grape vines, naturally prefer a loose stony or gravelly soil; but they are accommodating plants, and can usually be induced to thrive vigorously in almost any situation, if sufficient fertility be given to the soil, and free drainage about the roots provided. If C. S.'s plant stands in a place where the clay soil is saturated with water for a considerable time after rainfalls, it will never be likely to grow well until the defective drainage is remedied. This can easily be done by digging a hole three or four feet square and about 2½ feet deep, and filling it with 18 inches of broken stones, tile or crockery, over which it is well to lay a few sods. The hole should then be filled with as loose, rich earth as possible, and the Ampelopsis replanted, at any time during the dormant season. If the drainage about the plant is fairly good and it is languishing for nourishment in the uncongenial soil, nothing will start it into thrifty growth better than a liberal dressing of fine ground bone and wood ashes, well chopped into the soil for a radius of three feet or more about the plant. This may be followed by a mulch of stable manure to supply the nitrogen which is usually very deficient near buildings, in the situations where these vines are most planted. It is well to keep a mulch about the plant at all times, as it keeps the top soil moist and cool, and encourages the growth of rootlets near the surface, which is much to be desired.

It is possible that the plant may be affected by aphides or some parasitic disease at the roots, which may be seen on examination. In that case, it is best to throw it away and drench the soil thoroughly with a strong decoction of tobacco stems or leaves before replanting another. Ampelopsis Veitchii is sometimes winterkilled about the new growth when young, but this tenderness disappears as soon as the vine is strong enough to make firm, woody canes. A slight protection of coarse litter is beneficial for the first two or three years. W. V. F.

FOR the first time in the experience of the Rural Grounds' people there are no cabbage worms. We do not remember to have seen a cabbage butterfly this season.....

OF the 58 kinds of potatoes on trial this season, Salzer's Earliest (John A. Salzer, La Crosse, Wis.,) proved to be the earliest. At any rate, the vines were the first to die—July 1. The yield was at the rate of 464 bushels to the acre, mostly of unmarketable size. The potato resembles Bliss's Triumph, being round and of a reddish color like the early Bermuda potatoes. The flesh is white and the quality very good. The next vines to die were those of Pride of the South from Johnson & Stokes, Philadelphia. The vines were dead July 8. The yield was at the rate of 161 bushels to the acre, a large proportion too small for market. It is a round tuber, buff skin, pink eyes.....

ON July 24, we received from S. D. Willard, the veteran fruit grower of Geneva, N. Y., a little box of the Dikeman cherry which originated in Michigan, we don't know just when. It is, as we judge from these specimens, the best late cherry we have seen. These cherries were picked in Michigan about July 20, shipped to Mr. Willard who shipped them to the office and from the office they were sent to the writer July 28, and received in perfect order. They are all about the same size—three-fourths of an inch either way—as black as jet, firm, rich, sweet and juicy. There is, as Mr. Willard remarks, a *great demand* for a late sweet cherry. He has never seen a variety so late as this. Most late sorts rot badly. The grower writes Mr. Willard that the "tree is so overloaded this year that the cherries are much less than the average size." Four years ago, Mr. Willard ate cherries from this tree August 10.....

ON May 5, we sowed a plot of Mortgage Lifter oats which have given Edward F. Dibble (who sent us the seed) and others immense yields. The plot was mowed July 27. We estimate what would have been the yield, had the oats not lodged, at the rate of 75 bushels to the acre. The lodging was not necessarily due to a weak straw. The season has been one of more frequent rains than any we can recall in 20 years or more. The straws grew to the height of 4½ feet. The panicles of grain average 10 inches long; they are open and spreading, with from 75 to 90 spikelets of two oats each. They resemble the American Banner oats more nearly than any other among our collection of seeds. Further north, it is claimed that they weigh over 40 pounds to the bushel.....

WE have had Lovett's Best blackberry since April of 1890. The canes at the Rural Grounds are exceptionally hardy, but they have never borne many berries.

THE Minnewaski blackberry was, on the grounds of the originator (the late A. J. Caywood), one of the most prolific varieties we have ever seen. With us, it has never borne a crop that would pay for its home and culture. We would gladly hear from our friends regarding Lovett's Best and Minnewaski respecting their hardiness and fruitfulness.....

THE second-crop berries of the new Gault Everbearing blackcap (July 26) are larger and of better quality than the first crop.....

JULY 28, one cane of the Crimson Rambler rose was seven feet high.....

AGAIN we would say that, on account of the "mealiness" of the berry, the Royal Church red raspberry is of little value at the Rural Grounds.....

AGAIN taking up our pea notes: Juno, from Peter Henderson & Co., gave the first picking July 4. The vines were two feet high, vigorous and productive. The pods were of medium size and a lively darkish-green color. The pods were well filled, averaging about seven seeds, medium to large in size. Juno was more prolific than the old favorite, Stratagem, though the pods are somewhat smaller. The seeds are tender, though not so sweet as some. Abundance came in with Juno, and was, July 4, the most prolific of any of our trial kinds, and decidedly so. The vines were two feet high, bearing as many as 20 pods to a vine. The pods were of medium size, two or three inches, uniformly well filled with from six to eight seeds. This variety, as we have said, was introduced by B. K. Bliss & Sons, in 1884, and were then tried at the Rural Grounds. We tried it again the past season that comparison might be made with newer kinds. Abundance resembles the old Yorkshire Hero. The seeds are larger, not the largest, sweet, and of good quality, though not the best, owing to a tougher skin. We know of no variety that will give a larger quantity of seeds to a given quantity of pods. But it is for home use. The pods are too small for market.....

NEW LIFE PEA.—Seeds came to us from Jos. Breck & Sons, Boston, Mass., and J. J. H. Gregory, Marblehead, Mass. The most productive pea and, all things considered, the most valuable pea for home or for market of its season, that we have ever tried. That's saying a good deal, for we have tried nearly every kind of pea, old and new, from year to year, for 20 years. July 6, the vines were two feet high. Pods three to four inches long, straight, well filled with from five to eight seeds of the largest size. The vines were of great vigor and of uniform height. The pods were often in pairs, and of a bright green color. New Life matures a day or so before Stratagem, or just before the excellent Heroine. We hope that all our readers who raise their own peas, or who raise them for market, will try New Life.....

NEW GIANT-PODDED MARROW, from Johnson & Stokes, Philadelphia, Pa., gave the first "mess" July 8. The vines were two feet high, thrifty and branching. The pods were about four inches long, straight and broad. There were six to nine seeds to the pod, of medium size, and of a deep green color. This variety is prolific, though less so than New Life.....

QUEEN PEA, from Thorburn and Henderson. July 8. A new main-crop pea maturing with Stratagem. Vines two feet and over high. Pods straight, broad and of medium size; about seven seeds of medium size to the pod. The quality is excellent. We prefer New Life.....

UP to the present time, we have rarely had a more favorable season for all farm crops—with the exception of large fruits—melons, squashes, Lima beans, peas, sweet corn, rye and grass—and these are the crops raised here, for the most part, by the market gardeners. Yet, we have never known these farmers to be so thoroughly discouraged, because of glutted markets and low prices.....

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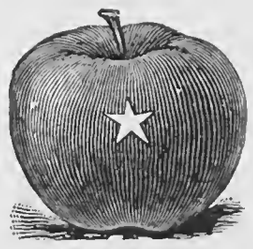

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"Ivy Poisoning."

W. O. E., WHITBY, ONT.—I had no intention of committing myself to the dogmatic assertion that the effect of ivy poison will not spread, or that the poison itself may not be carried by the hands from an exposed part to one that is covered. I intended merely to give the results of my own observation, which has been that the ivy-inflamed surface is strictly limited to the parts exposed, *stopping abruptly at the line to which the clothing reaches.*

Now as a possible solution of this difference between J. C. Senger and myself, let me quote a passage from Prof. Van Harlingen's work on skin diseases: "Eczema is very apt to occur as an immediate sequel to Dermatitis venenata, but the latter disease does not predispose to eruptions of any kind as a remote result of its influence upon the system." By "Dermatitis venenata" is meant ivy poisoning. The inference I desire to convey is that what your correspondent assumes to be the spread of ivy poisoning may, in reality, be an attack of eczema brought on by the ivy poisoning just as it might be by the application of any other irritant. From what he says of the good effects of the solution of the bicarbonate of soda, I am the more inclined to think that this is the case. It might reasonably be supposed that the same susceptibility of the skin that disposed to an attack of ivy poisoning, may also favor the occurrence of an attack of eczema on the advent of any exciting cause. If this guess of mine be found to yield the correct solution of the riddle, it may prove a benefit to those like your correspondent to know it. They will be the better able to treat the trouble correctly.

The Humboldt Blackberry.

A. L. W., GRIZZLY FLATS, CAL.—This rare and beautiful berry is a selected specimen from the wild blackberry of California; it is a very rampant, vigorous grower, the canes sometimes attaining a length of 20 feet in one season. The leaves are very similar to those of the Logan-berry. The fruit is jet black, about 1½ inch long and about an inch thick, in select specimens. The flavor is simply marvelous, being delightfully spicy and with a wild-wood aroma. This fruit is produced in the greatest abundance, and ripens, at least, a month before the Early Harvest blackberry. With us, it yields its crop of fruit with the Hansell raspberry. A blackberry so early as this is destined to be of the greatest commercial value, for early blackberries always sell well. It grows in a trailing, prostrate form, and therefore, must be trellised.

An Experiment with Peas.

H. J. S., NIAGARA FALLS, CANADA.—I sowed two rows of peas 60 feet long, and five feet apart, with tomato vines growing between and on each side of them. The variety was Burpee's Earliest and Best. Aside from the experimental purpose, I purposed to save seed from both rows. The conditions of soil and time of planting were the same with each row. The two rows grew finely, and at the time when the first blooms appeared, I carefully picked them all off from one row, and also the topmost growth which contained, in embryo, the succeeding blooms. The other row was left to go on and perfect its crop without interference. The first mentioned row, in a short time, sent out branches from the axils of the leaves and from near the roots which, in time, produced blooms and pods. This pruning delayed the crop upwards of 10 days.

Another result of the pruning was an increased yield. Upon carefully gathering, and separately thrashing out the ripe pods on the two rows, and comparing their several weights, I find that the row that grew up in the natural way, yielded 4 pounds and 14 ounces of dry peas. The row that was pruned, yielded seven pounds and four ounces. Here was a gain of two pounds and six ounces on 60 feet of row, which must be credited to the slight labor of picking off the tops of the pea vines at the right time.

Neither is this increase of crop the only or the chief value of the experiment. It is customary to sow peas at successive periods of time, with the object of having a continuous supply of fresh peas at the right stage of development for the table. The care and labor attending this practice can, in a measure, be dispensed with by adopting this method of pruning. Sow the early peas, and prune half of them, and thus more than double the length of the period during which fresh peas may be picked.

The cause of the increase in the yield of the pruned row is quite manifest. The roots of each vine, at its most vigorous period of growth, have 10 or more days to forage for a supply of nutriment for the crop. Hence a larger supply and a larger crop. The success of the experiment depends much on its not being interfered with by drought or mildew, or any other of the ailments that affect garden crops.

The California Privet.

CHAS. E. PARNELL, QUEENS COUNTY, N. Y.—In Ruralisms, page 451, I notice a few remarks about Ligustrums. The California privet (Ligustrum ovalifolium) is perfectly hardy here, as it has not sustained the least injury during the past five winters. Plants growing where the ground has been cultivated around them, have made a very rank growth, and produced no flowers; but those growing on the lawn where the grass has been permitted to grow up and around them are covered with bloom, and are alive with bees. All the plants referred to were planted at the same time, and, with the exception above noted, treated exactly alike. The plants receiving cultivation are not only as large again, but the growth is much more vigorous, and the foliage larger and of a darker green. A bunch of the flowers, composed of 12 sprays or clusters, is now on my table, and their peculiar fragrance is sufficient to fill a large room. If the sprays or clusters are cut as soon as the first flowers expand, all will open, and, if cared for, the clusters will last for four or five days.

Owing to an accident, my only plant of L. Ibota was destroyed last fall, so I cannot say anything regarding its hardiness here; but there are some noble specimens of it in the grounds of W. D. F. Manice, Esq., at Queens, L. I., which prove it to be a shrub of great merit for growing as single specimens on the lawn where dwarf plants are required. Where it will survive the winter without receiving any injury, I know of no shrub that is as well adapted for ornamental hedges as Ligustrum ovalifolium.

R. N.-Y.—The California privet is hardy all along the south side of Long Island, where it is freely used for hedges. At the Rural Grounds, it is, in three winters out of four, more or less killed back during the winter. Two of our 23 seasons there, the plants—about 25 of them—were killed to the ground. Ibota has not been harmed thus far.

Always Plenty of Hay.

C. S. RICE, LEWIS COUNTY, N. Y.—The plan that I have advocated and practiced for years to insure against loss through the failure of either the hay, corn or grain crop, is as follows: With 75 acres under cultivation in these crops, I would use 40 acres for meadow, 20 for small grain, and 15 for corn. I would provide plenty of barn room, and when the yield of hay was abundant, would summer over a part of the crop. In this way, much more stock may be kept than when hay is almost the only reliance for winter feed; but I would be careful not to overstock the farm, and would plan always to have hay to sell in a year when the hay crop was a general failure. The corn crop for fodder or ensilage has not been a serious failure in recent years. Grain and hay have been almost a failure several times, but no two of the three crops have failed in the same year. With only a partial failure of one of these crops, while the other two yield fairly well, valuable farm stock will not have to be sold at a great sacrifice through lack of winter keeping. This plan is well calculated to guard against having suddenly to provide for such an emergency as greeted many farmers last year, and is now causing much anxiety in many localities. Of course this plan would not apply where corn does not do fairly well.

The Crimson Rambler.

M. O. W., TOLEDO, OHIO.—I have several fine specimens of this new and beautiful rose; I have given it every opportunity for development, and every chance to show off its beautiful qualities, and it has performed its part to perfection in all particulars, especially in its foliage and its unequaled clusters of blossoms. But it is lacking in several material points. First, it is not as fragrant as a good rose should be; second, it blooms but a few weeks, and among the clusters of roses, those that come out first, commence dropping the petals before the whole cluster is in bloom, which I consider a great defect.

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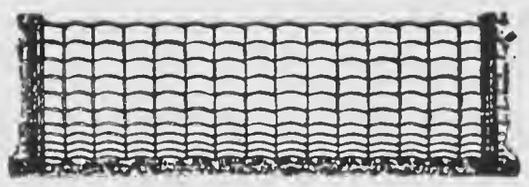

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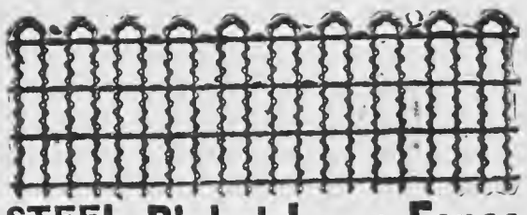

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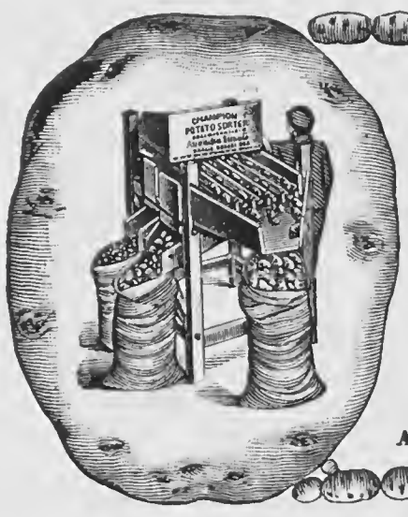

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can be increased by quick, accurate sorting. The "Champion" is better in a dozen ways than any other potato sorter. Sorts faster and easier—on a new principle. Simple, practical, durable. Every potato grower should send for the book that describes and illustrates the

CHAMPION POTATO SORTER

It's mailed free to anyone that writes for it.
American Road Machine Co., Kennett Square, Pa.

DON'T POT YOUR PLANTS!

but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. **Agents Wanted.**

F. RICHARDS, Freeport, N. Y.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, AUGUST 15, 1896.

WEATHER SIGNALS.

Do you find the bulletins, or signals of the Government Weather Bureau, of any value in your work? Have you made any fair comparisons to determine their accuracy? As a farmer, would you regret to have this service discontinued? To what extent do you guide your operations by this service? There are four questions which we would like to have you answer.

⊙

MR. G. M. CLARK is right in saying that the bare, unseeded spots in a hay field represent the difference between a small yield and a large one. We do not believe that it is possible to cut four tons of hay from a field that was seeded with grain. If there are any such yields on record, we shall be pleased to hear of them. Of course, we do not mean irrigated fields, for almost anything is possible on a rich hay field that can be kept moist at just the right time. The problem for the grass grower is first to secure a perfect stand. This can only be done by having the seed evenly scattered, and the soil so fine and rich, that enough of the seed will sprout and grow.

⊙

THE army worms have appeared in large numbers on several of the agricultural college farms. They did some damage because they came unawares, but were finally driven off. Several daily papers have thought it very smart to make fun of the agricultural colleges because this worm did damage on their farms. Do these papers suppose that the very name of these colleges will poison the worms? Professors of agriculture are not gifted with second sight, and cannot look ahead several years and tell when these worms are to appear. As a matter of fact, it is a good thing to have such attacks at the college, for it gives a chance to test remedies and advertise the results.

⊙

IN recommending the Humboldt blackberry on account of its earliness, A. L. W., on page 547, says that early blackberries always sell well. This is not always the case in this market. Each fruit has its season. Sometimes, fruits out of season, sell for extremely high prices, and are in great demand. At other times, they come into contact with other seasonable fruits which take the preference. This often occurs with the earliest shipments of blackberries from the South, which reach here when strawberries, a superior fruit, have possession, and the inferior fruit suffers. Mere earliness doesn't cut so much of a figure as it did before the shipment of southern products to northern markets became such a feature. Quality and fine appearance are much more important. The late crops of so-called everbearing raspberries sometimes come to market in late August or September, but are not sought.

⊙

DURING the slaughter of tuberculous animals at the Wisconsin Experiment Station, several animals that did not react were killed to see whether the tuberculin test was absolutely accurate. One cow gave no reaction whatever, yet she had a tubercle in her lung that was fully encysted or covered with a hard growth so that it could not spread. Here was a cow that had consumption, yet had been practically cured of it. The lung had healed. Nature had covered that tubercle so that it was harmless. We hear of so-called consumption cures when persons mildly afflicted with the disease, go to live in drier or purer air, or receive improved care or nourishment. Probably their lungs will show something of the condition of those of the cow. Nature stopped the spread of the disease by "building a fence around it." It seems to us very desirable to conduct experiments to show how tuberculous cows can be improved by sanitary treatment. One objection to the tuberculin test is that it is too fine. It makes little difference between a cow nearly dead with the disease, and one so slightly affected, that it is likely to live a dozen years, with good treatment. There is wide room for argument as to whether every cow that reacts from tuberculin, should be killed at once. We doubt it.

⊙

ON the first page, C. W. Scarff speaks of different methods of disposing of young calves, but doesn't mention the way many dairymen near New York have of getting rid of their superfluous calves. It's a disgraceful way, however, and, perhaps, it may be said that the less said about it the better. But we don't think so; we think that it should be ventilated and denounced on every possible occasion, and a public sentiment created that will eventually lead to the abandonment of the practice. We refer to the traffic in bob veals which are totally unfit for human food. They are sent to this market by hundreds, in spite of boards of health, inspectors, and what not, before they are hardly old enough to stand firmly on their own legs. The writer of this has seen them by the dozen that wouldn't weigh over 25 or 30 pounds each, and saw one that weighed less than 20 pounds. It's a disgraceful business.

⊙

SOME years ago, a farmer in Westchester County, N. Y., seeded a large meadow to grass. It was well started, and, at first, produced good crops. The hay has been cut year after year, and fed to stock—the manure going to the corn field each spring. Naturally, under this system, the grass crop has grown smaller and smaller, until now it averages but little over one ton to the acre. Here is a chance to put Mr. Clark's plan into operation. The meadow can be broken up this fall and reseeded so as to produce a good crop next year. When once well seeded, it can be kept growing by fertilizers. This will mean more grass, more manure, more corn and more manure for other crops. Or, the hay might be sold and fertilizers bought to grow ensilage corn. A big crop of ensilage corn, where the cows are well bedded, will provide more manure than is required for another crop, if a fair quantity of fertilizer be used in the hill or drill.

⊙

WE can readily understand the position taken by the station directors, who state their views regarding the analysis of fertilizers on page 542. Naturally, no station chemist would be willing to make an analysis of any commercial fertilizer, the results of which would be likely to be made public, who did not take the sample himself from goods on the general market, or have it taken by an authorized person. Such sample is always sealed up and labeled in the presence of a witness, otherwise the results would be of no use as evidence in a lawsuit. In such a case as we have mentioned, viz., where the farmer suspected the quality of a certain lot of fertilizer, we do not see that analyses of the same brand sampled elsewhere would be of service to him. We do not see, either, why in such a case, the chemist should know the brand or maker beforehand. In fact, if he is sure that the sample was honestly selected, we would think it best for him not to know these things. We regard it as unfortunate that, in such a case, the farmer could not secure his analysis. It would have been of more practical help to him than the tables in the station reports, and we would like to have some plan devised that would cover and provide for such cases.

⊙

LAST week we referred to the fact that the Borough of Columbia, Pa., had resolved to keep out of the town all milk from non-tested cows. Here is a copy of the resolution which was passed July 7:

Resolved, That the Board of Health be instructed to require all persons who furnish milk to people of Columbia, to present a certificate to the Health Officer from the State Veterinary Surgeon, or some one deputized by him, setting forth that their herds are free from tuberculosis. The certificates are required to be in the hands of the Health Officer on or before the 15th day of August, 1896, and the names of all who comply and of all who fail to comply, shall be reported to the Columbia Borough Council at the next meeting, and the names of all shall be published in the newspapers of Columbia.

While this does not state, in so many words, that the cows must be tested with tuberculin, it is well understood that the State Veterinarians will demand that test. We understand that dairymen who supply milk to Columbia are divided in their opinion regarding this matter. The majority of them are angry, evidently, and maintain that the town government has no right to pass such a resolution. They threaten to boycott the town. It is certain that, were these dairymen to refuse to have their cows tested, Columbia people would be likely to go without milk. The proportion of tested cows in the country is quite small, and were such a resolution enforced in every town and city of the country, milk "would go to a premium" and be worth far more than it ever was before—for there would not be half enough of it to go around.

⊙

A SEED firm in western New York is sending wagons through the country advertising seeds, and offering to put up round or tub silos for farmers. One of our readers describes this silo as follows:

The silo they ereet is built of pine about two inehes thiek, grooved or matehed. On the ends of the staves, where more than one length is required for the height of the silo, a pieee of iron is used, by sawing into the end of eaeh pieee. They use heavy iron hoops and serews that may be tightened as required. Coal tar is used in putting it together, and a metal roof also. A silo 12 feet in dlameter and 20 feet in helght, is put up for $72, whieh seems very reasonable.

As we understand it, this company will build the silo and take a farmer's note for one year in payment. We are investigating this manner of doing business, and shall, doubtless, have more to say about it. As to the value of a "tub" silo, reports are largely in its favor. Here is a note from Prof. Clinton of Cornell, that is worth reading:

This priee for putting up the silo of the dimensions given, can be lowered by any farmer. There is not the slightest neeessity for having the staves grooved. The sueeess of the tub silo is unquestioued. I have just visited one that has been in use the past year, and the ensilage kept perfeetly. The dimensions of this one are 13 feet dlameter by 30 feet high. The charges made against the tub silo that it will fall to pieees in the summer, I found utterly faise, for this one was standing in good condition. I shall reeommend the building of tub silos as being the best and eheapest for the farmer.

It was but a few years ago that most of our ensilage authorities were emphatic in saying that the "tub" silo was a complete failure. We should hear from them now.

⊙

BREVITIES.

VACATION.

Some feliers take vaeation by a runnin' from the farm;
They git all hot an' tuekered out—it never had no eharm
Fer me—ter put on Sunday clo'es an' wander up an' down,
All harnessed up to worry's eart—let others go to town,
But I'll take my vaeation right to home—I'll boot old care
Right off the plaee, and sorter mount that hammiek over there.
I'll peel my eoat, an' visit good with mother in the shade,
A brushin' up our eourtin' days—au' drinkin' lemonade.
I'll take two weeks an' work or not, jest as I wanter do.
I'll go off fishin' if I want, or play a game or two
Of ball—I'll jest *lay off*, that's all—that's good enough for me,
Right here to home where everything is easy like, and free.
Let them go off that can't git through the year without a ehange!
I'm too good natured to eomplain—all is, I eall it strange.
It's "every man unto his taste," that's true as I'll agree,
But my vaeation on this farm is good enough for me.

ANALYZE the lie.

The New Life pea—page 547.

READ the silo notes—page 555.

MAKE a move out of that groove.

WHO kieks the eow hard? The eoward.

READ the experiment with peas—page 547.

RE-VEAL the veal by killing the scrub bull.

THE horse is an artist when he draws flies.

READ the note on "Blood Purifiers," page 543.

THE eow peas are growing faster than the weeds.

MR. SENGER makes good points for simple scienee.

THE Keiffer pear erop is, apparently, short this year.

BE a soil tiller, not a soil killer. Soap is a *soil* killer.

How about fertilizers on wheat? Do you use them as formerly? Why, or why not?

YOU ean't beat this season for Crimson elover sowing. We have a small patch up.

BOLT, if you must, but don't flop. A ehicken with its head eut off is the ideal flopper.

SELF-PRAISE never pays; advertise yourself, first you know, back you go on the farthest shelf.

"THE fate of the ealf." Shall it be veal or eow? The quieker the scrub is veaied the better.

EDUCATION eosts money. Will you pay for it willingly, or have it dug out of you by "experienee"?

POTATOES are blighting badly in many places. Will the rot be serious enough to affeet the priee? It looks so.

CAN'T *you* find a way out through "a jar of jelly"? Possibly, good preserves will jam that mortgage off the farm.

How to kill woodehucks that live in stone walls! That information will make glad the hearts of some of our readers.

A LAZY man ean raise 10,000,000 stout weed seeds in his baek yard, and 50 smart men may not be able to kill all the weeds that grow from them.

OH, where are the reapers that garner in the sheaves of grain? It would be a sin to leave them out in the sun and rain. They should be under the shed again.

PEOPLE like their best strawberries for supper. Have piekers enough to piek all the fruit before noon, and then have it distributed before supper. You must be close to town to do it, but it will pay.

IT is a sin to substitute some old, baek-numbered tree or fruit, when some one orders novelties—they may not know good chalk from eheese, but that gives you no fair solution out of the erime of substitution.

THE stories about the army worms are frightening many farmers. One man in Conneeticut has a field of ensilage corn, and at the first sign of the worm, he purposes to eut the corn into the silo, even though it be but half matured. This, we think, would be a mistake, unless he is short handed, and feels that he eannot fight the worms sueeessfully.

THE VALUE OF NEW VARIETIES.

ARE THEY WORTH HIGH PRICES?

Last year a reader said that he was trying the Koonce pear, and Triumph peach, and that the nurseryman fills his pocket with our cash, for the exorbitant prices charged for these new fruits, while the growers wait for years to realize whether they are of any value or not. Does he realize that some toiling originator or experimenter has, prior to this, spent years of hard work and study, and considerable money, in many instances, to produce these fruits, and that failure more often than success, has been his reward? Mr. Husted, the originator of the Triumph peach, has, for years, tried to produce a yellow freestone peach as early as Amsden or Alexander, and after numerous crosses, and waiting for years to see the result of his labor, it has come. Now, does any fair-minded fruit grower believe that it would be fair for Mr. Husted to grow and sell the Triumph trees for five or six cents, the price usually paid for peach trees? If so, what is to pay him for his time, trouble and cash expended in producing what must become one of the most valuable varieties of peaches yet introduced? The nurserymen who bought this variety from him for propagation, had to pay $1 per tree, and take a certain number besides. Can they afford to grow and sell these trees at the same price they get for standard varieties? Besides, they must advertise it, and must have many trees left unsold, because it is a new thing, hence the price must cover all these contingencies.

It is but a few years since Crawford's Early was our earliest yellow variety; but now the St. John comes ahead of it, and here is the Triumph still earlier. Whether it will succeed generally, is yet to be decided; but wherever Alexander is a success, it is likely to be. My opinion is that originators and introducers have been poorly paid for what they have done for American horticulture E. W. Bull, the originator of the Concord grape, died a poor old man, as R. N.-Y. readers know, when the discovery of this valuable variety, which made grape growing what it is to-day in this country, should have given him a comfortable fortune at least. Luther Burbank has expended, in five years, $25 000 in his experiments to produce new and valuable varieties; and is it any wonder that he asks from $500 to $2 500 for a single tree of them? Or is it any wonder that a nurseryman buying these fruits for introduction, is compelled to ask a big price in order to meet expenses?

The Wilson and Bubach strawberries, Elberta peach, and Ben. Davis apple, were untried novelties a few years ago. The inventor of a harvesting machine or an electric motor dies a millionaire, while the originator of a new fruit can never obtain much more than a fair competency for what it has required just as much brains and labor to produce. An injustice is often done the tree-planting public by uneducated and unprincipled tree agents who sell old varieties as novelties long after they have ceased to be such. Agents are still canvassing this country selling the Keiffer pear, Elberta and Globe peaches, and Abundance and Burbank plums, as new varieties, at big prices, when any of these may be bought from the average nurseryman for a fair price. Riding out a few days ago, I saw a row of apple trees, and asked the man what they were. He said, "I bought them of Mr. H——— for Red Astrachan, but they turn out Yellow Transparent." He had set some pear trees, and I asked what he paid for them, "Fifty cents apiece," he said. "I got them from an agent." He is within two or three miles of two first-class nurseries, where he could have seen the trees growing, advised with the nurseryman, and got the same trees for 10 or 12 cents. Such cases are common, and many of these are the men who get taken in on new varieties, and say that they don't amount to anything.

Every fruit grower should, certainly, test such new varieties as he thinks might suit his conditions, and if he find some of them good, he can tell then how many to plant. If he neglect to do this, some years after, he will be told by some one that he ought to plant such and such a variety, and may go into it on a big scale only to find it not suited to his needs, when, if he had tested a few trees in the beginning, even at an "exorbitant price," he would have saved many dollars later on by knowing that it is really worthless.

There are those who believe that fruit growing is not beyond the point where our forefathers found it. These are pessimists of the worst sort, and they constantly contend that it is overdone and can never pay in the future. There is, and always will be, an overproduction of a common quality, and of those sorts that are easily produced by the careless grower. Of the finer varieties that it requires some skill to produce, there is hardly ever overproduction, but often a lack of proper distribution. With the enormous apple crop this season, good apples sell readily in our local market for 35 to 40 cents for a ⅝-bushel basket, and I am told that the Olden Fruit Co., of Missouri, had recently 20,000 barrels of fine Ben Davis, for which they had refused $2 per barrel. This doesn't look much like overproduction.

Delaware. CHAS. WRIGHT.

APPLES AND APPLE BARRELS.

FIRST-CLASS FRUIT, AND FULL-SIZED PACKAGES.

In THE R. N.-Y. of July 4, an answer was given to the question, What is a barrel? The loss experienced by shippers, and the trouble undergone by dealers, by reason of the small-sized barrels many of them persist in using, were pointed out. A barrel isn't a barrel with many shippers, when it is regarded as a unit of measure. The grower of fruits or vegetables loses much more than he gains by using these inferior sized packages. But it is the hardest work in the world to make many of these people believe so. They seem to imagine that they can pack their apples, potatoes, etc., in barrels holding a peck less than they should, sell them as regular sized packages for full prices, and no one be the wiser. There never was a greater mistake. The dealers in these articles are no fools. They know a standard barrel when they see one, and they also recognize a pony barrel without any difficulty when one of them comes into view.

Dealers and different organizations have been doing their best to bring these facts home to shippers, for years. One year, many went so far as to say that they would not buy apples packed in small barrels, but that was a year of a short crop of apples, and the competition was so keen, that buyers ended by taking everything they could get, regardless of the size of the package. Not so, this year; the crop is large, and the probabilities are that buyers will be more particular. A meeting was held in Boston a few weeks ago, which was largely attended by the apple dealers and buyers of that city and vicinity. They unanimously adopted the following:

We, the undersigned, feeling that it is for the mutual interest of buyers, dealers, and growers of apples to have the fruit packed in barrels of uniform size, hereby,

Resolve, that we recognize as the standard barrel for apples, a barrel which shall not be smaller than the capacity of a flour barrel, which is 17⅛ inches in diameter of head, 28½ inches in length of stave, and of regular bulge, being the same as adopted by the National Apple Shippers' Association, and we hereby agree not to buy, directly or indirectly, apples that are packed in smaller barrels. We recommend that the heads be of hard wood.

This is good advice, and is well worthy the attention of apple shippers. Messrs. Lawrence & Co., of Boston, extensive handlers of domestic and foreign fruits, send us the following:

On account of the very heavy quantity of apples that promises now to be marketed the coming season, we would strongly advise that only the No. 1 fruit be shipped to local and foreign markets. In this way, the business will be done with less trouble, and be more satisfactory and remunerative to farmer, shipper and dealer. It looks now as though it would not pay to handle any inferior apples this season. The farmer will be better off to use them as fertilizer or feed them to the stock.

"MUSCLE-MAKERS," "FAT FORMERS," "PURE FAT."

ANOTHER SCIENTIST TO THE FRONT.

THE R. N.-Y. submits with more grace to the hypercriticism of Mr. Morse, page 506, than my own polemic spirit is prepared to accord him. When I studied chemistry, I was taught that the term carbohydrates was not well chosen, for the reason that it is a misleading expression, and that there is, as yet, but little known about the atomic structure of carbohydrates. We know that they contain carbon, hydrogen and oxygen, and always two atoms of hydrogen to one of oxygen, but the proportions of these two to carbon vary greatly. How, then, can this uncertain term express, with a certainty, exactly what we are feeding? The term, protein, is worse still. Proteids contain carbon, hydrogen, nitrogen, oxygen and sulphur, but no living chemist has, as yet, ventured to write out a formula that will more than represent about their average composition. The two words, protein and carbohydrate, convey to the chemist a certain "shorthand" general meaning similar to the symbols he uses in his formulas, all of which are as unintelligible to the masses as the printer's "slug" outside of his own office. What would the farmer think if THE R. N.-Y. were to advise him to apply 100 pounds of "K Cl", instead of muriate of potash? Both mean the same, with the difference that the chemist would see that to every 39 pounds of valuable potash, are hitched 35.4 pounds of worthless chlorine. According to Mr. Morse, however, THE R. N.-Y. should use the formula, K Cl, because it expresses "the exact meaning of the chemical composition of the substance named." Every man has a right to use expressions and abbreviations that are understood by his class, but when he speaks to the masses, he must use the language of the masses, or he might as well keep his mouth shut.

On the other hand, everybody has a right to coin words that convey to the masses the meaning intended, and this the words "muscle-makers" and "fat-formers," as used by THE R. N.-Y., certainly do. A study of an unabridged dictionary ought to convince Mr. Morse that his objections to the words are far from well founded. I wonder whether his cows "gave" milk, or whether he took it from them. If he ever "made" money, it is strange that the Government did not punish him for it. To water, means "to wet or overflow with water." Is that the way he treated his thirsty horse? When he got "soaking" wet, how did his mother wring the water out of him? When he "raised" crops, how high did he elevate them? This is on a par with his objections. Even a careless reader of Primer Science must have understood the meaning of muscle-makers, fat-formers and pure fat. There was no need of such expressions as "hair-formers, hoof-makers," etc., on the principle that the greater includes the less, unless one wish to be like the man who, after cutting a large hole in the door for the cat, also cut a small one for her kittens to pass. The three plain English terms express the points of most interest to the farmer, knowing, as he does, that, with these three exactly right, the rest will take care of themselves. It is not so much the analysis as the synthesis that the farmer needs. He needs to know how to put his feed together to produce the best results. This THE R. N.-Y. has fairly taught, and its plain, expressive terms have aroused a greater interest than all the scientific terms put together would have done. A careful examination into the matter must convince any one that the objections urged against THE R. N.-Y.'s terms apply with much greater force to the scientific (?) terms in vogue.

Virginia. J. C. SENGER.

THE School of Agriculture of the Pennsylvania State College has a Chautauqua course of home reading and study for the farmer. The course covers the general subjects of crop and animal production and horticulture. The books in this course have been selected with special reference to the needs of the practical farmer and his family, and arrangements have been made with publishers by which these books are furnished to members of the circle at reduced prices. But this college does not let the matter rest there. It has found that this course of reading must be pressed upon the attention of farmers, and has appointed a superintendent, whose duty it is to visit the institutes and other farmers' meetings and explain this system of home study, which includes some instruction by letter from the college when desired, and also examination and granting of diploma when the course is satisfactorily completed. The course is pressed upon the notice of the farmers. The result is that, frequently, 15, 20 or 25 persons at a single institute point ask for certificates of membership. This is the right method for an agricultural college to pursue. The masses will not seek a scientific agricultural education unsolicited. These colleges are maintained by the peoples' money, and large sums are being expended upon them. A little of this money cannot be more wisely used than in carrying a course of reading to the people. In no other way, can a college so surely impress upon the farmers the fact that agricultural science has helpful facts for practical men. Young men will be drawn to the college as students, and the college will get into closer touch with the masses. There is a prejudice in the minds of many against our land-grant colleges, and the charge has been freely made that the great majority of them are not doing anything for agriculture, and are not in sympathy with the plain, practical farmer. The scheme just noticed will do much to dispel the prejudice, and to convince the people on the farms that the college can help them and desires to do so. This is a move in the right direction.

BUSINESS BITS.

THE Star hame fastener is a very handy device to take the place of the hame strap. It is inexpensive and offers good inducements to agents. Write the Star Hame Fastener Co., 80 Dearborn Street, Chicago, Ill.

EVERY sheep should be dipped some time in the fall to insure comfort by freedom from insects during the winter. The United States Government has just purchased a large quantity of the Cooper dip in preference to any other. The address is Cooper & Nephews, Galveston, Tex.

GAME may now be sold in New York during the year, provided it was not killed in the State, or within 300 miles. The open season for many kinds of game in the State is also at hand. Wm. H. Cohen & Co., 229 Washington Street, New York, are ready to handle it and other kinds of produce.

UNTIL recent years, the development of labor-saving machinery for handling the potato crop has not kept pace with the growth of the industry. The potato planter and digger were the first to cheapen the cost of production. The Champion potato sorter promises to be another great labor saver, and relieves the potato grower from the tedious task of sorting his crop by hand. It is manufactured by the American Road Machine Co., Kennett Square, Pa., which will cheerfully send full particulars upon application.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

MOTHER S WISH.

They were talking of the glory of the land beyond the skies,
Of the light and of the gladness to be found in Paradise,
Of the flowers ever blooming, of the never ceasing songs,
Of the wanderings through the golden streets, of happy, white-robed throngs.
"And," said father, leaning cozily back in his easy chair,
Father always was a master hand for comfort everywhere,
"What a joyful thing 'twould be to know that, when this life is o'er,
One would straightway hear a welcome from the blessed, shining shore!"
And Isabel, our oldest girl, glanced upward from the reed
She was painting on a water jug, and murmured, "Yes, indeed."
And Marian, the next in age, a moment dropped her book,
And, "Yes, indeed," repeated with a sweet, ecstatic look.
But mother, gray-haired mother, who had come to sweep the room,
With a patient smile on her thin face, leaned lightly on her broom—
Poor mother, no one ever thought how much she had to do—
And said, "I hope it is not wrong not to agree with you,
But seems to me that when I die, before I join the blest,
I'd like just for a little while to lie in my grave and rest." —*Credit Lost.*

THE influence of the shirt waist may make woman's dress more masculine, but it also incites the masculine heart (or shirt) to emulate feminine taste and take to itself some of the dainty colors and fabrics. Pink and blue are favorites with gentlemen, and dotted Swiss has been seen.

*

WITH the death of Harriet Beecher Stowe, a life of great usefulness was ended. She has been called the greatest of American women, and if we could number the vast throng which has read her book, and been influenced by its great purpose, we would say, "Greatest of all women."

*

THE stiff collar of the shirt waist hardly holds its own with the ribbon collar. The latter is certainly prettier and more comfortable. The stiff collar belongs with the tailor-made suit, to which it adds style. Its severity is trying to most faces, and, except in white, it lacks the daintiness which we like in a woman's dress.

*

MOST papers are continually publishing advice about the complexion, etc., and more than half of such matter is as impracticable and useless as can be. We think that the care of one's health is first in importance, and that the complexion can best be improved by giving proper attention to the stomach. Mrs. Rorer is an authority on the question of wholesome foods, and her fine complexion, it is said, she ascribes to her fondness for garlic. This seems to verify the claim that onions are good for clearing the skin.

A JAR OF JELLY.

HOW IT IS MADE AND SOLD.
PART VI.

Brandied Fruits; Finishing Touches.

I WISH to say one word about brandied fruits. Many, I know, would consider a list incomplete that did not include these; but none has ever gone out under our label. I have conscientious scruples in the matter, and to me, these seem very strong arguments against them. The excuse that "some one will put them up if you do not, and you might as well have the profit as they," seems to me a very weak one, and not at all satisfactory. Many young men who are now drunkards, acknowledge that their love for liquor was acquired by eating brandied fruits, either at their mothers' tables or at the table of some friend. I have a little boy of my own, and I can feel what a bitterness any mother would cherish towards another who would lead her boy astray, even through such seemingly innocent means. No mother must ever be able to lay such an accusation on my head.

As I look over the articles written, I feel that I may have painted the business in too glowing colors; that I may have carried the idea that entire failure is an impossibility. I have not intended this, and I wish to say emphatically, that no one need expect to succeed in this work who is not willing, at the outset, to spend many weary hours, and carry much anxiety. There is much to contend with and one needs endless patience, courage and strength. Of course, we cannot compete with the canned fruit in tins, and jellies put up by the pail at only a few cents per pound, somewhat lessen the sales of better qualities. Another great obstacle in this work is its expensiveness. It needs quite a little capital to carry it on, and from the very first, it is continual outgo with no income till the end of the fruit season.

We usually begin to ship our fruit October 1, using cases which hold one dozen each of quarts and pints, and two dozen tumblers. These cases are lined with indented paper on all sides, and a wrapper of it is put about each jar. This we buy in quantities in large rolls, cutting it ourselves in the desired shape. We cover our jellies and jams, first with a paper which comes in contact with the fruit. Then place over the top of the tumbler a cover of paper lined with one of paper cambric, both being wet with any material which will cause them to adhere to the tumbler. When this cover is dry, it is covered with a tinfoil cap of any desired depth, pressed on smoothly. The cans are then labeled, and wrapped in soft wrapping paper, when they are ready for packing, which is done in straw.

It does not seem possible that, to make a glass of jelly complete, ready for shipping, we have to purchase articles of 11 different firms; yet people complain that these are such expensive luxuries, not considering the anxiety, care and, more than all, the labor over stoves kept at red heat during the long, summer days while the thermometer in the shade is steadily ascending to its greatest altitude. In this business, as with all others, there is no success without unceasing vigilance and perseverance. But the reward and satisfaction come with the appreciation of the public. This industry has had a rapid growth in our country, and its farther development, with the many other sources of prosperity, is bringing out some noble elements of human character, for only as a nation is engaged in ennobling industry, can it be happy.

MRS. O. P. HOWLAND.

CALLED TO BE A COOK.

(*Concluded.*)

MELLIE had just engaged a new Phyllis, and was full of wonder, as all housewives are, as to why there should be so much inefficient help, and why our American girls should avoid this open door of employment as though a plague lurked just within it. As only a woman can, she ignored the fact that others besides herself might dislike to roughen their hands.

"Of course, we all lament the state of affairs," said I; "yet I cannot blame any girl of good connections for not wanting to become the slave of a capricious mistress, where she must associate and sit at table with those who are her inferiors in refinement and culture. Neither can I blame her for not liking to place herself in a position where she will inevitably be slighted by those who were only her 'equals,' but who, simply by this accident of place, now consider themselves her 'superiors.'"

"There is no necessity for her being slighted," asserted Gertrude. "The girl who respects herself is always respected. As to not eating with the family, she should look at it as a friend of mine did, who said that she did not know whether the family felt above eating at the same table with her, or not, but that she certainly did feel above eating with them. And if you mention social position," said this iconoclast, with a fine curl of the aristocratic nose, "no one who works for a living, I care not in what occupation, *has* any social position, and she might as well get used to the fact in one line of work as in another."

"That depends upon what you mean by 'social position,' mademoiselle," hastily interposed Mellie. "If you use the term as do those eminent scions of the 400 who dare not refer to their ancestry lest they discover a tradesman or a pretzel merchant to the public eye, no doubt, you are correct. But you know that, when you use the word in its best sense, you and I are the social equals of the best our country can show. If your assertion were true, how could rail-splitters and tow-path boys come to be Presidents of this big nation, and their wives 'first ladies of the land'?"

"Perhaps," was Gertrude's provokingly dubious answer, though the twinkle in her eye showed that she wished, rather to sustain her argument than to reaffirm a belief.

"At any rate," affirmed Mellie, "you wouldn't want to do housework for a living, yourself, Gertrude!"

Mellie felt that, in appealing to her friend's aristocratic tendencies, she was securing her position; but the shot had no apparent effect, for Gertrude replied calmly: "No, because I can do something else which pays a great deal better."

"But suppose that you could not," persisted Mellie. "Put yourself for a moment, in the place of the girl who is not fitted for a profession, or for any of those occupations that are generally considered more ladylike than others, and which command more outward respect, at least. You would *never* do housework for a living!"

"Indeed, I would!" stoutly replied our friend. "At least I would cook. I would 10 times sooner do it than to go into a shop, or where you have to work every moment, where you never have an instant to yourself, but must stand a never-ending strain from early morning until night. Possibly you may think that the young ladies who stand behind the counter have more 'outward respect' than those who do housework for a living; but I tell you that it is just the other way; for behind the counter, they are subjected to the whims and sometimes the abuse of every one who may choose thus to treat them. And as for a factory! Do you remember Mattie Miller, Myra? She was at school when we were."

"I remember how she looked. She was not in my class, and I did not know her personally; but I saw her with you quite frequently."

"I thought that, perhaps, you might remember her. Her father was a merchant in easy circumstances, and during Mattie's school life, they had, not only every comfort, but the luxuries of life—a beautifully furnished house and everything to correspond. But just as she left school, her father failed and lost everything. He was growing old, and had not the energy to try again, but seemed to lose all his interest in business, and not to be able to turn to anything else. Gradually he grew feeble and helpless. There were father, mother and a little sister of 10 years besides Mattie. The wolf came pretty near the door, and there was no one to do anything to keep him away but this girl who had never had anything to do before."

"Why did she not teach?" inquired Mellie. "I think that you said she was competent?"

"She was well fitted to teach," answered Gertrude, "and at first she tried to find a position as teacher; but she must be near home; it was impossible for her to wait for an opening, and as none presented itself at once, she went into a factory, and there she has stayed all these long 10 years. She has to work every moment of daylight, and every day except Sundays. She never has a holiday, and she dare not be sick, for fear of losing her place. She has sat before a machine in that unnatural, stooping position, cramping her lungs and bending her spine during the hours of daylight for 10 years. Her life has just been one dreadful grind, until she has lost all hope and almost all interest in life. I went to see her when I first came home. There she lives, or, rather exists, in the same city where she went to school, and she has never once been back to a commencement. I tried to induce her to go with me, but she said pitifully, that no one wanted to see her. I told her that I wanted her. I think that she is the noblest girl in the whole class, if she does think her life is such a failure."

Gertrude's flushed cheeks and excited manner, so unusual with her, gave added interest to the story, and there were tears in the eyes of both her listeners, as they emphatically agreed with her last remark.

"We often read such stories," said Mellie, "but they never seemed so real to me before."

"So much for the factory part of the question," went on Gertrude. "Now, if you do housework, you get good wages (of course, it isn't called a 'salary,' but the money will buy just as much as if it were); you get a safe home, and you get your board. The board alone often takes nearly all a girl can earn at other employments. Suppose you are a good, plain cook! You can get $18 to $20 a month anywhere in the city where I have been living, besides board. You have nothing to do but cook, so you have considerable time to yourself; and it is not very hard work. You can save all you earn except what it costs you to dress; and you need not stay one hour with a vulgar mistress, or in any place where you are not treated well; for such is the demand for competent cooks, that if you go out at one door, you can immediately enter the next. In fact, every door on the street is open to you. You need not take abuse or insult; you need not overwork; you need not lose your self-respect; and you may be much more of a lady than your mistress can ever be, and be just as good a cook as though you were vulgar and ignorant."

Gertrude's earnestness and her telling arguments—or, perhaps, I should rather say, her *facts*—proved both silencing and convincing, and they solved the problem which has been vexing my soul so long. Our family are all "born cooks," and should the time ever come when I shall be thrown on my own resources, I think that I shall be a "good plain cook." But still I wonder whether Gertrude would, even if she were "called" by circumstances and by natural fitness!

MYRA V. NORYS.

DANIEL WEBSTER: "Labor is the great substantial interest on which we all stand."

PRINTED PATCHWORK.

Something each day—a smile—
Is not so much to give,
And the little gifts of life
Make sweet the days we live.
The world has weary hearts
That we can bless and cheer,
And a smile for every day
Makes sunshine all the year.
—*George Cooper in Sunday School Times.*

....PHILLIPS BROOOKS: "There are always people who are uneasy if hard times improve by other ways than they suggested."

....HARRIET BEECHER STOWE: "I have discovered a way to end the woman controversy. Let the women all say that they won't take care of the babies till the laws are altered. One week of this discipline would bring all the men on their marrow bones."

....EMERSON: "If the young merchant fails, men say that he is *ruined*. If the finest genius studies at one of our colleges, and is not installed within one year afterward in an office in the cities or suburbs of New York or Boston, it seems to his friends and himself that he is right in being disheartened and in complaining the rest of his life. A sturdy lad from New Hampshire or Vermont who, in turn, tries all the professions, who *teams* it, *farms* it, *peddles*, keeps a school, preaches, edits a newspaper, goes to Congress, buys a township, etc., in successive years, and always, like a cat, falls on his feet, is worth a hundred of these city dolls."

ODDS AND ENDS.

WASHING THE CHICKEN.—I heartily agree with Sweet Fern in regard to the necessity of washing the skin of a chicken with soap before cooking. In my

6830—Misses' Eton Jacket.
6654—Misses' Skirt.

practice, however, I substitute baking soda for soap, and a clean cloth for Sweet Fern's brush. Unless one make soap for this special purpose from clean, sweet lard, the soda is preferable. The necessity for cleansing a chicken's skin thoroughly, should be apparent to any one who has ever seen fowls dusting themselves in a barnyard. And the idea of some cooks—that this cleaning impairs the flavor—wholesome flavor—is absurd. ALIX.

CAT-TAIL PILLOWS.—Nearly every woman enjoys having pillows for the lounge, as well as large pillows for the floor, and pillows to throw into the angles of otherwise uncomfortable chairs, says a correspondent in the Household. The usual trouble in obtaining enough of these is the expense of the material with which to fill them. Covers may be made of gingham, denim, and a number of other inexpensive fabrics, while a good, stout piece of unbleached muslin makes an excellent substitute for ticking. And now it has been discovered that a filling may be had with no expense at all, at least, to those who live in, or have access to, the country. This filling is obtained from the catkin or cat-tails as the boys usually call them. These should be gathered when they are ripe, that is, when they have turned a deep brown, pulled carefully apart, and put at once into the pillow cases. The cases should be filled quite full, especially for the floor pillows, and then when sewed up, they should be beaten and kneaded effectually to loosen and separate the down. Such pillows keep in good condition for a long time, and are almost as soft and light as down.

FLY PAPER may be made at home, according to a recipe given in the New England Farmer: Have ready some sheets of wrapping paper which is firm enough not to allow the mixture to strike through. Old pamphlet covers, circulars and writing paper, are also good. Use equal parts of melted resin and castor oil, and be sure not to add a drop of water. Stir the mixture over the fire a minute, or until thoroughly mixed, then while it is warm, spread it thinly over sheets of paper that is not porous. Be sure to leave a margin round the edges or the fly paper cannot be handled neatly. If at first the flies do not seem to be attracted to it, scatter a very little sugar in the center of the sheet.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6830. Misses' Eton Jacket.
6654. Misses' Skirt.

The jacket is simply adjusted by under-arm gores and shoulder seams, fancy pearl buttons decorating the fronts. The seamless back is rounded on the lower edge, very slight points finishing the fronts. The revers are stylishly pointed, and meet the rolling collar in notches, the edges being finished with a double row of machine stitching. The skirt is shaped with front and side gores that fit smoothly at the top, the straight back breadth being gathered. Patterns Nos. 6380 and 6654 are cut in sizes for misses of 10, 12, 14 and 16 years of age.

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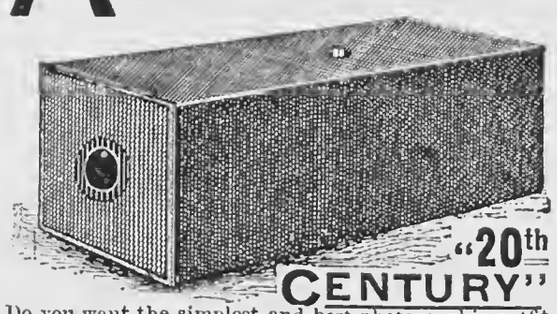

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For further description, map and any information, address or call upon E. P. SKENE, Land Commissioner, No. 1 Park Row, Chicago, Ill.

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Presidential Campaign News.

The Presidential Election next November promises to be one of the most exciting and important since 1860. We can't print all the news about it in THE R. N.-Y.; but we have made special arrangements with the leading National papers of both parties in the following list, so that we can send your choice of them for the rest of the year at a trifling cost. This will give you all the political news during the campaign, and the results of the election in November. Every regular issue of any paper in this list will be sent from the date your order is received, until January 1, 1897, together with THE R. N.-Y. for one year for the price opposite the name of paper. Agents and club raisers may take these orders, and retain their regular commissions on THE R. N.-Y., but no discount can be allowed on the other papers.

THRICE-A-WEEK WORLD, New York	$1.45
THE BALTIMORE SUN. (Weekly)	1.30
THE DEMOCRAT AND CHRONICLE, Rochester. (Weekly)	1.30
THE CINCINNATI ENQUIRER. (Weekly)	1.20
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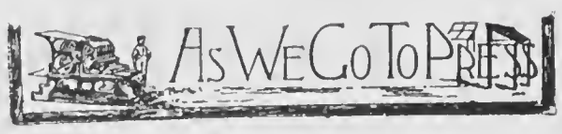
ATLANTA CONSTITUTION. (Weekly)	1.30
THE INTER-OCEAN, Chicago. (Weekly)	1.30

Remember, these prices are for the papers mentioned until January 1, 1897, and THE R. N.-Y. one year, or we will send any paper in the list free to any subscriber who will send $1 for a new subscription (not his own) to THE R. N.-Y.

THE RURAL NEW-YORKER, NEW YORK.



"ALARMS."

A Frenchman is said to have invented a "baby-cry" alarm. It is a sort of shell over the baby's crib so arranged that, whenever the child cries in the night, a bell in the next room is rung. We don't need any such alarm at our house. Our baby has good lungs, and when she sets out to cry, the neighbors all turn over in bed with various remarks about her nocturnal habits. For my part, I wouldn't give five cents for a child so weak in the lungs that it needed an electrical device to let folks know it had the colic or a bad dream. Such a child never could breathe air enough into the lungs to enable it to grow up.

We feel inclined to act just about the same way about the announcement of *The Agents' Share* on this page. The enterprising, successful man won't need an electric battery to enable him to see the bargains that stick right out of this offer. The men who will finger the greater part of that cash are capable of sounding their own alarm, and we shall hear from them before October 1. They will be at every picnic and fair, or at any other place where farmers are gathered, and they will make hay before the sun of other folks begins to shine.

Now, then, time is short, and the weather is hot. Short stories! Are you capable of sounding your own alarm, or must it be rung and sung again and again? These prizes are genuine. There's one for you. Start for it now! Keep at 'em, See what this Jerseyman says:

The owner of the name I send you, was a trial subscriber the latter part of last year, and about Christmas, I worked him hard for a year's subscription; but he said that he was too poor. When I saw him the other day, he said: "I've got to have that paper! THE R. N.-Y., I mean! I might as well give you a dollar right away." He did not have to be asked to subscribe now. He realized that he was too poor to be without it.

That's right! Keep at 'em! They'll come in time!

THE RURAL'S FRUIT REPORTS.

SOME NEW RASPBERRIES.—In THE R. N.-Y. of July 11, a correspondent from Crescent, Iowa, the same latitude as ours, but further west, says that the Columbian raspberry winterkills with him. In the spring of 1895, we planted for trial, the following varieties: Loudon, Gault, Columbian and Redfield. The summer was unusually hot and dry; in September, we had some rain, which made a late growth, but our plants came through the winter without harm, except the Loudon, of which some plants were cut back one-half. This variety is claimed to be ironclad in Wisconsin. I think the drought and late growth are mostly to blame, and so cannot condemn a variety with one year's trial. The winter was rather open, and I think only twice the temperature went down to 15 or 16 degrees below zero. Our Columbians made a magnificent crop of berries, and the new canes are six feet high, standing up straight. E. M. C.

Pella, Iowa.

NOTES FROM WINDHAM COUNTY, VT.—Of all the varieties of strawberries grown at Mapledell Farm, the Greenville is by far, the best. Princess is too soft and poor in color. Van Deman is one of the most prolific bloomers, but a large part of the fruit blasts. Beder Wood is a better early berry than the Van Deman. Marshall, Mary, Rio and Brandywine have not fruited yet, but have made a fine growth for spring-set plants. The Cuthbert raspberry will have to take a back seat as the London is a grand berry, and if as hardy as is claimed for it, will surely take first place. The berries are large and firm. The Miller is another fine early berry. The Columbian I have not fruited yet. The North Star currant is worthless for me. It is a vigorous grower, but the fruit is no larger than the old Dutch. I shall dig out all I have of this variety, and shall try the Red Cross. Of grapes, the Green Mountain is the very finest one on our list—extra early, hardy, productive, fine flavor and attractive.

The winter of 1895-6 was a very disastrous one for fruit and fruit trees. All my Crosby peaches and all Elbertas except one, were killed, as were all other varieties except the seedling which I have before mentioned, and the blossom buds on all the latter were killed; but the trees came through all right. Some plum, and even forest trees were killed. The Burbank plum seems a little hardier than the Abundance. I had a fine crop of strawberries, which sold here in our local market for 20 cents per box through the entire season, while all other natives were selling at two boxes for 25 cents. I use all new, clean baskets of the largest size, berries all assorted and guaranteed alike from top to bottom, and baskets full. I have pickers enough to pick all the berries before noon, and every berry is sold before night; this insures perfectly fresh berries. My guarantee goes with every box. Any customer who is dissatisfied with a box of my berries, can have his money back or another box free. A. A. H.

SOUTHERN *vs.* NORTHERN FARMING.—My friend James Mackinlay used to say that southern farming differed as much from northern, as farming on the half cooled planet of Jupiter, might be supposed to differ from either. Your comments on the extract from the Southern Farmer, on page 516, indicate that you do not quite grasp what it means "to live at home and board in the same place," as understood in the South. The mild climate, admits varied crops; all that we have with sugar, syrup, rice, sweet potatoes and winter gardens added, besides the great staple cotton; and the childlike negro laborer, who must, practically, be fed and clothed, makes a big family to provide for. If a southern farmer can pay most of his labor bills through his "provision crops," he finds that it is better to raise them than to buy; hence he seems to butt against political economy in his crude barter methods. He has a practical monopoly of the cotton crop, which it is estimated will bring him $300,000,000 this year. Now his peculiar mode of farming and labor enables him to convert all other crops into cotton, always salable for cash in gold. Heretofore, his cotton has brought such a price that he thought that it did not pay him to raise his pork and corn, mules, etc., so he bought them from the West. Now cotton is so low that he can't get trusted, so he is forced to raise these things, and is better off in doing so. He is, in short, the best off farmer in the world. T. B. B.

Newburgh, N. Y.

THOSE BARREN ABUNDANCE PLUM TREES.—I read with interest, on page 513, G. S.'s complaint about his Abundance plum trees, and H. E. Van Deman's commentary thereon. As a matter of fact, one can see the exact trouble, between the lines of G. S.'s inquiry. Six plum trees in a well-filled poultry yard are, certainly, well fed, and their growth of three to five feet at an age when a bushel of fruit is expected per tree, confirms that fact. Then G. S. goes on to say that this growth is cut back to two feet to make them "strong." The trouble with these trees is that they are too intent on development, to think of fruitage, and the cutting back aggravates that tendency. Then G. S. does not make them strong by cutting back; he makes the current growth strong, but the tree itself weak. The practice is good for hedges, but bad for plum trees. If G. S. will let the trees alone, patience will bring to him a perfect reward. I have an exact experience over the same line. In Kentucky, we use Marianna stocks and want good, heavy bud sticks, well ripened, early in the season. Each year, I cut back orchard trees to furnish the wood wanted. Now this season, in Kentucky, has been a record breaker in the way of plums, and everything is loaded to the ground. On the 20 or more trees cut back, there has, however, not been a plum—fine growth, but no fruit—and the Japans are in line. The correct treatment of G. S.'s trees is evident.

Kentucky. H. F. H.

A MICHIGAN REPORT.—Strawberries were 10 days earlier than usual. The fruiting season commenced with Meeks and Michel's Early, with Beder Wood close behind. The Meeks is a very good berry, but, like the Michel's, lacks productiveness. Among newer varieties of special mention, is the Clyde, with large-sized, light-colored nearly round berries in great abundance, very promising, early. Fountain is again one of the best, at least, all-'round good berries here; very handsome and productive. The fruit is large, of a deep, glossy red color with golden seeds; flesh red and solid to the center, firm and good. I shall grow it largely for fruit in the near future. Mid-season. Marshall is extra large and fine, of good quality, fairly firm and productive; medium early. Brandywine is late, a good cropper of large, firm, bright-red fruit; a good sort. Gandy Belle or Isabelle, Bisel, Splendid, Greenville, Mary, Muskingum, and Weston all made a good crop. Eleanor is of doubtful value; it was neither large nor very early this season. Sunnyside is late, of large size, a good looker, and productive. Wm. Belt was dug very close for plants; promising. Annie Lawrie, Brunette, Holland, Henry Ward Beecher, Lady Thompson, Gardner, Sherman, Dakota, Snowball, Arrow, and Tennessee Prolific are worthy of further trial. Van Deman is of no value here. Staples, Roser, and Kansas Prolific were very productive of medium-sized fruit. Allen No. 1 very productive, but is deficient in plant growth. Michigan and Anna Kennedy were set in August of 1895, but I succeeded in saving only one or two plants of each that managed to survive the winter; a large number set last spring have made a fine growth, as have also Glen Mary, Kingworthy and a number of seedlings.

Fall setting of the strawberry is a disappointment nine times in ten, unless with potted stock; there is nothing gained in the end, except to see a small show of the fruit a little sooner. The Gandy is still a favorite for late, always commanding an extra price, and is fairly productive. I can hardly say too much for the Fountain; although a comparatively new sort, it has more points of merit than, perhaps, any other on my grounds so far, while the Marshall, Brandywine, and Mary are extra fine and desirable sorts. Haverland, Parker Earle, Bubach, Beder Wood, and Warfield are well-known, productive, market varieties, and well worthy of extensive cultivation, as are also the Lovett, Woolverton, Jucunda Improved, Iowa Beauty, and Enhance. Epping and Barton are fine and productive, but not very firm, especially the latter.

This has been a season of abundant rains and electrical storms. Fruit of all kinds, except cherries, has been plentiful and cheap. Strawberry plants are making a fine growth, entirely free from disease and insect enemies, except an occasional White Grub, but potato bugs have been in full supply. I am growing about 25 sorts of potatoes, including a barrel each of Carman No. 3, Maule's Thoroughbred, Arizona, Great Divide, and others, and will report on them in the future.

C. N. FLANSBURGH.

CROP AND MARKET NOTES.

The National Apple Shippers' Association has been in session in Chicago.

The hay crop of northern New York is reported to be one of the lightest ever grown.

Later sales of California fruit in London realized higher prices than the earlier shipments.

Official reports announce the failure of the grain harvest in nearly all sections of south Russia.

There is a much greater demand for bananas than is usual at this time of year, and prices are higher. Receipts are, also, somewhat lighter than usual.

The Patrons of Husbandry of Essex, Morris and Union Counties, N. J., will hold a basket picnic at Tuttle's Grove, August 13 and 14. Speaking each afternoon.

The first new Texas corn arrived in the Dallas market July 23. It is said that the corn this year will average not less than 30 bushels per acre, and is of good quality.

The first bale of cotton from the new Mississippi crop, was sold at auction on the New York Cotton Exchange, August 5. It was graded as good middling, and brought 12 cents a pound.

The commercial agent in New South Wales writes that the area sown in wheat this year is much larger than ever before, and that the season promises a crop sufficient for home consumption and a quantity for export.

In its second report of the season of the crops in Great Britain, the Times, taking 100 per cent as representing the average, shows the condition of the wheat crop to be 106 per cent; that of barley a fraction lower, and that of oats 84 per cent.

Reports from the interior of West Virginia indicate an almost complete destruction of the wheat and oat crops on account of the incessant rains. In the northern portion of the State, much of the wheat was cut and put in the stacks several weeks ago. The rain kept the grain so damp that much of it has sprouted.

The Illinois State Board of Agriculture has let the contract for the construction of a model refrigerator for the storage of dairy goods at the Springfield fair grounds. It is to be 10x20 feet by 16 feet high, built of antique oak, with plate glass front, will hold a car-load of ice, possess all the latest improvements, and will be the finest in use on any fair ground in the world.

Dispatches from all parts of the Province of Ontario and the greater portion of the Province of Quebec, show the condition of the crops to be, on the whole, very satisfactory, except, perhaps, the hay crop, which, in some localities, is a total failure. The prospects for the apple crop in the Niagara district are very favorable, but the peach crop, it is believed, will fall somewhat short.

Here is what the Produce Review says about an article every enterprising buttermaker should use: "Parchment paper lining is the cry among export buyers. Goods are being taken without it, but the lined tubs have a strong advantage. Lines of ladles which may be entirely satisfac-

Miscellaneous Advertising.

IN a young girl's life there comes a time when the careless innocence of childhood changes to the modest, blushing maidenly self-consciousness of approaching maturity. The eye is brighter; the form is rounder; there is a touch of shy coquetry in the glance:—the girl has become a woman. She has entered that critical period so full of happy possibilities, yet so hedged about with the physical sufferings and dangers peculiar to her sex.

It has been said that to be a woman is to suffer. Too often this is true. A woman's whole nature is so bound up in the special functions of her womanhood that any disturbance of this sensitive organism throws the whole system out of harmony. "Female weakness" causes nine-tenths of all the wretchedness which women endure. It can never be permanently relieved by "local treatments." That is generally an expensive, embarrassing, useless, make-shift. What is needed is Dr. Pierce's Favorite Prescription to reach the innermost sources of the trouble and restore health and strength directly to the internal organs. This stops the weakening drains which sap life's foundation; heals all ulcerated conditions, gives the ligaments elastic power of themselves to correct misplacement of internal organs and imparts tone, vigor and vitality to the entire feminine organism. In a word the "Favorite Prescription" makes healthy, happy women.

Dr. Pierce is the Chief Consulting Physician of the Invalids' Hotel and Surgical Institute, Buffalo, N. Y. He has made a life-study of women's peculiar ailments. Over ninety pages of his great work, "The People's Common Sense Medical Adviser," are devoted to the consideration of diseases peculiar to women. Successful means of home-treatment are therein suggested, making it unnecessary to employ a physician, or to submit to his "examinations" and the stereotyped, but generally useless, "local treatment." Twenty-one (21) one-cent stamps, to cover cost of mailing *only*, will bring a copy of this useful book. Address, World's Dispensary Medical Association, Buffalo, N. Y.

The Agent's Share!

The season for subscription work having arrived, we herewith offer terms for

The First Contest

which extends from August 15 to September 30, inclusive. During this period, you may offer THE R. N.-Y. *for the remainder of the year*, as last season, for 25 cents. *WHERE YOU COME IN!* For each short-term subscription you secure, you may send us 15 cents, and drop a dime into your own pocket. There will, also, be a system of

Weekly Premiums.

$3, $2 and **$1** will be sent out every Saturday night during this contest to the three agents who send the largest three clubs during the week, and three extra premiums of **$3, $2** and **$1**, will, also, be sent out every Saturday night to three agents who have not won any of the premiums during the previous weeks in this contest. That is, there will be three premiums the first week, and six premiums every week after. The first three premiums will be open to every one every week; but those agents who win any weekly premiums cannot compete afterwards for the second three premiums. The purpose is to reserve these second premiums as an encouragement to beginners.

Great Big Premiums, Too!

In addition to these weekly premiums, the following cash prizes will be given on October 1, to the *five* agents who send the largest *five* clubs up to the night of September 30:

Largest club, cash	$50
Second largest club, cash	30
Third largest club, cash	20
Fourth largest club, cash	10
Fifth largest club, cash	5

Four short-term, or two six-month subscriptions count the same as one yearly.

Where Do We Come In?

We'll attend to that side of it, and let you know in due time. Let's waste no words now, but proceed to business! All ready! Go!

THE RURAL NEW-YORKER, NEW YORK.

tory in point of quality have been turned down by some exporters for lack of paper lining. In several instances, lines of creamery which were nicely packed with the best parchment lining have been placed one-half cent higher than equal quality in ordinary packing."

CHAMPAIGN COUNTY, O.—It is, certainly, a year of disaster for the farmers of this region. May was very dry. Grass did not start at all. First cuttings of clover were extremely light. June, on the other hand, was very wet and nearly all the hay cut that month was wet and damaged or ruined. Wheat was a very poor crop, but was harvested in good shape. It has been in the fields ever since, and is now nearly worthless from the great and increasing wetness. Oats grew immensely tall and rank, and lodged badly. They are not nearly all harvested, and so far as I have seen, none of them are thrashed or in the barn. I do not see how they can escape great injury or total loss. The corn crop on well-drained land is immense. As was true last year, corn will be nearly the only crop secured in this country, except the grass that is pastured. While pastures are very rank, the grass is weak and watery, and Colonel Burch, editor of the American Sheep Breeder, says that he has never seen sheep and lambs in so bad condition as they are now. I have weaned my lambs and put them to eating rape and sorghum. I shall feed liberally of wheat bran to counteract the lush grass. If potatoes do not rot, there will be no need to dig more than two-thirds of the crop. They are now selling for 25 cents per bushel in this corn country, where they are, generally, not grown in sufficient supply for home consumption. To add to the discomfiture of the farmer, the banks decline to loan money, and how the feeding lambs or other stock can be purchased to consume the surplus of last year's corn crop, and the immense prospective this year's crop, is a problem. However, I have 150 tons of oat hay secured in fairly good shape, and can get through, I believe.

J. E. WING.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 12@1 15
Medium, 1895, choice	1 00@ —
Pea, 1895, choice	1 00@ —
Medium or pea, common to good	85@ 95
White Kidney, 1895, choice	1 22½@1 25
Red Kidney, 1895, choice	1 07@ —
Red Kidney, common to good	90@1 00
Black Turtle soup, 1895	1 30@1 40
Yellow Eye 1895, choice	1 20@ —
Lima, Cal., 1895 (60 lbs)	1 65@1 67½
Green peas, bbl., per bushel	72@ —
Bags, per bushel	67@ —
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @—
Western, firsts	13½@14
Western, seconds	12½@13
Western, thirds	11½@12
State, fancy	15 @—
Common to prime	11½@14
State dairy, half-firkin tubs, fancy	14 @14½
Firsts	13 @13½
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @—
Seconds	10½@11
Western dairy, firsts	11 @12
Seconds	9½@10
Thirds	8 @ 9
Factory, fancy	11 @—
Factory, firsts	10 @10½
Factory, seconds	9 @ 9½
Factory, thirds	8 @ 8½
Old butter	7 @10

CHEESE—NEW.

State full cream, large, colored, fancy	7 @ 7½
Colored, good to choice	6¾@ 6⅞
Fair to good	5½@ 6¼
Fancy white	7 @ 7⅛
White, choice	6¾@ 6⅞
Small, colored, fancy	7 @—
Small, white, fancy	6½@ 7
Small, good to choice	6 @ 6¼
Small, common to fair	5½@ 5¾
Light skims, choice	5 @—
Part skims, good to prime	4 @ 4½
Part skims, common to fair	2 @ 3
Full skims	1 @ 1½

EGGS.

Near-by, new laid, fancy, per doz	15 @ 16
State, fresh gathered, average receipts	13 @ 13½
Penna., country marks, average best	13 @ 13½
N. Ohio Ins., Ill. and Mich., prime	12 @ —
Other Western, prime	12 @ —
Western, fair to good	11 @ 12
Western & South'n, poor to fair, per case	1 50 @2 70
Western culls, per case	1 00 @1 80

FRUITS—GREEN

Apples, Md. and Del., per crate	40@ 60
Alexander, per bbl	1 50@1 75
Gravenstein, per bbl	1 50@1 75
Oldenburg, per bbl	1 25@1 50
Nearby, Nyack Pippin, per bbl	1 25@1 50
Nearby, other k'ds, h'd-pick'd, per bbl	1 00@1 25
Nearby, windfall, per bbl	75@1 00
Blackberries, fine and large, per quart	6@ 8
Soft and poor, per quart	3@ 5
Currants, per quart	2@ 4
Per lb	2@ 4
Grapes, Southern Niagara, per carrier	50@1 25
Southern Moore's, per carrier	75@1 00
Southern Delaware, per carrier	1 00@1 50
Southern, common, per carrier	50@ 75
Huckleberries Md and Del., per quart	4@ 5
Jersey, per quart	5@ 6
Mountain, Penn. and State, per quart	6@ 7
Peaches, Md. and Del., per basket	30@ 75
Md. and Del., per crate	50@ 75
Fair to fancy, per carrier	1 00@2 50

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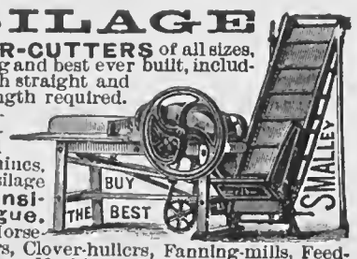

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Address, **MINARD HARDER,** Cobleskill, N. Y.

MUSKMELONS, Va., Jenny Lind, per bbl 1 00@1 50

Virginia, other kinds, per bbl	75@1 25
Baltimore, per basket	75@1 00
Md. and Del., per carrier	1 00@2 00
South Jersey, per bushel-crate	25@ 50
South Jersey, per bbl	1 00@2 50
Anne Arundel, per bbl	1 50@2 25
Plums, Damson, per quart	4@ 6
Wild Goose, per quart	4@ 6
Fla., Japanese, per carrier	1 00@2 00
Green, per 10-lb basket	25@ 35
Ordinary Blue, per basket	30@ 35
Fancy Blue, per basket	50@ —
Pears, LeConte, Southern, per bbl	1 50@3 50
Keiffer, Southern, per bbl	2 00@3 00
Bartlett, per bbl	2 50@4 00
Clapp's Favorite, per bbl	3 00@3 50
Clapp's Favorite, per keg	1 50@ —
Nearby, Catherine, per bbl	2 50@3 50
Nearby, Bell, per bbl	2 00@3 00
Nearby, Scooter, per bbl	2 00@2 25
Nearby, cooking, per bbl	1 75@2 25
Watermelons, choice, large, per 100	16 00@20 00
Small to medium, per 100	8 00@15 00
Per car-load	125 00@250 00

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

GRAIN.

Wheat	61 @78
Rye	52½@39
Barley	27 @32
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	31 @35
Oats	20½@30

HAY AND STRAW.

Hay, No. 1 Timothy, per 100 lbs	87½@92½
No. 2	80@ 85
No. 3	60@ 70
Clover, mixed	65@ 75
Clover	50@ 60
Salt	45@ 50
Straw, No. 1, long rye, old	95@ —
No. 2	85@ 90
New	75@ 90
Short rye	60@ 70
Tangled rye	50@ 60
Oat	35@ 45
Wheat	35@ 40

HONEY

State, white clover, comb, per lb	— @—
Buckwheat, comb, per lb	7 @ 8
White clover, extracted, per lb	5 @ 6
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	10 @12
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @55½

HOPS.

N. Y. State, crop of 1895, choice	7 @ 7½
Medium to prime	5 @ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	7½@ —
Fair to good, per lb	6½@ 7
Com. to med., per lb	4½@ 6
Small, per lb	3½@ 4½
Buttermilks	4 @ 4½
Grassers	3½@ 4
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	4½@ 5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4 @ 4½
H. p., extra, per lb	3 @ 3½
Shelled, No. 1, per lb	4½@ —
No. 2, per lb	— @ —
Spanish, shelled, No. 1, per lb	6 @ 6½
No. 2, per lb	— @ —
Pecans, ungraded, per lb	4 @ 4½

POTATOES.

Southern Rose, fair to prime, per bbl	50@ 75
Seconds, per bbl	30@ 50
Culls, per bbl	20@ 30
Long Island, in bulk, per bbl	75@1 00
Jersey, per bbl	75@ 90
Sweets, yellow, per bbl	1 50@1 75
Jersey, yellow, per half-bbl basket	1 00@1 25
Sweets, red, per bbl	75@1 00

POULTRY—LIVE.

Spring chickens, per lb	9½@ 10
Fowls, local, per lb	10½@ —
Western, per lb	10½@ —
Southwestern, per lb	10½@ —
Southern, per lb	10½@ —
Chickens, yearlings, per lb	10½@ 11
Roosters, old, per lb	6½@ —
Turkeys, mixed, per lb	9 @ 10
Ducks, local, per pair	70 @ 85
Western, per pair	60 @ 70
Southern, per pair	50 @ —
Geese, local, per pair	1 00 @1 37
Western, per pair	1 00 @1 25
Southern, per pair	1 00 @ —
Pigeons, old, per pair	25 @ —
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ 11
Average toms, per lb	9 @ 10
Chickens, Phil., selected, per lb	16 @ —
Phila., ordinary, per lb	12 @ 15
L. I., scalded, per lb	12 @ 14
Pennsylvania, per lb	12 @ 15
Western, dry-picked, per lb	11 @ 12
Western, scalded, per lb	9 @ 11
Western, small, per lb	8 @ —
Fowls, Western, dry-picked, choice	11 @ —
Dry-picked, fair to good, per lb	10½@ —
Scalded, choice, per bbl	10½@ —
Old cocks, per lb	6 @ —
Spring ducks, Eastern, per lb	13 @ 13½
Spring ducks, L. I., per lb	13 @ 13½
Spring ducks, Western, per lb	7 @ 10
Old ducks, Western, per lb	6 @ 8
Spring geese, Eastern, per lb	16 @ 17
Squabs, tame, white, per doz	2 00 @ —
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @ —

VEGETABLES.

Beets, per 100 bunches	75@1 00
Cabbage, L. I., per 100	2 00@3 00
Carrots, per 100 bunches	75@ —
Cauliflower, L. I. and Jersey, per bbl	1 50@2 00
Celery, fancy, large, per doz	40@ —
Average, prime, per doz	20@ 25
Small, per doz	8@ 15
Cucumbers, Baltimore, per basket	50@ —
Jersey, per basket	30@ 40
Long Island, per 100	50@ 60
Egg plant, Jersey, per crate	—@ —
Jersey, per bbl	60@ 75
Green corn, Hackensack, per 100	75@ 80
Other Jersey, per 100	40@ 50
Green peas, Western N. Y., per bag	1 00@2 00
Long Island, per bag	1 00@1 25
Lettuce, per bbl	40@ 50
Onions, Southern, potato, per basket	50@ 60
Southern, potato, per bbl	1 12@1 25
Orange County, red, per bbl	75@1 00
Connecticut, red, per bbl	2 00@ —
Connecticut, white, per bbl	1 75@2 00
Connecticut, yellow, per bbl	1 25@1 50
State, Multipliers, per bbl	1 25@ —
Long Island yellow, per bbl	1 25@1 50
Long Island, Red, per bbl	1 00@1 25
Peppers, S. Jersey, per bbl	60@ 75
Spanish, per bbl	75@1 00
Spinach, per bbl	—@ —
Squash, L. I., yellow, per bbl	40@ 50
Long Island, white, per bbl	40@ 50
String beans, Jersey, per basket	—@ —
Long Island, per bag	75@ —
Tomatoes, Monm'th Co., J'y, fancy, per crate	60@1 00
Monmouth Co., Jersey, Grant, per crate	25@ 40
South Jersey, per crate	15@ 25
Turnips, new, white, per 100 bunches	1 50@2 00
Russia, per bbl	50@ 75

WOOL.

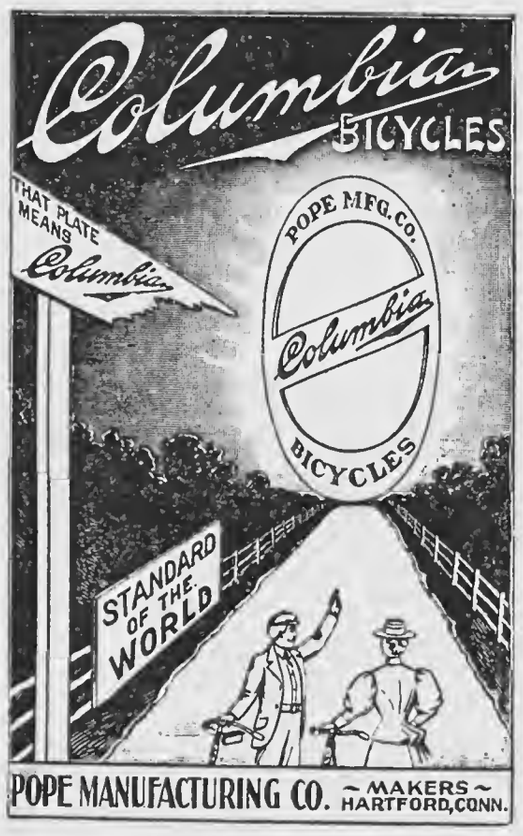
XX and above, Ohio	18 @19
X, Ohio	15 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

MILK AND CREAM.

The total daily supply has been 21,964 cans of milk, 200 cans of condensed milk and 815 cans of cream. The average price paid for the surplus on the platforms has been $1.10 a can of 40 quarts.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.



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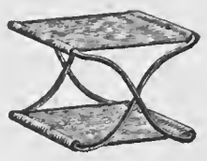

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The finest grounds in America. Immense buildings. Pure water. Fastest track in the state. Elevated stage performance, at which the best vaudeville talent will appear. Special attractions every day. The best and greatest Fair. We lead—others follow. Don't miss attending the State Fair this year. Watch for future announcements.

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Entrance by Regent's "*Veterinary Student Certificate,*" or by examination September 15, 1896.

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Receive and sell, in car load lots and smaller quantities, all Products of the Orchard, Garden, Dairy, Hennery and Farm.

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OUR RURAL BOOKS.

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G. G. Groff, M. D. What to Do In—Home Treatment of—What to Do 'till the Doctor Comes. Sunstroke, poisoning, broken bones, cuts, bites of mad dogs, insects, snakes, etc., freezing, bruises, burns, choking, colic, drowning, exhaustion, explosion, suffocation by gases; what to do in storms, being stunned, wounds, etc. 20

A Fortune in two Acres.

Fred Grundy. This is a story of how a workman in a small market town gained independence and a fortune on two acres. Paper 20

Canning and Preserving Fruits and Vegetables, and Preparing Fruit Pastes and Syrups.

The experience of practical workers. The best methods by which the surplus fruits may well be saved for home use and for the large market demand. Hundreds of tested recipes from famous preservers. Evaporation of fruits. Paper 20

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H. W. Collingwood. A concise and practical discussion of the all-important topic of commercial fertilizers, in connection with green manuring, in bringing up worn-out soils, and in general farm practice. Paper 20

Country Roads.

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THE RURAL NEW-YORKER, NEW YORK.

BEING A SUMMER BOARDER.

THE OTHER SIDE OF THE CASE.

"Put yourself in his place" is an admonition of which every one feels the force, more or less. It touches the summer boarder question no less than all other questions. There are some things about keeping summer boarders that can be learned easiest by being a summer boarder.

This experience fell to my own lot during the last season. To be sure, I lived in the country with a big garden stocked with the finest of vegetables. We had the "abundance of fresh eggs, fruits, shade, boating, etc.," and, in short, could say the shibboleth of the summer boarder advertisements so glibly that I almost decided to take boarders myself. But the family got it into their heads that I needed a change, and as I had never been among the highlands of the Hudson, it was decided to try some delightful place there.

There had been one advertisement in the daily paper throughout the season, one which offered all the usual inducements, with "transportation free"; and all the large rooms, the beautiful scenery, the quiet and the rest, were only ten minutes walk from the terminus of a city trolley line. Our minds feasted on the delights of this place. We thought of the wide stretch of river and mountain with ever increasing desire. Finally, the family carried the point, and Esculapia and myself departed, bag and baggage, to become summer boarders.

Now, we had in our own minds, an exact schedule of what was necessary to keeping boarders. Besides all the things above noted as inducements, there must, of necessity, be good board, good, clean rooms—nicely furnished as became a summer boarding house—good springs and mattresses, and a pleasant hostess, consumed with burning desire to please her boarders. That we ourselves had other duties than getting the needed rest, and paying our bills promptly, did not occur to me; or, as I afterward discovered, did it to Esculapia.

We were met by as sweet a blossom of a daughter as any boarding mistress need desire—bright, quick, deft and pretty, as well as willing and free-hearted. We at once decided that this was one of the necessities of an ideal boarding place. As to the rest of the furnishing, we found the rooms to contain some ancient bedsteads crowned with still more ancient springs and straw ticks that bobbed up on one side and fell in on the other, to the end that the unwary sleeper *fell out* on the floor. The chairs were decrepit to breaking down, the toilet ware cracked and nicked, the curtains indescribable breadths of *something*. The hostess made rather plain her preference that both should occupy one bed, though the room contained two; worst of all, we found that guests were expected to make their own beds! At $6 a week, these guests demurred, though assured that no one else had objected to the plan; indeed, most of the boarders had preferred it!

Plainly, things were not ideal, and the prospect was far from reassuring. We found, further, that the lean hostess marshaled a brigade of 10 children, and that, beyond these, she had no help in kitchen or chambers, except at the very busiest time, when, she informed us, the one roof had sheltered 55 guests.

In the dining-room, we found long picnic tables set upon wooden horses. The food was fairly abundant, and fairly well cooked, but could not approach that seen upon the daily table of many a farm home. At breakfast, there were good bread and butter, coffee, milk if desired, potatoes, eggs, and sometimes raw tomatoes or raw fruit. Sometimes, there were muffins, but every morning, the bill was otherwise about the same.

"What! You don't drink milk? Nor coffee? I declare! I do' no what to git for your breakfast!" declared the hostess.

Another morning it was: "Ye don't seem to eat yer eggs very good! Don't ye like eggs, either? I declare! I never see anybody come to the country before and not eat our fresh eggs and milk! Wha'd ye come here *fur*, anyhow?"

Plainly, although no word of complaint had been heard from us, we could not be considered desirable boarders, because of our failure to enthuse over fresh country eggs and milk.

Throughout the week, having little else on our hands, Esculapia and I devoted ourselves to finding out all we could about summer boarding. By putting a quiet question now and then, we attained a pretty thorough idea as to how this family worked it. The whole year, with them, looked toward the short boarding season, bounded by the limits of the summer vacation in the city schools. Then they did their heaviest work, then they made their yearly "living"; and for this time they planned during the other 10 months.

Ten years previous, they had begun, in a small way, each year's guests bringing in a new and larger contingent the following year. All the material for the table (except meat) was raised on the small farm, for which, with the immense house, the rent paid was $200 per year. The number of guests throughout the season was, perhaps, 200, some of whom stayed one week, some four or five. Very largely, they were mothers with children of school age, to whom the absolute freedom of the large, retired grounds, the safety and the free-handed generosity, were wholly captivating.

We studied the question from all points of view, trying to find out how this family, running counter to the stock ideas as to ways and means necessary to the business, had achieved such a measure of success. There were a few plain reasons: first, the place itself and its surroundings were ideal; second, the whole family were open-hearted and genial; third, every guest was made free to all that grew on the place, in the big apple and pear orchards and everywhere; and every trunk that went back to the city was—as one of the sons expressed it—heavier when he carried it down than when he had carried it up. To be sure, the tyranny of the hostess, who ruled every one with a rod of iron, insisting on the house being closed and all in bed at 10 o'clock, made some of the young people restive; but it was so plainly in the interests of the children and semi-invalids, that it was recognized as best, after all. The better element, who could not find the family congenial, could still gain something by looking upon them as "types" of the farming class (which they certainly were *not*); while those of less culture could be "hail-fellow," with them, and enjoyed being called by their given names, and the familiarity that belongs to such address.

It appeared from the hostess's conversation, that there are "types" of summer boarders, as well as of rustic mistresses.

"Oh! yes; we git all sorts; in these 10 years, we've had about all the experience there is, I guess! I've had some of the most stylish kinds there is, and sometimes they're suited all right, and then ag'in they ain't! This very year, I had one that wa'nt, and she flounced off to another place, and after a week, she tried to git back; but we was full then, and couldn't take her!"

"Would you, if you could, have done so?"

"Oh! yes; I don't care! It's all clean money—if you git it! Sometimes you have to be smart, though! These city folks, some kinds, they think they can beat you fine! Now we had some Jews this summer—sometimes we run to them for weeks, and sometimes they're as nice as the best—but these wa'nt. They had some of the best rooms, and we brought 'em out free with their trunks and all, and they had lots of fine dresses and lots of fun. Girls, they was, too; but they tried to jump their board bill. Got the expressman to come for their trunks while we was all rushed gittin' breakfast. But *he* seen the man come, and when he found out what's up, he ordered the man out of the house. The man was sassy, but finally went, and so did the girls—after a lawyer, they said. I guess they got one," she concluded, triumphantly, "for the next day they come back for their trunks, paid their bill, and wanted *him* to take 'em to the station. He charged 'em 75 cents apicce, aginst takin' 'em free if they'd behaved, and I guess they went home wiser as well as $3 poorer. Oh! I tell you they's all kinds!"

Esculapia contends that success with summer boarders rests on faulty grammar, a shrewish though free-hearted landlady, a pretty daughter, and a big pear orchard. But this is so far from the general idea that one feels uncertain.

MYRA V. NORYS.

HOW MUCH HAY?—To a horse weighing 1,100 pounds, I would, in no case, give over eight or nine pounds of hay daily; that is, not over that amount should be actually consumed. Sometimes considerable hay is wasted as food, and passes for bedding. Of course, such should not be considered. It is quite generally true that horses get too much hay. Driving horses should not receive too much of this bulky food, as it distends the abdomen and makes them less trim, and more heavy and awkward in their movements. Horses thus used, should receive a total ration of about two pounds of hay and grain for each 100 pounds of live weight. W. A. HENRY.
Wisconsin Experiment Station.

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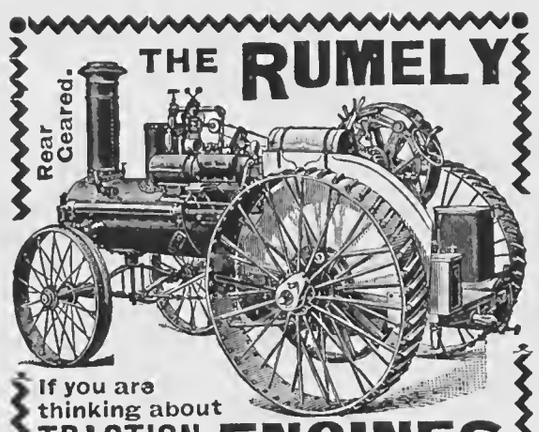

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WAYS OF KILLING WOODCHUCKS.

Powder and Sulphur for Them.

Woodchucks seem to thrive better in some localities than in others. Fourteen years ago, when my father bought the place where I now live, it had been pastured for 20 years or more. With very little clover and no cultivated crops, there were but few woodchucks. If there is anything which a woodchuck likes better than another, it is clover. As soon as we began to plant beans and cabbage, and raise clover, the woodchucks began to come. I had a common double-spring steel trap, and caught a good many, but could not thin them off to any noticeable extent. Sometimes, in mowing a small piece of two or three acres of clover, we would find a dozen or more burrows. The mower knives would get broken and dulled in the gravel which they threw out. The fourth or fifth summer, we began to shoot them, and that summer we killed 40. The next summer, we shot 30 more, and they began to be less plentiful. Many times when they were working on small cabbage or sweet potato plants, and we wished to get rid of them quickly, we would find their holes and put into them a piece of cloth with a tablespoonful each of powder and sulphur, put an end of a piece of fuse in the powder, and tie the cloth tightly around it, keep the other end of the fuse above ground, and fill up the mouth of the burrow with earth. Then light the fuse and the woodchuck would never come out if the work was properly done. About five years ago, a bounty of 25 cents each was levied on their scalps. Since then, they have been almost exterminated in this locality. H. R. T.

Feed Them "Loaded" Apples.

As regards G. G. G.'s failure in getting rid of ground hogs by the means which he describes on page 507, I would advise him to abandon the use of bisulphide of carbon, though this is, undoubtedly, a remedy good enough, if only properly applied. At this season, early apples are quite easily obtainable, and woodchucks like them almost as well as the small boys do. By making a tiny hole in such an apple, one can soon impregnate the fruit with strychnine sufficient to kill a dozen woodchucks. Roll an apple thus loaded into every woodchuck hole. Of course, unless the hole is nearly perpendicular at the surface, it would hardly be advisable to employ such means in a pasture or lot where stock of any kind are kept. Another and better way is to place in a paper sack a tablespoonful or more of good blasting powder, mixing with it about a teaspoonful of sulphur; a fuse a yard long is required, one end of which should be placed in the sack. A string should next be tied around the mouth of the sack, care being exercised to keep the end of the fuse in the powder. Insert the sack into the hole far enough to do execution, and at the same time allow the other end of the fuse to come to the top of the ground. With sods and earth fill up the mouth of the hole, pressing the material in firmly around the fuse. Touch a match to the fuse, and in a generality of cases the woodchuck will let your turnips and other vegetables alone. Early in the season this method is very effective. FRED. O. SIBLEY.

Bisulphide of Carbon.

I have always had my share of woodchucks, and I never could get rid of them until last season. I got an ounce of bisulphide of carbon, used one-half on three burrows and, in about three hours, all three had been dug out. I used the other half where an old one had young; the next morning, I dug out the hole, and found them dead. A neighbor joined with me and we got 20 pounds from Cleveland, at 12 cents per pound; one pound is enough for fifty, and not one has ever dug out of the hundreds that we have treated, unless there was some opening that we missed. Pour from one to two spoonfuls on anything that will absorb the stuff, push it into the hole three feet, push down a sod nearly to it, hoe on earth and tramp down. Treat all main outlets the same, and next summer one will be puzzled to find the place. A. B. J.

NOTES ON SILO BUILDING.

In the fall of 1890, a man living in my neighborhood wanted a silo very much, but had not the spare money to build an expensive one. After some consultation with those supposed to be authority on the subject, he concluded to use such material as could be picked up from the place, buying only the frame, nails, tarred paper and boards for the roof, the whole of which cost less than $20. The frame was cob-house style, the girths being quite close at the bottom, the distance between them increasing as they neared the top; the distance at the bottom was 18 inches, while it was four feet at the top; the height is 22 feet, the girths were 16 feet long, 2x6 inches, lapped and spiked at the corners. It was afterward found that the strain was too much for this light frame, but the difficulty was remedied by doubling the first four girths and the sill. The boards (old fence boards which had been drawn to the woods for sap wood) were put on double, with tarred paper between. The whole set on a light dry wall, with a trench filled with cobblestones beneath to secure good drainage. The bottom was scooped out, banking up the wall as high as the bottom of the boards with clay. Doors for removing the ensilage were made on the side next the stable from top to bottom. The silo was covered with a board roof, the gable being left open. This silo has done good service for six seasons, and I know of no reason why it cannot be used six more.

Last fall, I had occasion to build a silo on very short notice, and this is what I built, and am perfectly satisfied with it. It is octagonal in shape, the sides being 6¾ feet inside, the height 20 feet, besides the wall, which makes the whole about 21 feet. The diameter is about 16 feet from side to side. It is built cob-house fashion, the frame running horizontally. The girths or ribs are the longest I could get out of 16-foot stuff cut once in two, 2x6-inch; they are doubled for the sills, and are all thoroughly spiked at the corners. The first two spaces between girths are 20 inches; the next two are two feet; the next one is 3½ feet, and the next two are four feet each. This frame is lined with two courses of rough hemlock boards, with tarred paper between. A set of doors extend from top to bottom, and to be sure that no air shall get in around these doors, they are covered with strips of paper from top to bottom, when ready to fill the silo. The roof consists of eight 12 foot 2x4 rafters, covered with pine siding. To prevent rats or mice entering at the bottom, I mixed one-half barrel of coal tar with sand, and placed all around the inside of the silo.

A neighbor has a round silo in his barn, 15 feet in diameter and 20 feet deep. The staves are made from 2 x 4-inch stuff, held in place by five round iron hoops. This silo is inside his barn, did not need a roof, and cost but $40 for hoops, lumber and carpenter to help build it, and cement to grout the bottom. These silos are keeping ensilage satisfactorily, and are all of them cheap.

COST OF MATERIAL IN OCTAGONAL SILO.

576 feet 2x6x16.
64 feet 2x4x12.
2,160 feet boards.

2,800 feet at $12 per M	$33 60
450 feet pine at $18 per M	8 10
Tarred paper	5 00
Nails	4 00
Total	$50 70

Eleven days' work built this silo, ordinary farm help at that.

There is a silo only a short distance from here, built of masonry, and costing about $400 which has been a positive damage to its owner. Another $300 one has never been filled but once. Another stone one costing over $500, in an adjoining county, is an entire failure. One trouble with two of these is that they are entirely too large, and another fault is that they are all of them masonry, which does not keep ensilage as well as wood. Lastly, the men who built them, had more money than knowledge to put into silos. There is no reason why a very costly silo cannot be a good one, but it is not usually the case in this vicinity.

Shortsville, N. Y. J. Q. W.

NATURAL HEAT FOR CHICKS.

A friend of mine never has a chick die in the shell if it reaches hatching size. When the first chick of a hatch begins to peep, she takes the eggs away from the hen, puts them in a light box padded with cotton, covers them with a soft cloth, and sets the box close to the back of the stove where it will keep warm, about 100 degrees F., and there the hatch is completed. If there is a weak one in the lot that is unable to burst the shell open, she carefully cracks it all around, but does not open it, and if the chick is matured, it will kick it open.

If a chick is strong enough to mature—that is, grow to hatching size, it will burst the shell and get out, if it is not smothered by heat, or chilled to death. In the incubator, they are usually smothered, but under hens they are oftener chilled or crushed. Often a sitting hen will stand up as soon as she hears the first peep, and when she feels a chick move, she will tramp about until she crushes some that would have come out all right if she had kept still. The reason why chicks, that is, mature chicks, die in the shell, is to be found in the conditions surrounding the eggs when the hatch is due.

There is no heat like animal heat for young things. I have seen chicks that were kept in a good brooder, and cared for in the most careful manner, droop and die when there was no apparent reason under the sun for it, while another lot, running at large on the lawn and brooded by hens kept in little coops, lived, thrived and rapidly grew into lusty fowls. Those in the brooders were kept from all dampness (said to be fatal), all manner of lice (declared to be deadly), never allowed to smell an earth worm (said to be charged with gapes), were supplied with grit and a great variety of food (supposed to be necessary), and still they died, though the heat in the brooder was kept steadily at 95 to 100 degrees F. Those brooded by the hens wet themselves with dew every morning, dragged the festive worm from his lair and swallowed him whole, were never entirely free from lice, though nearly so, and lived on corn (sure death), cracked and soaked in water three or four hours. Take two weak chicks and put one under a hen and the other in a brooder, and the first will revive and grow strong, while the latter will creep and cheep about a few days and die. There seems to be something in animal heat that fire heat does not supply. FRED GRUNDY.

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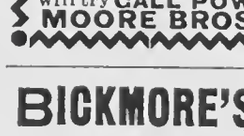
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Up from the cradle came a wail,
At first a pensive coo;
Into a weird, vociferous wail
Of mournfulness it grew.
His sorrow, in a vein prolix,
He struggled to reveal,
"My father's talking politics,
And mother rides a wheel.

"They say I'm cross. I'm simply sad
At being slighted so.
I wish the baby-carriage fad
Could somehow get a show.
How can you blame one in my fix
For setting up a squeal?
My father's talking politics,
And mother rides a wheel."

—*Washington Star.*

MRS. SEQUEL: "I understand your husband can't meet his creditors." Mrs. Equal: "I don't believe he wants to especially."—*Truth.*

"COME into the garden, Maud;" but Maud was much too wise. Said she: "Oh, no; the corn has ears and the potatoes eyes."—*Indianapolis Journal.*

MR. FIGG: "Tommy, I hear you have been telling lies. I never told lies when I was your age." Tommy: "When did you begin, paw?"—*Indianapolis Journal.*

FIRST BOY: "My papa knows more than your papa does." Second Boy: "I bet he doesn't. Did you ever see my papa? His forehead reaches 'way to the back of his head."—*Harper's Bazar.*

BY gum! Huldy," said Uncle Ephraim Skinner, biting into a luscious peach, "I like to have them city folks up here for the summer." "What fer, Ephraim?" asked Aunt Hulda. "They bring such a heap of fresh fruit with 'em."—*Chicago Tribune.*

"KNOW all women by these presents," began a sagacious attorney on a public proclamation. "Know all men, etc.," corrected a fellow lawyer. "That's all right," explained the first; "if the women know it, the men will soon hear of it."—*Washington Times.*

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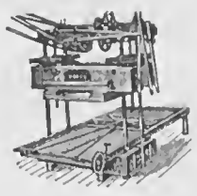
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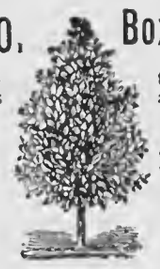
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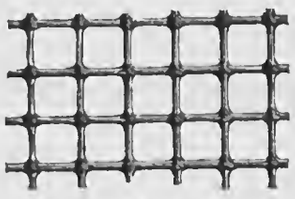
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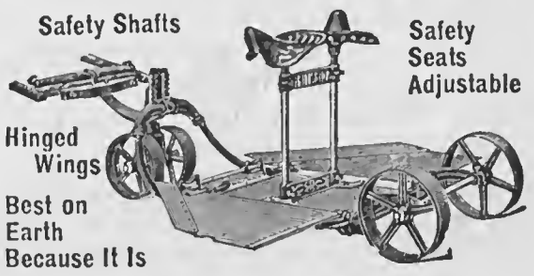

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2430. NEW YORK, AUGUST 22, 1896. $1.00 PER YEAR.

BORERS IN FRUIT AND SHADE TREES.

"RAUPENLEIM" AND "DENDROLENE."

The Real Value of These Substances.

For many years, an insect lime—"Raupenleim" (caterpillar glue)—has been largely used in Germany to protect trees from the attacks of certain insects, and to prevent their being injured by stock or deer during the winter. Recently, this substance has been introduced into this country, and is now on sale as Ermisch's Caterpillar Lime. It has been quite extensively used by the Gypsy Moth Commission in Massachusetts, and others have tested it on a small scale. It is a very dark-colored, butter-like substance, with a strong, tarry odor. It closely resembles axle grease, and is, doubtless, some product of crude petroleum. It is to be applied to the trunks of trees in a thick coat, with a paddle or trowel, and then evenly distributed with a stiff brush. As it is rather an expensive material (costing from 10 to 15 cents per pound, plus freight, depending upon the amount bought), Prof. J. B. Smith, of the New Jersey Experiment Station, in the winter of 1894-5, asked Prof. Mason, a chemist, to make some similar, but cheaper, material. The result was that an American product called "Dendrolene," was produced, and is now on sale by the Bowker Fertilizer Co. It is a Standard Oil Company's product from crude petroleum.

Dendrolene differs from the German product in being much lighter in color and nearly odorless; it is somewhat thicker under ordinary temperature, and is thus not quite so readily manipulated on the bark, in our experience; it gets softer under the heat of the sun, and shows more tendency to run. Both substances, being mineral products, will not become rancid, and will, doubtless, keep all right for years.

With us, the Raupenleim is easier to apply, remains as a thick coating longer, that is, shows less tendency to run, but it has more tendency to form a very thin, hard film over the surface; the Dendrolene costs considerably less, from 7 to 10 cents per pound with the freight prepaid. Not enough experiments have been carried on with both substances, as yet, to settle definitely which one is the better adapted for the purposes intended. The Gypsy Moth Commission found that Raupenleim, obtained at different times, varied considerably in its efficiency, indicating that its composition may vary; it would not be surprising if both substances varied in their chemical composition somewhat. And this fact may, in some degree, account for the recent reports of injury to trees from their application. When properly applied, there seems to be, as yet, no authentic evidence of either substance having killed or severely injured fruit or forest trees, either in Europe or in this country. Where buds are covered they die, but when applied, as intended, on the bark of the trunk or larger branches, the only injury resulting, so far as recorded, is a slight one to the outer layer of the bark; where the bark is scraped off too much before applying, more serious injury is very liable to occur.

If these substances, or something similar, come to be recognized as important and effective additions to our insecticide battery, and I believe that they will, their use will, probably, be limited principally to preventing the ascent of insects or the entrance and, possibly, the exit of borers. From the experiments thus far recorded in this country, we are not yet entirely satisfied of the efficacy of either substance for these purposes, but the indications are, certainly, very promising.

Our experiments have, thus far, been confined, principally, to their effectiveness in preventing the peach borer from getting into the trees. Raupenleim was applied to young trees last season, and the results of our examination of the treated trees this year, gave some very important indications which we shall await another year's experiments upon before publishing. With the exception indicated above, our trees were not injured in the least by the application. This year, we are testing both products, side by side, and so far, we can see but little difference in their action. Neither is so injurious to the bark as white paint (especially if Paris-green be added to the paint) or tar. We have found that applications which would not injure thrifty trees that have been set, at least a year, will injure and may kill trees that have been set the same spring or the fall before the application is made; this is an important point, and our observations apply to peach trees which are reported as having been severely injured, by some correspondents.

It may be well to say here that, for the peach borer, it is not necessary to apply the substance until about July 1, in New York State, as most of the eggs of the insect are not laid until after July 15. For the apple borers, the application must be much earlier, probably by May 1. Either substance will retain its preventive qualities for many weeks. It is doubtful whether the exit of these large borers can be prevented by applying the substances earlier; there is some evidence to show that the exit of the smaller borers like the Shot-hole, peach and plum borers, can be thus prevented. These last-named borers are hard insects to get at, and if these insect limes do prove effectual, either to prevent their exit or entrance, it will be a great boon to many afflicted orchardists.

So far as our observations go, we are not very favorably impressed with the effectiveness of either Dendrolene or Raupenleim as preventives of the ascent of caterpillars, etc., when put on as bands on the trunks of the trees. Only a few hours after the application of Raupenleim to one of our peach trees, we saw an army worm traverse it for over a foot without any discomfort. We have also seen smaller insects freely cross bands of both substances on apple trees. One report has come to us that Dendrolene was quite ineffectual in stopping the canker worms in western New York this year; but then they have had canker worms there this year to an extent almost beyond one's imagination; hundreds of acres of orchards were entirely stripped by the vast hordes of hungry worms. Where such insects occur in such numbers, several have reported that the Raupenleim was ineffective. There is need of further experimentation with these substances against canker worms, climbing cutworms, and similar insects climbing trees before they can be recommended with entire confidence.

A very important point in connection with the application of either Raupenleim or Dendrolene for borers or ascending insects, is that the material must be put on at least one-quarter inch thick; applied thinner than this, it soon dries out, and is thus rendered ineffective.

"THE AGENT'S SHARE!" "ONLY $1 A YEAR!" FIG. 174. SEE PAGE 568.

Many queries reach us in regard to borers affecting maple shade trees. There are several different insects which are maple borers; a very destructive kind was imported a few years ago into New York City, and is slowly spreading in all directions. Where these maple borers confine their work to the trunk, it may be practicable to apply the Raupenleim or Dendrolene to prevent the mother insect from laying her eggs. The borer which is making sad havoc in maple trees in New York City parks, and in surrounding localities, however, does not confine its work to the trunk, but kills the larger branches. It would usually be impracticable to treat the branches of these trees as well as the trunk. It is thus doubtful if either of the substances under discussion will prove practical aids in our warfare against maple borers.

Mr. E. B. Southwick, entomologist of the Central and City Parks of New York City, has had much experience in treating borers. He collects all affected or broken branches, carefully removes and kills all the grubs he can find, then burns the branches. In 1893, he and his assistants spent three months collecting and destroying the grubs of the newly-imported maple borer mentioned above. He says that the effects on the numbers of the borers the next year, were very evident. All the smaller trees in the parks are carefully examined, and when a burrow is found, bisulphide of carbon is injected into it from a common oil can, and the hole quickly closed with putty; this carbon is sure death to all living things in the burrow. Mr. Southwick has also found this a very effectual method against the apple-tree borer and all other borers whose burrows can be found; often the burrows are readily found from the matter the grubs eject from the mouths of their tunnels.

In brief, the German Raupenleim and its American counterpart, Dendrolene, so far as they have been experimented with, give results which strongly indicate

that they will prove very valuable additions to our insecticide batteries; the results obtained against borers in the trunks of trees are especially promising. Whether one substance is better than the other for certain purposes, is not yet demonstrated; it will be important if their possible variability in composition should render them unsafe applications for peach or other trees. Before using either substance extensively, I would advise fruit growers to wait until the scientific experimenters in our various experiment stations have more fully tested them, so that more definite recommendations as to when and how they should be applied, or whether they should be applied at all or not, can be given. M. V. SLINGERLAND.

SEASONABLE NOTES FOR THE GARDEN.

Golden Glow helianthus was something of a novelty last season; its double yellow flowers are lasting and continuous, and it will prove a good addition to the garden of the country home.

Summer-blooming spiræas, such as Bumalda and its variety, Anthony Waterer, bloom much better if their decaying flowers are cut off as soon as perceived. This holds good with all flowering plants. Many a plant which would, otherwise, bloom nicely, has all its efforts taxed to mature seeds.

For a half swampy place, the Asclepias incarnata, Swamp milkweed, is a capital plant. It delights in the moisture, and during July and August, produces its rosy, flesh-colored flowers in great profusion.

September is a good month in which to sow pansy seeds for early spring blooming. In Pennsylvania, pansies winter very well, covered lightly with forest leaves.

One of the most satisfactory shrubs in small gardens is the "Wayfaring tree" so-called, Viburnum lantana. In early spring, its corymbs of white flowers are charming. Just now (August 5), its clusters of berries are beautiful. The green ones change to a red, then to a black color, and all three colors are often on the cluster at the same time. It is thoroughly hardy.

It is hard to understand why the assertion that the Trailing arbutus cannot be transplanted, is so often made. Of my own knowledge, it is fairly abundant in England, as I saw nice beds of it there last summer, and the plants first came from here. If a small, compact plant be dug up with a good ball, and set in a favorable, shady place in a wood, it will flourish, as I can testify from my own experience.

Many of the native asters are most beautiful, and are well worthy of a place in a garden. It may not be known that these plants grow readily from seeds. Gather a handful in passing through the woods, and sow them in the fall, covering lightly with forest leaves for the winter. Treated in this way, the young plants will flower next fall.

Aspidistra lurida, which is much grown as a decorative plant for dwellings, is quite hardy in Eastern Pennsylvania, as, no doubt, it is still further north. Its broad, flag-like leaves make it useful for planting close to walls or dwellings.

The wild azalea, Viscosa, is a good garden shrub where it can be given a damp place. Its white flowers come in July and August, and they have a pleasing odor. JOSEPH MEEHAN.

Pennsylvania.

FALL PLANTING OF FRUITS.

I send a photograph, see Fig. 175, of a dwarf pear tree planted last fall, the branches being removed close to the main stem, as is my custom with dwarf pears. This photograph, taken July 15, shows a new growth of from 18 to 24 inches. This is one of a row of dwarf pears, nearly all of which have made the same growth. Last spring, these trees had made a growth of six inches before spring-planted trees had made any growth at all. At Fig. 176, is shown a Red Cross currant bush planted last fall. This, also, was headed back close to the ground, all the growth shown in the photograph having been made this season, previous to July 15. This is one of a long row of bushes, some of which have made a still larger growth.

I offer these photographs in evidence of the fact that almost one year's growth may be saved by judicious fall planting. I am more and more convinced, each season, that more planting should be done in the fall, and I am planting more in the fall than formerly. There is always a long season from October to December, of comparative leisure, when the soil is in the best possible condition for planting, being moist, yet crumbling nicely under the spade or plow; still it is difficult to persuade people to plant in the fall, for the reason that it is not the season of making gardens, and there is nothing on the face of nature to remind one forcibly of planting. The trees, lawn, orchard and forest, are still green, and the planting instinct is not dominant. In the spring, all Nature urges the ruralist to dig and plant. After the long sleep, the plants, shrubs and trees seem to have been resurrected, and without effort, the whole world goes to work and plants. As a consequence, the nurserymen find themselves overwhelmed in the spring, and if summer come forward with rapid strides, as it did last spring, the nurseryman cannot give his patrons the best service, no matter how hard he may endeavor to do so.

True, there are some shrubs and trees that should not be planted in the fall, among which are peach trees, roses, Cut-leaved birch, althæas and tender varieties of plums, unless the same are given careful protection. There are also localities in the northwest,

FALL-PLANTED DWARF PEAR TREE. Fig. 175.

and along the Canadian borders of the East, where fall planting cannot be recommended, except of such small fruits as can be covered entirely from sight. Wherever the thermometer goes 15 to 20 degrees below zero, it is not safe to plant trees in the fall, if they are to be fully exposed during the winter; but currants, gooseberries, blackberries and red raspberries, especially, should be planted in the fall, no matter whether north or south. Currants and gooseberries leaf out so early in the spring that they often arrive too late if sent a long distance at that season. CHAS. A. GREEN.

FRUIT NOTES FROM "DALE VIEW."

Wet Weather Culture.—The earth is as full of water as a sponge, and anything like cultivation has been practically impossible for the past four or five

FALL-PLANTED CURRANT BUSH. Fig. 176.

weeks. Much of the time, in our strawberry patches, one would sink over shoe top in the mud, so that pulling weeds or training the runners into rows has been entirely out of the question. As a natural result, the weeds are rampant, and the runners which have been sent out in every direction and interlaced across the spaces between the rows, have set myriads of large, strong, young plants everywhere. The very plants which it was our desire to have trained into nice fruiting rows, are nearly all firmly rooted away out in what should have been the spaces under clean cultivation; so that, to go in with a cultivator, would simply be murder in the first degree. Especially would this be the case with the Gandys, whose long-jointed runners have set fully nine-tenths of the plants outside of the greatest possible limit for a fruiting row capable of being cultivated at all. To dig up all these thoroughly-rooted plants, and reset them in a decent row, would take an immense amount of labor—so much, indeed, as to cancel the additional profit to be gained thereby. I have concluded to pull out all the weeds so that none may go to seed, give a good mulch this autumn, harvest one crop, plow under and, in the meantime, try again.

Growth of Plants.—Young trees and plants have made a fine growth this season. A small orchard of 50 plum trees, set three years, have given us a few luscious samples of what we may expect in the future. These trees, which occupy an eastern slope just above our cottage, are remarkably vigorous and healthy under our "hoe and lawn mower" cultivation. A circular space about four feet in diameter around each tree is kept clean and mellow by an occasional hoeing, while with the lawn mower, we keep the grass down to short "hen pasture." By actual measurement, under this method of culture, I find that some of our Imperial Gage trees have made new shoots from five to six feet and seven inches in length the present season. Under the same conditions, we, also, have a few well laden trees of Ford's Late peaches. These trees have been planted but seven years, yet, by careful measurement, I find the trunk of the most perfect one to be 27 inches in circumference one foot above the ground, while the branches, which have been headed in from one-third to one-half each season since planting, cover a circle 25 feet in diameter.

Grape Notes.—An Elvira grape vine, five years old, which I wished to change from the upright method of training to the Kniffin system, was cut off two inches above the ground last March, and has made a total growth of over 140 feet this season. Grapes are an abundant crop in this section this year, and are, like everything else in the fruit line, ripening unusually early. We sent a few fine clusters of Moore's Early, which were in fine condition, to a friend in Chicago, on July 31. The wires on our Kniffin trellis are as taut as fiddle strings from the great weight of the fruit upon them.

Ohio. F. H. BALLOU.

FERTILIZERS FOR WHEAT.

IS THEIR USE INCREASING? WHAT QUALITY?

THE QUESTION.

In your opinion, is the use of fertilizers on the wheat crop increasing or decreasing in your State? What amount of fertilizer is generally used per acre for wheat, and, so far as your observation goes, do farmers use a plain superphosphate with a little potash, or high grade goods containing more or less nitrogen?

THE ANSWERS.

Little Change in New York.

The farmers in western New York sow just about the same amount of fertilizer every year. As a rule, they use a complete fertilizer costing from $25 to $30 per ton, but a great number are using acid phosphate alone combined with potash. Certain soils need complete fertilizers and others do not. On my own farms, this fall, I shall sow about 100 acres of wheat, and shall use a complete fertilizer containing one to two per cent of ammonia, 10 per cent of phosphoric acid, and five to six per cent of actual potash, at the rate of 200 pounds per acre on some 70 acres. The rest, 26 acres, is low, black, flat land, well supplied with ammonia and potash, 14 per cent available, 200 pounds per acre. I believe in complete manures generally, for most soils are deficient in the three elements of plant food. EDWARD F. DIBBLE.

Monroe Co., N. Y.

The Situation in Ohio.

The statistics collected by the township assessors of Ohio indicate that the total expenditure by the farmers of the State for commercial fertilizers rose from $416,000 in 1881 (the first year of collection), to $693,000 in 1888, and $1,297,000 in 1891, thence falling to $1,163,000 in 1894. The greater portion of these fertilizers has been used on the wheat crop, at least during the earlier part of this period, the ordinary practice being to use 200 to 300 pounds per acre of a fertilizer costing $25 to $30 per ton. While large quantities of plain superphosphates, or superphosphates with potash, have been used, I have good reason to believe that the great bulk of the fertilizers sold in Ohio have been mixtures of slaughterhouse tankage and acid phosphate, with occasional sprinklings of muriate of potash. The high valuations which have hitherto been given to "ammonia," not only in Ohio but in most other States as well, have, undoubtedly, had much to do in stimulating the use of tankage, since "ammonia" has been offered to the fertilizer mixer in this material for years at but a fraction of the price at which it has been rated in fertilizers. As a matter of fact, I find that the most reputable of the fertilizer dealers, those who keep in

stock the various fertilizing chemicals, are all pushing the sale of their "mixed goods," and this is easy to understand when we discover that plain superphosphates are now sold in Ohio at an advance of $2 to $5 per ton above their wholesale cost, with freight added, whereas the price asked for a mixed "phosphate" with a fancy brand, runs from $5 to $12 per ton above the necessary cost of the materials of which it is composed, while the cost of mixing cannot amount to 10 cents per ton in any well equipped establishment. CHAS. E. THORNE.

Ohio Experiment Station.

Less Wheat Grown in Western New York.

The use of commercial fertilizers for wheat is largely decreased from former years; not because the farmers have lost faith in the value of the fertilizer, but because, at the price of wheat for a few years, the increase would scarcely pay for the fertilizer used. Our farmers, as a rule, use about 300 pounds of a complete fertilizer for which they pay, on an average, about $30 per ton, so that the 300 pounds cost them $4.50; as wheat averages about 65 cents, they would have to get about seven bushels extra per acre to get the money back, letting the straw pay for labor of applying. The fact is that our farmers are largely abandoning the growth of wheat, and would do so entirely, only that they regard wheat as the best of all crops to seed after, and they want the straw for use with the stock.

While it used to be no uncommon thing for a farmer to have one-fourth of his cleared land in wheat every year, it is now the exception to see so much as one-tenth. What we do grow, is mostly after oats or barley, possibly early potatoes. Generally a slight coat of stable manure is applied after plowing, and worked into the top soil by repeated harrowings and cultivating. Farmers notice that, where they apply no more than five good loads of stable manure to the acre in this way, the wheat will endure a bad winter, frequent freezing and thawing, better than where so much as 300 pounds of fertilizer are applied. Then, it is a fact that the seed is more certain to take, and the succeeding crops of grass will be better with the stable manure. Still, I think that, were the price of wheat to go to $1 per bushel, our farmers would use more commercial fertilizer than ever, using both that and the stable manure on the same land. J. S. WOODWARD.

Niagara County, N. Y.

Dissolved Rock in Pennsylvania.

The use of fertilizers has been increasing for several years in this State, and in some localities, nearly the entire crop of wheat receives an application of commercial fertilizers in some form. Dissolved S. C. rock is, perhaps, more generally used for wheat than any other form of commercial fertilizer. In some localities, dissolved bone is preferred, but as a rule, the rock is used. The farmers are gradually coming to see the advantage of purchasing high-grade goods rather than those of an inferior percentage of fertilizing ingredients. The saving in freight and in handling is quite considerable, particularly in localities distant from the coast. Our farmers are, for the most part, depending for their nitrogen supply upon barnyard manure, which they apply more thinly than formerly, thus covering a larger area. Many are using clover, both Red and Crimson, as nitrogen gatherers, consequently, less money is being expended for fertilizers of this character each year. In many localities, there seems to be a sufficient amount of potash in the soil, and farmers are learning to test their lands by experiments on a small scale before purchasing largely of mixed goods. This department has licensed 919 different brands of fertilizers for sale in this State this year. The usual application of dissolved rock is from 200 to 350 pounds per acre, of 12 to 14 per cent available phosphoric acid.

Deputy Sec'y Agriculture of Pa. JOHN HAMILTON.

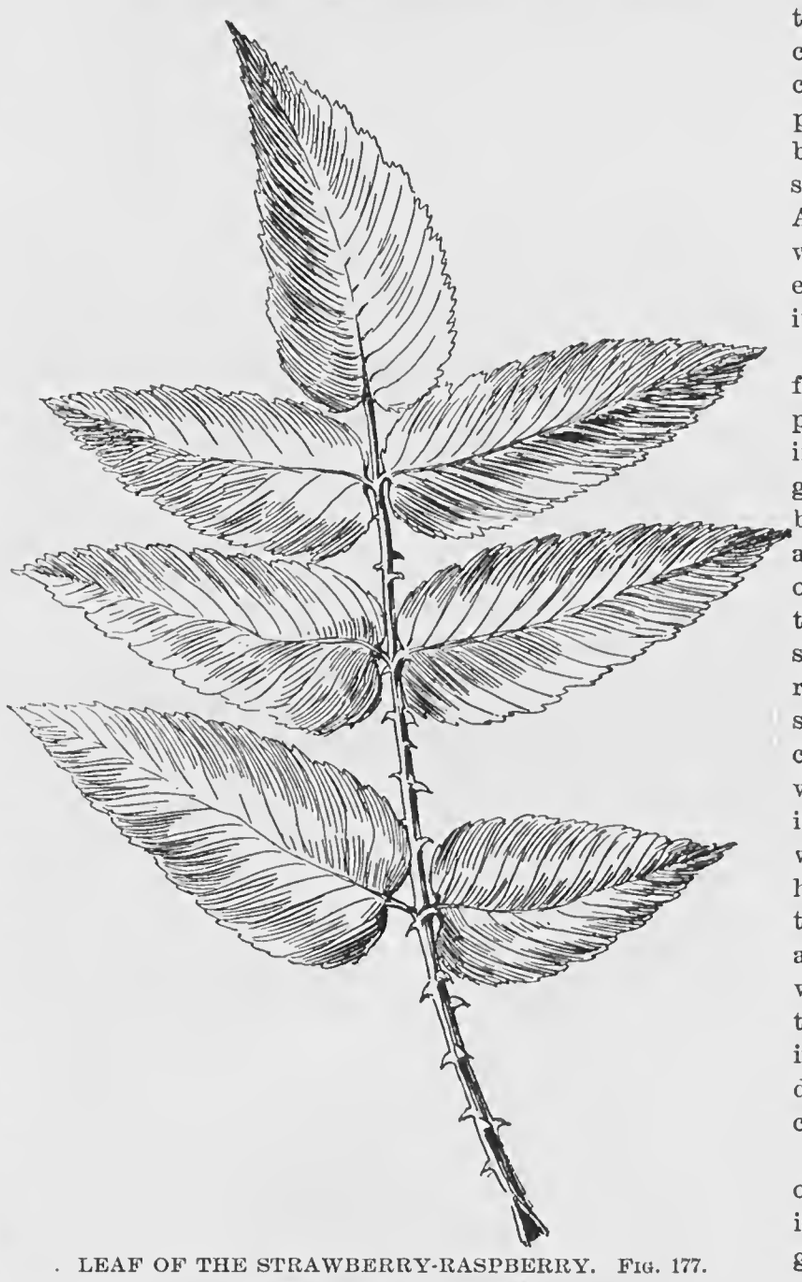
FERTILIZER ANALYSIS FOR FARMERS.

PROF. JORDAN GIVES FURTHER VIEWS.

Last week, we gave the opinions of some of the experiment station directors regarding the analysis of fertilizers for individual farmers. Prof. W. H. Jordan, of the New York State Station, gives below a more extended review of the matter:

It is a director's duty to exercise economy in the use of the station's resources. In order to do this, he must avoid useless repetition of work, and in all cases, must aim at a definite result guided by clear understanding of the conditions involved. For this reason, the director and his staff must be in a position to exercise correct judgment as to the wisdom of making an analysis or doing any other work, and no intelligent judgment is possible without a knowledge of related facts. It would be absurd to allow any farmer of the State to claim of the station an expensive service without putting the director in possession of such facts as will enable him to determine whether the work is necessary. Such liberty would place the station resources at the disposal of persons not qualified to judge as to their proper use, and would confuse all plans for systematic effort. These are general considerations which relate with equal force to any department of station effort.

Now what are the facts as related to the inspection of fertilizers? Let me illustrate by citing the conditions as they exist in New York. All manufacturers of commercial fertilizers who offer their goods for sale in the State, must file at this experiment station a statement of the guaranteed composition of the goods. The station is given the authority to ascertain by the analyses of samples of the goods, the samples to be selected in a proper manner, which of the brands of fertilizers actually sold in the State conform to the guarantees. In order to accomplish this, the station sends into various parts of the State, agents to secure samples, which are afterwards analyzed by the station chemists. So far this year, over 800 brands have been registered at the station. The station agents have already taken about 425 samples representing about 325 brands. The samples are now being analyzed, and two agents are soon to visit other parts of the State to secure, as fully as possible, samples of the remaining brands. Just now, let us suppose a farmer sends us a sample of fertilizer taken in a manner of which we know nothing, and of which he refuses to give the name. We refuse to



LEAF OF THE STRAWBERRY-RASPBERRY. FIG. 177.
SEE RURALISMS, PAGE 562.

make the analysis blindly, and these are the reasons for our refusal:

1. The six station chemists are working steadily to accomplish the analyses of the samples officially taken, and of other materials that are related to the investigations under way. It means a great deal to turn aside or weaken this systematic plan of work, and it should not be done unless for important reasons. Who shall be the judge of these reasons?

2. The sample sent in may be one from a brand of goods which the station has already sampled this year, perhaps in two or more places. That being the case, there is generally no reason why the analysis should be repeated. To do so would be a useless repetition of work unless some very special conditions prevail. Even if the analyses were justifiable, the station should be assured that the sample was taken in a manner to insure accuracy. For these sound reasons, then, the station asks the farmers to take it into their confidence in order that it may intelligently serve their interests.

3. What the station consents to do for one farmer, it must do for all farmers who make the same request. and it is easy to see what delay, confusion and waste of time would result from indiscriminate analyses of the unknown and unauthorized samples that might be sent in if no conditions attended their reception.

If the farmer refuses to give the facts asked for by the station, such refusal indicates, either that he makes the request for some insignificant or selfish reason, or that he does not place confidence in the integrity of the station director or his staff. If the farmer's refusal is caused by the former reason, then the analysis certainly should not be made, and if by the latter, he is inconsistent to apply to the station for help under any conditions. If the station staff is not composed of men of undoubted integrity who are worthy of the full confidence of the public, then a complete reorganization would better occur. Only men of the highest sense of honor are entitled to a position in such an institution.

The fact is that the farmer cannot complain if the station refuse his request for service, unless he does all he can to aid the station in serving him. The farmer gets the information he needs with the least trouble by giving to the station authorities the confidence they deserve, and thus placing them in a position to act intelligently and promptly.

THAT "WINTER OVERCOAT FOR LAND."

MR. MORSE EXPLAINS WHAT HE WANTS.

In reading the replies to my inquiry for a crop to cover land in winter to prevent washing, I see that some replies show that the writers could hardly understand why I should want the crop to winterkill so as not to interfere with spring culture. The place I had particularly in view, for the winter mulch crop, is a peach orchard. I have often seen it recommended to sow Crimson clover in a peach orchard to plow under in spring. There have been several drawbacks to this practice in my experience. When I sowed the clover as late as the last of July, it did not make a success. Sown in this climate, at that time, the young plants were very largely—I may say, mostly—killed by sunscald when in the seed leaf, so a very poor stand was secured, either in the orchard or corn fields. At about August 1, we usually have some very hot weather and little rain, except brief showers, just enough to sprout the clover and leave the sun to kill it. Such was my experience more than once.

Now if I succeed in getting clover to grow satisfactorily in an orchard, I do not find it so easy to plow in; in fact, I find plowing in an orchard exceedingly awkward. When the trees get a few years' growth, where each row of trees stands, there will be a strip unplowed, with a dead furrow on one side and a ridge on the other if the plowing is all from one side. If each space is plowed as a land by itself, there will be a dead furrow in the middle of the space, and the unplowed strip by the trees with a ridge on either side; either arrangement is very unsatisfactory, and necessitates much after-work. If I can have a mulch crop which all dies, I can cultivate with a spring-tooth harrow, going through the rows in both directions, which works most of the ground without ridging. After so working, I separate the harrow, using one-half with one horse, go through the rows diagonally, and "haw" and "gee" the trees alternately. By careful driving in this way, the whole land can be worked close to the stems of the trees, and left level. My trees are set one rod apart in squares, which leaves the trees in the rows taken diagonally, between 23 and 24 feet apart, being sufficient room for driving as I said above.

I have sown peas with oats now two years in the orchard. If the mulch is left to rot on the ground, it is some trouble in the spring. If the crop is cut for green feed in October and November, the stubble and roots are sufficient to prevent washing, and the value of the crop is considerable. Several writers have spoken of the liability of oats rusting when grown late. I have never known them to rust when sown as late as, or later than, August 1. I have sown them August 20, and had a good, heavy growth. In my experience, oats withstand frost equally as well as barley, and I think are better for a fodder crop, either as to quantity or quality. Peas, sown in August, will grow until the ground freezes. The harrow which I use, is mounted on low wheels, can be readily drawn to and from the field by raising the teeth, and be readily separated into two one-horse harrows. It is the best tool for orchard work I have found.

Massachusetts. M. MORSE.

A TALK ABOUT "TUB" SILOS.

THEY ARE GAINING IN FAVOR.

Mr. A, a noted importer and breeder of Shropshire sheep, a resident of Genesee County, N. Y., has, with the aid of his hired man, constructed a round or tub silo that he has used two seasons with much satisfaction. It is 22 feet high, with a diameter of 12 feet, and occupies a portion of the bay of a grain barn as commonly found in this grain growing locality.

For foundation, the surface soil was removed to a depth of about 18 inches; large, flat stones were then laid in, and smaller stones were used to level up nearly to the surface. Water lime cement was used to finish up the work, the first coat being quite thin in order thoroughly to fill the spaces between the stones. The construction of the silo consisted merely in setting up

a huge tub, staves about six inches wide and 22 feet long, of hemlock lumber, matched, all held in place with round, iron hoops, each one so arranged that, by turning a nut, the hoop can be adjusted as desired. The ends of the staves which rest on the foundation, are merely cemented outside and in, thus affording all needed support; also a barrier against rats, etc. Openings may be made on the sides for removing ensilage as desired, between the portions securely held in place by the hoops.

In reply to the question relative to the quality of the ensilage, Mr. A said that he was well pleased with the excellent condition in which he had always found it; there are no corners for spoiled ensilage, and then the arrangement of the hoops is such that a perfectly air-tight silo is possible.

"Have you experienced any trouble with freezing, with only one thickness of two-inch plank for protection?" I asked.

"No, not in the least; and during the cold of unusual severity, the past winter, I found it an excellent food for sheep. With no hay after the first of last November, they were carried through the winter in fine condition, and with much less expense than usual. Of course, it was supplemented with other foods—straw, bean fodder, turnips, etc., were fed as the conditions required."

Being aware of the prejudice existing in the minds of many against the tub silo, it was learned that there were several in that immediate vicinity, and that all, without exception, were giving satisfaction. Mr. A was recently informed by the dealer that furnished the lumber for his silo, that he had sold material to nearly 40 farmers, all for the purpose of building round silos. The expense of this silo, not counting the labor, was as follows:

2,150 feet hemlock lumber, at $14.25 per M	$30.62
380 pounds round iron, at 2½c. per pound	9.50
Nuts and washers	.66
Blacksmith's work	5.00
Water lime	1.80
Total cost	$47.58

Of course, if the silo is to stand outside in the open air, a suitable roof, painting, etc., would add materially to the expense. Another farmer engaged in the dairy business, also expressed himself in terms of highest praise of the round silo. All admit, however, that a silo built 12 feet in diameter, and 30 feet high, would afford a capacity that would give still better results, and where the circumstances allow it, it would be economy to do so. IRVING D. COOK.

A DERRICK FOR LIFTING STONE.

A friend came into a field where we were drilling, blasting with powder, and digging out rocks with iron bars and wooden levers. "I have learned a better way," he said, "though I used to drill and blast the way you are doing. If I had only built my derrick when I began, I would have saved myself lots of work and lots of expense."

It seems that he had built a derrick to lessen the work of handling bowlders. Three 3x4-inch spruce sticks, 14 feet long, were fastened together at the top. Upon two of these sticks, at the proper height, the reel with ratchets and crank handles was fastened. About 1¾-inch rope with a double and treble block were used with a stout log chain which would tightly hug the rock. Perhaps hooks fastened into shallow holes drilled in the rock might have been better. On some rocks, one hitch would be handiest, on other rocks the other would be. With this rig and very little loosening of the earth, he could easily raise rocks as large at least as two yoke of oxen could draw on a stone-boat. The lift being a direct upward pull, little resistance was encountered by pressure against the bank, while there was much such pressure to be overcome where levers and bars were used.

With the derrick, he raised the stone high enough to back under a cart. This kind of rock would soon smash an ordinary cart body. He built a three-inch plank platform without sides to use instead of his regular cart body. There was more danger of breaking the chain than of breaking the rope, unless the rope had become worn. Indeed, I saw in this morning's paper that, when the dry dock collapsed at the Brooklyn Navy Yard, several vessels parted their chains, but were held by their hemp hawsers.

"Were 3 x 4 legs big enough?"

"Yes, a neighbor borrowed the derrick, and by mismanagement of men, broke one leg and replaced it with a 4 x 4. But the latter stick made the derrick too heavy, and the extra strength was unnecessary."

He has changed this derrick from three-legged to four-legged—not for more strength, but for greater convenience. It often happens that the derrick cannot be set directly over the work, and a side pull is required. The derrick must be set so that the two legs holding the reel are opposite the stone to be pulled. If the derrick has but three legs, the third leg will come in the way of the stone, but with a four-legged derrick, it may be straddled.

To show another convenient use of the derrick, he was once flagging a hog pen with large, flat stones off the farm. The space was too small in which to work a team, and the stones too large to be handled easily by hand. By setting the derrick in the pen, he could drive the team alongside the opening, and with a side haul of the derrick, they were easily lifted and pulled into position.

Such a tool is simple enough, but requires judgment in using. Inexperienced men will sometimes set up a derrick in such a way that, when the load is half up, derrick, stone, and all go over in a heap. This means, perhaps, a broken derrick and, sometimes, broken bones. E. C. BIRGE.

Connecticut.

WHAT THEY SAY.

WINTER SOIL COVER.—The best winter cover we know to use as a protection from winter wash, that will also die down in winter, is a mixture of barley and peas. The small Canada field peas are cheap, costing $1.50 per bushel in Boston. The peas should be plowed under four to five inches deep at the rate of 1½ bushel per acre, and the barley should be sown a few days later at the same rate, and harrowed in. If the land be rolled, the seed will be likely to germinate better than if it be left loose after the harrow. This crop may be sown at any time from August 1 to 20. If it become too large for plowing under easily, the crop may be pastured lightly during November. Barley and peas will not "die down" till after the ground begins to freeze an inch or more in depth.

Storrs (Conn.) Exp. Station. C. S. PHELPS.

KEYNOTE TO GRASS CULTURE.—H. W. C., in THE R. N.-Y., of August 8, has struck the keynote of successful grass growing, when he speaks of sowing grass seed alone. I have been experimenting along this line for three years, and am so well pleased that I expect to sow a large area in that way next spring. I have found it much better for me to sow in spring than in summer or fall. I would like to begin the preparation of the land in the fall, and would really begin plowing in August if possible; then harrow repeatedly until the middle of October, when I would plow and leave until spring. Then I would harrow as soon as the soil was in good order to work, and once a week until about the middle of May; then sow from 300 to 500 pounds of seeding-down phosphate that had a high per cent of potash, sowing more or less, according as the soil was poor or rich. Then sow Timothy and Red-top seed, and harrow with a smoothing harrow. I have had Timothy sown in May, that was headed out early in August, and standing from 2½ to 3 feet high. I have now, August 10, Timothy three feet high, from seed sown in March on a buckwheat stubble, which was seeded last year with clover, with the buckwheat, but the clover was killed by extremely dry weather last fall.

Bullville, N. Y. D. P. A.

VARIOUS FARM NOTES.—Four hundred bushels of old potatoes were spread upon one-sixth of an acre of strawberries. The piece then presented about the appearance of some seedsmen's catalogues when advertising a new variety. Potatoes, vines and mulch were all plowed under. This should be manure enough for another crop of berries.

Rye sown thinly after potatoes, last fall, was a light crop. The grass seed was sown this spring as soon as the snow went off, and the grass made a good growth. It, with the rye, was cut with the mowing machine, and some excellent hay was secured. Some of the Timothy was waist high when cut.

Two pieces, one of three, and the other of six rows of potatoes, were not fertilized. The rest of the field had special potato fertilizer applied at the rate of 1,500 pounds per acre. The unfertilized plots yielded less than one-fourth as much rye and grass as the land alongside. The soil is now thoroughly wet, and everything is favorable for an excellent crop of hay next year.

A neighbor has a small piece of Alfalfa, sown one year ago upon a low, rich piece near his barn, which he has just cut the second time—it should have been cut sooner. Each cutting was about 30 inches high, and a good stand. If it will do as well generally—of course, one could not expect so heavy growth unless heavily manured—it is a desirable acquisition. Another neighbor sowed some at the same time, but failed to get a good catch, and what came through the winter was of little value.

Leggett's Paris-green gun is a decided improvement upon the Knapsack sprayer for killing bugs. I have not tried it for blight. Perhaps one can kill the bugs with one-half or three-quarter pound of poison, and dust "one acre per hour," but it takes too long, two or three days at least. One pound of Paris-green applied to one-half acre of heavy tops in 1½ hour, removed fully three-quarters of the bugs in six hours, and, though a heavy shower then fell, all bugs were destroyed. It pays to use plenty of poison, and time enough to dust thoroughly the vines.

Pennsylvania. G. A. PARCELL.

SOME HEDGE PLANTS.—The honey locust (Gleditschia) was lately spoken of as being, probably, as good a plant for hedges as any. Since the introduction of barbed wire, thorns on hedge plants are a superfluous nuisance, and the thorns of the thorny honey locust are dangerous in the extreme—not while on the growing plant, but on the drying trimmings as they lie underfoot. The plant is also very hard to prune, its shoots being very hard and firm and issuing squarely out (horizontally). If pruned, however, every June and September, the beauty of the young foliage issuing thickly and appearing imbricated, like feathers on a fowl's breast, is beautiful. If a honey locust hedge has gone wild with its vigorous natural tree-growth, the only way to correct it is to cut it off close to the ground while not in leaf, and then attend faithfully to the early and late clipping, annually. But for planting a new hedge, choose some plant of naturally hedgy form as the barberry or the briar rose, if some thorns are wanted, and if to be exempt from browsing by cattle, or the buckthorn or privet, if cattle are kept off. The privet is an ideal hedge plant, only that it, sometimes, and in some places suffers from a fire blight like the pear tree. If the California privet is free from this, it will make a beautiful hedge in drained soil. It is not quite so hardy far north as the common sort, which is beautiful enough and almost evergreen. Arbor vitæ, hemlock, and Norway spruce make perfect hedges with a wire or two interiorly, and an annual clipping when they pass the limit of hedge size. None of the plants named suckers from the root at a distance off from the collar, excepting the honey locust, which will push up growth from the roots occasionally, when the top is severely repressed. W.

PEACH BORERS IN VIRGINIA.—I have been making a study of this insect for several years, and this season, have personally wormed 1,200 or more trees during repeated intervals of a few days from the beginning of the year until August 10. Up to June 15, I found the borers actively cutting; after that date, they became more or less sluggish. The first chrysalis was found July 1. On July 25, not more than 20 per cent of the larvæ had entered this state, but eggs laid by the first moths out had commenced to hatch. Observation since this date, and from former experience, leads me to believe that egg laying will continue until cold weather. I have tried a number of washes applied in spring, and found it a waste of time and material to apply them. I believe that August 1 is as soon as such washes should be applied in this locality, as eggs and freshly hatched borers that have found lodgment near the collar of the tree, will be destroyed by contact, and the wash will remain sufficiently effective during the remainder of the season to prove of great benefit as a preventive. I agree with R. S. Cole, page 533, as to Hale Bros. wash being as good as any; but my recipe as copied from one of our farm papers gives only half the amount of water to the same proportion of other materials as quoted by Mr. Cole, so I am at a loss to know which is the correct formula. I am led to suppose that the date of applying as given by Hale Bros., is based on their Georgia orchard, which would, doubtless, require a much earlier application than those in Virginia.

I find that my Myrobolan or Marianna plum stocks, when budded to Japanese varieties, are as badly infested with borers as the peach, whereas when budded to Chickasaw or other native varieties they are entirely exempt. I would like to know of other plum raisers, if this is their experience, and whether budding high will secure exemption for the Japans.

Coleman's Falls, Va. G. E. M.

Figuring the Cost of a Crop.

I am convinced that there is not one farmer in ten, in this town, who keeps any kind of a record as to the cost of producing his products and their selling price, together with other regular, systematic farm accounts; consequently the farmers still continue to grow crops, keep cows, poultry, etc., at a loss or profit, they know not which. We keep a cash account, also record of grain fed to each kind of stock, but we cannot tell how much each crop has cost us, because we do not know of any good method which is both quick and accurate for so doing. I have in mind now one farmer in this town whose cows, I am certain, cost him, at least, three times as much for feed alone, to say nothing of labor, as the total avails from them; but he does not know it, and never will unless he sees it in black and white. I do not think that this man's case is an exceptional one, by any means; on the contrary, he is, in many ways, a progressive farmer, and has to depend on his farm for a living.

If farmers could only be induced to keep a record

of their business as other men do, there would not be so many farming simply to give them a "steady job," and keep prices down for those who are anxious to succeed in this vocation. I hope that THE R. N.-Y. will give us a "broadside" on this subject. J. E. H.

Phelps, N. Y.

R. N.-Y.—We want to hear from farmers who claim to be able to figure the cost of a certain crop. How do they do it?

New Ideas for Agricultural Education.

But few intelligent people can be found who do not regret that they did not obtain a better education. When younger, they either did not have the money, or they did not fully realize the advantage of a better education. At the present time, a course at an agricultural college is not very expensive. As that takes away one of the greatest difficulties, in what ways can our young people be convinced of the importance of a good education, and persuaded to invest time and money in themselves by getting it?

The agricultural college is, undoubtedly, the best place for a young man to learn the science of farming; but there are some who will not attend because they think that the college is not practical enough. Would it be practicable for large farmers to establish farm schools in connection with their farms? They could employ young men who do not wish to attend an agricultural college, but who wish to learn the best farm methods, have them work 8 or 10 hours a day, the evenings to be employed in reading, studying and attending lectures, the farmer to question and instruct them in their studies, also to give occasional lectures supplemented by lectures by other capable men. The young men, by having the advantage of such instruction, could afford to work for less than ordinary wages; they would thus get a very good education, while otherwise, the evenings would be spent in idleness. The farmer would be benefited, too, because he would get a good class of help, and could afford to spend some time in instructing them because he would not have to pay so high wages.

Could not the manufacturer adopt a similar method? Working men are continually asking for shorter hours of labor. They would, undoubtedly, be better off if they would wisely employ their leisure time. If the manufacturer would grant the lesser number of hours on condition that the men should study, and provide for occasional lectures on physiology, chemistry, political economy, etc., would he not, after a while, obtain a better class of help, and thus be paid for his trouble? Here is a chance for wealthy men who are fond of agricultural pursuits, and wish to do some good to the masses. Let them try the experiment, and if successful, it would be copied all over the country. E. W. MORSE.

New Hampshire.

R. N.-Y.—This is somewhat in line with the farm school conducted by Mr Geo. T. Powell. THE R. N.-Y. will have more to say about it soon.

BUTTERMAKING ON THE FARM.

In this day of creameries and Elgin extras, we commonly think that the farm dairy has no more place or importance upon the earth. Yet as late as 1890, 85 per cent of all the butter in the United States was produced in the farm dairy, and while the last six years have, probably, greatly increased the per cent made in creameries, there is still, and will be for years, a vast amount made by the farmers' wives. This butter is of all kinds and conditions. I once heard a well-known dairy writer—an advocate of the home dairy—say, "Gentlemen, the best butter in the world is made in the private dairy—and the worst, too." That statement was literally correct. The greatest blessing of the creameries is that, while many of them are not making a really fine grade of butter, none of them is making a product so notoriously bad as that which a million of farmers' wives are putting into 10-pound pails—about the most disreputable package (roll-cloths of old linen garments excepted), that ever cursed a pound of butter.

Perhaps we might say that there are three kinds of farm buttermaking running into each other to some extent. First, there is the class just mentioned, whose product, small individually, is large in the aggregate. Probably, like the poor, they will be always with us. It was one of these men who, when the New York State Dairymens' Association convention was held within four miles of his home, and he was urged to attend, frankly stated that he was well satisfied with his present results. It is this class of butter that constitutes a terrible drag upon our dairy markets, because it is always in over-supply and when sold, a pound of it displaces two pounds of a good article.

Another and worthy class is making butter without any very modern methods, yet, by what seems almost hereditary or intuitive skill, is making in cool cellars, and packing into 100-pound firkins, a really fine product. It is certainly true, and almost without explanation, that, while creamery butter will outsell this when freshly made, yet six months later in New York, the "long dairies" of Delaware County will be worth one or two cents more than the best "held creamery." Probably the explanation is to be sought in the fact that the product of these old-style buttermakers has never, during its manufacture, been subjected to sudden or great changes of temperature. Possibly, the freedom of the water from organic impurities, the bacteriological nature of its surroundings or the more thorough working which it receives may have something to do with the matter. I once heard a man familiar with the butter trade of New York City for many years, wax fairly eloquent upon the wonderful qualities of the butter that used to come down from Orange Co., made in "12-quart Orange County pans." I have wondered whether it really was so excellent, or whether it was only another example of how distance lends enchantment.

The third class of farm dairies comprises those who are doing a strictly gilt-edged business—who, by judicious advertising in various ways, banking on the reputation of their farm, and perhaps, by something of a flourish of trumpets, generally, have convinced some people of the half truth, half fiction, that they make better butter than can be procured anywhere else. This class, by putting up butter in small, fancy packages, have, in many instances, a trade from 5 to 25 cents higher than the creamery can hope to reach in the open market. This class of men represent the high-water mark in dairy practice.

JARED VAN WAGENEN JR.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

A Word About Cherries.

D. J. S., Aitken's Ferry, P. E. I.—1. What variety would you recommend as the best all 'round late cherry? 2. What is your experience with the Dyehouse cherry? How much earlier than Early Richmond is it, and in what respects is it superior to that variety? Is it as hardy?

ANS.—1. Windsor. 2. Dyehouse is a little smaller than Richmond, and a little earlier. The fruit is more evenly distributed over the tree than is the case with the Richmond. We consider it as hardy as the Richmond. The English Morello and Montmorency we regard as the best kinds in this class.

Cultivation of Raspberries and Cabbages.

A. B. C., Harwinton, Conn.—1. I have some red and yellow raspberries, set last spring, in rows about four feet apart, and the plants 1½x2 feet. How late should they be cultivated, and what pruning, if any, should be done? Should there be more than one cane in a hill? I have also some of the same kinds set two or three years ago, and left to grow until they are much too thick. How shall I trim them, so that they will be in proper condition? 2. Can anything be hoed in around cabbages, or put on the heads, to quicken their heading? If so, what?

ANS.—1. We cultivate until frost. Our way is to leave from three to four canes to a hill. But A. B. C.'s plants are so close together that, perhaps, two canes would be enough. Our advice is to cut out all old wood—that is, the canes which have borne—soon after they have borne the crop. 2. We think not, if the plants are far advanced. Liberal allowances of bone and potash early in the season, and frequent cultivation will insure a quick, vigorous growth.

An Ice House and Cold Storage.

E. R. S., Brandywine Manor, Pa.—I would like to build a cheap ice house, to hold 12 to 14 two-horse loads, and would like to have a room 5½ feet high and eight feet square below the ice for milk and butter, in fact, a cold storage room. How should this be built so as to economize in space and cost? I could build it by having it partly in the ground. I have the timber, and expect to do most of the work. Could I have it built so as to have ice around the room, as well as above?

ANSWERED BY W. W. FARNSWORTH.

My experience with ice and cold storage has been rather too limited to allow me to speak with authority; but I have observed and studied the matter considerably, and a year ago built a fruit house with a cold storage cellar, that I consider a success. It is built on the same principle as the one at the experiment station at Wooster, that has proved a success for several years. To build to meet the requirements of E. R. S., I would excavate three to four feet (drainage permitting) and use the earth thus obtained to bank up to the top of the wall, which I would make, at least, 6 or 6½ feet. I would build a stone wall (mine is of broken stone and lime and cement mortar filled into molds), about a foot thick.

If a perfect cold storage is desired for keeping fruit, meat, etc., I would set up 2x4 studding against the inside of the wall, and cover them with building paper and matched ceiling, thus creating an air chamber. Probably this will not be required for milk and butter. I would construct the cellar bottom o broken stones and cement, about six inches thick. The door should be on the outside, north side preferred, and should be very tight fitting. On top of the wall, place joists strong enough to support the ice, and cover with two-inch plank, leaving a space of four inches around the outside to allow a circulation from the ice house downward into the cellar. Upon this floor, place galvanized iron for the ice to rest upon, laying a few inch strips of wood upon it to prevent the ice injuring the iron when the house is being filled. Turn up the iron three or four inches around the edge to hold the water from melting ice, and have an opening at one corner, which should be a little lower than the others, to drain it off. The remainder of the upper part of the building should be built like an ordinary ice house.

The ice is put in in the ordinary manner, except that the sawdust is placed around the outside, and an air space of four to six inches is left; this comes directly over the opening in the cellar floor, and allows the air to become cooled by direct contact with the ice; being heavier than the air beneath, it descends and the warmer air from below ascends to be cooled in turn without any elaborate or patent system of flues, ventilators, etc. The ice will waste more rapidly than when protected on the sides, and E. R. S. will need to provide a somewhat larger quantity to allow therefor. Have as few outside windows to the cellar as possible, and protect by double sash and shutters. I do not believe that it will be necessary or advisable to have ice around the sides of the cellar. This is the general principle of my cold storage fruit house. The details can be varied to suit circumstances, tools and pocketbooks.

Ohio.

Adding Water to Cream.

J. R. M., Lookout, Pa.—Can we make more butter, when the cows have been in milk awhile, and the milk flow is reduced, by adding water when setting the milk? Some claim that they can.

ANS.—It is not at all likely that the addition of water, either cold or hot, is an aid to the separation of cream in a cold, deep-setting process. This matter was thoroughly worked over by the Vermont Experiment Station, as well as by ourselves, and the whole matter was summed up in our Bulletin 39 (Cornell University Experiment Station), which may be had upon application. [PROF.] H. H. WING.

To Soften a Paint Brush.

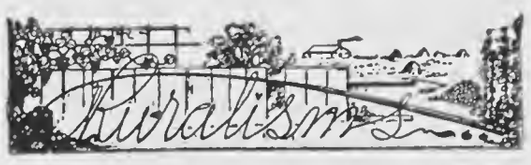
H. S., Pattenburg, N. J.—How can I soften a paint brush that has become hard with paint?

ANS.—When done using a paint brush, put it in a vessel of water; a small crock will do, or a paint keg. But this will avail nothing if you forget to replenish the water as it evaporates, say, once a month. To soften it, put some turpentine in a dish and set fire to it. In a few minutes, the turpentine will be hot; then smother the flames, and work the bristles in the fluid. Or heat some raw linseed oil to boiling point, remove from the fire, put the brush in the oil and let soak. Don't let hot oil get above the bristles, on the ferrule. Or put some soda in water, suspend the brush in the water, and heat to about 150 deg. F., let soak a day or so, and then wash out with soap and warm water. This is one of the best methods. Varnish brushes require different treatment. Keep a paint brush in water, a varnish brush in oil, and a whitewash or kalsomine brush in the cellar or other damp place. A. A. K.

The "White Blast" in Onions.

W. M. E., Peace Dale, R. I.—Our onions are very much rusted at the tips and sides of the leaves, the leaves are also large and deformed, being irregularly flat. They are also weak and bend over a good deal. Is this caused by a deficiency of some element in the soil? The soil is rich, was well manured, and had a dressing of wood ashes and some plaster, the soil being somewhat sour. The soil is rather light, and somewhat sandy. For the rust, I sprayed several times with Bordeaux Mixture, but it washes off easily. Would a little addition of sulphate of iron help it any?

ANS.—The onion tips were affected with what has come to be known as the "white blast"; that is, many whitish, corroded spots appear on the leaves and, in many cases, the tops wilt and bend over. This appearance is due to the work of a minute yellow insect not readily perceptible to the naked eye. It is one of the thrips (Thrips tabaci). It is a comparatively new insect pest, which has come to us from Europe, and now occurs in many of the States in our country; during recent years, it has done much damage in onion fields in widely separated localities. The eggs of the insect are inserted in the tissue of the leaf; they hatch in a few days, and several generations of the pest occur during the season. The insects collect particularly in the axils of the leaves and in the bent portions of leaves which have drooped over. Cabbage and other garden crops, also, often suffer from the attacks of the thrips. They can be controlled by several applications of kerosene emulsion, diluted with about 10 parts of water; spray the infested plants at intervals of four or five days until the pest is conquered. M. V. S.



THE STRAWBERRY-RASPBERRY.—We are now enabled to write about this new fruit from two seasons of experience. Our first plant was sent to the Rural Grounds by A. Blanc during April of last year. The roots (it is an herbaceous plant), passed the winter in safety. It began to bloom June 10. The buds are nearly round, a little flattened and three-eighths inch in diameter, resembling those of the blackberry. The petals are white and the size of those of blackberry blossoms; in fact, the flowers are hardly distinguishable, the one from the other, as to size, petals, stamens and pistils. It seems to the writer to be simply an herbaceous blackberry, having no resemblance to a strawberry in any respect whatever. The leaflets are from five to seven, two to three inches long, narrow, plicate, the edges being serrate, as shown in the engraving, Fig. 177. The main leaf-stem is from six to eight inches long, with short, curved, sharp spines directed downwards. The plant is now (August 4), about 2½ feet high by three feet wide, forming a somewhat round-headed bush, rather ornamental than otherwise. But *one berry* has formed, and this was imperfect. The flowers are, from some cause, sterile.

The fruit, as we have said, grows to the size, and about the shape, of blackberries, the drupelets being much smaller. They are insipid in flavor, as we judge from the several specimens sent to us. Even though all the flowers that have bloomed had set fruit (the plant is still in bloom), the yield would have been very light and bothersome to gather on account of the sharp spines.

As judged by our present experience, one plant of the strawberry-raspberry satisfies us fully, and were we obliged to give this one plant up, it would be without deep regret. It suckers like the blackberry and raspberry.....

PLANTS of the tomato, Vick's Early Leader (seed from James Vick's Sons), were set in the field June 10. They gave us our first ripe tomatoes—first among over 200 different kinds. They are of medium, or a little below medium size. Many are fairly smooth, many very irregular—about half and half we would say.....

UP to July 29, a single vine of the Evergreen Oregon blackberry has grown 15 feet.....

THIS is the second season that we have been using Fungiroid upon potatoes. This is the dry Bordeaux, a gray powder resembling burnt bones. We reported last year, with some little hesitation, that potato vines dusted with this powder were less injured by the flea beetle than vines not dusted. It has been, as we have previously remarked, a very rainy season, and it has been necessary to apply the powder every few days, as it washes off readily. But the vines of the plot to which it has been applied, have been almost free from the flea beetle, while many of the vines to which the Fungiroid has not been applied, have been killed by the beetle. Instead of its being difficult to find a leaf that isn't punctured by the fleas, it is difficult to find one that is. The reverse is the fact with the plants not powdered. The vines of the powdered plot, at this time, August 3, are green, vigorous and healthy. Not one of the 60 varieties we are trying without the Fungiroid has escaped injury. We now feel almost confident that Fungiroid repels this destructive pest.....

IT is some 10 years ago that we first announced that powdered sulphur distributed just above the potato seed, seemed to prevent rot and scab. Subsequent experiments have confirmed this first impression. This year, we are giving it a more thorough trial than ever before. Potato rot among the farmers about the Rural Grounds, is prevalent, probably, on account of the rainy season. We have, up to this time, dug about 12 of our earliest varieties treated to sulphur. We have not found a single tuber that was affected, either by scab or rot.....

WE would again call the attention of our more recent friends to the beauty of the blue Rose of Sharon. Could we have but one Rose of Sharon (Hibiscus Syriacus), we would choose this blue variety. It is a true blue.....

UP to July 30, the sweetest and tenderest of the many kinds of sweet corn we are trying, was the New Melrose. The claim was made by Thorburn & Co., from whom we received the seed, that it was earlier than Cory, and that the ears were twice as large. We find the ears larger and the corn of better quality, though two or three days later. We shall allude to this valuable variety again.....

A GREAT DISAPPOINTMENT.—We have several times spoken of one of our seedling potatoes which the intending introducers purposed to place upon the market next fall, having propagated it in vast quantities for that purpose. It was a seedling of the Rural Blush. The shape was no better than that of its parent, but the tubers were covered with a dense, corky growth, as they grew with us, and the quality was sweeter—more nutty—than that of any other variety we have ever raised. The yield, too, was immense as grown at the Rural Grounds, and the keeping qualities seemed to be perfect. We were glad to have it named Carman's Peachblow. Now comes the disappointment. As grown in other soil, last year, the tubers have lost the corky growth; lost their nutty quality, and nearly every tuber was hollow-hearted. Unfortunately, the farmer who was engaged to propagate the crop for 1896, was away from home at planting time, and the remarkable changes that we have stated were not made known to him until an immense area had been planted, and were in full growth.....

OUR readers may recall that one of our potato seedlings, the first year from seed, yielded in one hill, 157 little tubers, the largest of which was, perhaps, an inch in diameter. We selected a few of the largest tubers, and planted them last year. Again, we selected a dozen of the largest tubers, from the hills yielding the most, and planted them the past spring. At this time, the main vines have reached the astounding length of about six feet, and being a late variety, they have yet, at least, two months to grow.....

OF our 57 trial varieties this season, the vines of Salzer's Early died first. We dug one hill, and we estimated the yield to be large. The potatoes resemble Bliss's Triumph, introduced about 15 years ago, and since re-introduced under several different names. The tubers are less than medium size, roundish in shape, and red in color, resembling those which are the first to reach our market from Bermuda in the spring.....

THE London Garden of May 30 gives an excellent illustration of the fruit of the Superfin (Beurré Superfin) pear, and one writer praises it as "one of the best, most beautiful and fertile of all pears."

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JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

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I. P. THOMAS & SON CO., Philadelphia.

The Lincoln Plum.

J. L. H., SPARTA, PA.—I got a small tree of the Lincoln plum by mail about 1890. I grafted one-half of a Lombard plum tree in the spring of 1893. The Lincoln grafts are now full of plums measuring 1½ inch long by four inches around, and are the nicest looking plums I have. The original tree is about nine feet high, and has a tendency to grow low and bushy. It bloomed the first time this past spring, but the sets all fell off. I do not think that it is curculio-proof any more than other plums.

To Grow Large Melons.

D. D. C., DAYTON, O.—Pinch off the tip end of the vine 2½ to 3½ feet beyond the melon for watermelons, shorter for other melons, turn the end of the vine towards the root and fasten in that position by a clod or stone on a leaf; the bend in the vine should be beyond the melon. In practice, I have found that the melon should be as large in diameter as a hen's egg or larger, before being operated on, if the vine is very thrifty in growth. If done when small, they seem, from some cause, to fail to set a melon.

Budding Time.

W., BLAIR COUNTY, PA.—It is the season for budding fruit trees. In damp weather and when the buds used are not fully ripe and dry, they will sometimes decay when set in very soft stocks full of the moisture of rapid growth as the stocks should be for successful budding. I have noticed that, in such cases, success was certain when the buds were set just above where an interfering side shoot was cut out—this wound seeming to serve as an outlet for the too redundant watery sap of the stock. When fully ripe and firm buds can be used, they resist the tendency to decay, and very rarely fail, unless the bud used happen to be a fruit bud. The wood buds are usually sharp pointed. All terminal buds, and most buds on stout shoots, are usually wood buds.

Buds and Bugs.

FRED GRUNDY, ILLINOIS.—On page 481, I notice that Prof. Slingerland advises the use of poisoned bran mash for destroying cutworms. I must enter a vigorous protest against the use of such material as poisoned bran. I long ago learned that all kinds of song and tree sparrows, meadow, shore and field larks, blackbirds, quails, in fact, almost all of our best insectivorous birds, will eat bran, corn meal and other like substances, especially when swollen and softened by water. In scattering these materials, laden with poison, over our fields and gardens for the purpose of destroying a single pest, we are more than likely to sacrifice many of our most efficient assistants in the destruction of not only these, but hundreds of other equally pernicious pests. Prof. Slingerland, and all others interested in the welfare of the tiller of the soil, should use their influence in discouraging the employment of any substance for destroying insects that will endanger the lives of our most effective allies—the birds. Feed the enemies all the poisoned clover, mullein, etc., they will eat, but don't use baits that will kill off our feathered songsters.

I said last fall that, unless we had an abundance of rain during the winter or this summer, chinch bugs would sweep the country. Well, we had the necessary quantity this summer, and the bugs are not. Billions were ready for business when spring opened, and they started in to do up the husbandman in great shape; but the overplus of fluid was too much for them. They were soaked and resoaked, and the sap of their favorite plants was attenuated until it was no better than water, and so they died—soaked, chilled and starved to death. Potato beetles tried hard to get sustenance enough out of the water-soaked vines to multiply properly; but the effort was vain, and we shall harvest a good crop of tubers—if they don't rot.

Certain Raspberries in Iowa.

M. J. G., ADEL, IOWA.—In the spring of 1895, I planted 50 Columbian raspberry tips, which made a vigorous growth, but owing to extreme drought during the summer, no attempt was made to root the tips, as the hot soil would have burned them off at once. Rain came late in August, and as soon thereafter as practicable, the soil was stirred, and the tips—more than 1,000—were buried. Severe freezing occurred last fall about a month earlier than usual, and caught the plants in full growth, the result of late cultivation and warm, wet weather. As a natural result, most of the lateral canes were killed from where they entered the ground, back to the main canes; yet the roots of the tips were uninjured, although the soil was unprotected and alternately froze and thawed a number of times during the winter. The uninjured portion of the canes gave a good crop of fruit, while from the crowns sprang strong, bearing shoots, which produced as many as 275 berries each. The first ripe berries were gathered July 2, and now (July 29), there are yet a few good specimens, thus prolonging the season three weeks beyond that of the Gregg. Presuming that, under normal conditions, the Columbian will prove hardy in Iowa, it now promises to sustain all claims made for it by the introducers.

The Redfield raspberry originated in this county, and, if I have the history straight, is a cross between the Turner and Mammoth Cluster. The foliage resembles that of the Turner, yet the plant propagates by tips, and is entirely hardy. The fruit resembles the Columbian in color, is not quite so large, but slightly better in quality.

Ruralisms of July 18, notes that most plants of the Gault have one or more broadly fasciated stems. Out of 25 plants set in the fall of 1895, but one exhibits this peculiarity here. The old wood bore a few clusters of fruit which ripened the last of June; it was very large and of high quality. The young growth was pinched off when about 18 inches high, and blossoms are now appearing on the laterals, which indicates that it will bear in fall, as represented.

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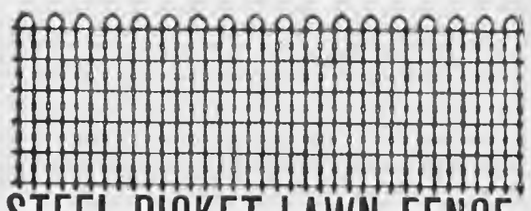

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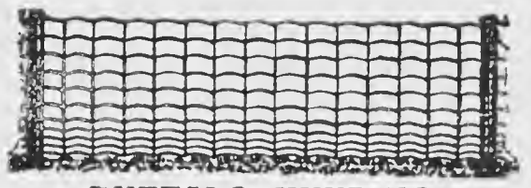

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Everybody can now indulge in this pastime. Here are a few hints: Buy excursion tickets to your State Fair! Take the whole family along. The "kids" can watch the deer and fawns while you keep your eye on the big game. Once inside the grounds, lay low and watch the crowd till you locate our exhibit, then charge on it with a wild whoop. Send for pictures.

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ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION } New York.
SOUTHERN, SHIPMAN } Chicago.
COLLIER, MISSOURI, RED SEAL, SOUTHERN } St. Louis.
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CONSIDER THE COST. Suppose the building is 60x25x20. It will require to paint it, 14 gals. ready-mixed paint at $1.25 per gal.—$17.50; or, four 25-lb. kegs of white lead, $6.00; five gals. pure linseed oil, $2.50; four cans tinting colors, 80 cts.; ½ pt. Japan dryer, 15 cts.; ½ pt. turpentine, 5 cts. Total, $9.50—**a saving of $8.00 in favor of**

Pure White Lead

without considering its greater durability. Examine the brand (see list). For colors use the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. No trouble to make or match a shade.

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NATIONAL LEAD CO.,
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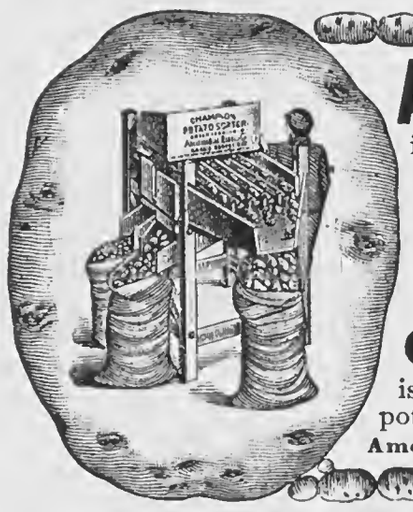
Dr. Hayes' Constitutional Treatment will relieve the itching, stop the sneezing, abate the cough, control the Asthma, and give great comfort the present season, *curing to stay cured*, by removing the cause. Write for particulars. DR. HAYES, Buffalo, N. Y.



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is "A peck of trouble"—if sorted by hand. 1200 bushels of potatoes can be sorted in a day with no trouble and little expense with a Champion Potato Sorter. A new machine, operated on a new principle. Wonderfully simple and as effective, practical and durable as it is simple. The

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is an absolute necessity to any one growing potatoes for market. A book containing full description and illustrations mailed free.

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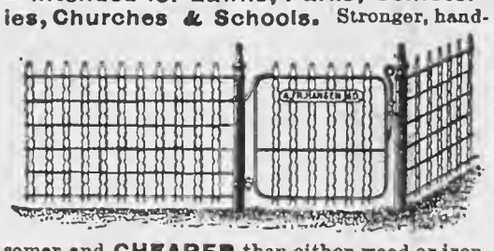
Is intended for Lawns, Parks, Cemeteries, Churches & Schools. Stronger, handsomer and CHEAPER than either wood or iron. Does not mar but rather adds beauty to the lawn or garden. When set with our Self Anchoring Steel Posts it's a thing of beauty. Several heights, several widths of pickets. Write for circulars & prices.



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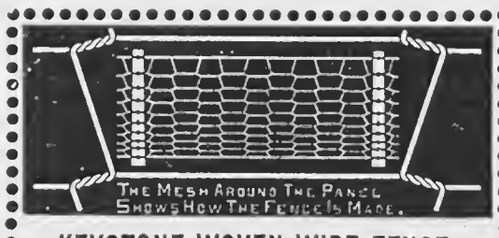

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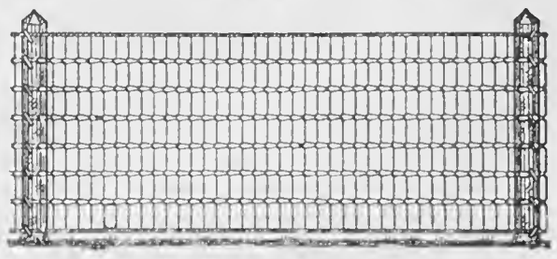

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RANDALL FENCE CO., Le Roy, N. Y.

The Rural New-Yorker.

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Corner Chambers and Pearl Streets, New York.

SATURDAY, AUGUST 22, 1896.

FAT SHEEP AND LAMBS.

What are the prospects for fattening sheep and lambs this coming winter? Do you think that there will be as many bought this year as usual? Are farmers, as a rule, planning to raise more or fewer lambs?

We shall be pleased to receive answers to these questions from our readers. If you are in a sheep fattening region, please tell us what you can about it.

⊙

DURING the past week, hundreds of people have died from the effects of the heat. Most of these deaths have been in northern cities where the miles of brick and stone retain and add to the fierce heat of the sun. We judge that two classes of people are most quickly affected by the heat. Those who drink liquor to excess in hot weather are always in danger, and those who are poorly nourished and sick, are among the first to go down before the heat. In such weather as this, the umbrella or canopy over the rake, cultivator, farm wagon or reaper is a merciful thing. Get in the shade whenever you can. Keep cool, eat fruit, keep clean!

⊙

AMONG the other troubles that are afflicting the farmer this year, here is something a little new from Maryland:

Potato bugs have been very numerous the present season in this section, injuring potato vines, and now they are attacking tomato vines in legions. One man having five acres set to tomatoes, tried to save his crop by hand-picking and burning the bugs. He gathered eight or nine bushels of the insects, he reports, but he cannot save the crop in that way, and has abandoned the field to the enemy. Another party has so far saved his tomatoes, a small planting only, by picking off the bugs every second day, but this is expensive treatment.

The tomato being a first cousin of the potato, gives a very acceptable lunch for the beetles, and so does the egg plant. The beetles are far more dangerous on tomato vines, for poisons can hardly be used when the fruit is ripe or nearly so. How can we kill them? Our entomologists should come to the rescue. It is possible that hellebore would kill the bugs. We would dust it on a few vines as an experiment.

⊙

LAST week, the writer went to a corner of Massachusetts where, 25 years ago, he worked as a farm boy. The price of a railroad ticket to Boston, and the price of a quart of milk, were about the same as they were a quarter of a century ago. The railroad is still paying good-sized dividends to its stockholders, while the milk seller and the farmer are complaining bitterly of hard times. The railroad was doing more business and doing it cheaper. Its engines were more powerful, its fuel was cheaper, its cars and rails cost less. Except in the matter of wages, there had been reduction in cost everywhere. It cost less to carry a single passenger to Boston than it did 25 years before, while the rate was about the same. Under such circumstances, the railroad ought to pay a big profit, and it did. There was also a large market for milk, but there had been little or no reduction in the cost of producing a quart. As a matter of fact, there has been about as much improvement in cows and in methods of caring for them as there has been in railroad fixtures. The milk farmers who complained of hard times were mostly keeping the old-time cows on old-time methods. They were just where the railroad people would have been had they continued to use the fixtures of 25 years ago. Of course, the railroad held a monopoly which the milk farmer never could secure, yet that was all the more reason why the farmer should try to obtain every quart of milk he possibly could for each dollar's worth of expense. In proportion to the money invested, the railroad did not pay as fair a share of public taxes as did the farmer; but its prosperity was chiefly due to the fact that it had kept up its rates and reduced its expenses.

⊙

A WHOLESALE egg dealer was sorting over a lot of "fresh-laid" eggs just received from the country. They were all of good size, the candle test showed them to be tolerably fresh and good, but some of them were so dirty that it was difficult to say what was their original color. The question was asked as to the difference in price between the dirty and the clean eggs. "Three or four cents per dozen, and the dirty ones are very slow of sale." The quality is the same, but the appearance kills the sale. Another thing, had not the dealer gone to the trouble to sort the eggs, all would have sold for little more than the price of dirty ones. Any one who ships eggs should know better than to send dirty eggs to market. They should be kept clean in the first place, but if by any chance they do become dirty, should be thoroughly washed. Few poultrymen can stand the loss of three or four cents per dozen from this cause, in these times.

⊙

THE German Legislature has just passed a law somewhat like the "Anti-option" law which has failed, thus far, to pass the American Congress. The German law is designed to limit and lessen speculation in grain, and it will, undoubtedly, bring about a revolution in German stock exchange methods. Under this law, time delivery contracts are forbidden, and the government will assume a certain control over all stock exchange business. Of late years, there has been a rapid growth of stock speculation in Germany, and the public have lost heavily through it. The present law has been pushed through the legislature by the German farmers. They have a union of 80,000 large farmers who have combined to secure legislation that will give them higher prices for their grain, and will make them less dependent on the city grain exchanges. They claim, as do the farmers in this country, that a share of their legitimate profit is lost by the grain gamblers. We are glad that this experiment of legislation against grain gambling is to have a fair trial in Germany.

⊙

THE humble honey bee not only collects sweets for us, but is responsible for the perfection of many of our best fruits, flowers and vegetables. The bee works in such a quiet, business-like way, that many of us do not realize how useful he is. When plants are grown under artificial conditions—under glass or elsewhere—the bee becomes an important factor in horticulture. The following note from W. W. Rawson, gives an idea of the value of the bee:

It is very necessary to have bees to fertilize the blossoms of cucumbers and tomatoes in greenhouses. I keep 50 swarms; they do not obtain enough to keep them through the winter, and many swarms die from various causes—about one-half of them. I begin to use them in January. A small house, 100 feet long by 20 wide, will require one swarm; a larger house will require two, and some of mine require four swarms. Having 20 houses, it will take, at least, 50 swarms. Very few of the old ones swarm, so that I have to depend upon some one in the bee business for, at least, 25 swarms each season. They cost $5 each. I feed sugar and some honey that I buy in market, that is not quite up to standard quality. It makes it quite an expense, but I don't know what I would do without them.

That is an honest tribute to the bee, and we are glad to have it. It is but one of the strange things that man has been forced to adopt in his attempt to imitate Nature.

⊙

THE proposition to lease those Indiana farms for the purpose of boring for oil or gas, is a new thing to many of our readers, though it is comparatively common in some parts of the West, where gas and oil wells abound. The usual plan is for a company to make an agreement with the farmer for permission to come on his land and bore wells wherever they think that there is a chance of reaching oil or gas. We have one form of contract from which the following agreement is taken:

No wells shall be drilled within.....feet of the buildings without the consent of the said first party.

The parties of the second part, or their assigns, to have and to hold said premises for the said purpose only, for and during the term of.....months from the date hereof, and as much longer as Oil or Gas is found in paying quantities. The said parties of the second part, in consideration of the said grant and demise, agree....to give to the party of the first part the full one-sixth part of all the Petroleum Oil obtained or produced on the premises herein leased, and to deliver the same in tanks or pipe lines to the credit of the party of the first part. Should Gas be found in paying quantities and sold off the premises herein described, the consideration in full to the party of the first part shall be .....dollars per annum for each and every well from which gas is sold, payable.....days after the line is laid.

All permanent Oil and Gas lines to be placed under ground, below plow depth and not to interfere with the tile drainage.

The party of the first part grants the further privilege to the party of the second part of using sufficient gas and water from the premises herein leased, necessary to the operation thereon the right of way over and across said premises to the places of operating, together with the right to lay pipes necessary for the production and transportation of oil and gas taken from these premises, also the right to remove any machinery or fixtures placed on said premises by party of second part.

The said second parties hereby agree....to pay any necessary damage done to growing crops, or fences, by the laying of pipes or operating for oil.

We think that the case is pretty well covered by the Indiana farmers who write on the next page. It is easy to see that in some localities off the railroads and out of reach of ordinary business, such a contract might be the means of bringing in new enterprises that would be helpful in many ways. On the other hand, some farmers, like Mr. Latta, can see no inducements in the offer. Therefore, no definite advice can be given without knowing something about the personal condition of the farmer. The farmers of Brown County should call upon the State Geologist of Indiana for advice.

⊙

THERE has been some question as to the cost of making oleomargarine. The Armour Company, of Chicago, put in evidence a sworn formula for manufacturing the stuff. Taking this formula and the market cost of the materials, Assistant Commissioner Van Valkenberg, of New York, makes the following estimate of the cost of 100 pounds of "oleo."

34 lbs. Neutral lard.....	3⅞c.	per lb.	$1.32
27 lbs. Oleo oil.....	3½c.	"	.84½
12 lbs. Cotton-seed oil.....	4c.	"	.48
18 lbs. Milk.....	1c.	"	.18
9 lbs. Salt, about.....	1c.	"	.08½
Trace of color.....			.00
100 lbs.....			2.91
Tubs per 100 lbs.....			.50
Tax per 100 lbs.....			2.00
Cost of mixing per 100 lbs.			1.00
Net cost at Chicago per each 100 lbs. manufactured.....			$6 41

It is bad enough when such stuff is sold at 12 cents a pound in competition with good butter at 18 and 20 cents; but when the "oleo" is palmed off as real butter, a fatal injury is done to the dairy business. In Holland, the "oleo" men go so far as to argue that the manufacture of their stuff makes a market for milk just as they argued in this country that it helped the beef cattle industry by making a market for tallow. Think of 100 pounds of "butter" from 18 pounds of milk. The Armour Company can well afford to pay the State of New York the $565,000 for which they are sued, when they can make "butter" in the pig pen at 6½ cents a pound.

⊙

BREVITIES.

Oh, Madame, laundress in this heat,
To wash and scrub is quite enough.
Don't *iron* every shirt and sheet,
But dry and use them in the rough.
A polish on the cloth may do
In winter—when there is no sweat;
We have a nobler use for you
We do not want to lose you yet.
We must be clean! But wait awhile
For ironed clothes! We do despise
The needless work that clips your smile,
And kills the light within your eyes.
The polished shirt, the dinner hot,
The boiling stove—go, put them out,
Let care alone roast in the pot.
Keep cool—and thus keep courage stout.

LIE begets lie.

CUCUMBER jelly is fine!

OLD SOL is in the broiler business.

READ the fruit reports on page 568.

WANTED! Americans for America!

THE "tub" silo seems to have come.

A GOAT is a butter that makes a screamery.

AFTER all, what beats sweet corn for soiling?

CARBONATE the woodchuck—with bi sulphide.

Too much sour apple sauce will harrow your teeth.

THE chances are that every saw on your place is dull.

MAKE the pig his own miller—there's another toll killer.

SHED your coat and peel your vest. Get beneath the tree and rest.

WHAT will puncture "that tired feeling?" Rest. Do you know how to rest?

FOR every weed, that goes to seed, within your thrifty garden, there will be, sure, 100 more your heart next year to harden.

LET's hear from those who used potatoes for manure this year. What results as compared with fertilizer or stable manure?

NEXT week we expect to give the readers of Woman and Home the most practical article on the Carpet beetle ever printed! Look out for it.

CROPS like onions make a quick, rapid and tender growth during the wet weather. Now the blaze of the sun is wilting them down.

IN California, it is proposed to use carrier pigeons for a novel purpose. They are to be taken out to meet inco ming ships, and sent back with messages.

THIS is great weather for fitting that old meadow for re-seeding. Stir the soil. Make the weeds turn up their toes to the sun. That will fix them.

AN ice house and cold storage room is a very important thing on the farm. If any one can improve on Mr. Farnsworth's plan, page 561, we want the improvement right away.

MR. WOODWARD, page 558, thinks that the wheat yield must be increased seven bushels per acre to make fertilizers pay. What if the fertilizer adds to the grass crops, also? It usually does.

A MAN will rush and worry and fume, run himself all down, and then try to build up on somebody's "extract of malt." He should have tried extract of *halt* and slowed up his pace to begin with.

LEASING INDIANA FARMS FOR OIL OR GAS.

WHAT IS RIGHT FOR THE FARMER?

A company is spending over $100 per week, in our county, leasing farms to bore for gas, etc., and also listing farms for sale. They lease for 12 years, to dig inside of two years, or, if they do not, pay 25 cents per acre to hold the lease. They offer $100 per year for every gas well, or one-twelfth of the oils or minerals they find (also if gas or oil all one wishes to use for home use); but if they find nothing, we get nothing, and have the nuisance of their trampling up our farms, etc. They purpose to sell our farms for us if we desire, we to give them one year to effect a sale, and one-tenth of what our price is for the farm, and to give immediate possession of everything not loose at the time of sale. They purpose to bring in colonies of what are called here the "Hook-and-Eye Dutch," from the peculiarities of their dress, etc. They have already sold several farms, and in one case, put the price of the farm away above what the owner asked, and pocketed the difference, besides their commission. Would you advise us to lease to them? Is what they offer for gas ($100 per year per well) the usual rate for leasing? It seems very little to us. Is one-twelfth as much as we should expect of oils or minerals? Would it be wise to sell one's farm at present, at anything like the usual price we could expect for it? Would it not be better to wait and see what develops? B.

Brown County, Ind.

Keep Your Farm in Your Own Hands.

There is a company which is boring for oil about five miles from here; they have bored two wells this summer, and have found oil, but how much we can't find out, for they are very reticent about telling about it, and they will not allow anybody to go near the well. Another company is boring a well about a mile from the others; they are leasing some land in that vicinity, to keep other companies out. The common price they pay for leasing is 25 cents per acre, per annum, and one-sixth of the oil. I think that a farmer would better keep control of his land himself, and not lease at all, unless the company put down a well right away, because if they get a lease of the land, they keep all other companies out. They might bore wells on land adjoining, and not bore on mine for years, by just paying me 25 cents per acre. As to selling the farm to farmers, I think that every man ought to sell his own farm if he wants to sell; at any rate, I would not put mine in strangers' hands to sell. As to colonizing this country with foreigners, we want America for Americans. We have more foreigners here now than are good for us.

Allen County, Ind. SAMUEL MILLS.

Would Not Touch the Scheme.

There are no oil or gas wells in this part of the State, and I have no personal knowledge upon the subject. I would not entertain such a proposition at all. Twenty-five cents an acre for the legal right to go over a cultivated farm at will for two years, haul machinery, set up derricks, dig holes, make roads, etc.! Twenty times the amount would not induce me to give an incorporated body such privileges upon my farm. One hundred dollars per year for each gas well found, would not be much rent for the damage and loss, if the well were some distance in the farm, and I can see no temptation in any of the offers made. As real estate agents, I would much prefer some other. The element introduced by such a system would be such as no neighborhood could desire. Farmers, as a rule, are not able to cope with such corporate schemes successfully, and it is, I believe, always safe and good advice that they avoid all such, and refuse to be led into any compact by which they give any person or persons legal right to dig up and deface their lands at will. W. W. LATTA.

Noble County, Ind.

Leasing in Other Counties.

The terms of the lease given are about customary for gas, except that the companies usually pay 50 cents an acre to hold the lease, the first two years, instead of 25 cents; $100 a year for each gas well strong enough to use from is the customary price with free home gas. A point here should be guarded in the lease: It may state $100 per annum while *using from the well*, and in practice, they may shut off, a few wells not needed, and use neighbors' wells. It should read while yielding so many pounds pressure. Leases for minerals, oil, etc., in this section, offer one-quarter to one-eighth of the crude product, sometimes 20 cents per barrel. The crude barrel runs in value from 50 cents to $1 and makes 20 cents a good price. I understand that 20 cents is a common price in the Pennsylvania oil fields. But their oil is more easily rectified than ours; one-twelfth would not get any leases in this community.

If the company finds nothing, the farmer receives nothing but the 50 cents per acre while they care to pay it to hold the lease. They usually pay that in advance each year. As to the nuisance of running across the farm, one can't prevent that, as we have a law by which right of way for pipe lines can be condemned. Of course, they pay any damages. I am not familiar with the real estate agency part of the company. Ten per cent of the selling price is too much on sums over $5,000. Whatever they can get above stated price, looks tricky, as the price of land there now may not be over $5 to $40 an acre, and if any such price were agreed on, and oil were found, it would jump "out of sight," and the company would sell and get 10 per cent of the agreed price and all the advances. I look upon the "colonizing a foreign element" as a blind.

Farmers in our section who have leased in a business way through an attorney, are well satisfied with the situation. But it is a peculiar opportunity for trickery, both in conditions and in wording. The markets are controlled by monopolies, so that it seems impossible for a small holder to rectify and sell, and we would better lease, but do it intelligently. My geological map of Indiana, giving gas and oil territory as far as known, does not show a trace of oil nearer than 50 miles of Brown County, and gas not nearer than 25 miles. E. H. COLLINS.

Hamilton County, Ind.

The Proposition Is Fair.

I have not had any information concerning the leasing of farm lands in Brown County, as this county is some distance from us. It is a very poor county, and, probably, the roughest in the State. It is without a railroad, and farmers make a living by growing a little grain and selling timber. If I lived there, I would do almost anything to get a company to come and see whether I had any sort of mineral or oil underneath my farm. If something valuable should be found, I think the proposition a very fair one, for as it now is, they realize very little from their land, and this might give them a good income from land that is scarcely worth anything, as much of this land is too hilly and rough to admit of cultivation.

As to selling it and inducing foreigners to locate thereon, I believe that would be a good thing. It is a good fruit country, and the foreigner who wants only a few acres for orchard or vineyard, will find this a good location, as he can buy a home for very little money, and there is no doubt but he could soon have those hills under profitable cultivation. I think, upon the whole, that, with a few exceptions, where there are good little farms in the valley, the farmers there have all to gain and nothing to lose in this deal. They will even find employment from the people who are prospecting, that will help them along in these hard times. They should be very careful in making contracts and leases, to see that they are not imposed upon by these prospectors. W. W. STEVENS.

Washington County, Ind.

THE MARKETS IN HOT WEATHER.

Any one who had not given much thought to the matter, might be surprised to know that the market prices of almost all products are largely affected by such periods of intense heat as that through which we have been passing; yet such is the fact. Consumption always declines at such times. People are striving their best to keep comfortable, and are satisfied to squeeze along in the easiest possible manner for the time being. Ice is always at a premium. Lemons are in great demand, and prices are higher, for the hot weather always increases their use largely, and rightly, too, for temperately and rightly used, they are very healthful. The price, here, has doubled in one week. Another hot-weather fruit is the watermelon. Can anything more tempting be imagined on a hot day, than a section of luscious, red-hearted melon "right off the ice"? If fresh and good, and without any of that stale taste that comes from heating or souring, it is also most healthful and refreshing. Muskmelons, also, if ripe and fresh, are excellent for hot weather. For fancy trade, the smaller ones are best, usually; these are halved, the seeds removed, the halves filled with cracked ice, sometimes with ice cream, and served. Many of the muskmelons lately arriving have been overripe, and the extreme heat has put them into anything but a desirable condition for use.

Most fresh fruits are very desirable in hot weather if perfectly ripe and in good condition; but that is just the trouble in a market like New York which draws many of its supplies from considerable distances. Fruits must be picked before they are fully ripe, and then they are not in the finest and most desirable condition when they reach consumers' hands. Some fruits carry better than others, but, usually, the finest fruits spoil most quickly. Among berries, raspberries heat and spoil in a shorter time than most others. This year, blackberries have been in very bad condition, because of the extreme wet weather which made the berries very watery, and in just the condition to spoil most quickly. Berries will stand considerable heat if the air is dry, but when it is hot and moist, they go to pieces in a hurry. Strawberries carry pretty well for so delicate a fruit, while huckleberries are one of the most solid of the small fruits.

Of the larger fruits, apples stand the vicissitudes of handling and shipping in hot weather better than most others. They must be picked in just the right condition. Some reach here too ripe and soft, not having been picked soon enough. Of course, such spoil more quickly in hot weather than when it is cooler. Some come in too green, having been picked too soon; it is a very particular job, too, to get them picked just right. Pears, of course, generally must be picked when green to be in the best condition when finally ripened, and they usually arrive in better condition, if the weather is at all favorable. Peaches are harder to handle, and the terrible heat and humidity of the past 10 days have brought many of them, as well as other fruits, in bad condition. The health authorities seized much fruit, still much is sold that is very unwholesome and should never be used for food. This stuff is sold for what it will bring to hucksters and wagon boys. Even dried and evaporated fruits have soured during this hot weather when not kept in cold storage.

Vegetables, too, besides selling more slowly than usual, are not improved by the heat. They deteriorate rapidly, and many of them heat and spoil before it is possible to get them on the market. Refrigerators are useful many times, but are too costly for any but the higher priced products. These must be used for butter, eggs, meats, etc. Butter, even by express, will spoil in such weather before it reaches the market. Dressed poultry and meats suffer the most, and it is unwise to ship any such during the continuance of such weather. Milk, too, must be handled with great care. But a reaction is likely to follow. There must be a change in the weather some time. Receipts have already fallen off in many lines, and the widely extended heat has prevented collections and shipments, so that receipts are likely to be still lighter. Then it is likely that prices will advance again, and the markets will assume their normal condition.

WE often find, in the daily papers, notes like this:

Port Jervis, N. Y., August 3.—William Hawkins, a wealthy farmer of Goshen, died Sunday from the effects of injuries inflicted by an angry cow on Friday. He was driving a cow and a young calf to pasture when the former attacked him, thrusting one of her horns under his chin, severing the windpipe and piercing the upper portion of his left lung. He was impaled on the horn when a farm hand came to his rescue.

Now what were those horns doing on that cow's head? They had no business there. They were a constant menace, more dangerous than a knife in the pocket of an idiot man. There is no good reason why a cow should ever wear a horn. Cut them off at once!

⊙

THE Mark Lane Express contains an account of a curious law case. A farmer put the following advertisement into a paper:

Seed wheat for sale, Squareheads Master; true; grown on gravel soil; 1894; cash with order. 27s. per quarter.

On the strength of this advertisement, another farmer bought 26 quarters, or 208 bushels. He fitted his land properly, and sowed the wheat; but none of it came up, and he was obliged to sow the land to oats. Then he brought suit for damages, making out a great bill of over $1,300. He wanted 19 shillings an acre for fitting the land, the price of the seed wheat, 10 shillings an acre for extra work in sowing the oats, as much more for the loss of the wheat straw, and various other items. After hearing the case, the jury brought in a verdict for the man who bought the seed, giving him one farthing damages, while the court allowed him costs. The jury took the ground that, while the seed seller had given a sort of guarantee, the plaintiff did not prove that he had suffered any real loss. That seems to be the way such suits usually end. Most dealers are too sharp to give any real guarantee that their seeds will grow. Where there is any such guarantee, the jury will recognize it; but the trouble is to prove just what was lost by the failure of the seed to grow. If the man who bought this wheat had not sowed the oats at all, he would, probably, have had a better case, yet he could not afford to take the risk of letting the ground stand idle.

BUSINESS BITS.

S. & L. FARNSWORTH, of New London, O., offer 3,000 trained ferrets for sale.

E. L. CLARKSON, an old and reliable advertiser in THE R. N.-Y., reports that among his latest sales of registered Jersey cattle, was a young bull to head the Ferncliff herd of Mr. John Jacob Astor.

THE Randall woven wire fence seems to have some strong points in its favor over other wire fences. It is claimed that it can not sag between the posts, as the spring of the loops keeps the fence tight under all conditions of heat and cold. It is manufactured by The Randall Fence Company, Le Roy, N. Y.

FARMERS have long felt the want of some material to protect the roofs of their buildings, and do away with the annoyance and expense of painting every few years. The problem is solved by Reeder's American Cold Japan, one coat of which arrests rust, and seems to defy time and the elements. Write Reeder's Cold Japan Company, Pittsburgh, Pa.

FARM animals often suffer much in winter because of inadequate water tanks. There are tanks that cannot dry out and fall to pieces during the dry, hot summer, or that will not burst from freezing in winter. One of these is the Goshen steel tank, made by the Kelley Foundry and Machine Co., Goshen, Ind. They make tanks in several different shapes and sizes, which may be set in the barnyard or pasture without any protection whatever. They offer many advantages over the old wooden tanks and are cheap, too, when one considers the service they give. Write for full particulars if you are in need of a tank.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

SMILES AND FROWNS.

If I knew the box where the smiles are kept,
  No matter how large the key
Or strong the bolt, I would try so hard—
  'Twould open, I know, for me.
Then over the land and the sea broadcast
  I'd scatter the smiles to play,
That the children's faces might hold them fast
  For many and many a day.

If I knew a box that was large enough
  To hold all the frowns I meet,
I would like to gather them, every one,
  From nursery, school and street.
Then folding, and holding, I'd pack them in,
  And turning the monster key,
I'd hire a giant to drop the box
  To the depths of the deep, deep sea.

—*American Jewess.*

HERE is a good suggestion: "Keep a teacup of the proper measuring size in the sugar box and another in the flour; you will find that it is not only very convenient, but it reduces the number of dishes to be washed after baking."

*

WE have a request for a recipe for hickory nut macaroons. We do not find any mention of them in the cook books, and must again appeal to our readers for information, knowing that there is always some one capable of helping, and willing to respond.

*

WE are told that tight sleeves are surely coming back, and that, by fall, they will begin to reign. It is only when we don jackets that we can be persuaded to give up the generous sleeves, for then we realize their only disadvantages. No doubt small sleeves will gain favor, for the summer shirt-waist, with its patent sleeve extenders resembling miniature hoopskirts, has rather disgusted us with that phase of the fashions.

WESTERN WAYS AND MEANS.

WHAT my family considers a very nice salad, is made as follows: For a family of six, cut up enough cold boiled potatoes to make about three cupfuls; put into a pan or dish large enough to admit of tossing and shaking them to mix them with the salt (one teaspoonful) and the pepper, dusted on until there is enough to give a good flavor. When thoroughly mixed, let stand a little while, so that the salt will dissolve, and be absorbed by the potato; then add a cupful of rich cream. As I am not so fortunate as to have ice, I set the dish in a pan of cold water. Then clean and cut up enough onions to make a cupful. If young onions be used, they may be cut clear into the tops, and still be sweet and tender. Season with a level teaspoonful of salt, a heaping teaspoonful of sugar, a speck of Cayenne, a dusting of black pepper, and enough vinegar to cover. It should stand long enough for the onions to absorb the taste of the seasoning. Just before the meal is served, mix onions and dressing with potatoes and cream, very thoroughly.

I have not seen the method of making pot cheese that I use, in print. I read in a paper some years ago, that to scald clabber and drain, made a substance very indigestible for a delicate stomach; that the proper way was to turn a pan of clabbered milk into a large piece of strainer cloth, and let it drip for 14 or even 24 hours. This was recommended as being very good for the stomach, and also very palatable; but I did not find it so. The benefit may have been there, but the relish was lacking. I found, however, that to place the clabber in a warm—not hot—oven for two hours and then drain, gives a cheese that is not tough, and is well tasting. I tried the buttermilk cheese and find that it is very nice.

In our good State (Oregon), everything comes in sacks, some of which may be used for clothing and other purposes. The flour sacks are lettered with paint, but this can all be removed by boiling in weak lye. A gallon jar, half filled with hard wood ashes, should have boiling water turned in until full. If this be done at night, the next morning, it will be clear. Pour off all that will come perfectly clean, into one-half boiler of water. Add one-quarter pound of soap and boil hard. Put in the sacks and keep boiling for two hours, when most of the paint will have disappeared. If any should remain, it will come out in one or two ordinary launderings. Sugar sacks make nice summer underwear for children. Salt sacks make good towels in the absence of better material, while old potato sacks do well for mops.

MAY JUNE.

FOR THE BABY'S WARDROBE.

THE little luxuries of the baby's outfit are quite expensive if they are bought ready-made, so that the economical mother usually prefers to make them at home. Then there is such a satisfaction in fashioning the dainty garments, that very few are willing to allow any one else to do it. Caps are among the necessities, and as they are soon outgrown it is better to make two or three of different sizes, so that he will have a succession of them. A closely crocheted silk cap is best to use before the baby is old enough to sit up. Two spools of B and A whip cord twist crochet silk will be required. Use any pattern preferred, finish with full scallops, and place a rosette of baby ribbon on the top in front. After he outgrows this, use caps made of China silk, Victoria lawn or any of the sheer white goods suitable for them.

A pretty style for a cloak is a simple circular with one cape and collar, lined throughout with China silk. Get the material of any desired color, if a color be preferred to white, and patterns for them can be obtained from any dealer in patterns. One of the handsomest cloaks shown in the art department of a drygoods store, is of creamy white cashmere, lined with white flannel of the best quality. There was a round yoke to which was gathered a full skirt of the cashmere, and a short, full cape was joined in the seam at the neck. Just above the hem at the bottom of the cloak and cape, was embroidered a spray of forget-me-nots and leaves done with Asiatic twisted embroidery silk in cream color. Satin ribbon strings were fastened at the throat to tie it with. A cloak made in this way, can be dyed and made into a dress when it is no longer needed for a cloak, and as that will only be a few months, it is quite an advantage. It is also warm and light, which are two important items to be considered.

Little square flannel shawls are quite useful, and may be as plain or elaborate as desired. Sometimes the edges are bound with ribbon, others have scallops embroidered around the edge. Very handsome ones have a border of silk embroidery all around them.

Bibs may be made of almost any kind of white goods cut in various shapes and nicely quilted. The edges are often finished with lace or embroidery. Bibs are often made of piqué or marseilles and not quilted.

Chamois moccasins are much better for babies than stiff shoes. A good pattern may be cut from the pieces of a low shoe that has been taken apart. Finish the tiny toe piece by working a small design with Asiatic filo silk upon it. Line them throughout with China silk, satin, or soft cashmere, and bind the edges with narrow ribbon. If the strings that are used to tie them on are fastened in front, and tied in the back, the baby is not as likely to untie them as if the bow is in front.

WESTERN HOUSEKEEPER.

A PLEA FOR THE OLDEST SON.

LET me speak for our sons—our oldest son—that grand, noble, modest one who is always doing for others, yet, like John Alden, he will not "speak for himself." I do not mean the little boy who rejoices in his own calf or flock of chickens, but that same boy after he has grown to the stature of a man—the stay of his father, the comfort of his mother. The product of his cow or his sheep has helped them over many a pinch when taxes must be met or interest paid. No word of complaint will you ever hear from him; he gladly helps to keep the home machinery running. Perhaps he has stopped going to school sooner than he ought, but no one is more eager than he to see the younger ones kept in school. His presence becomes as indispensable to every one in the house as the sunshine itself, yet, when he sees the younger ones rejoicing in school advancement, or going away to positions of trust, think you, he has no longing to go out into the world to do for himself? If he have, no one will know it but the mother, neither will she, unless she is possessed of more than usual cheerful tact and ready sympathy. If he see her worn with cares and anxieties of her own, he will not be likely to burden her with his troubles or aspirations.

Oh, you mothers! careful for many things; let us stop a minute and think, which of our many duties is the most important! Perhaps, sometimes, the sympathy of the heart is better than the labor of the hands. Let us step aside a little while and watch the others; if any appear restive, we may be able to put ourselves in their places and, feeling as they feel, be able to lend a helping hand to bear them over a hard place, for the young, with their inexperienced intensity of feeling, often suffer from the thoughtlessness of others more than we ever know. If he wish to go away; if the farm have grown tiresome, find it out and help him to go. Promote another boy to his place in the farm business. Because so much has been said and written about boys staying on the farm, is no reason to think that they must.

In the history of Garfield, there is nothing more pathetic to me than the quiet work of that older brother who kept the family from want, while the embryo President was making up his mind whether he would go to school, or be a canal driver.

MARY BURWELL.

A WORD TO THE TALL AND ROUND-SHOULDERED.

JACKETS and blazers that reach but to the belt, need to be worn by people who stand very erect, never allowing the spine to depart from the line of beauty that requires an inward curve at the waist. Round shoulders and slouching attitudes are bad enough at any time, but in a garment of this pattern, they become doubly ungraceful. It is a wonder that every girl does not recognize that nothing adds more to her appearance than an erect carriage, and that the taller she is, the greater the need that she hold her head up. It will not do to straighten up when the best clothes are put on; unless standing erect is a habit, it is sure to make one look stiff and awkward.

How much better the stout girls usually carry themselves than the tall ones do! Yet when the tall girl is straight as the Indian of poetry, the short ones may well stretch themselves to their best height beside her, for they are very much at a disadvantage when comparisons are drawn. The girl who feels herself a very "shitepoke" for height may console herself of her fate by noticing that, though the petite among her girl friends have charms she sighs in vain to possess, there surely comes a day when the bloom of youth departs, and then the tall woman keeps clear of the "little old-womanish" look

Hay Fever time is here

Don't exile yourself to the mountains for relief. Don't stay at home and sniffle and sneeze. Thousands were cured last year by the **Australian "Dry-Air" Treatment, Booth's**

"Hyomei,"

which "*cures by inhalation*" Asthma, Catarrh, Bronchitis, and all diseases of the respiratory organs. Don't dose your stomach—try nature's way. **Price, by mail, $1.00.**

Mayflower Cottage, Kattskill Bay,
EAST LAKE GEORGE, N. Y., July 31, 1895.

Enclosed please find $1.00 for two extra bottles of Hyomei. I am entirely cured of Hay Fever, but I do not like to be without your remedy.

(MRS.) R. A. LINENDOLL.

BROOKLYN, N. Y., Feb. 8, 1895.

Booth's Pocket Inhaler works like a charm. The first inhalation gave relief. It is a blessing to humanity and I am sorry it is not better known. I add my name to the "Pass-It-On-Society."

Sincerely yours,
(Rev.) J. M. FARRAR, D. D.

Hyomei is a purely vegetable antiseptic, and destroys the germs which cause disease in the respiratory organs. The air, charged with **Hyomei**, is inhaled at the mouth, and, after permeating the minutest air-cells, is exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It is highly recommended by physicians, clergymen, public speakers and thousands who have been helped and cured.

Pocket Inhaler Outfit, Complete, by Mail, $1.00, to any part of the United States; for foreign countries add $1.00 postage; outfit consists of pocket inhaler, made of deodorized hard rubber, a bottle of **Hyomei**, a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** cures. Are you open to conviction? Extra bottles of Hyomei inhalant by mail, or at druggists, 50 cents. Hyomei Balm, for all skin diseases, by mail, 25 cents. Your druggist has Hyomei or can get it for you if you insist. Don't accept a substitute.

London Office:
11 Farringdon Ave., E. C.,

R. T. BOOTH, 23 East 20th Street, New York.

that threatens the short of stature. The tall woman knows nothing of the fear of looking "dumpy" that haunts her stout, middle-aged sisters. Whether tall or short, let us make the best of it, and never wear short jackets unless we are resolved to be straight as arrows.

P. T. PRIMROSE.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6810. Ladies' Belted Basque.

The fronts are arranged over fitted linings. The smooth, seamless vest, is joined to the right front lining and hooks on the left, ending below the waist line in a prettily shaped tab, decorated with braid. The fronts separate widely over the vest, and the fullness at the waist line is laid in two forward turning plaits. The broad sailor collar forms pointed ripple revers on each front edge, and a full short ripple basque is joined on at the waist line. The seam is concealed by a row of braid, another being sewed about an inch above, giving a belt effect that ends with small buttons on the left

6810—Ladies' Belted Basque.

side of the vest front. A standing collar, on which a shallow, turn-over collar is mounted, finishes the neck; a pointed strap being buttoned across the closing in front. Pattern No. 6810 is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure.

ODDS AND ENDS.

THE SCREEN DOOR SPRING.—If, at the approach of warm weather, a housekeeper should buy the frame of a screen door, have it fitted and hung, and then expect it to keep the flies out, although there were no netting on it, she would be considered insane. Yet some people are not much more sensible. They have the netting all right, but they do not think of putting a spring on the door. Result, quantities of flies. The housekeeper herself may always remember to close the door, but if she expects as much from children or men folks, she is doomed to disappointment So let every screen door have a spring, and a good stiff one, too, which will shut the door quickly and tightly. S. B. B.

TO MAKE A SUN HAT.—Lay a tin pan on a piece of crinoline, and mark the circumference. Use a basin or bowl to outline a hole in the center. Three or four layers of crinoline so cut out are then stitched together, around and around on the sewing machine, after which a wire is sewed around the edge. On this foundation, any material may be used, batiste, lawn, swiss, in pale blue, pink, white or green, shirred or plaited, with generous allowance of inexpensive lace for ruching or frills, and to border the strings which tie in a bow back of the neck under the hair. The crown of the hat may be Tam O'Shanter in shape, or the top be in the shape of a big rosette, with a frill or plaiting around the crown, which, of course, may be lined with a layer of crinoline. These soft, homemade hats may be bent into any desired shape, and when constructed with taste, are extremely pretty. M. W. F.

PRAISING CHILDREN.—One drop of ink may make a million think, but it is not likely to start so much mental machinery in motion. A paragraph in THE R. N.-Y., however, made me think. This is the paragraph: "If I had the raisin' of some children, I'd raise their wages of praise, first thing." And these are the thoughts: Invariably, those who never have reared children, best know how it should be done, if the parent has nothing else to do. The sentiment expressed above is a good one, if properly carried out, and in the early years of this century, might have done missionary work in New England. In these, the closing years, it is unnecessary, because in most families, the children are extravagantly praised and petted. And the average parent resembles an old broody hen in that his bump of philoprogenitiveness is so large and active, that an intelligent care of the offspring is almost impossible.

M. HOOD LOUER.

DRYING CORN.—A writer in the Household gives a new method of drying corn: "If possible, have the corn ready the night before, or have some one to husk and silk while you prepare the corn. After it has been husked and the silks taken off, cut the grains down; do not cut too close to the cob, and scrape the rest; have a hot oven ready, put the corn in bread pans, and let it cook until, when stirred with a spoon, no milk will show. Keep well stirred while cooking, so that it will not burn. Have a stretcher ready, and scatter the corn upon it. While this has been cooking, you can prepare another panful and slip it into the oven as soon as the first panful is out. In this way, one can dry all the corn an ordinary family will use. By drying corn this way, the milk is cooked to the corn, and does not dry up in little particles and blow away.

"In cooking dried corn, a great many spoil it or make it tough by boiling it too much. Dried corn, to be cooked for dinner, should be soaked overnight, put on the stove next day, but not allowed to boil until about 10 minutes before taken up, when it may be seasoned."

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mentio THE RURAL NEW-YORKER.

Blood... Bubbles.

Those pimples or blotches that disfigure your skin, are blood bubbles. They mark the unhealthy condition of the blood-current that throws them up. You must get down to the blood, before you can be rid of them. Local treatment is useless. It suppresses, but does not heal. The best remedy for eruptions, scrofula, sores, and all blood diseases, is

Ayer's Sarsaparilla.

New York State Fair,

SYRACUSE, N. Y.,

Aug. 31st to Sept. 5th.

The greatest exhibition of agricultural and mechanical products in this country. Great trotting and pacing races. Famous horses and noted cattle from the leading stock farms. Special features every day. Make your arrangements to attend the great Fair and Exposition of the Empire State. Low rates of fare and special trains on all railroads. Watch for future announcements.

J. B. DOCHARTY, Sec'y, Albany.

Dietz Reflector Lantern.

THERE is an all-"aroundness" about the goodness of this Lantern that is noteworthy. In fact, it has too many virtues to crowd into this space. It gives a surprising volume of light, which is rendered specially intense by the concentrating powers of the Reflector and Hood. It will not blow out, is absolutely safe, and can be used for driving darkness while you are driving horses, having a simple arrangement to attach it to any vehicle. The U. S. Life-Saving Service uses it for a patrol Lantern—as the fierce coastwise gales cannot extinguish it.

The U. S. Government buys wisely—take a hint from it, and insist on your dealer giving you the "Dietz" goods.

We make an endless variety of Lanterns, Lamps, etc. ESTABLISHED IN 1840.

R. E. DIETZ COMPANY, 60 Laight Street, New York.

Our Catalogue, a nice little one, mailed free, will further illuminate you

FRUIT EVAPORATOR

"THE GRANGER."—For family use. *Cheapest in the market.* $3. $5 & $8. Clr.
EASTERN MFG. CO., 257 South 5th St., Phila., Pa.

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THE ZIMMERMAN
The Standard Machine
Different sizes and prices. Illustrated Catalogue free.
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$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

FOR SALE—High-Grade Farms. Also a few cheap Farms. Write for my list.
J. LELAND HANNA, Baltimore, Md.

WALL PAPER SAMPLES FREE

Cheaper than ever before. Over half million rolls to be sold at less than cost. It will pay you to send for samples and Guide how to hang, etc. Describe rooms you wish to paper. Paper Hanger's full set of Sample Books, price, $1.00.

CHAS. M. N. KILLEN, 1231-1233 Filbert Street, PHILADELPHIA, PA.

THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

PIANOS—THE WORLD RENOWNED—PIANOS

Finest Tone, Best Work and Materials.

EMERSON

Sold and Rented, Moderate Prices, Easy Terms.

NO. 92 FIFTH AVENUE, NEAR 14TH ST., N. Y.

Do You Want a Watch?

WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

Offer No. 200.

Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all he greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

Offer No. 201.

Elgin or Waltham Watch—Men's Size, $10.

No. 201 is a gold filled open face case, dust proof; guaranteed to wear like solid gold for 15 years. The movement is seven jewels, stem wind and set, and contains all the latest improvements. Sent delivery guaranteed by registered mail for $10. Hunting case, $3 extra.

Offer No. 202.

Waltham Watch—Men's Size, $13.50.

The AmericanWatch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.

Ladies' Gold Filled Waltham or Elgin Watch, $13.50

No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

"Crescent Street."

Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

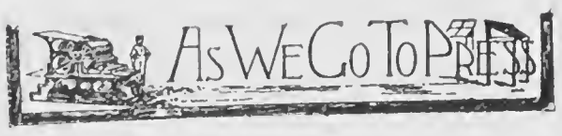
No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90
No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case 37.00
No. 205. Crescent Street. Gold filled, 15-year. Hunting or Open Face case 33.25
No. 206. Crescent Street, 2-ounce Coin Silver. Hunting or Open Face case 27.85
No. 207. Crescent Street, Solid Nickel Silver, Open Face dust-proof case 25.00

Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

THE RURAL NEW-YORKER, NEW YORK.



"ONLY A DOLLAR A YEAR."

The pieture on our first page needs but little comment. It is a whole story in itself. There you have the whole thing before you. An agent for THE R. N.-Y. has driven his horse right into a farmer's yard. See one paper sticking out of his pocket? He has captured the farmer's best ear, and is laying down the law to him in such a way that we know well enough what the result will be. The farmer is resting on the buggy wheel, and has become interested in some picture or article. He is a careful man, and has no dollars to throw away. He is going to see the prospective value of every cent of that dollar before he parts with it. He will listen to the agent, but he wishes to know what there is in the paper before he subscribes.

The hired man is listening with his fruit hoe on his shoulder. There is a wide grin on his faee as he listens to the agent's eloquence. There are nine chances in ten that, when he gets a farm of his own, one of the first things he will do will be to subscribe for THE R. N.-Y. Even the old horse is listening to the eloquent agent. The scene is true to life, and this picture may well stir up some of our ready-tongued friends to renewed vigor during the next six weeks. *Why?* We will be honest and admit that we want new subscribers. We not only want them, but we *need* them in our business, and we are going to have them. We realize the faet that people, in these times, do not take agricultural papers for fun, or because they love the editors or managers. It has eome to be a plain matter of business. No man parts with a dollar, or with 25 cents, until he sees a return value coming back to him. For example, here is a note from one of our Michigan readers:

I had thought to discontinue THE R. N.-Y. wheu my subscription expired, as I can get all the agriculture I can practice in the Michigan Farmer, but in one issue a few weeks ago, which contained the articles about poisoning cutworms and seeding to Timothy without a nurse crop, I found what will do me, at least, $10 worth of good the coming year; so I think I would better not drop THE R. N.-Y. H. M. W.

Now, we know that there are thousands of men just like that, who don't feel that they can afford to spend a dollar without making a profit on it. We like to deal with such men. They are business farmers. They read the paper with care, and can appreciate the strength of a helpful article. We want sueh men, and that is why we make the investment safe by offering to refund the moncy to any one who will honestly say that he is dissatisfied. To show how that works, we will say that out of all the 7,762 new names that were added to our list during the past year, only one man took advantage of our offer and sent for the dollar. We never knew just what upset him, but it appeared to be some thrust at scrub stoek or serub methods that hit him in a tender plaee, because the things we struek at were right on his farm, in view of all his neighbors.

The force of that picture on the first page lies in the fact that when the agent says,

"*Only a Dollar a Year!*"

he knows that he can honestly throw a ton of emphasis upon the word *only*. That word *only* means that there is a great big margin in the dollar to any one who will give a fair estimate of the worth of THE R. N.-Y. We mean just what we say when we state that we hope to make a more valuable paper than ever during the coming year. We ask you to take our word for that, and then go out and put all the stress you ean on that word *only*.

And now for the other side of it! We don't expect a farmer to subscribe for THE R. N.-Y. out of pure love for the paper. Neither do we expeet an agent to exercise his horse and his throat without substantial pay. On the next page, you will find a statement of what we call "The Agent's Share"—that is, the money that is set apart for those who take the position of the man in the buggy. Without going all over this, we may say that any man who seeures a subseription, may take out the commission and stand a chance of winning the weekly premiums and the big cash premiums. Read these terms over, and then make a start. We are all ready for you—and so are your neighbors and friends. Get out among the people at every gathering, and don't forget to touch up the farmers of your town right at their homes. Keep at 'em! Sec what this man, 'way down in Texas, says:

I greatly appreciate the visits of THE R. N.-Y., which reaches me every Monday as regularly as the tax assessor or collector, but fortunately, once a week instead of once a year. O. F. R.

You have no idea how many folks there are who would say the same thing if you eould only get after them and get them started. Try it! Try it now! *Only 25 cents for the rest of the year!*

THE RURAL'S FRUIT REPORTS.

NEW STRAWBERRIES IN OSWEGO COUNTY, N. Y.—Parker Earle is, with us, considered the best late strawberry. Brandywine has not been thoroughly tested here, but is said to succeed in some places where Parker Earle fails. It closely resembles Gandy, but is one of the very productive kinds while Gandy is a shy bearer. Moist, sandy loam is best adapted to the wants of Gandy; 1,500 quarts to the acre are a good yield for Gandy. Parker Earle will do well on moist, sandy bottom iand when well fertilized. I prefer it to clay for Parker Earle. L. J. FARMER.

STRAWBERRIES AND RASPBERRIES IN WESTERN N. Y.—The Columbian raspberry is a perfect success here—hardy, a strong grower, heavy yielder, a long season, and excellent quality. We shall plaut no more Shaffer. All Blackcaps were fine this year, but Kansas and Mills Nos. 7 and 15 are superior; the first is inteusely black, large as Gregg, pulpy, an enormous bearer; all our customers are greatly pleased with it. The shippers call it the finest they ever saw. Mills 15 is not quite so large, but a great bearer. Mills No. 7 is similar to Gregg in bush, and size of berry, but blacker and better qnality. In strawberries, Gardner, Princess, Marshall, Brandywine, Timbrell, Brunette, Beder Wood, Champion of England, Erie, Splendid, Lady Thompson, etc., were fine—well up to recommendations. Miller Red raspberry was also very desirable, very prolific, large and firm, good for home market, or shipping. R. J.

Shortsville, N. Y.

LONG ISLAND BERRY NOTES.—Our soil is a sandy ioam, subsoil sand and gravel to unknown depths. For about half a century, we have been looking for a wholly reliable strawberry adapted to our light soil and climate, for familiy use, and we have found none yet equal to Bubach No. 5. We grow them in matted rows, and, like most farmers, take no more trouble and care than are necessary. Parker Earle and Timbrell require a deep soil and much more nursing, or else they cannot bring the immense crop to perfection. Lovett is a fine berry, productive, and a good grower. Greenville is a rapid grower, making an abundance of plants, but a longer trial is necessary. Haverland is excellent, but not equal in bearing to Bubach; superior for the table and canning, requires mulching. We grew Gandy three different times to try its value, and my family asked why I raised so sour a fruit. In raspberries, nothing yet equals Cuthbert, only it is liable to be winter-killed. Some 8 or 10 named varieties of blackcaps have borne fruit, and, except the Gregg, of nearly the same size and quality. The Gregg is too tender. Our reliance uow is on the Kansas, and next year we look for plenty of fine berries. ISAAC HICKS.

STRAWBERRIES FOR VIRGINIA.—The Lady Thompson strawberry was fruited by me this season for the first. It gives better satisfaction than any other berry ever fruited, save the Haverland, in number of quarts. It is very early, a full week ahead of Rio, which is classed with the earliest. It is a long time maturing all the fruit; its season lasts about as long as any other berry from start to finish. It is bisexual and a first-class fertilizer for any pistillate, as it blooms very early, and continues in bloom a long time. It makes a medium number of runners; in length, one-half way between the Haverland and Enhance. The leaf and fruit stems are long. It has about the same number of leaves as the Haverland, the fruit being easily seen. The fruit is of fine size, though not quite so large as several other kinds. The color of the fruit is very attractive, and the first three or four pickings sell for considerably more than average prices, because of its color, size and earliness. The last pickiugs also make a good appearauce. It has the reputation of being very firm, but I don't consider firmness, as all my fruit is on sale one hour after being crated. The Parker Earle is the only berry ever cultivated; too soft for me. Next season, I shall plant fuliy one-third of the Thompson, although having 50 or more varieties. It is not sweet, though not nearly so acid as the Warfield or Mary. R. J. J.

Design, Va.

WINTER FEED IN NEW YORK STATE.

WILL THERE BE A SHORTAGE?

The hay crop was very short. There is double the usual acreage of sowed corn. We have from eight to ten silos in an area of about three miles; one new one is all I know of being built, and no talk of any more. I have not heard of any farmers selling their stock on account of a shortage of fodder, as there will be a plenty of sowed corn for cows. The oat crop was very heavy, and the straw in fine condition, which all farmers will feed their horses. CHAS. H. HUNT.

Tioga County, N. Y.

Hay is about one-half crop. The acreage of corn fodder, millet, and oats and peas, is one-third larger than last year, and looking fine. With these crops and an abundance of straw, I do not think that farmers will sell auy stock on accouut of a scarcity of fodder. There is not much demand for silos; there are not more than six or seven within a radius of 10 miles, and these were mostly built last year, and have proved very satisfactory. I have not heard of any being built this season, but there may have been.

Allegany County, N. Y. N. P. LYTLE.

The hay crop of last year was very short, and is much less this year, on account of dry weather. Rye and oats were medium crops. Most farmers have been planting more corn for fodder than usual, sowing millet, etc. No great demand for silos; not many uew ones will be built, as farmers lack fnnds with which to build. Farmers will keep most of their stock on hand, as there was some reduction made last year. Seeding was a total failure last year, and nearly so this; most of the meadows are plowed up, assuring a very small hay crop for next year. G. F. CROUNSE.

Albauy County, N Y.

I think that our farmers in this vicinity have an abundance of fodder this year. Corn for fodder is looking well. Oats were a great crop, hay was good where there was any. People here built silos last season, so that we are quite well supplied this season. I think that farmers will, generally, keep as much stock the coming winter as usual. The prices of butter and cheese are very low, but I don't know that we can do better than to keep a good supply of stock, to keep up the fertility of the soil, as grain is as low in price as butter and cheese. A. M. TRUMAN.

Allegany County, N. Y.

The hay crop is short in this section, but the farmers reduced their stock about one-third last fall, and, as a rule, I think that only the very poor cows will be turned off this fall. Much corn has been put in, and this will help. Many silos were built last year, as many as were in this section before; I do not know of many being built this year. All with whom I have talked, were much pleased with their silos last year. One man will build a second oue this summer. There is a large crop of apples in this section. Potatoes look fine; about two-thirds as many acres as last year.

Chenango County, N. Y. B. A. BASSETT.

Hay was a very short crop in this county—about one-half only. Oats made a fine growth of bright straw, have been gathered with good weather, and will be used largely to feed cattle. An unusually large acreage of corn has been planted and sown; seems to be making a good growth, aud will go a long way toward making fodder for cattle. I think that farmers, generally, will try to winter uearly the same number of cattle as formerly. Silos are but little used here, bnt are slowly gaining in numbers. This section is engaged in dairying, principally, keeping summer boarders as a side line. FRANKLIN MOORE.

Sullivan County, N. Y.

As far as hay is concerned, it is decidedly a short crop; but farmers have sown considerable millet and oats for fodder, to make up the deficiency. Also a large amount of oats was cut for fodder on account of the army worm, that would, otherwise, have been allowed to ripen for thrashing. I would judge that farmers will have a fair average of hay and fodder for winter use. As to silos, there are none at all in use, for the New York Condensed Milk Company, at Wallkill, where all milk is sold in this section, does not permit ensilage or turnips to be fed to cows. In regard to farmers wintering their usual number of cows, I would say that they will; still, the fall sales and auctions may tell a different story.

Ulster County, N. Y. J. G. PETHERBRIDGE.

The hay crop in this locality is away below the average of ordinary years; it will range from one-fourth to one-third of a normal crop. Some fields will do better, and some less. The quality is poor. White daisies took possession, and were the principal crop on some fields. We shall, necessarily, be short of our staple crop for fodder. There are some silos around here, and they are regarded with favor, but not many are building this summer. The bottom is so out of all our products, that farmers have no margin to make any needed improvements; it is a struggle to live and keep above water. There will be no demand, I think, for stock; at least, I have uo call for any. We have a fair crop of oats, and the straw will be largely fed up with grain. Of course, the corn stover will be used, also.

Chemung County, N. Y. A. R. FROST.

CROP AND MARKET NOTES.

Lettuce is coming from the Boston hothouses.

Small fruits are about through for this season.

Dry beans are extremely dull and prices lower.

The growing rice crop is reported to be looking fine.

Muskmelons are of very uncertain quality these days.

Watermelons are the best selling fruit on the market.

There is a little better tone to the butter market.

Heat and humidity have completely upset the markets.

The small cucumber for pickles again claims attention.

The hot weather has knocked out even the dried fruit trade.

Pears are low in price, and many of the southern are of poor quality.

Dressed poultry has come to hand in bad shape, and the market has been completely demoralized.

Grapes are more plentiful, but, like other fruits, are slow of sale. The supply of best qualities is small.

Peppermint oil is quoted at $1.50 to $1.70 per pound in tins, and $2.15 to $2.20 per pound in cases.

Peaches have been in heavier supply, and prices have declined. Many of the receipts are in poor condition.

Potatoes are selling for hardly enough to pay the cost of production and freight, while sweets are no better.

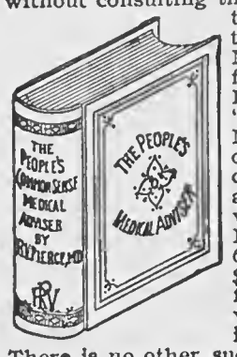
Very few fine eggs are received, and although receipts are small, the small demand and poor quality make a very dull market.

Miscellaneous Advertising.

Men are often wiser than they act. They know how to be happy but sometimes they are miserable. They know there is no happiness worth the name without health; yet they neglect health. They allow dyspepsia and biliousness and constipation to get a hold on them and make life wretched. Those three complaints usually come together. Constipation affects the stomach and liver. That brings on bilious attacks and indigestion, headaches, nausea, dizziness, queer sensations of weakuess and palpitation. Your nerves are unstrung, your system is sluggish. You lose ambition. The fact is your whole constitution is being slowly undermined. What you need is Dr. Pierce's Pleasant Pellets.

They cure constipation, dyspepsia and biliousness in the only sure, permanent way. There is nothing violent or irritating about them, they work mildly though quickly. They tone and strengthen the bowels to carry on their functions naturally. They gently stimulate the flow of bile from the liver and the digestive juices of the stomach. You don't become a slave to their use as with other pills. They make you regular and then you can leave them. That is the difference between Dr. Pierce's Pleasant Pellets and the something "just as good," which a sharp druggist tries to substitute. Don't let him do so with you.

If you want to keep your health and strength without consulting the doctor so often, the best



thing you can do is to write to the World's Dispensary Medical Association, Buffalo, N. Y., for a copy of Dr. Pierce's great book, the "People's Common Sense Medical Adviser." Send 21 one-cent stamps to cover cost of mailing *only*. It is a large book of 1008 pages, with over 300 illustrations. It is the same book of which 680,000 copies were sold at $1.50 each. The only difference is in the binding, which in the free edition is of strong manilla paper. There is no other such complete family doctor book in the English language. It is a veritable medical library, complete in one volume. Send NOW before all are given away. They are going off rapidly, therefore, do not delay sending *immediately* if in want of one. The above generous offer is limited to 500,000 copies.

WHEAT—We are prepared to furnish the **Engry** and **Winter King** wheats for seed. Have no equal for *hardiness, yield* and *quality of grain*. Specially adapted to the climate of central and northern States. For information address
MIAMI VALLEY SEED CO., Dayton, Ohio.

N. Y. State Veterinary College,

ESTABLISHED AT

Cornell University, Ithaca, N. Y.,

BY STATE LEGISLATIVE ENACTMENT.

Thorough Scientific and practical training in all departments. The location allows of extensive clinics in all meat-producing animals, as well as in horses and dogs, to which latter the clinics are restricted in the city colleges. Unequaled facilities also for advanced study and investigation.

Entrance by Regent's "*Veterinary Student Certificate*," or by examination September 15, 1896.

Instruction begins September 21, 1896.

For extended Announcement address
Professor JAMES LAW, F. R. C. V. S., Director,
State Veterinary College, Ithaca, N. Y.

The Agent's Share!

The season for subscription work having arrived, we herewith offer terms for

The First Contest

which extends from August 15 to September 30, inclusive. During this period, you may offer THE R. N.-Y. *for the remainder of the year*, as last season, for 25 cents. *WHERE YOU COME IN!* For each short-term subscription you secure, you may send us 15 cents, and drop a dime into your own pocket. There will, also, be a system of

Weekly Premiums.

$3, $2 and **$1** will be sent out every Saturday night during this contest to the three agents who send the largest three clubs during the week, and three extra premiums of **$3, $2** and **$1**, will, also, be sent out every Saturday night to three agents who have not won any of the premiums during the previous weeks in this contest. That is, there will be three premiums the first week, and six premiums every week after. The first three premiums will be open to every one every week; but those agents who win any weekly premiums cannot compete afterwards for the second three premiums. The purpose is to reserve these second premiums as an encouragement to beginners.

Great Big Premiums, Too!

In addition to these weekly premiums, the following cash prizes will be given on October 1, to the *five* agents who send the largest *five* clubs up to the night of September 30:

Largest club, cash	**$50**
Second largest club, cash	**30**
Third largest club, cash	**20**
Fourth largest club, cash	**10**
Fifth largest club, cash	**5**

Four short-term, or two six-month subscriptions count the same as one yearly.

Where Do We Come In?

We'll attend to that side of it, and let you know in due time. Let's waste no words now, but proceed to business! All ready! Go!

THE RURAL NEW-YORKER, NEW YORK.

The apple market is in bad shape; a large part of the receipts are of very ordinary quality, and sales are made at any price offered. Even then, it is impossible to dispose of the offerings.

The first new wheat from South Dakota has been marketed. The wheat, this year, is said to be much lighter than usual, both in weight and color, and it is not expected to grade as high as usual.

According to consular reports, Germany, which has, heretofore, been, practically, a rye-eating country, is rapidly changing to be a wheat-eating country. The consumption of rye flour is steadily decreasing, and that of wheat flour increasing.

CONDENSED CORRESPONDENCE.

HOWARD COUNTY, IA.—We have had seasonable rains this summer. Harvesting is done, and we are busy stacking. Oats grew to straw, and will not be as heavy as last year. The army worms were bad in places, and stripped a good many oat fields. Corn is stalky, and will be a good crop if the season be long enough. Oats have been worth 12 to 14 cents; barley, 15 cents; corn, 18 to 20 cents; live hogs, $2.25 to $2.75 per 100 pounds. S.

OTSEGO COUNTY, N. Y.—The month of August opened up extremely hot and sultry. More or less rain has fallen of late, and the weather was exceedingly "catching" for the harvesting of grain. Buckwheat looks well in general, and pastures and meadows present a more favorable aspect than for several years. The scare of the army worm is now over, and, though it did some damage, especially in certain cases, it created, all in all, a great deal more fright than harm. Cucumber vines, in some instances, are dying, an evil resulting from the work of the tiny grub. Hops look rather poorly, and, in some cases, they are quite lousy. This applies especially to valley yards. Oats are also rusting considerably. F. O. S.

CROPS IN WYOMING.—The grass crop, usually, is better than the average year, as we have had more rain than is common to this country. Cattle are looking and doing well. Horses are looking well, and are very cheap, unbroken bringing $7 to $15; broken horses from $20 to $40. Potatoes are looking fine. New ones are coming on to the table, of fine quality and good size. Butter is generally of fine quality, and brings from 14 to 25 cents to special customers. Our days are warm, usually, with cool nights. Haying is just at its height, and the weather fine for securing it in good condition. The average land in this county will support about 20 head on a section (640 acres). We never have any potato bugs to contend with. Hoeing potatoes is a thing of the past. When they are nicely up, they get a thorough harrowing, then when ripe are dug and stored for winter. H. A. W.

CROPS IN NOBLE COUNTY, IND.—The season is proving very unfavorable for farmers in northern Indiana. The rainfall in July, in many places, was 12 inches, and came in such torrents, that the lowlands were all submerged, and crops upon them lost. One-half the wheat is wet, much damaged, lots of it a total loss It was a light crop, standing thinly on the ground, and much of it rusted, making the crop as now damaged, poor indeed. Oats are a light crop here, and much injured also by the rain. The potato crop is ruined. There was a great prospect for a big potato yield, but the continued drought of the past five years has caused all farmers to seek low ground for potatoes, hence the crop is nearly all lost by the flood. Corn is fine, and only an early frost can prevent a very large crop. Pasture is abundant, but the flies and mosquitoes were never known to be so bad. Stock cannot and will not go out to feed, and are getting thin except where housed and fed. Crimson clover is a failure here; it grows no bigger or faster than Medium clover, and is, in no way, its equal. W. W. LATTA.

MARKETS

BEANS AND PEAS.

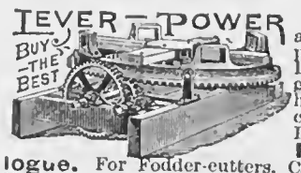
Beans, Marrow, 1895, choice	1 12@1 15
Medium, 1895, choice	97@1 00
Pea, 1895, choice	1 00@ —
Medium or pea, common to good	85@ 95
White Kidney, 1895, choice	1 20@1 25
Red Kidney, 1895, choice	1 05@ —
Red Kidney, common to good	90@1 00
Black Turtle soup, 1895	1 30@1 40
Yellow Eye 1895, choice	1 17@1 20
Lima, Cal., 1895 (60 lbs)	1 65@ —
Green peas, bbl., per bushel	72@ —
Bags, per bushel	67@ —
Scotch, bags	70@ 72

BUTTER—NEW.

Creamery, Western, extras	15 @15½
Western, firsts	14 @14½
Western, seconds	12½@13½
Western, thirds	11½ @12
State, fancy	15½@—
Common to prime	11½@14½
State dairy, half-firkin tubs, fancy	14 @14½
Firsts	13 @13½
Seconds	11 @12
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @—
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9½@10
Thirds	8 @ 9
Factory, fancy	11 @—
Factory, firsts	10 @10½
Factory, seconds	9 @ 9½
Factory, thirds	7½@ 8½
Old butter	6 @ 9

CHEESE—NEW.

State full cream, large, colored, fancy	7 @ 7⅝
Colored, good to choice	7¼@ 7½
Fair to good	6 @ 7
Fancy white	7½@ 7⅝
White, choice	7¼@ 7½
Small, colored, fancy	7¼@ 7½
Small, white, fancy	7 @ —
Small, good to choice	6½@ 6¾
Small, common to fair	5¾@ 6¼
Light skims, choice	5¼@ 5½
Part skims, good to prime	4 @ 5
Part skims, common to fair	2 @ 3
Full skims	1 @ 1¼



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Address **MINARD HARDER,** Cobleskill, N. Y.

EGGS.

Near-by, new laid, fancy, per doz	15 @ 16
State, fresh gathered, average receipts	13 @ 13½
Penna., country marks, average best	13 @ 13½
N. Ohio Ind., Ill. and Mich., prime	12 @ —
Other Western, prime	12 @ —
Western, fair to good	11 @ 12
Western & South'n, poor to fair, per case	1 50 @2 70
Western culls, per case	50 @1 50

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	5½@ 6
Choice, 1895, per lb	4¾@ 5¼
Prime, 1895, per lb	4¼@ 4½
Common to good, per lb	3 @ 4
N. C., sundried, 1895, sliced, fancy	3¼@ 3½
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	2½@ 3½
Western, sundried, quarters, bbls	2½@ 3½
South-West'n, sundried, quarters, bbls	2¼@ 3
Southern, sundried, quarters, bbls	2 @ 2¾
Southern, sundried, coarse cut bags	2 @ 2¼
Chopped, 1895, per lb	— @—
Cores and skins, 1894, per lb	— @—
Peaches, Sundried, 1895, peeled, per lb	3 @ 6
Cherries, 1895, per lb	9 @ 9½
Cherries, 1896, per lb	9½@10
Blackberries, 1895, per lb	5½@ 6
Raspberries, evaporated, 1896, per lb	15 @—
Huckleberries, 1895, per lb	7 @ 7½
1896, per lb	7½@ 8
Plums, Southern Damson, 1895, per lb	4 @—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25@1 75
Alexander, per bbl	1 25@1 50
Gravenstein, per bbl	1 25@1 50
Oldenburg, per bbl	75@1 50
Nearby, Nyack Pippin, per bbl	1 25@1 50
Nearby, other k'ds, h'd-pick'd, per bbl	60@1 00
Nearby, windfall, per bbl	25@ 75
Blackberries, fine and large, per quart	6@ —
Soft and poor, per quart	3@ 5
Grapes, Md. & Del., Moore's Early, per car'r	50@ 75
Up-River, Champion, per 25-lb carrier	40@ 65
Up-River, Wyoming, per 25-lb carrier	75@1 00
Up-River, Moore's Early, per 25-lb car'r	75@1 25
Huckleberries, Md. and Del., per quart	4@ 5
Jersey, per quart	4@ 5
Mountain, Penn. and State, per quart	5@ 6
Peaches, Md. and Del., fancy, large, per bkt	60@ 75
Md. and Del., poor to fair, per crate	25@ 50
Fair to fancy, per carrier	75@1 25
Common, per carrier	40@ 50
Muskmelons, Va., Jenny Lind, per bbl	1 00@1 50
Virginia, other kinds, per bbl	75@1 25
Baltimore, per basket	50@1 00
Md. and Del., per carrier	25@1 00
South Jersey, per bushel-crate	25@ 50
South Jersey, per bbl	1 00@3 00
Anne Arundel, per bbl	1 00@1 75
Hackensack, per bbl	1 00@3 00
Plums, Damson, per quart	4@ 6
Wild Goose, per quart	4@ 6
Green, per 10-lb basket	25@ 35
Ordinary Blue, per basket	25@ 30
Fancy Blue, per basket	40@ 50
Pears, LeConte, Southern, per bbl	1 00@2 00
Keiffer, Southern, per bbl	1 00@1 50
Bartlett, per bbl	2 50@3 50
Bartlett, per keg	1 25@1 50
Clapp's Favorite, per bbl	2 50@3 00
Clapp's Favorite, per keg	1 25@1 50
Nearby, Scooter, per bbl	2 00@2 25
Nearby cooking, per bbl	1 75@2 25
Watermelons, choice, large, per 100	16 00@25 00
Small to medium, per 100	8 00@15 00
Per car-load	100 00@200 00

GRASS SEED.

Clover, per 100 lb	6 75@ 8 25
Timothy	3 50@ 4 00

GRAIN.

Wheat	60 @70
Rye	52 @38
Barley	27 @32
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	28 @31
Oats	20 @30

GAME.

Woodcock, choice, per pair	90@1 00
Partridges, choice, per pair	75@1 00
Grouse, choice, per pair	75@1 00
English snipe, choice, per doz	1 75@2 00
Plover, golden, choice, per doz	1 75@2 00
Grass, choice, per doz	1 00@1 50

HAY AND STRAW.

Hay, No. 1 Timothy, per 100 lbs	87½@92½
No. 2	80@ 85
No. 3	60@ 70
Clover, mixed	65@ 70
Clover	50@ 60
Salt	45@ 50
Straw, No. 1, long rye, old	85@ 90
No. 2	75@ 80
New	75@ 80
Short rye	60@ 70
Tangled rye	50@ 60
Oat	35@ 40
Wheat	30@ 35

HONEY.

State, white clover, comb, per lb	— @—
Buckwheat, comb, per lb	7 @ 8
White clover, extracted, per lb	5 @ 6
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	10 @12
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @55½

HOPS.

N. Y. State, crop of 1895, choice	7 @ 7½
Medium to prime	5 @ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	7 @ —
Fair to good, per lb	5½@ 6½
Com. to med., per lb	3 @ 5
Small, per lb	2 @ 4
Buttermilks	2 @ 4
Grassers	2 @ 3
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	4½@ 5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4 @ 4¼
H. p., extra, per lb	3 @ 3½
Shelled, No. 1, per lb	4½@ —
No. 2, per lb	— @ —
Spanish, shelled, No. 1, per lb	6 @ 6½
No. 2, per lb	— @ —
Pecans, ungraded, per lb	4 @ 4½

POTATOES.

Long Island, in bulk, per bbl	75@1 00
Jersey, per bbl	75@ 90
Sweets, yellow, per bbl	1 12@1 37
Jersey, yellow, per half-bbl basket	75@1 25
Sweets, red, per bbl	50@ 75

POULTRY—LIVE.

Spring chickens, per lb	8 @ 10
Fowls, local, per lb	10 @ —
Western, per lb	10 @ —
Southwestern, per lb	10 @ —
Southern, per lb	10 @ —
Chickens, yearlings, per lb	10 @ 11
Roosters, old, per lb	6 @ —
Turkeys, mixed, per lb	9 @ 10
Ducks, local, per pair	70 @ 85
Western, per pair	60 @ 70
Southern, per pair	50 @ —
Geese, local, per pair	1 00 @1 37
Western, per pair	1 00 @1 25
Southern, per pair	75 @1 00
Pigeons, old, per pair	20 @ —
Young, per pair	15 @ —

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ 11
Average toms, per lb	9 @ 10
Chickens, Phil., selected, per lb	14 @ —
Phila., ordinary, per lb	10 @ 13
L. I., scalded, per lb	10 @ 13
Pennsylvania, per lb	10 @ 13
Western, dry-picked, per lb	6½@ 9
Western, scalded, per lb	7 @ 8½
Western, small, per lb	3 @ 5
Fowls, Western, dry-picked, choice	9½@ 10
Dry-picked, fair to good, per lb	8 @ 9
Scalded, choice, per lb	9 @ —
Old cocks, per lb	5 @ 5½
Spring ducks, Eastern, per lb	12½@ 13
Spring ducks, L. I., per lb	12½@ 13
Spring ducks, Western, per lb	7 @ 9
Old ducks, Western, per lb	5 @ 8
Spring geese, Eastern, per lb	14 @ —
Squabs, tame, white, per doz	1 75 @ —
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @ —

VEGETABLES.

Beets, per 100 bunches	75@ —
Cabbage, L. I., per 100	2 00@2 50
Carrots, per 100 bunches	75@ —
Cauliflower, L. I. and Jersey, per bbl	1 50@2 00
Celery, fancy, large, per doz	40@ —
Average, prime, per doz	20@ 25
Small, per doz	8@ 15
Cucumbers, Jersey, per box	25@ 40
Long Island, per 100	40@ 50
Pickles, L. I., per 1,000	50@1 25
Pickles, Jersey, per 1,000	50@1 00
Egg plant, Jersey, per crate	—@ —
Jersey, per bbl	50@ 65
Green corn, Hackensack, per 100	75@ 85
Other Jersey, per 100	40@ 75
Green peas, Western N. Y., per bag	50@1 50
Long Island, per bag	75@1 00
Lettuce, Boston, per doz	30@ 40
Lima beans, Hackensack potato, per bag	1 00@1 25
Jersey flat, per bag	75@ —
Onions, Southern, potato, per basket	50@ 60
Southern, potato, per bbl	1 12@1 25
Orange County, red, per bbl	75@1 00
Connecticut, red, per bbl	1 25@ —
Connecticut, white, per bbl	1 75@2 00
Connecticut, yellow, per bbl	1 25@1 50
State, Multipliers, per bbl	1 25@ —
Long Island, yellow, per bbl	1 25@1 50
Long Island, Red, per bbl	1 00@1 25
Peppers, S. Jersey, per bbl	60@ 75
Spanish, per bbl	75@1 00
Spinach, per bbl	—@ —
Squash, marrow, per bbl	75@ —
White and yellow crook, per bbl	50@ 60
String beans, Jersey, per basket	—@ —
Long Island, per bag	75@ —
Tomatoes, Monm'th Co., J'y, fancy, per crate	40@ 50
Monmouth Co., Jersey, Grant, per crate	20@ 30
South Jersey, per crate	15@ 25
Turnips, now, white, per 100 bunches	1 50@2 00
Russia, per bbl	50@ 65

WOOL.

XX and above, Ohio	18 @19
X, Ohio	15 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

MILK AND CREAM.

The total daily supply has been 21,850 cans of milk, 202 cans of condensed milk and 901 cans of cream. The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

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ALL SORTS.

Salt for Canada Thistles.

W. C. T., WOOSTER, O.—A very good way to get rid of the Canada thistle, I learned accidentally. As I passed them with salt for the stock, I gave them some, and they wilted and died soon after the application. I killed all of mine, and so did my neighbors that used it with determination. It doesn't kill the roots, but the root won't live long when the top is salted.

Golden-Leaved Hop Tree.

CHAS. E. PARNELL, LONG ISLAND.—The Golden-Leaved Hop tree (Ptelia trifoliata aurea), is a very choice, small-sized lawn tree with handsome, deep golden glossy trifoliate leaves, which, when bruised, exhale a pleasant, hop-like odor. It blooms during the month of June; the flowers are white, odorous, and are followed by the seeds which are borne in dense, showy clusters during the late summer months. In cultivation, it attains a height of from six to ten feet, and when well grown, is, certainly, one of the most showy golden-foliaged trees in cultivation, the peculiar glossy surface of the leaves giving them the appearance of being varnished, and this color is well retained throughout the summer months. As the tree is hardy, and perfectly free from all insect pests, doing well in any soil and situation, it, certainly, deserves a place on all lawns, even those of the most limited extent. It is of free growth when given an opportunity to develop itself in a deep, well-enriched soil. While the trees are small, grass or weeds should not be permitted to grow up around them, and an occasional top-dressing of well-decayed stable manure, applied during the winter months, is decidedly beneficial. Good specimens may be procured at a moderate price of our leading nurserymen.

Notes on the Poison Vine.

ISAAC HICKS, LONG ISLAND.—The Rhus Toxicodendron, or poison vine, not ivy, a misnomer, has become a great nuisance, is fast increasing and is very difficult to eradicate. Only by persistent cutting several times in the season, can it be killed. I cannot account for its being poisonous to some and not to others. In my experience, the face and other exposed places should be washed in soapsuds or a weak solution of soda or potash as soon as possible after exposure. If an eruption ensue, rub quickly the part affected with sweet spirits of niter; we have long kept a vial ready for use. If the attack be virulent, and swelling and suffering ensue, it has been often removed by the application of stramonium, either in a poultice made of leaves or the bare leaves bruised and bound on; or an ointment of stramonium which is always ready for use. This remedy has been in use here over a century, and I have often resorted to the stramonium cure. Another remedy for severe cases is a poultice of stewed onions, which is within the reach of all housekeepers. Probably the exclusion of the air and microbes is one of the essentials of the cure. We have tried many remedies, and there are many more untried, but it is a strange experience that, in advanced years, we happily are exempt from the effects of the poison vine.

Poison Ivy Again.

B. R., MESHOPPEN, PA.—I have been poisoned with ivy a number of times in my life. On some people the poison will spread very rapidly, and in a short time it will break out in watery blisters; where the water comes in contact with the skin, it will continue to spread if not checked. It is strange that some people can handle poison ivy as they please and never get poisoned, while others will get poisoned when going near it in damp weather or coming in contact with it. A bad case often results from not knowing that one has been in contact with the ivy, or knowing how it looks when it breaks out.

After trying several remedies, I use only two; the first is to bathe often with spirits of turpentine; this may smart some on a raw skin, but I apply the remedy just the same. I don't fool with ivy poison, as it will keep on spreading as long as it can. My second remedy is to procure a small piece of nitrate of silver, dampen one end of the stick, paint around the poisoned skin, and it will not spread, if the water from the poison is not allowed to cross over the painted line. Avoid heating the blood as much as possible.

J. Q. M., LEBANON, OHIO.—It is not customary for a physician to prescribe for people unless he is asked; but while you have taken up the subject why not investigate it thoroughly. I have treated a number of cases, and have never failed to cut the disease short by using a solution of muriate of ammonia or sal ammoniac, a teaspoonful to a pint of water used locally every two or three hours. Just as soon as the medicine has killed the poison, it need not be used so often, as it then causes some smarting. I had one case last summer where the patient was poisoned from head to foot—eyes swollen shut, and scrotum four times natural size. I used the solution double strength, and found a change in less than twelve hours. The remedy is simple, and may be procured very cheaply at any drug store.

Live Stock Matters

HOW TO KILL SHEEP TICKS.

Every winter my sheep are covered with ticks, and they pull the wool from their sides. When is the best time to destroy the ticks, and how much will it take for 40 sheep? H. F.
North Steuben, N. Y.

ANSWERED BY J. S. WOODWARD.

There is not a bit of use in trying to grow wool and sheep ticks on the same sheep skin; they are entirely antagonistic to each other, and the ticks are also certain to destroy all profit in the attempt to grow mutton under the skin on which they abound. The best time to kill the ticks is when they appear. The fact is that ticks seldom abound on a flock of *fat* sheep, especially if they are fine-wooled. Fine-wooled sheep are naturally more greasy than the medium or coarse-wooled, and if they are in good condition they will secrete so much grease, that the ticks can't exist. Sheep ticks breathe through small holes or pores on the thorax, and anything that will close these will kill the ticks; they can also be poisoned, so there is no excuse to have ticks on the flock, even if they are not as well fed as they should be.

If the sheep be dipped in almost any of the patented dips, say, twice a year, ticks will not trouble them; but it is a good deal of work to dip a flock of sheep, especially when they have much wool, and I have a way that suits me much better. If H. F. has but a few sheep, he can take common kerosene and fried meat fat, mix them one part kerosene to two of fat; or he can use lard or lard oil, mixing in the same proportion. Heat the lard, or fat, or lard oil, so that it is entirely liquid, add the kerosene and stir well; divide the wool along the sheep's back, and pour in a generous quantity; it will do no harm to the sheep. Have it as hot as possible and not burn the sheep; it will go down each side the sheep, and kill every tick it touches, and every young tick will die in infancy.

Crude petroleum will also kill the ticks, and not only not injure the sheep, but will cure any skin disease which they may happen to have; but the trouble is to get crude oil. Much of that on the market and so sold, is a mixture of the by-products of the refineries, will stain the wool, and some won't even kill the baby ticks.

If H. F. has many sheep, a good and quick way to rid them of ticks, is to put a quart of soft soap or a pound of hard soap dissolved in one quart of rain water, in a kettle with one gallon of rain water, and bring to a boil. Take away from the fire and while still hot, add two gallons of kerosene or crude petroleum, and whip or churn it rapidly until the whole emulsifies or becomes like cream. If he has a force pump, he can use this, pumping it back into itself. If he has no pump, he can put it into a deep pail or crock, something like a deep setting can, or cream can, make something like an old-fashion churn dasher, and churn "for keeps." When completely emulsified, add 11 gallons more of soft water—stir well. Huddle the sheep up close in some corner, sprinkle the flock, and when well wet, stir them up and recrowd and sprinkle again, and so continue until every sheep is wet in every part with the emulsion, and not a tick will survive. This remedy is cheap, easily made and applied, and the above quantity will be ample for 60 large sheep. If he has a force pump and spray nozzle, he can use them for wetting the sheep.

KEEPING SHEEP FROM FRUIT TREES

I have a young orchard of apple and other fruit trees, into which I wish to turn sheep in order to keep down the brush and weeds, which spring up wherever the irrigation ditches run. It is hard to plow or mattock. How can I best protect the trees from the sheep? E. B. W.
Keremeos, B. C.

ANS.—It is easy to protect apple trees from attacks of sheep as they can be trimmed so high that sheep cannot reach the branches; but those "other fruit trees," not knowing what they are, it is hard to say how to protect them. In fact, it is almost impossible to keep pears, plums and peaches high enough so that sheep can be safely pastured among them. But for the apples, get the common wire netting with two-inch mesh, and three feet wide—it will cost here 1½ cent a running foot. Cut in pieces long enough to go around the

(Continued on next page.)

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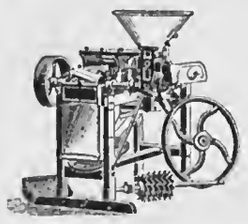

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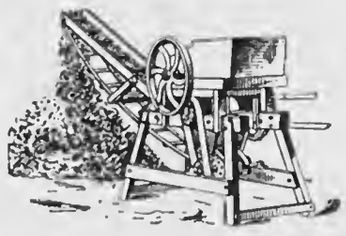

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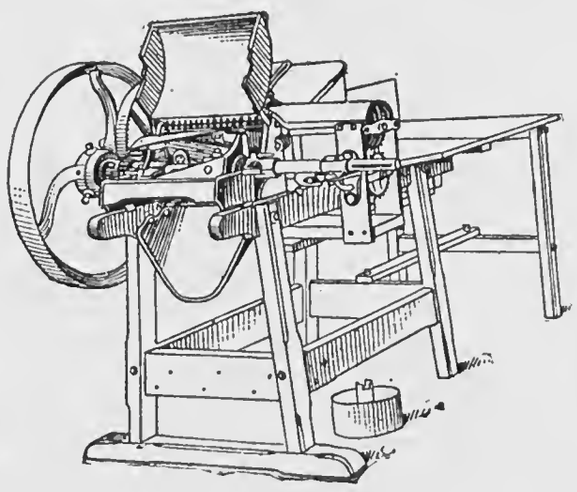

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THE E. W. ROSS COMPANY,
SPRINGFIELD, OHIO

LIVE STOCK MATTERS.

(CONTINUED.)

trec very loosely, not near touching them. Set on end and twist the ends of a few wires together, enough to hold it upright about the trees. No sheep will come near trees so protected, even to rub against them or butt their heads against them. But E. B. W. must remember that, if the sheep are to run in the orchard, they must have a bountiful supply of fresh water; otherwise, it is impossible to keep them away from the trees. He can protect them, also, with laths and wire woven together like a wire and picket fence; but this is not as good, as it has a tendency to shade the bodies and that is not as good for the trees. J. S. W.

OUR BUSINESS HEN.

She is a Leghorn, a brown one at that; a high flyer, 'tis true, restless, noisy, half wild by nature, always hustling about peering into this, getting frightened at that; but with such a gamey, all-around business air, that her good qualities as one of the best, if not the very best, layers on earth are being more and more recognized every day. Since owning this particular breed, I have never lacked for eggs, winter or summer, except for a short time during the moulting season. The only drawback with the Leghorn is its lack of size as a table fowl; but that is compensated for, in a measure, by the fine quality of the meat. I aim to give them all the range on the farm they will take, scattering the houses about here and there so they will not be crowded. I let them take their choice as to roosting places, which they seem to prefer in the tops of the tallest trees. This, of course, does not apply to the winter season, as great care must then be taken to prevent their handsome combs being frozen, one other weak point with them I omitted, but far overbalanced by the added beauty of their full combs. Chicken thieves find them less desirable to pick off the roosts, owing to their half wild and noisy resistance when caught, a proceeding to which they never consent without a terrible racket.

One great advantage possessed by the breed is that, although great foragers and hearty feeders, they seldom get too fat to lay, requiring but little attention that way. Their feed seems to go all to eggs, provided they have a variety and plenty of exercise.

I was an enthusiast over the B. P. Rock until I found that a friend was getting two eggs to my one from the same number of B. Leghorn hens, and in the fall and winter season three to one. It is true their eggs are not of the largest size, but they do not lack flavor and beauty of appearance in the basket. I get pretty nearly as much for mine in market as do my neighbors with larger breeds, and twice as many from the same number of fowls. Having been troubled with a peculiar kind of disease closely resembling cholera some years since, I found a complete remedy in carbolic and sulphuric acid mixed with 15 to 20 times its bulk in water, and applied with a watering pot or pump wherever they roosted or fed. I also used a little in their feed and drinking water, only a few drops, as the acid is dangerous, and the fowls quickly show their disgust for it if fed too strongly to them. Some of my neighbors, curious to know the secret of my success in getting eggs in winter, have held up their hands in surprise when informed that I fed them upon wheat straw. R. S. COLE.

DAIRY MARKETS IN OKLAHOMA.

Replying to the editorial note on page 516, I would say that the fact that we are in Oklahoma and not in New York, makes it possible for the proportionate prices of milk, butter and cheese to vary so widely here from what they do there. While it will be only three years since the settlement of this country on September 16, New York is an old settled country, and has its markets, and the best there are in the country, for all three articles named. With the milk trains running regularly, it is possible for farmers to sell and have delivered in the large cities, daily their supply of fresh, sweet milk.

New York is also supplied with creameries which take milk from farmers daily, at prices proportionate to the value of butter and cheese. I do not know of a creamery in this country. The only sale for sweet milk here is to the hotels and restaurants in the small cities, which cannot be other than small with less than three years of existence. and would be called towns in New York State. These people, although they do not require a great quantity of milk, want it delivered twice a day in this warm climate, at this season. But few farmers here can afford to leave their work twice a day and drive to town to deliver the small amount of milk which they make, at even 15 cents a gallon, and if they could afford to go, the market is so small that milk would not bring anything. In the cities, nearly every family keeps a cow, and they have milk to sell rather than buy.

Farmers can make butter with their small milk supply, feed the skim-milk and buttermilk to their pigs and calves, and on their one weekly trip to town, which is, usually, Saturday, and which they would make anyway for their supplies, they take the butter, eggs and other products, and exchange with the grocer for groceries for whatever he is able to allow. Where every farmer has a little to sell, with no great demand for home consumption, the price has to be small. This butter, made by so many different parties, must vary in color and what the grocer has to ship to his nearest market, Kansas City, which is over 200 miles, brings but a small price. There are but few who make cheese here, and those few get about the same price as is paid for cheese shipped here from Kansas. Some of my neighbors have tried cheesemaking, thinking that it would be more profitable than buttermaking; but they do not understand it well enough to get good cheese at all times. The climate may have something to do with it. When we have a home market here equal to the market of New York State, the people may prefer Jersey cattle rather than Short-horns.

Oklahoma. E. H. LITTLEFIELD.

FORKFULS OF FACTS.

KILLING WOODCHUCKS.—I cannot do without THE R. N.-Y. I read, on page 507, about woodchuck killing. I think that G. G. G. used too much bisulphide of carbon. I got one-half pint of it, put it in 15 holes, and saw some of the woodchucks go in the holes before I put it in. I put it on batting and poked it down into the hole with a stick as far as I could reach, then stopped the holes. But one dug out, and that one was under a stone wall. E. D. G.

McGrawville, N. Y.

FODDER AND FEED NOTES.—We have had quite an experience in soiling two cows this season, beginning with rye early in May, oats and peas in June and July, and now fodder corn. All were good, but the corn is the least worthy. Oats and peas were sown early, on sandy land, well manured in winter; they grew very strong, and were eagerly eaten by the cows up to the time when both were nearly mature. I know of no crop equal for soiling. I have a lot just ready for cutting, and I sowed August 1 again for late feeding, or to cure if the weather be favorable. Instead of fodder corn, I shall plant early sweet corn next spring for August feeding.

Crimson clover was nearly all killed in March; I pulled what few plants lived, and have just sown again to see whether northern grown seed will do any better. I also sowed medium clover, as I believe that this is the time to sow grass seed, and I cannot see why our Red clover is not just as good as the Crimson; the root is much longer and larger, and, I suspect, is even better for the land.

A neighbor sowed Timothy last August on a wheat stubble slighly worked, and this year cut over two tons to the acre. So much seed and time are lost sowing clover among wheat in spring, that some other way must be found. Mr. Clark gives us good teaching in THE R. N.-Y., and the certainty of getting a catch of clover, is worth much more than the expense of working the land for August seeding after wheat or other grain. The crop the following year, in most seasons, will be double.

Shortsville, N. Y. R. JOHNSTON.

TWO STOCK NOTES.—A writer in the Iowa Homestead gives these bits of suggestion:

We are likely to neglect our calves and young pigs through this stress of work. Now is the time that they need watering regularly. We can take more milk, too, if we give the calves a small ration of oats twice a day. For my part, I like to see calves commence the winter sleek and fat. Besides, I have noticed that it is not economy to stint young stock in their feed. Runts are hard to bring out of their runtiness.

A friend of mine, a breeder of Hereford cattle, told me that he was setting aside a field of Blue grass for winter pasture. He said that the grass would fall, and underneath, the blades and young stuff would be fresh and juicy all winter long. Cattle will thrive on this sort of feed, and come out in the spring in good shape. It is letting Nature put up our hay. I am perfectly willing to let Nature save me as much labor as possible. There is enough work to do at the best.

SKIM-MILK FOR HENS.—I do not know how an ordinary feeder could tell which is better—sweet milk or curds. Hens do not lay at all seasons alike, from many causes, and one could not be sure that some other cause did not produce an increase of eggs. I feed milk, sweet, to everything—cows and pigs as well as hens. The amount of milk consumed would be greater if soured and set on the stove until the whey could be poured off. If I had plenty of milk, I would make it into curd and mix it with the mash. The only difference between them is the amount of water they contain, and the curd makes a stronger ration by having the water eliminated. Providing the hens were fed enough of other foods, I do not believe that any difference in results would be noticed from either method. C. E. CHAPMAN.

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Some folks look out for number one.
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But when it is a widow, she
Looks out for number two.—*Truth.*

A MAN may not see the point when he sits down on a tack, but it makes an impression on him.—*Philadelphia Record.*

SHE: "If you attempt to kiss me I'll call mamma." He: "What for? I don't want to kiss your mamma."—*Philadelphia Record.*

"THOSE sandwiches remind me of my native town," said a Massachusetts man at the railway restaurant. "Dedham?" asked the girl at the counter. "No, Needham."—*Commercial Bulletin.*

A LITTLE girl was describing a might-have-been drowning accident at the seashore the other day. "You see," said the little girl, "the trouble was that she went out beyond her width."—*Evening Sun.*

MECHANIC:—"I have just been married and would like a raise in my wages." Employer: "I am sorry, but the company is only responsible for accidents that happen to the men while in the factory."—*Brooklyn Life.*

WILLIE LITTLEBOY: "I wish I had been George Washington." Papa: "Why so, my son?" Willie: "Why, papa, he couldn't tell a lie, and so when he was visiting and was asked if he would like another piece of pie, instead of saying no, just for the sake of being polite, he told the truth and said yes."—*World.*

HIS IDEA OF SIZE: "Talking about chickens," said the rural citizen who habitually exaggerates, "I've got the most remarkable hen in the country." "A good layer?" "That's her strong point. Why, sir," he said, getting excited as he talked, "that fowl, sir, lays eggs as big as hailstones."—*Washington Star.*

"Now, Josh," said the farmer to his 18-year-old son, "we allow to board a lot of city gals this summer, and you want to keep out of fallin' in love with 'em, sure. It ain't been more'n 20 year ago that I fell in love with one of our city boarders, and when she jilted me," he continued, lowering his voice and looking cautiously over his shoulder, "it made me feel so bad thet I rushed right off and married your maw before I thought what I was doin'."—*Cincinnati Enquirer.*

A TEACHER was recently hearing a class in the infant Sunday school room, and was having her scholars finish each sentence to show that they understood her. "The idol had eyes," she said, "but it couldn't see"—"See!" cried the children. "It had ears, but it couldn't"—"Hear," was the answer. "It had lips," went on the teacher, "but it couldn't"—"Speak," once more repeated the class. "It had a nose, but it couldn't"—"Wipe it!" shouted the children. And the lesson had to stop a moment for the teacher to recover her composure.—*Epworth Herald.*

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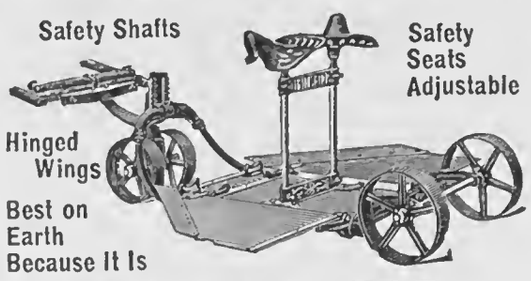

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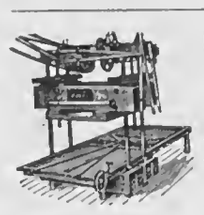

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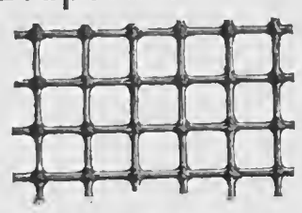

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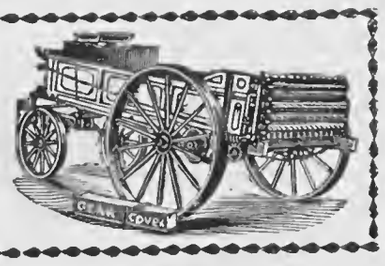

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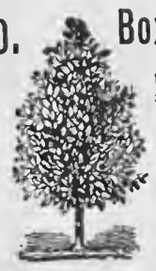

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E. F. NEWTON, Agawam, Mass. He bought 7,900 last season.
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"I sold 6,000 in small lots in this town. Can sell a good many more this season, as farmers have tried them, and know what they are." W. G. ST. JOHN, Hammonton, N. J.
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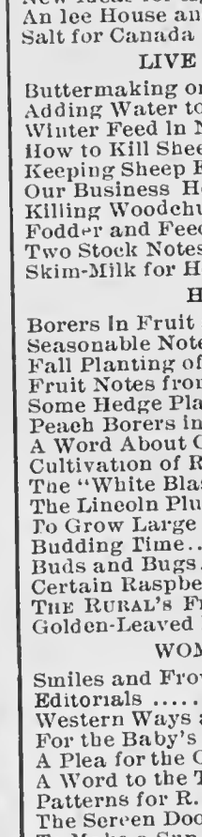

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2431. NEW YORK, AUGUST 29, 1896. $1.00 PER YEAR.

AN ICE CREAM BUSINESS IN MICHIGAN.

CORN AND OATS THRASHED TOGETHER.

A New Thing in Cattle Feeding.

Just outside the eastern limits of Pontiac, Michigan, is situated Maple Hill, a beautiful farm, the seat of the dairy business of R. Bartlett & Sons. The father began dairying here 31 years ago; his business has grown somewhat, in pace with the town, and changed as the latter has changed. From a country village, Pontiac has become a thriving city—especially a summer city, because of its beautiful surroundings and nearness to Detroit. At Maple Hill, milk selling for 22 years was succeeded by buttermaking, and now this has given way to the freezer. Not a day goes by but has its sale of ice cream, and in summer, the business becomes a large one. Surplus cream in winter is sold as such, or made into butter. The demand for the total output is always at hand.

The three farms aggregate 500 acres. At present, 69 cows are kept; of these 41 are giving milk. The cows are mainly Jersey-Ayrshire crosses, but some pure-bred Jerseys are kept. The cross is well liked, giving hardy, hearty animals of good size.

Arrangements are being perfected by which full data may be obtained, and records kept of the work done by the herd. It is hard to keep track of individuals at present. Messrs. Bartlett expect to overcome this by using an aluminium button. Each button bears its number and the initials "B. & S." The button is smooth, is removable, and if its number could be enameled in color as well as raised in the metal, it would leave nothing more to be desired. Tests are now made occasionally. Fig. 178 shows a cow whose disagreeable disposition came near sending her to the butcher's block. Before setting her apart to fatten, it occurred to Messrs. Bartlett to test her butter disposition. The test showed her yield to be 16 pounds of butter a week.

A MICHIGAN DAIRY BARN. HEADQUARTERS FOR ICE CREAM. FIG. 178.

The dairy machinery is located in the basement of the big brick house. As we stepped in I saw a churn whirling in its rack at the beck and nod of a little engine. A horizontal boiler supplies steam. "Have a dish of cream," said Mr. Charles S. Bartlett.

I had been walking through a chill March wind, though it was February on the calendar; so I said "Why! not so much; you have there too much, I am sure; can't eat a quarter."

"It won't hurt you; it never does," was the reassuring answer. So I fell to, and, as we chatted of the bottles, and churn, engine, boiler and worker, the ice cream melted away; and to my surprise, the quarter mark was passed and no feeling of chilliness came on, likewise the half and then I bore down on the home stretch. "How do you raise your cream?"

"Fairlamb cans."

"Don't use a separator?"

"No. We don't like the cream so well for freezing, and the skim-milk doesn't keep long enough to suit us, when we make cottage cheese."

"Do you find steam handy in heating water here?"

"Nothing like it for power and saving of time in cleaning things."

By that time, the cream had vanished from our dishes, and we started to see the barns. "We are connected by telephone with town, and have, also, water connection. By asking over the telephone for fire pressure, we can send a stream over the 40-foot brick chimney at the barn." Entering the engine-room, we noted the 20-horse power engine with belt attached, and the boiler in its arch near by. "A fine place of a cold day when coming in from selling cream."

We inspected the stable; this has two rows of stanchions, and the cows face the feeding alley which runs lengthwise of the barn through its center. Mr. Smith Bartlett observed, "We know that we are not quite up to date in using stanchions; we have in mind to try some sort of stall." The cows stand on concrete—a narrow gutter behind them and a generous path along the sides of the building. The cows were all out for exercise, it being early afternoon. At one side of the entrance to the barn, built as an L to it, is the manure cellar. The cow manure is wheeled in every day, and the horse manure is shoveled down from the floor above through a trap on the side wall. In Mr. B.'s judgment, this is far ahead of the old way.

Milking is done before feeding in the morning, after feeding at night. This is handiest here. Returning to the feeding alley, we found a car standing half way down the barn length, and on it, a large box from which a little steam was rising. "We are cooking the night feed," they explained. A small pipe leads from the boiler, and a low bubbling told the story.

When we went to the next or main floor, we visited the grinding room. The hopper of the 22-inch burr had in it wheat, oats and corn. A corn sheller stands near, also a grindstone. "One may bear on as hard as he pleases, and nobody kicks." That was the key-note of the whole business—plenty of power where needed, and when needed.

On the main barn floor, the cutter stands and delivers the chaffed fodder through a trap into the car below. "What! straw and corn stalks together?"

"Yes, we thrash the corn and the oats at the same time."

Mr. Smith Bartlett explained how the machinery is worked. "We grind and cut at the same time, and do this twice a day. A spray of water falls upon the cut fodder, and we add meal from time to time till the bulk is great enough. At present, it takes, for each feed, about five bushels of meal and enough chopped roughage to bulk up 50 bushels after it is cooked. When through cutting, we bank the fire, and depend upon the steam remaining in the boiler to cook the feed. We wish it to cook 1½ hour, and cook slowly. Steam will dry things, if too much is let on. We use the same pipe to convey steam that carried the water for spraying. In this way, we are not troubled by its freezing."

A visit to the corn house followed. There corn and oats lay three feet deep over the floor of the large building. "Just as it came from the machine. The oats dry out the corn, and so all keep. Some years, shoveling over might be needed, but not in 1895. Last fall, we thrashed one field—11 acres of corn—without oats. The stalks have kept O. K., but some grain heated. That was a lucky job. We began at 12:30 P. M., and were done at 5 P. M. Next day, it stormed. We left 20 shocks for seed, and they stand out still, frozen down. Thrashers don't enjoy handling shocks of corn, but the machine can take care of them fast. Only one row of concave teeth was left in the vibrator, but that was enough to thrash the oats. We like to send through a shock of corn and then two bundles of oats. As the fodder comes from the carrier, it has lost much of its bulk; it pitches readily."

Messrs. Bartlett stored the fodder from 25 acres of corn and 10 acres of oats, and still space enough was left for hay and wheat straw.

"The beauty of the whole thing is that the corn

crop is handled so quickly and economically, and by thrashing oats at the same time, fodder and grain both save nicely. We pay $10 a day for a machine with three men, and the cost is less than two cents per bushel."

So far as I can learn, this scheme was originated not far from Pontiac. It is gaining in popularity, and seems to be a practice worthy of extended introduction. When thrashing the field above mentioned, three teams, wagons and drivers hauled, and three men pitched on. Two men ordinarily could pitch a shock, but, sometimes, all three boosted together. The secret of loading is to load from behind forward; not treading down at all. HOWARD B CANNON.

HOW IS WET HAY INJURED?

How, or in what particular quality, is hay injured, that has been wet by a severe storm? I often hear it said of hay or grain that has been wet, "That hay is spoiled," or, "That hay isn't worth more than one-half as much as it was before the rain." But with all my experience in handling and feeding hay, I have never yet learned in what the injury consists. I have just put in some three or four tons of oat hay that was wet twice, once when lying spread, and once when heaped, and I have heard people remark, "It's too bad those oats were spoiled." They were not soaked enough to leach, and they were dried out so quickly and thoroughly that they did not mildew. Were they injured, or does wetting hay injure its quality, and if so, how? C. P. A.

New Haven County, Conn.

"Haying" Is Not a Mere Drying.

If nearly cured, securely cocked, and handled aright as soon as the rain is over, I imagine that hay can be carried through pretty severe rains without any great loss of nutritive matter. The chief loss will be from the leaching of the outside of the cocks. But when the grass is only half cured and, therefore, quite damp when put in the cocks, it ferments in a very short time with great loss of "carbohydrates," probably, and very likely, too, with changes in the proteids which greatly damage them, with the development of molds and other fungi which make the hay "musty" and unpalatable and, in some cases, distinctly injurious. But the changes which naturally go on when grass is converted into hay—it is not a mere drying, I think—have not been studied, and we know nothing very definite about the fermentations which are induced by wetting half-cured hay, or about the extent to which valuable matter may be leached out by rain.

Connecticut Ex. Station. E. H. JENKINS.

Both Chemical and Mechanical.

Hay that has been wet by a severe storm, is injured, mainly, in two directions. First, in a loss of the aromatic qualities, or those properties which give flavor and aroma to well-cured hay, and increase its palatability. The losses in this direction, perhaps, do not materially reduce the food value of the hay, though they certainly affect the food value indirectly, because the animals will waste more of any product which has been reduced in palatability. The wetting, also, causes a loss of the soluble constituents of the hay; these are quite considerable if it is harvested before entirely ripe, and falls mainly upon the class carbohydrates, which include sugar. These losses may be regarded as chemical. The second source of loss is mechanical, and is very heavy in case of the various clovers, as after they are wet once, the leaves and the stems are very brittle, and the handling necessary to cure them will measure the losses in this respect. I doubt very much whether the loss is equal to three-quarters of the food value of the hay from both these sources, even under very unfavorable circumstances, though it must be remembered that the mechanical losses fall more largely upon the better and more digestible parts of the hay. The less digestible woody fiber suffers the least loss. There is no possible means of bringing back the original quality of the hay after it has been once thoroughly soaked. E. B. VOORHEES.

New Jersey Exp. Station.

What Changes Take Place?

Certain of the compounds of all fodder plants are not only susceptible to being leached out of the tissues by a severe wetting, but they are also prone to rapid chemical change. This is true of some of the carbohydrates, like sugar, as well as of certain of the protein compounds. It is somewhat difficult, under the best of conditions, to dry out a plant from the green condition to an air-dried state, without the occurrence of chemical change; but such destructive fermentations become all the more extensive when the plant is wet by rain, and remains in a moist condition, or is a long time drying out. These changes, in a general way, are largely oxidation processes, and consequently, the possible feeding value of the plant is diminished to just the extent that they occur. The dry matter is oxidized and broken up in other ways before it enters the animal, rather than after. It happens that these compounds which are so liable to destruction under unfavorable conditions, are among the most digestible and useful compounds which enter into cattle foods, and their breaking up constitutes a distinct loss. Such changes have an influence upon palatableness as well, consequently, hay that has been wet is not as attractive to the animal as hay that has been cured under the best conditions. It would be possible so to treat the hay, perhaps, as to restore its palatableness to some extent; but I cannot conceive of any way in which its original feeding value could be restored.

New York Ex. Station. W. H. JORDAN.

WHEN TO PLOW AND FERTILIZE AN ORCHARD

One of our readers on Long Island says that he has an orchard which he wishes to fertilize with a dressing of kainit, lime and salt, so as to get the best possible results from it. He has been told that it is a bad practice to plow a sod orchard in the fall, and wishes to know whether it will be best to put on his fertilizer in October, and let it lie there until spring, when it can be plowed in, or whether he would better apply the whole thing in the spring, and then plow it. Will you tell us what you think about this matter, whether you would advise fall or spring plowing, and fall or spring fertilizing under these circumstances, and under what conditions you would advise him to use the fertilizers this fall?

Shallow Plowing in Fall.

I can see no reason for including common salt in this list of fertilizers, when he has kainit, which is partly composed of salt. If he will sow the lime and kainit broadcast, in liberal quantity soon after the fruit crop is off in the fall, and plow up the soil very shallow, only deep enough to turn it well, and let it lie until spring, he will act wisely. Then, if he will work the top of the soil over every week all spring and summer with any kind of harrow or other tool that will make it very loose and fine for about two inches deep, he will see his trees grow and bear (provided they have a fruit crop), as they have not done lately. I have never seen any bad results from plowing an orchard in the fall, except where it was stirred so deep as to tear up the roots badly. A grass sod is always bad for an orchard, but clover does it good, especially if it is plowed under every two years, and never made into hay. A meadow or pasture and an orchard of any kind, should never be on the same ground at the same time; neither will prosper as they ought. As to the time to apply manures, there is little danger of loss from dissipation before the trees can receive their benefits, except in case of those which are nitrogenous. It is possible that a small portion of the potash and phosphoric acid may revert, or unite chemically with other elements, and make insoluble compounds that are not available plant food. But it has been proved over and over again, that potash and phosphoric acid do not leach away, and that they show the effects of their application on crops for more than five years afterwards. H. E. VAN DEMAN.

The Why and the Wherefore.

So much depends upon location and character of soil, that it is hard to answer, in a general way, to fit all cases. In fact, I don't believe that any rigid rule can be laid down. Each orchard must be studied and treated according to the environments and conditions. As a rule, it is bad policy to plow an orchard that has not been worked for some time, and has become sodded over, in the fall, until after the leaves have fallen. It should be known that the feeding roots of apple trees are of the present year's growth, and that they die and are shed each autumn, and new ones grow each year. If the orchard has lain long, the roots have come quite largely to, or very near, the surface, and the whole top six or eight inches of soil will be a network of these young, active feeding roots. If the orchard be plowed, these will be destroyed, and the tree must suffer. If, however, the same orchard were to be plowed in the following spring, quite early, very few of these roots would have begun to form, and even if quite a number of the larger roots should be cut away, the remaining ones would be the more densely covered with the small feeders, new roots would be thrown out in place of those cut away, and the tree would get no shock at all.

Another thing should be known: The early growth of roots, leaves and branches is made from material prepared the previous summer, and stored away in the sap-wood ready to be so used, and no substance beneficial to the tree is taken by the roots from the soil until the leaves become full grown. An apple tree may have nearly all the top cut away as in grafting, and the tree make all the ranker growth for it, while the same tree, cut to the same extent in August, would be nearly killed. I would, then, very strongly advise that this orchard be left until early spring, and then be plowed. It might be plowed in late October or November, perhaps, without injury; but I don't like to have my land lie bare during the winter, and would prefer the early spring plowing.

I can see no use in applying kainit and salt to the same land. Very much of the kainit is simply salt, and as salt has no manurial effect, the trees would get all that could be profitably applied in putting on sufficient kainit to furnish the requisite amount of potash. If the orchard is of bearing age, it should receive not less than 100 or 200 pounds of actual potash per acre, providing it has had no previous application. To get this in kainit would require from 800 to 1,600 pounds of kainit, and in using this quantity, all the salt desirable would be applied. The application of lime would be all right, and could do no harm, although most soils have all the lime needed. I believe that many soils are deficient in phosphoric acid; in old orchards, this is almost sure to be lacking, and I would advise the application of fine bone or dissolved South Carolina rock, not less than 200 pounds per acre.

As to the best time to apply these, if the land is not subject to overflow, by all means, put them all on this fall; scatter them over the entire surface, and the rains will take them into the soil. They will become diffused, and be available for the trees at the earliest start in spring. If he wait until spring to apply, it will not get all through the soil next summer, unless there should be an unusual amount of rain. In any case, the trees would not get full benefit from the manure in time to do them the most good.

As to the depth to plow the orchard, no fixed rule can be given. On some soils, the orchard can't be plowed at all; they are so rocky and the soil so shallow that, if plowed at all, they would be ruined; still those orchards are healthy and productive. On other soils, the roots run deep, and they may be plowed from four to six inches deep with but little injury to the roots. But still I think it better never to plow any orchard (no matter how deep the soil) over four inches. A safe rule is to plow just deep enough to get down the grass, and depend upon the Cutaway harrow to do all the rest of the cultivation.

I have, this year, two orchards, not 20 rods apart, upon the same kind of soil. The one has been constantly cultivated for years, the other was never plowed or cultivated, and both are loaded with fine apples, although it must be admitted that the orchard always under sheep and hogs has the most abundant crop, of the best quality, and does bear good crops more often. Still, when I go about the country and see orchard after orchard in grass and the grass up to the branches, or has been mowed and made into hay and the orchard looks starved, and fruit scanty and poor, I am afraid to recommend the leaving of orchards in pasture.

So I think that the Long Island man would better make his application of kainit, lime and bone dust this fall, plow his orchard two inches deep very early in spring, keep it cultivated often enough from then to August to keep down all weeds, keep enough sheep or hogs in it to eat all fallen fruit, judiciously use the sprayer to keep down scab and fungus, and he will have no cause of complaint about the barrenness of his orchard. J. S. WOODWARD.

POTATO BEETLES ON TOMATO VINES.

In response to the call for help from the Maryland reader printed last week, the following bits of advice are at hand:

Would Try Hellebore.

I think that hellebore could be safely used on the tomato vines, but whether it would kill the potato beetle I cannot say. Dust it, undiluted with anything, on a plant or two, and see whether it will kill. If this will not check them, the only thing that can be done, as far as I know, is to hand pick. This, of course, seems like a big job, but when one realizes that it is a question of a crop or no crop at all, then the work required to hand pick does not cut so much of a figure. It would not cost nearly so much as the crop will bring to hand pick, and if the bugs are not soon killed, it means a total loss of crop. People do not realize this point as they should.

Cornell Ex. Station. M. V. SLINGERLAND.

Try Paris-Green in Whitewash.

I have known the potato beetle to do some slight injury to tomatoes, but never sufficient to warrant notice. This instance of their attacking the tomato vines in a serious manner is quite new to me, and I have had no experience whatever in treating them for such an attack. However, I would not hesitate, in the least, to use Paris-green on the tomatoes. The fruit of the tomato is always washed before it is used in any manner, and the poison will not penetrate the tissues of the plant or of the fruit at all. In using the Paris-green on the tomatoes, I would, most certainly, use it in a thin whitewash, say, four pounds of lime slaked in 50 gallons of water, and to this add eight ounces of Paris-green. This I know is a heavy dose, but the potato beetle requires strong treatment in order to check it. Poison used in this manner will

form a crust or whitewash over the foliage and fruit, and the lime will render the arsenic so inert that there is not the slightest danger of its becoming soluble. I would have no hesitancy in using this prescription. WM. B. ALWOOD.

Virginia Experiment Station.

Bordeaux Mixture for the Beetles.

I am unable to suggest any satisfactory remedy for potato beetles on tomato vines during the period when the fruit is maturing. If earlier in the growth of the plant, arsenites could safely be used. If it were a case of a few plants in the garden, I would try a thorough application of Bordeaux Mixture. This has a decided value as a deterrent against nearly all insects—including flea beetles and Colorado potato beetles—when applied to potato plants, and, I am confident, would help, at least, in protecting these tomato plants. This mixture is not an active poison, and if the fruit is stained, it can easily be cleaned by immersing in dilute vinegar. I am of the opinion, however, that the expense of the application, and of this subsequent cleansing of the fruit, would make the use of this mixture impracticable in the case cited.

Vermont Ex. Station. L. R. JONES.

Give Them Hellebore.

To destroy potato beetles on tomato vines, I would spray them with a strong mixture of white hellebore and water, using four ounces of hellebore to 10 gallons of water. First wet the hellebore with a little boiling water, then thoroughly mix with the cold water, and apply at once. I believe that this will prove an effectual remedy, and there is no risk from poisoning the tomatoes. M. H. BECKWITH.

Chemung County, N. Y.

ONION SEEDS AND SETS.

A GREAT BUSINESS AT CHILLICOTHE, OHIO.

A few years ago, the great bulk of the onion sets sold in this country were grown at four points, viz.: Philadelphia, Pa., Louisville, Ky., St. Louis, Mo. and Chillicothe, O. The soil at the latter place is well adapted to this business. On July 1, while the harvest was in progress, I visited some of the onion fields. Mr. Thomas N. Mansfield, the largest grower at Chillicothe, made this statement:

"I found that I could not employ help and make it pay. Now I have them grown on shares, letting the land to families where there are children. I furnish the land, seed and teams to haul the manure, and plow the land. The tenants do all the work, and I get half the crop ready to crate and store away. The past spring, I seeded 15 acres, but when the wet weather came on, I abandoned five acres, because two families had taken more than they could keep clean. The five acres were plowed and planted to sweet corn, and I hope to realize enough from the sweet corn to pay for the onion seed lost. A man with a family of three or four children, will take two or three acres. Some families will succeed well, where others fail; it all depends on the diligence and skill of the family. The children do the weeding, when if they did not have the onions to care for, they would be idle. In the fall, when the crop is sold, a nice sum of money comes in that they look upon as clear gain. If grown help had to be employed at regular, stipulated wages, the wage bill would take the money.

"We plant from 40 to 60 pounds of seed per acre. For a yellow variety, the Strasburg is a favorite, and for white, the Silver Skin. For growing seed, we plant in March, 'pictures,' a small onion between a set and a grown onion. The first year we get a fair yield of seed, but the large crop the second year. The yield of seed is from 100 to 300 pounds per acre. Four or five years ago, seed sold at $2.50 per pound; this year, seed sold as low as 20 cents. There is not much difference in profit whether sets or seed are grown.

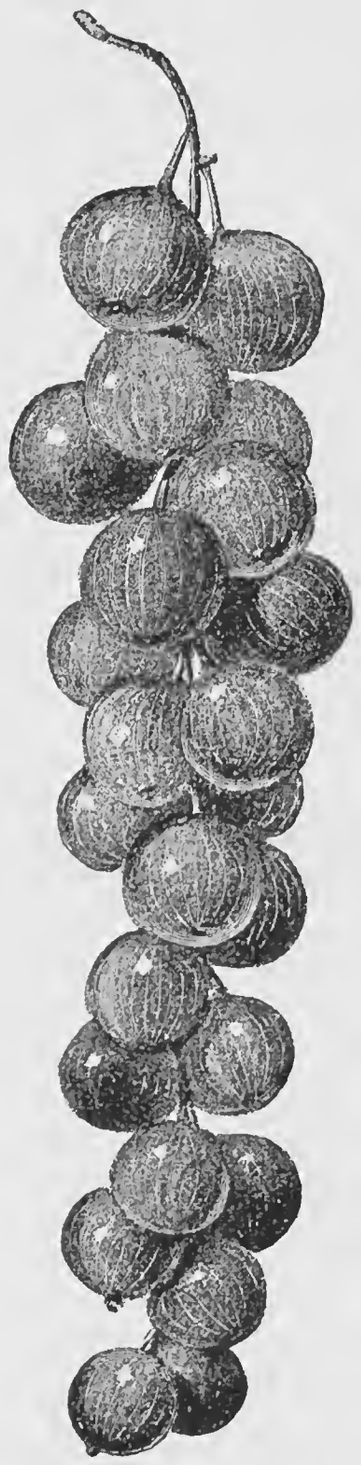
"One farmer that I know sowed eight acres with seed this spring. When the rains came on, the weeds took them. He found it impossible to weed them by hand, but is keeping the weeds mowed, and will get sets of fair size. Had I thought of this plan, I would have tried it, instead of plowing under the five acres that my tenants could not handle."

Schilder Brothers are large dealers as well as growers, and this is their story: "We grow seed sets and large onions. Seed-growing pays better. We plant large onions for seed growing, get two crops from one planting, from 100 pounds to 400 pounds per acre. Seed sold as low as 30 cents per pound this year. Of large onions, we grow 300 bushels per acre, but it requires a good season to make this yield. We furnish the seed and land, and get one-half the crop. We let one-half acre to each man, and have five acres planted this year. For fertilizer, we use only barnyard manure, which must be thoroughly composted. We haul the manure from the city, and pay 25 cents per load for it. We think that bag manure would be the cheapest, but the men do not know how to apply it.

"We grow onions on the same land for 10 to 15 years in succession. When once clean of weeds, it is less trouble to keep the weeds down. The stable manure reseeds with weeds to some extent.

"For growing sets, we plant 40 pounds of seed per acre. This is heavy seeding; some use less. For growing large onions, we plant 10 bushels of sets per acre in rows two feet apart, that they may be cultivated with a horse. We get one-half the crop ready to store away. The seed must be cleaned by hand, rubbing through a screen. Then the windmill is used, after which the seed is thrown into water, the good seed settling to the bottom. For tools, we use the Planet Jr. cultivator. Last year about 200 acres were grown about here; this year, about 150 acres have been sown, next year the average will be still less."

Anent these stories, I give that of the Miller Bros., 12 miles west of Chillicothe. They have their onion field of 3½ acres in a reclaimed swamp, bordering on the north fork of Paint Creek. Their soil is a black loam, about four feet deep lying on gravel. Last year, they had this same plot in onion sets, and used



AN ENGLISH CURRANT, "THE COMET." FIG. 179.
SEE RURALISMS, PAGE 579.

about 100 pounds of bag manure per acre; but on account of the extreme drought, harvested only 100 bushels of sets. This year, without any fertilizer, they planted 50 pounds of seed per acre. The cost of preparing the land for the seed was a little more than it would have been for corn. The crop required weeding three times. The expense account aside from the preparation of the land, is as follows:

175 pounds seed at 60 cents	$105.00
Drilling seed	14.00
Three weedings	110.00
To pull and pile	40.00
Rent of land	10.00
Cleaning and crating	40 00
Total expense	$319.00
Estimated crop, 700 bushels, at $1.25 per bushel	$875.00
Total expense	319.00
Profit	$556.00

They are drilled in rows 15 inches apart, and weeds kept out. When harvesting, they are pulled and placed in hand piles, two rows in a pile. After wilting for a day or two, four of these first-pile rows are put in one, making eight rows in a pile as they grow. They are piled with the bulbs next the ground, and in such a manner as to protect the bulbs from the sun's rays and weather changes to prevent bleaching. When the tops are thoroughly decayed, the bulbs are rubbed over a sieve or screen with meshes the required size, till all the tops and particles of adhering soil are removed, when they are ready to crate and store.

JOHN M. JAMISON.

WHAT THEY SAY.

Rye for a Soil Overcoat.

A French florist told a customer who wished plants that would produce all varieties on one root, that it was hardly to be expected any more than it would be expected that one woman should possess all varieties of moral, physical and intellectual attractiveness. It is equally true, probably, that no plant possesses all desirable requirements for a winter overcoat to prevent washing of the soil. In our market gardening on sandy soils, something seems absolutely essential. We are too far north to double-crop all of our land, and I am very confident that it is not wise to have it bare, or give it up to weeds. Crimson clover is too uncertain with us, and I prefer something that will not "die in winter." When we raise potatoes, beets, late peas, sweet corn, etc., we cannot get off the crops in time to use the land for another profitable crop, and, in a small way, we have found it wise to sow rye in preference to anything else. With us, oats and peas sowed during the hot months, do not do well. If the rye gets too big, we feed it down or mow it for fodder. If mowed before it is too mature, it will keep on growing.

For very early planting, green crops plowed in might not be beneficial; but I am not at all sure about this. For melons, squashes and like crops, a crop of rye plowed in two or three weeks before planting is, I think, very beneficial. The unsightliness of land left bare or covered with weeds, is not pleasant, and this practice of fall plowing, furnishing a "winter overcoat," etc., seems to destroy many weeds and insects. While a fall crop of turnips or kindred crops left to rot on the ground may be beneficial, I am inclined to think that rye is better, because it lives through the winter, and that the crop plowed in, and the roots as well, serve to furnish humus; the mechanical action in keeping the soil loose, is also useful.

On page 529, H. G. Manchester suggests raising turnips as a winter food supply for pigs. I have never had pigs hungry enough to eat turnips, to any extent, and, with corn at 40 cents, I do not believe that the turnips would be worth harvesting for any purpose. I think that Mr. Morse will find it profitable to sow rye at any time that he can between July 15 and October 1. On good soil, 1¼ bushel to the acre is enough, I think, while on poor ground, I would use two bushels or more. B. T. W.

Rochester, Mass.

An Authority on Gooseberries Talks.

Aside from the effects of mildew, I do not know but one variety of gooseberries can be grown as cheaply as another. I may have a gooseberry which always mildews with me and seldom mildews anywhere else, or I may have one which never mildews with me and generally mildews in other localities. No amount of advertising, pushing or booming will, nowadays, make any variety of new fruit successful unless it has real merit, and the success with which it meets, depends entirely upon its merits among fruit growers, etc. Aside from observing the merits of different varieties, I have no taste for the details of fruit gathering and marketing, and when this work is going on, is the time I like best to leave home; so we try to avoid fruit growing as much as possible, and thereby, don't get wild over a big crop, or despondent over a small crop of our own.

We don't grow gooseberry plants for fun. We observe the demands from fruit growers in other localities. To supply this demand, we have several acres of Red Jacket which we now need most. After these, Downing is in most demand, and next comes Houghton. Our increase of stock plants the coming season will be mostly Red Jacket. For some of the much-advertised varieties, one or two rows or a part of a row of stock plants, is all we need, simply because their product is all we can sell.

We have been to a good deal of expense in spraying gooseberry plants (before and after mildew appeared) with liver of sulphur and Bordeaux Mixture, and have not seen the slightest good effect from either. Gooseberry mildew seems to be different from grape mildew. I do not judge the Industry a humbug because it mildews always with me, but because I have never yet met the plant grower who could grow the plants from the beginning. If there is a man on this side of the ocean who can do this successfully, I have not yet found him; so all the Industry plants I have ever seen on the market, were started in Europe. If they are so valuable for America, why cannot the small plants be grown here?

I have never seen any difference between Columbus and Triumph, but the originator of Columbus once told me that there is a difference. When Columbus and Triumph do not mildew, they are immense bearers of the most elegant quality of fruit. The Carman gooseberry I have never seen.

The Downing fruit has to be picked quick. The Red

Jacket fruit can hang on the bushes for a long time. Few gooseberries are eaten ripe. As I understand the matter, gooseberries for market and canning factories are all picked while green, and most of them, if ripe, would be unsalable except in very small lots. For cooking purposes, the sweetest gooseberries would be least desirable. We have been informed by many women that, for cooking, preserving, etc., the Red Jacket gooseberry is best. I do not presume that it will prove best every year in every locality under the sun, neither does the Fay currant; but the fact is evident that the Fay is now the standard red currant, because our experience and that of many other currant plant growers is that we grow more Fays than all other varieties combined. Most of the Fay plants are sold to practical fruit growers, and the fact that I have paid the Fay heirs over $40,000 as their share from the sales of Fay plants, seems to me substantial evidence of its excellence. GEO. S. JOSSELYN.

A COW DIALOGUE.

[*Old Spot and Old Brin Discuss the Milking Question.*]

Old Spot: "How do you like the new man that master has just hired?"

Old Brin: "I don't like to have him milk me one bit. He's too rough. When he sits down to milk me, he grabs hold of my teats and jerks and yanks as though he were trying to pull them off. And then, too, his finger nails are long and sharp, and they cut into the sides of my teats and hurt me."

Old Spot: "What do you do when a milker hurts you?"

Old Brin: "I switch my tail nervously awhile, and then stand around away from him. I tried that with him; but it was no use, and when he grabbed hold so roughly and hurt me again, I just kicked him and the milk pail over."

Old Spot: "Good enough for him! Served him right! What did he do then?"

Old Brin: "He jumped up and yelled and swore at me awfully, and kicked me in the ribs with his heavy boots, and pounded me over the back with his big wooden stool. I am as sore and lame as can be, and I know that I shall not be able to give my regular mess of milk for several days!"

Old Spot: "How different that is from the way master does!"

Old Brin: "Yes, to be sure it is! When master sits down to milk me, he speaks kindly to me, and then takes hold of my teats gently and handles them over carefully before he begins to squeeze the milk out. He brushes off my udder, and then begins, gradually, to draw the milk. Under such gentle treatment, I can feel my milk running toward the outlets, and my teats just swell right out to almost bursting fullness. It is a pleasure to give down all my milk to master. He doesn't work his elbows up and down with a yank as though he were pumping."

Old Spot: "You speak of giving down your milk readily and willingly to master! Can you hold up your milk when you want to?"

Old Brin: "Yes, indeed, I can! It isn't very often that I want to, but there are times when I want to hold up my milk, and then I can do it. When that new man kicked me on the under side with his hard-toed boots, and pounded me over the back with his heavy wooden stool, I just held up my milk of my own will. I was determined that he should not get another drop out of me at that milking; and he didn't, either, though he had not got half my regular mess."

Old Spot: "I overheard some men say, the other day, that we cows cannot hold up our milk when we please."

Old Brin: "That is all theory and nonsense! Under cruel, rough treatment, I always draw up the muscles and ligaments all along my under side, especially around my udder. This prevents any inflow of milk into the regular channels, and so none comes out. Under kind and gentle treatment, I can let it down in a little while. But if I hold it up a long time, it will stay up in spite of me."

Old Spot: "I wish that all men understood how to milk as well as master does."

Old Brin: "I do, too! If all milkers understood how to milk a cow as well as master does, there would be more milk and less 'kicking.' If they would speak kindly when they approach us, and sit down and carefully brush off the udder, and work the teats with gentle pressure a little before trying to start the milk, it would be as we cows would like to have it. Under such kindly touches, the milk is readily responsive, and runs quickly in its channels to the proper outlet. And then, if they would remember not to jerk and yank so hard as though they were trying to pull something out by the roots, it would be much more agreeable. I don't like to be yelled at, either, every time I switch my tail! And if every dairyman would do as master does during the troublesome fly season—put us in the stable about 20 minutes before milking time, and close the doors and darken the windows—there would be less switching of tails to annoy the milker, and more milk, besides!"

Old Spot: "Yes, it does seem so good! In the darkened stable, the flies soon settle away from us, and go into the nooks and crannies of the walls. Then, when master comes out and opens the doors and lightens the stable, the flies do not return to annoy us both. I wish that all milkers were like our kind master."

Old Brin: "Yes, yes! Master is very kind, and I know that, under such treatment as he always gives me, I *can* and *do* 'give down' from a pint to a quart more milk than I do when treated roughly or spoken to harshly." A. R. PHILLIPS.

HOW TO MAKE CIDER JELLY.

A NEW VALUE FROM APPLE POMACE.

How and from What It Is Made.

Within a radius of 15 miles, I know of, at least, eight cider mills; there may be even more than this number. Every season, after cidermaking is over, a huge pile of pomace may be seen at each one of them, slowly rotting away, polluting the atmosphere, to the annoyance of neighbors in particular, and passers-by in general. No doubt, the same conditions exist all over the United States. Is it possible that the owners of these enterprises are ignorant of the money value these piles of pomace contain? Or are they too shiftless to go about extracting the value from them? At a mill in my neighborhood, I, with another man, for the first time, made cider jelly three years ago. We made it for one-third, the owner getting two-thirds, we doing all the work, and he furnishing everything. It is made in the following manner:

During the day, all the pomace is thrown into a pile in a corner of the mill; in the evening, after the cidermakers quit work, we take possession and work over the pomace by shoveling into a vat, enough of it to make a good-sized cheese. About 125 gallons of water are poured carefully all over it, and it is left to soak about one-half hour. We then shovel it on the press, and press in the same way as for cider. The juice received we boil down to the proper consistency, so as to jelly when cold. While the boiling is in progress, another cheese is put on the press, and so on until all the pomace is worked up. Nothing is used except pomace, water and labor. Very simple, is it not?

The results from one cheese are all the way from 8 to 13 gallons of jelly. A cheese from sweet-apple pomace, yields more than one from sour apples. We have a ready sale for all of it at 75 cents per gallon. Our biggest night's work was 75 gallons; this, at 75 cents per gallon, amounts to $56.25. Think of it! One day's pomace at one mill, made this. What a vast sum is annually lost! Neither is this all! A cheese soaked in a similar way the second time, produced five gallons more of jelly, and it is my opinion that, if this pomace were ground finer before being soaked, considerable more jelly might be extracted.

For what may this jelly be used? Jack Frost attended to the apple crop in this locality last year, and not a homegrown apple was to be found. However, a good many were shipped in, and we bought a number of barrels; some rotted badly and wife went over them, picking them over and those partially decayed were cut out and used in making apple butter. Some of this jelly is put into a small, brass kettle, to which are added the apples and spices, and in a very short time, a kettle of the finest apple butter is produced right on the cook stove from products that would, otherwise, have been a total loss. In the absence of apples, we have used pumpkins as a substitute, a little more of the jelly being required in this case, and indeed, it cannot be told, from the other. To give mince pie a snap, as some call it, nothing will answer any better. For jelly cake or jelly roll, no other jelly can come up to it, because of its peculiar, acid flavor. I introduced it in bakeshops for this purpose, and last year, sold at one bakery, 67 gallons, and they want no other when they can get this. A little may be melted and put into drinking water in summer; it quenches thirst better than anything I know, without pouring down so much water. It is not an intoxicant. By adding a little sugar to the jelly, it may be used on the table like any other jelly, or in any form in which other jellies are used.

Two years ago, about 15 gallons were left standing in the mill in a stone crock, with no cover. It was exposed all winter, to freezing and thawing alternately; all the summer following, it was exposed again to the heat, and last fall was as sweet and nice as when first put up. It keeps indefinitely without even proper care. While this might prove a bonanza for the cider mill man, where does the farmer's share come in? The pomace is the property of the man that brings the apples; he may take it away or leave it at his option; this the cider maker recognizes, and will make up the jelly for 25 cents per gallon for any one that desires it; thus one will get cheap, a valuable product that, heretofore, has been a total loss.

It seems that all kinds of stock will eat this pomace, and will eat more of it and thrive on it better, when the jelly is extracted than when it is left in. A wealthy neighbor farmer hauls, every morning, of this pomace, and scatters it thinly over the pasture belonging to the mill owner for his stock to eat, for the privilege of getting half of it for his own stock. A sleeker lot of cattle one doesn't see anywhere, than those after the cidermaking is over; this abolishes a nuisance in a very profitable way. J. BOLLINGER.

Ohio.

AN ICE HOUSE AND COLD STORAGE.

I would like to build a cheap ice house, to hold 12 to 14 two-horse loads, and would like to have a room 5½ feet high and eight feet square below the ice for milk and butter, in fact, a cold storage room. How should this be built so as to economize in space and cost? I could build it by having it partly in the ground. I have the timber, and expect to do most of the work. Could I have it built so as to have ice around the room, as well as above?

Brandywine Manor, Pa. E. R. S.

Ice House for a Dairy.

If the ice house can be built upon a sidehill, I would plan to have one side and part of two adjacent sides under ground. I would have the cool-room door on the lower side, the ice-house door on the upper, and plan to have gravity put the ice to as high a point as is needed in the ice house. Handling ice is hard work, and I would, if possible, avoid lifting it. About 800 cubic feet of ice space will be needed to hold 20 tons. This, with an allowance for air space, packing and cool room, will require a building about 10x12x16 feet. I would use 2x6 studding, and board both inside and out tight, with matched lumber, or if rough boards are plenty, would use them and a good waterproof paper. This will give a six-inch air space, and assist materially in keeping the ice. For flooring over the cool room, I would use two-inch chestnut plank, caulking well with oakum, or double-board with matched spruce or white pine. It will pay to coat well the floor and sides with coal tar. I do not think it practicable to try to pack ice around the room, as such a small quantity of ice will keep much better in one mass. When ice is packed on floors of different levels, air is likely to get in and waste ice badly. We have tried it. We find that ice keeps best when put in one mass, filling the cracks with snow (or sawdust if snow cannot be had), allowing a foot at the sides for sawdust and a good coating of the same on top. By examining the ice through the season, and filling up an occasional hole that may form, it will keep quite well. The floor may drip a little, but I know of no practicable way to avoid this without using the patented processes. Build double doors to the cool room, and avoid tar there, or anything that can possibly taint milk or butter. If it become musty or at all moldy, a coat of whitewash will sweeten things immensely. On any farm, a cool room will be found very convenient and profitable for keeping, for a few days, many things besides milk and butter. H. G. MANCHESTER.

Connecticut.

Cold Room on a Fruit Farm.

In building a small and cheap ice house and cold storage room, the same general principles must be observed as in building the larger and more expensive structures. In fact, additional care should be taken, because the percentage of waste is greater in a small than in a large body of ice. It is absolutely necessary that the ice house be made air-tight, so that, by no possibility, an outside current of air can reach the ice; that there be perfect drainage at the bottom, and that there be provision for ventilation over the ice. I think that it would be of no advantage to build it partly under ground. A site should be chosen that is shaded by trees or other buildings the greater part of the day.

DRAINAGE.—If the soil is gravelly or sandy to the depth of four or five feet, all that will be needed is to fill under the ice house and chill room small stones to the depth of a foot or more. If the ground is clayey, more care is necessary. A cement floor on broken stones should be made under the entire building. This should slope to a corner, and a small sink be put in the floor at that point. A lead pipe should be attached to the sink and carried down so as to be bent upward four or five inches U-shape before it leads away from the building. This bend will keep filled with water and effectually prevent the entrance of outside air. At the end of the pipe, a hole should be

dug, at least, eight feet deep, unless a strata of sand or porous gravel be reached. This hole should be filled with stones a little higher than where the pipe will enter it.

FOUNDATION.—For the foundation, a trench should be dug that will be below frost; this may be filled in with small stones to within a foot of the surface. An 18-inch wall then should be laid in cement, and built about a foot above the surface of the ground. This wall should be banked with earth so as to turn all surface water away from the wall.

THE BUILDING.—The sills should be bedded in cement mortar, and a balloon or mortised frame put up. The timber for the frame should be either two or three by eight inches. On the outside, half-inch matched spruce ceiling, covered with the best building paper and narrow pine siding. Four inches from the outside, narrow strips of inch stuff are to be toed in to the studding. Building paper is to be tacked to these strips and covered with ceiling boards matched in. This will make a four-inch air chamber next to the siding. Building paper should be tacked to the studding and covered with inch ceiling. As each width of paper is covered by the boards, the four-inch space should be packed with dry sawdust. This should be continued all the way to the plates and peaks at the gables.

WINDOWS AND DOORS.—Near the peak in each gable, small window frames should be set for ventilation. A door for filling in ice should be conveniently placed as high as possible, so that the ice, when packed, is as near level as may be. Provision must be made for a door to the cold storage room. Around these door frames, care must be taken to have the partitions for air and sawdust air-tight. The doors should be four inches thick, and the edges beveled so that they will wedge in the frame when closed, and be fastened with the ordinary ice-door latch. The doors are made by building a frame of 2x3 pine, that will fit the jambs. On one side of this, nail matched stuff. Put this side down on a floor, and tack ordinary laths, laid flat, to these boards next to the 2x3 frame. Cover this with building paper, tacking it to the lath frame. Repeat, putting in lath and building paper till the space is filled. There will be about eight or nine air spaces, and the open side then may be covered with matched ceiling boards. This will make a light, air-tight door. At the door for filling the ice house, boards may be placed loosely, or merely tacked on the inside of the door frame, and the space between these boards and the door filled with straw.

THE STORAGE ROOM.—As E. R. S. requires a room only eight feet square, he would secure the same space and have more room for ice if he took one-half a 12-foot building, namely 6x12, for his storage room. Timbers should be placed close together over this room to support the ice above it. The floor under the ice should be covered with tin or iron, water-tight. A first-class tin-roofer will be needed to do this job. Any leak will so dampen the storage room that it will not be fit to contain milk or butter. This tin floor should slope to the entrance side of the storage room, and have a gutter bent in the tin. This gutter should slope to a corner and open into a pipe with a trap similar to that previously described, so as to prevent air from the room below reaching the ice. This pipe should empty on the cement floor at the bottom. The trouble that I foresee with the plan of E. R. S. is the liability to dampness and mold in his storage room. By putting a tight board floor in this room, the dampness from the cement floor will be obviated to a great extent. At all times, it will be of great advantage to keep a pan with a lump of stone lime standing in this room. The lime will absorb the moisture from the air, and when it becomes powdery or air-slaked, it should be renewed. After filling, the ice should be covered not less than three feet deep with cheap hay or straw. I have been thus particular in every detail, because a failure in making the house air-tight, providing proper drainage or ventilation, will always cause a failure in keeping ice or maintaining a cold storage room.

Orange Co., N. Y. W. D. BARNS.

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Founder or Rheumatism in Cows.

A. B. W., Trumansburg, N. Y.—We have several cows on the farm that have become stiffened in their fore legs or shoulders. They move very much like a foundered horse. Will excessive feeding with roots, or being deprived of drink and then allowed to take all they will, or getting to the meal box, or dampness, cause this trouble? They are otherwise healthy.

The cows have either been foundered, or are suffering from rheumatism. Over-feeding or gorging with grain at the meal-bin, or drinking excessive quantities of cold water after long abstinence, would be very liable to cause founder. If foundered, there will be more or less heat and tenderness of the feet, with or without swelling extending above the hoof, according to the severity of the inflammation. The animal usually persists in lying down. A full dose of salts (three-fourths to one pound each epsom salts and common salt with one to two ounces of ginger) should be given at the outset. Then half-ounce doses of saltpeter with 25 to 30 drops of the tincture of aconite may be given two or three times daily. The feet should be wrapped in rags kept wet with cold water, or the cows caused to stand in a stream or puddle of water several hours daily. If suppuration take place within the hoof, the cold pack to the feet should be replaced by warm poultices, and the loosened hoof-wall cut freely away so as to allow a free exit for the pus.

Rheumatism might result from dampness or cold draughts. Excessive feeding on turnips might cause the trouble. If rheumatism is present, there will be stiffness, with more or less tenderness and swelling of the joints or groups of muscles or tendons. The joints are most commonly implicated. There is, often, a tendency to shift from place to place, which, when manifested is especially characteristic of rheumatism. Lameness will be aggravated by dampness or exposure, and relieved by sunshine and warmth. As in the case of founder, a full dose of salts can be first administered to advantage, and followed by one-half to one-ounce doses of equal parts of bicarbonate and nitrate of potash two or three times daily. Rub the swollen joints every two or three days with ammonia liniment until the skin is moderately blistered. Dry, comfortable quarters should be provided when necessary to protect the cattle from cold winds or storms.

Cow With Injured Teat.

J. F. K., Gainesville, Fla.—I bought a valuable cow a few weeks ago, that had one of the front teats cut by a barbed wire. The accident happened about three months ago. The other three teats are all right, but the milk was allowed to cake in the injured one, and now it yields no milk. What can I do to bring this teat to its proper milk again?

The milk will, probably, come in that quarter again when the cow is fresh. Should the milk not come readily at first, milk that teat just the same, and knead that quarter for several minutes with the hands after each milking. If the milk be present in the quarter, but cannot be drawn because of some obstruction in the teat, employ a veterinary surgeon to open the teat at once.

Bad Tooth or Sore.

M. S., Forestville, N. Y.—I have a cow seven years old, that has, for two years, discharged from the mouth an offensive liquid. She is in good spirits, eats well, and gives 52 pounds of milk per day, but is poor, and I cannot get her to take on flesh. Her grain ration is corn and oats ground. She runs out to grass on good pasture. My other cows are not affected like her. What can I do to cure her?

There is either a decayed tooth or a running sore, either of which would, probably, require a difficult surgical operation before a cure can be effected. I would advise you to have the cow examined by a competent veterinary surgeon, in order to locate the trouble and perform an operation if necessary.

Tetanus or Lockjaw in a Horse.

A. B. M., Blairsville, Pa.—My mare has a very strange trouble in her eyes lately. In certain positions in which she gets her head, the whites of her eyes (from the direction of the nose) come out over her eyes, covering almost all of the ball, until one would think, at first, that the ball had really receded into her head. I cannot find out here anything about this trouble, and, of course, no cure.

The symptom described, the projection of the haw or membrana nictitans over the eye from the inner angle, is characteristic of tetanus. This is usually the first symptom to attract attention, and is soon followed by difficulty in mastication and swallowing, with inability to open the mouth fully, and rigidity of the muscles of the jaws, neck and along the spine. The animal becomes very excitable, the slightest noise increasing the spasm of the affected muscles, and the projection outward of the haw. As the symptoms become aggravated, the jaws are more or less completely set, the eyeball retracted and mostly covered by the protruding haw, nostrils dilated, respiration difficult. The horse stands trembling with his muscles rigid, and all four legs braced to avoid falling. The disease is due to a specific germ, the tetanus bacillus, which usually enters the system through an old wound or other abrasion of the skin or mucous membrane. Acute attacks of the disease run a rapid course, and victims die in three to five days. The mild or sub-acute cases can often be treated successfully, but require the personal attention of a veterinarian to treat the symptoms as they develop or change. In general, the patient should at once be placed in a darkened stall or corner, as far as possible away from all noises. No bedding should be allowed except such materials as sawdust, fine planer-shavings or peat moss, which will cause no rustle as the animal walks over it. In approaching the horse, always move slowly and quietly. The diet should consist of soft mashes or nutritious drinks, such as oatmeal gruel, flaxseed tea, eggs, milk, etc. When the jaws are practically closed, the patient will often suck soft food through the teeth. A bucket of cool water should be kept constantly before the horse, placed nearly on a level with the head. Usually, the head cannot be lowered without great effort.

Medicinally, a full dose of aloes and belladonna (eight to twelve drams of aloes with two drams of solid extract of belladonna) should be administered as soon as possible, and smaller doses repeated as often as necessary to keep the bowels moving. The aloes may be given in ball, or thrown well back on the tongue with a syringe. The patient should not be drenched if it can be avoided. If the animal cannot swallow, or is too greatly excited when given the medicine by the mouth, it is best to resort to rectal and hypodermic medication. Good results have been obtained by giving one-half to one dram each of opium and cannabis indica extract, made into a paste with ammonium ascetite solution, and placed well back upon the tongue, or crowded between the back teeth, three times daily. Or atropia and morphia sulphate may be given hypodermically. The recent introduction and use of the tetanus antitoxin in the treatment of tetanus in horses as well as in man, has given such favorable results in the cases recorded, that it may prove almost or quite a specific in the treatment of tetanus. To insure success, it should be used as early as possible, by a competent veterinarian or physician.

How Bean Vines Twine.

J. C. H., Fairview, Ga.—Why is it that a climbing bean vine always goes around on the right hand side of a stake in climbing, and never to the left?

ANS.—The best answer we can give is because it is its nature so to do—the same as some trees are upright, others spreading, others pendulous. So, too, with all varieties of plants. Each has its habit peculiar to itself. The hop vine always winds from left to right (with the sun), and we cannot induce it to twine otherwise. The morning-glory twines against the sun and we cannot induce it to twine with it. So it is with beans.

Making Sorghum on Shares.

G. D. P., Riley County, Kan.—What is about the right share of sorghum for me to receive, if I furnish the cane, press, pans and furnace, and the other fellow furnishes the cane, wood, does all the work, and delivers my share in the barrel? I cannot run the mill this season, and a number of my neighbors would like to have a man make up their cane on shares in my mill for them.

ANS.—When I manufactured cane molasses a few years ago, I furnished the machinery, fuel and work, while the cane was furnished by the other party, and each received one-half the molasses delivered at the mill. I used the bagasse from the mill for fuel, and wish nothing better where the furnace is constructed so that it will burn it. I would be willing to rent my plant for one-eighth the molasses made, delivered in barrels.

MALCOM LITTLE.

Something About Ginseng Culture.

M. M. W., Naples, N. Y.—Can ginseng be grown and cultivated? Is it grown from seeds?

ANSWERED BY GEO. STANTON.

Ginseng can be grown on any light, rich soil that will produce good garden vegetables. It must have shade, either natural or artificial. My own operations, thus far, with transplanted roots, have been in the open garden with artificial shading. Forest culture will give good results with the least expense. The best way to get started is to transplant the wild root; in this way, one soon gets to producing seed in quantity. The seed is the main dependence, as ginseng does not spread from the root. Ginseng seed is expensive, and will continue to be expensive. It cannot be handled in bulk like other seeds, must not get dry, and requires 18 months to germinate. No one need think that he can rush into ginseng culture by the acre, and make a fortune in a year or two: it must be worked up from small beginnings, and will take time to place it on a paying basis. The root is of slow growth, but responds readily to good treatment; four to five years from transplanted roots, give good results, and six to eight years from seed will produce good marketable roots.

A few figures will give some idea as to the possibilities in ginseng culture. From 7½ beds, 3x16 feet each, taken up last fall, the product was 30¼ pounds of dry, marketable roots, which sold for $161, and over 4,000 roots to put back into the ground. Four of the beds had been in cultivation five years, the others four years, and had produced 30,000 to 40,000 seeds during the time. I have now in my garden, 67 beds 3 to 3½x16 feet, stocked with plants; 20,000 to 25,000 seedling roots in a forest nursery, from one to three season's growth. I shall sow in forest nursery this season, 100,000 to 150,000 seeds of last year's crop, to produce plants next spring. This season's crop of seed indicates 150,000 to 200,000, which will produce plants in the spring of 1898. I can see no reason why ginseng culture should not become an important industry in this country; it has been an article of export from America since 1718. The exports from the United States during the 10 years, 1882-1891, amounted to nearly $8,000,000, at an average of about $2 a pound. There is no danger of overproduction of first-class roots.

A Verdict for the Silo.

JOHN GOULD, OHIO.—The "confession" of C E. Chapman, that all roads for the economical feeding of cattle, especially cows, end at the silo, is valuable reading for those who have been waiting for eight years to see the outcome of the silo fad, and have tried everything they could hear of as a substitute for ensilage, to abandon each in turn, and in the doing, put far more labor into the venture, than to have built and filled a silo. The fact is that the most damaging evidence against the silo is from those who never have fed ensilage to their stock, and believe that roots are cheaper and better than "sour corn fodder." As compared with roots, the Ohio Station found that 100 pounds of good ensilage were worth something more than twice its weight in beets or roots, and that while ensilage was a sustaining food, roots were little better than an appetizer, and really did not economize the other food by the feeding.

When it comes to the number of tons weight from an acre, it can be figured out that 15 tons of ensilage to the acre mean 1,000 bushels, 30 pounds to the bushel; and one must hustle around to get 30,000 pounds of roots from an acre. Where men have silos, I find that meadow hay is not held in very high esteem, as a reliance, and is sold and the cows fed on a cheaper and, practically, better food. Hay is fed to stock for its starch content—for the fuel it contains to burn to keep up bodily warmth—and it, as meadows go, is a good acre of hay that supplies much, if any, over 1,200 pounds of actual starch, while an acre of ensilage with some ears, will supply from 5,000 to 6,000 pounds of actual fuel. At the New Jersey Station a field of ensilage corn last year, closely approached 8,000 pounds of starch, and one can see readily that this acre was worth more than five times that of the acre of hay, and is quite as digestible, and if fed in its succulent state, and conceding 10 per cent loss in heating in the pit, it still is ahead by several thousand pounds.

That ensilage of good quality is a fair ration without other feed, for cows not in milk, we put to the test a year ago. Two dry cows were fed from December 1 till spring on ensilage alone and three or four pounds of oat straw each at noon, with the result that they came out in form for butchers' stock, and were sold as such in late April, clearing over $20 per head over fall prices for the 350 bushels each of ensilage that they consumed. From our standpoint, the greatest value of the silo is that, with a warm, comfortable stable and the September-fresh cows in it, with the stores of succulent food, there is a chance for the farmer to have a special dairy season, and at a time when the income from the farm is, as a rule, small. This dairy, giving summer messes of milk, gives employment to the farmer, and an income, and besides the good feeding, makes good fertility, which, if drawn to the fields and spread where wanted every day, will insure twice the manurial value of the older hay fed methods.

Nine winters' use of the silo has confirmed, and more, all that Mr. Chapman has said. When I go from one State to another and find that this ensilage-made milk is used at sanitariums, asylums, and for "certified milk," and that two-thirds of the premium butter at the winter fairs is also made from ensilage milk, it is a matter of wonder that one still hears so much about the unhealthful effect of ensilage upon the cows. When I see hundreds of cows so fed, and find them "Gaining in flesh, shedding their coats early, and in hair as smooth as a race horse in March," can it be that such cattle are unhealthy? To my mind, the coming summer soiling crop will be a pit of ensilage put up the fall before, and we shall dispense with all this puttering and fuss with a succession of soiling crops that fail half of the time, and their loss is made good with added grain. Nothing will be discovered that will improve upon the silo as a cheap, effective, economical and in every way satisfactory method of securing for the farm 365 days of summer and summer income.

"Sterilized Air" and Georgia Peaches.

J. H. HALE, CONNECTICUT.—I see that THE R. N.-Y. comments on the experiment of shipping peaches from Georgia to New York in cars treated with sterilized air. The system is all right in every way. I believe that the trouble is with the fellow who handled it; he made no plans ahead with the Pennsylvania Railroad, hence the car came from Alexandria to New York without air pumps working. Had he planned properly, they would have been kept working as long as the trains were moving; then by hiring an engine at the Jersey City yards, we could have held the car indefinitely. Of course, if a line of these cars were established, there would be regular pumping stations, so as to hold the cars at the end of the route. The Georgia peach harvest was not so large as last year; curculio, early drought and later rains reduced the crop materially; still we shipped 54 cars, and sold at satisfactory prices all through, so the percentage of profit was a very liberal one. We have a spur track right into the orchard, right up to the packing shed; a new and larger packing shed, a hotel that will accommodate over 150 people, and a good water supply, furnished by a steam pump.

R. N.-Y.—As THE R. N.-Y.'s report of this shipment indicated, the details were obtained under difficulties, the man in charge seeming much disinclined to explain fully and clearly. The above from Mr. Hale may explain the reason for this.

Down with Dendrolene.

E. L. B., LOWELL, MICH.—On page 516, you say that reports have reached you that Dendrolene has hurt peach trees, and ask for other reports. I sent for a 10-pound can, and put it on according to directions, on 35 plum, 200 peach, and a few apple trees. The result is that I will have to reset the peach and apple trees, and am very much afraid that I will have to do the same by the plum.

Salt on Asparagus.

PROF. W. F. MASSEY.—In regard to the question of salt on asparagus, of which I recently wrote in THE R. N.-Y., I would say we are now making exhaustive experiments with various fertilizers on this crop. I have an acre of asparagus in twentieth-acre plots, and on one of the check plots I purpose to try the effect of salt alone, the other plots having various combinations, but no salt except that, in some of them, kainit is used. These plots, which you probably saw at our Southern Pines experiment grounds, are on land that has never been altered by cultivation, and which is, naturally, quite poor and sandy. We

(*Continued on next page*).

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Wheat true to name. Samples free Best four varieties for Penn'a. JOHN HERR SHENK, Lancaster, Pa. **Grown by me**

SEED WHEAT—Grown from hand-assorted seed Eight leading varieties of the world; selected by careful test. Send for circular of great value to every wheat-raiser. M. SAGER, Orangeville, Pa.

CRIMSON CLOVER SEED—Home-grown. Crop of 1896 now ready. R. S. JOHNSTON, Stockley, Del

CRIMSON CLOVER—The largest handler of American-grown Crimson Clover Seed in the United States, is JOSEPH E. HOLLAND, Grower and Jobber, Milford, Del. Also, Cow Peas, Winter Oats, Timothy Seed, etc.

SEEDS Clovers-Alsike, TIMOTHY, &c.

WE BUY—Send samples for our bids. WE SELL—Every Quality. Samples **FREE.**

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Specialists in Seed-Cleaning. **BINGHAMTON - N. Y.**

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Seasonable Seeds.

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We are headquarters for Recleaned Seed, 10c. per lb. to $3.50 per bush.; $5.50 per 100 lbs. Sow 15 lbs. to an acre. Circulars free.

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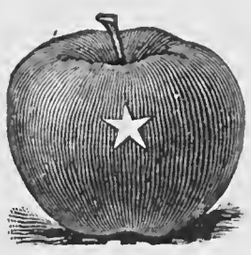
WE WILL GIVE ONE HUNDRED PLUM TREES *PRICE $14.00*

your own selection from our catalogue, to the person sending us by mail the best four specimens of Plums, any varieties. Don't be afraid to try it. See our little book for fall for the result of our $10 offer in RURAL of 6/13/96. If you desire further information before sending specimens, write to

ROGERS' NURSERIES, DANSVILLE, N. Y. Watch for further Offers. Our catalogue is free.



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Of Bismarck, Starr, Parlins and other Apples. Koonce, Lincoln Coreless, Angel and other Pears. Wickson, Juicy, Red June, Milton and other Plums. Triumph, Greensboro and other Peaches. Cherries, Quinces, Chestnuts, etc.

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BUDS OF THE TRIUMPH PEACH

now ready for shipment. "Cash with order" prices: By mail, postpaid, 50c. per doz., $1.00 per 100; by express, not prepaid, $5.00 per 1000. **Emperor Orange, Free** and **Japan Dwarf Blood** at same prices as Triumph. **Standard** varieties of **Peaches** by express, not prepaid, at $1.00 per 1000. Write us for special prices on trees of these New Peaches for fall of 1896 and spring of 1897. Address

JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

FRUIT Trees and Small Fruits. We have a large and full assortment of all leading varieties of Peach, Apple, Pear, Plum, Cherry, etc. Largest stock of small fruits in the United States. Estimates given on large lots at reduced rates. Send for our illustrated catalogue and save money.

REID'S NURSERIES, BRIDGEPORT, OHIO.

LORENTZ PEACH. TIMBRELL STRAWBERRY. ELDORADO BLACKBERRY.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

are getting some excellent results from the use of various combinations of fertilizing materials, and hope to throw some light on many questions in this connection.

R. N.-Y.—We saw this series of experiments in May. In many ways, we think it the most comprehensive series of fertilizer experiments ever started in America.

Wheat Fertilizers in New York.

PROF. L. L. VAN SLYKE, NEW YORK EXPERIMENT STATION.—I am of the opinion that the use of fertilizers on the wheat crop is increasing. In any case, the number of different brands which are being used, has rapidly increased, and this is, undoubtedly, an indication that the total consumption is greater. I cannot state definitely the amount of fertilizer generally used per acre for wheat, but think that the tendency is to use too small quantities, and that the majority of farmers do not often apply more than 200 or 300 pounds per acre. They may have learned, from experience, that this is the largest amount that can be applied profitably. The tendency, within the last year or two, has been to use more of the plain superphosphates, with or without potash, rather than goods containing nitrogen. These statements do not represent any particular inquiry of mine, but are simply expressions of my impression as a result of talking with farmers, and corresponding with them.

Don't Poison the Birds.

G. G. G., VAIL, N. J.—I have looked carefully through each number of THE R. N.-Y., since the issue of June 27, to see an article condemning that of J. A., on page 434, but have failed to find it. Instead, in a recent issue, Prof. Slingerland advocates the same method of what seems to me must result in wholesale slaughter of birds of all or nearly all kinds. The cutworm, I know is a great pest; but I do not think that a man is justified in killing numberless birds which, with their descendants, would, if protected, keep in subjection cutworms and army worms and aid the farmer in many other ways.

On page 501, you have a word to say in favor of "Bird Day". Of what use is Bird Day with the country full of "J. A.'s" and "Prof. M. V. S.'s" sowing poisoned feed within their reach? Protect the birds and those greatest of grub eaters, the skunks, and our insect foes will disturb us less and less each year, until their presence will be scarcely felt at all. I believe, moreover, that the skunk would aid us much in our warfare against the woodchuck and rabbit.

R. N.-Y.—Fred Grundy came to the rescue last week.

A NEW ENGLISH CURRANT.—In the Gardeners' Chronicle, London, of August 1, is an illustration of a new red currant, reproduced at Fig. 179, named Comet. It was exhibited before the Royal Horticultural Society by M. H. Becker, a nurseryman of Jersey, and the illustration was drawn of exactly the natural size. The chief advantages claimed are those of unusual productiveness, size of berry and length of bunch. As many as 26 large berries have been counted upon one bunch. Who will be the first to introduce this new currant here?.....

OUR single bunch of Campbell's Early grape passed through the rose-bug period in safety, and it is now protected against the birds, etc., by a paper bag. We want to say that, excepting the grounds of the originator, THE R. N.-Y. was the first to fruit this variety which, as we are impressed, will prove to be the best hardy and healthy black grape, whether early or late, thus far produced. And we are glad that so good and worthy a man as George W. Campbell is the originator.....

MR. GEO. J. BURCH, of Reading, England, has been making experiments on plants as revealed by the Roentgen rays. Several flowers have been photographed with the Roentgen rays which showed the ovules of the ovary in an unopened bud; the seeds with seed pods and the veins upon white flower petals.....

WE are sorry to say that our Cupid sweet pea is an out-and-out failure. We have a row of about 25 feet. The seed did not germinate well, the plants are not strong, and have borne, up to this time, scarcely a dozen flowers. It is a dwarf pea, surely—every plant—but it does not take to our treatment. We shall be glad to hear from our friends as to its conduct with them.....

THE new St. John's Wort, Hypericum bicolor (H. A. Dreer, Philadelphia), is a delicate little shrub. We know little about it. The plant is not catalogued, and we may now say merely that the leaves are very small, and in color green and pink, yellow and pink and often white and pink without any green. Should it prove to be hardy, or even as a house plant, it is a dainty, delicately colored shrub .....

WE have two dozen plants of the new strawberry, McKinley, sent to us for trial by Ellwanger & Barry, the introducers. They are potted plants, and will, doubtless, give some results next summer.....

MR. FORREST COLBY of Enfield, N. H., favors us with the following valuable notes: Loudon raspberry was not injured during the past winter, though the mercury fell to 24 degrees below zero. It promises to be, for this section, the most valuable raspberry. Royal Church and Cuthbert were killed to the ground, as was, also, Lovett's Best blackberry. Taylor was injured a little; Snyder not hurt. Abundance and Burbank plums were not injured as to the tree, though 95 per cent of the blossom buds were killed. Among varieties of Domestica, Moore's Arctic alone escaped injury. The new Japan chestnut, Reliance, was not hurt. One tree, 3½ feet high, bears 10 burrs. The Crosby, or any other peach, he says, will not stand the winters in northern New Hampshire.....

MRS. ROGERS is the queen of cannas, in so far as we are capable of judging. It began to bloom when a foot high. The petals are very broad, as broad as those of any canna we have tried, and of a lustrous scarlet color, edged with one-eighth inch of golden-yellow. We decidedly prefer it to the Queen Charlotte. The flowers are brighter and more enduring. The leaves are 18 inches long, of medium width and without any purple tint.....

WHAT do our friends know of the new blackcap, Lotta? Plants were sent to us during April of 1895, by Frank Ford & Sons, of Ravenna, O. They have made a prodigious growth—greater, perhaps, than any other cap we have ever tried. Many of the canes, August 10, were from 10 to 12 feet long. It is a fountain plant. After reaching a height of five feet, they droop and grow upon the ground like a dewberry. Prof. Bailey says that it is perfectly hardy and, as compared with Gregg, it is equally vigorous, fruiting earlier; the fruit is brighter in color, better flavored and equal in size which it maintains through the season.....

WHAT other hardy variegated shrub is there that holds its variegation so steadfastly during the heat of summer as the Variegated California privet? At the Rural Grounds, the plant is, or has been thus far, hardier than the species. The green portion of the leaves is not so dark a shade as that of the parent, the margins being a light yellow. Now and again, a green-leaved shoot grows among the variegated. It is odd that the leaves of these shoots are a darker green than those of plain California privet.....

ARMSTRONG & McKELVY Pittsburgh.
BEYMER-BAUMAN Pittsburgh.
DAVIS-CHAMBERS Pittsburgh.
FAHNESTOCK Pittsburgh.
ANCHOR, ECKSTEIN } Cincinnati.
ATLANTIC, BRADLEY, BROOKLYN, JEWETT, ULSTER, UNION } New York.
SOUTHERN, SHIPMAN } Chicago.
COLLIER, MISSOURI, RED SEAL, SOUTHERN } St. Louis.
JOHN T. LEWIS & BROS. CO Philadelphia.
MORLEY Cleveland.
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THE MISTRESS OF THE HOUSE is always interested in having painting done, and the great variety of shades or combinations which can be produced by the use of

Pure White Lead

and the Tinting Colors will afford her an opportunity to exercise her judgment and taste and secure the best and most durable paint. The brands shown in list are genuine. For colors use the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. No trouble to make or match a shade.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
1 Broadway, New York.

DON'T POT YOUR PLANTS!

but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. **Agents Wanted.**

F. RICHARDS, Freeport, N. Y.

Your Potato Profits

can be increased by quick, accurate sorting. The "Champion" is better in a dozen ways than any other potato sorter. Sorts faster and easier—on a new principle. Simple, practical, durable. Every potato grower should send for the book that describes and illustrates the

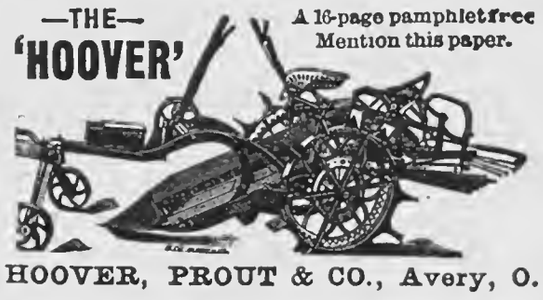
CHAMPION POTATO SORTER

It's mailed free to anyone that writes for it.
American Road Machine Co., Kennett Square, Pa.

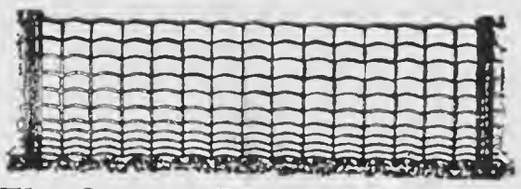
"SUCCESS" Jr.
A DIGGER THAT DIGS.
IMPROVED POTATO DIGGER

YOU WANT a digger that will please you. We want to put 10,000 samples ON TRIAL for introduction. FREIGHT PAID. If your dealer cannot show you our improved "SUCCESS" send at once for particulars.
D. Y. HALLOCK & SON, Box 805 York, Pa.

POTATO DIGGER
Price Reduced for 1896
—THE— 'HOOVER'
A 16-page pamphlet free. Mention this paper.

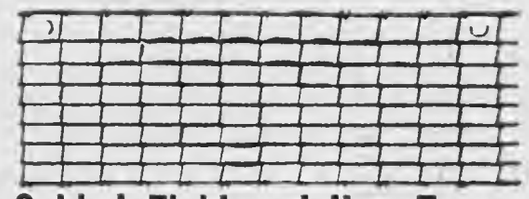


HOOVER, PROUT & CO., Avery, O.



The Cream, Please! Thanks!

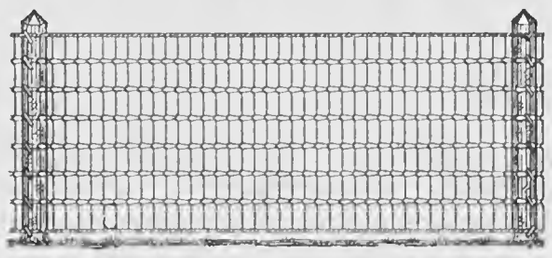
We sell fence for the best railways in the country, hundreds of miles each, in many cases. Sell the National, State and City Governments for parks, etc. Have also a long list of millionaire customers with game preserves, and country residences, yet more than **two thirds** of our immense output goes to practical every day farmers. Through no fault of ours, they are of the more intelligent and successful class. Write for evidence.
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



Cabled Field and Hog Fence,

24 to 58 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free.
DeKALB FENCE CO., 17 High St., DeKalb, Ill.

RANDALL WOVEN WIRE FENCING.



A three-ply cable on each edge. Always taut. Will not buckle or sag. Handles like a roll of carpeting. To erect, simply strain cables. The only fence suitable for Lawn, Garden, Orchard, Park and Cemetery Fencing. Address
RANDALL FENCE CO., Le Roy, N. Y.

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NO TAR FAY'S MANILLA ROOFING.
CHEAP STRONG WATER PROOF, Not affected by gases.
No RUST nor RATTLE. *Outlasts tin or iron.*
A Durable Substitute for Plaster on walls.
Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c.
The FAY MANILLA ROOFING CO., CAMDEN, N. J.

SPRAYING CROPS: Why, When and How to Do It—By Prof. CLARENCE M. WEED. Illustrated.

This little book tells in plain, understandable English, just what the ordinary farmer and fruit grower most needs to know. It describes all the insecticides and fungicides used in spraying; all the principal appliances used; tells when to spray; what precautions to observe; describes the insects and fungi against which it is necessary to guard; in fact, is a complete, condensed, convenient handbook on the whole subject. Price in stiff paper covers, is but 25 cents, postpaid.

THE RURAL NEW-YORKER.
Corner Chambers and Pearl Streets, New Yor

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY. Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.

Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, AUGUST 29, 1896.

THE RURAL NEW-YORKER will have a tent on the New York State Fair Grounds at Syracuse this year. We shall be pleased to meet all friends who can make it convenient to call and see us. Make THE R. N.-Y. tent your headquarters while at the fair! Leave your lunch basket or baggage! Make yourself at home!

⊙

YOU have, no doubt, already noticed by our announcements—repeated, this week, on page 584—that we are willing to send THE R. N.-Y. every week from now until January 1, for 25 cents, with special inducements to agents who get up clubs. You may be one of those who have no time or inclination to get up clubs, but you may have just one neighbor or friend who needs the paper. Send his name for the rest of the year. We would like to have every subscriber send just one "trial" for the rest of the year, if no more. Will you be one to do it?

⊙

THAT plan of thrashing corn and oats at the same time, so that both grain and fodder are mixed—one in the bin and the other in the mow—is certainly a new idea. During the winter, the thrashed oat straw and stalks are cut up together and steamed before feeding. That ought to make a pretty good substitute for the silo. It is a good deal better than feeding dry straw and stalks.

⊙

WE learn from some of our readers, that the old-time "lightning-rod agents" have started on their travels in certain parts. People begin to ask why rods should be put on buildings, and what form of rod is most serviceable. In order to cover this demand, we shall give, next week, an article by Prof. W. A. Anthony, a noted electrical expert, which, we think, will make the matter very clear.

⊙

THE hay crop in England is a failure—but little more than half an average. There ought to be a heavy demand, in England, for American hay. Clover sells best in the London market, and a bright, well-cured article will surely bring high prices. As noted in our reports, the American hay crop, particularly in dairy sections, is very light. There will not be any great scarcity of fodder, however, since the crop of corn is heavier than ever, while thousands of acres of millet and oats have been cut and cured for hay. More silos than ever will be used this year. In fact, so great is the supply of hay substitutes, that we think that the usual quantity of hay will be offered for sale.

⊙

"EAGLE ROCK" is a high point on the first range of the Orange Mountains in New Jersey, some 15 miles back from the ocean. On a clear day, one may stand on this rock and have within range of the naked eye, the homes of 5,000,000 people. This includes New York, Brooklyn, Jersey City, Newark, and 200 other towns and villages. It is said that there is but one other point in the world where one may cover more actual homes at a glance. It is an inspiring thought to have within range of the eye, and in this limited area, such a vast multitude of human beings. To realize what it means to look down upon such a gathering, we may say that the States of Oregon, Washington, Montana, Utah, Nevada, Idaho, Wyoming, Colorado, Nebraska and the two Dakotas have a combined area of 1,012,082 square miles, yet contain fewer inhabitants than are to be found in this limited space within view of Eagle Rock. Ten miles to the west, on the other side of the mountain, is a genuine farming country as truly agricultural in its appearance as one will find in Ohio or Michigan. One would say that the farmers within such a short distance of this wonderful group of 5,000,000 consumers ought to be the most prosperous farmers in the world. As a rule, they are milk producers, and most of them are only fairly well satisfied with their lot.

⊙

FARMERS in some parts of the country have recently been victimized by a swindler with a double-ended fountain pen. Ostensibly, he wrote out a contract for the sale of farm machinery. This the farmer looked over, and finding it all right, signed it with the sharper's pen. But while the pen holder was the same, the pen and writing were not; the contract was written with ink that soon faded out, leaving nothing but blank paper. But while the farmer's attention was attracted, the swindler changed ends with the pen, and the farmer's name was written with good ink that didn't fade. Then the swindler had a blank sheet of paper with the victim's genuine signature, and above this, he wrote a genuine promissory note in ink that didn't fade. Beware of the stranger, for you, instead of him, are likely to be taken in.

⊙

THIS week, we give an account of another farm ice-cream business—this time in Michigan. It is not necessary to repeat the processes of making the cream, for this was fully explained last May in the story of the Manchester farm. It is comparatively easy to make the cream when all the materials are at hand; but the hardest part of the business is to work up the trade. The Bartletts use printer's ink wherever and whenever it will do the most good. Here is a miniature copy of one of their circulars:

ICE CREAM

At Bottom Prices.

To all Church Societies and Fraternal Organizations in Oakland County.

We are making special inducements in ice cream for Socials, Festivals, etc., and will supply all orders from any such societies at the following very reasonable rates, delivered at your nearest railroad station. Order what you think you will need, and if you use

5 gallons we will charge you 80c. per gallon.
10 " " " " 75c. "
15 " " " " 70c. "

and should you have any left return it in good condition, and we will make no charge for same. You will pay return charges on cream and empty packages returned.

The farmer who attempts to work up a trade in ice cream, will find it greatly to his advantage to patronize the local printer. This is an age of advertising, and well-displayed printer's ink is the thing to warm up even so cold a thing as ice cream.

⊙

THE army worm has come and gone. The caterpillars that did so much damage are now sheltered under stones, boards, grass or rubbish along fences, or burrowed in the ground, passing through the pupa stage. We need not fear them again this season, but we may prevent future broods by killing all we can of this year's crop. Wherever it is possible, burn over the grass or grain fields where the worms were seen. Burn along the fences and clean up the rubbish. A heavy roller on level fields will kill many of the worms. Where furrows were made to stop the worms, the grass and rubbish left at the sides should be carefully burned or removed, for in such places are the worms likely to be found. The New York Experiment Station at Geneva, N. Y., has issued an excellent bulletin giving notes on the recent army worm invasion. It will pay you to send for it and give it a careful reading.

⊙

MR. A. R. EASTMAN has written us several letters about the trouble he has had in securing a 1,000-mile coupon book from the D. L. & W. R. R. He gives the following as the latest development in the case:

C. R. DeFreest, Secretary of the Board of Railroad Commissioners, wrote me, July 20, that he was in receipt of a communication from the D. L. & W. Railroad Company assuring the Board that the mileage book law would be complied with, but that there might be a delay of one or two weeks in getting out the necessary books, but not longer. It lacks only three days of a month, and the books are not on sale as yet. I have written the Board again to certify this fact to the Attorney General, that the matter may be put into a channel where the current is so strong that the railroad company dare not attempt to stem it. I have assurances from the Attorney General that he will enforce the law, and I am anxious that he shall have a chance, and purpose to stay by this matter until he does get it, or we get the mileage books. It looks mightily like a bluff on the part of the railroad company, and a lack of interest and push on the part of the Railroad Commissioners, else this farce would have been called off at the end of the first act.

THE R. N.-Y. is glad that Mr. Eastman has carried the matter so far, and we hope that he will stick to it until the mileage books are placed on sale. A little more such sticking on the part of our farmers will make a plaster that will draw such things to a head. The action of the railroads appears to be a clear defiance of the law, and they should be forced to carry out their legal obligations.

⊙

PROF. JOHN HAMILTON, Director of the Farmers Institutes in Pennsylvania, prescribes three topics which he says should be discussed at every institute held in Pennsylvania this season. These topics are: "Country Homes," "Good Roads," and "The Education of the Farmer and His Children." Under the head of "Country Homes," a dozen subjects may be grouped, ranging all the way from house building to the kitchen garden. Under "Education," anything that has to do with the intellectual nature and development of country people may be discussed. It is suggested that, when the institute covers two days, the evening session of the first day be devoted to "Country Homes" under direction of the ladies. "Good Roads" may be discussed on the afternoon of the second day, while the last evening session may be devoted to "Education." The object of this arrangement is to concentrate the winter's discussions upon a few important topics, thus making the work more effective. It is a good idea.

⊙

ON page 574, the chemists intimate that there is something beyond a mere drying that takes place when grass is converted into hay. While the actual processes of "haymaking" have never been fully studied out, there is no doubt that chemical changes occur, and that the grass may lose more than the mere water that is dried out of it. It was this suggestion that led M. Goffart to experiment with ensilage. In walking over the hay field, he noticed the odor or fragrance in the air, and concluded that this must represent some valuable property that was lost out of the hay by curing. From that, he concluded to cut the whole green plant into the silo, and thus retain its full value. That is one great advantage in ensilage. We have no doubt that clover ensilage, cut and put into the silo under the best conditions, will yield considerably more food to the acre than the same made into good clover hay. The same is true of corn, and year by year, this fact is becoming more and more clear to stock farmers.

⊙

BREVITIES.

I have often seen a ditcher toiling, slave-like with his spade,
When he might have used a shovel as he struck an easy grade;
For his spade was made for digging—not for shoveling the soil,
Yet, somehow, he couldn't see it, so he never checked his toil,
Till the boss would come and punch him up and say, with language curt,
Use that round-p'inted shovel when you run against that dirt!"
We are, lots of us, like ditchers—we go blundering through life,
Using nothing but our spades to try to shovel out the strife;
And we make a sorry job, sir, for the spade is far too small
For our purpose; we grow weary and behind the race we fall.
Use the spade to cut and dig with, but to move the dirt away,
Use a big, round-pointed shovel, if you hope for time to play!

SAVE the apple pomace.

HURRY up the hen moult.

READ the fodder reports on page 584.

THE Carpet beetle needs a carpet beater.

PRUNE that boy of idle and useless habits.

SOME cows are "foundered" by pounding.

THE pullet's first egg is a *miss* laid article.

READ about those rheumatic cows—page 577.

PARIS-GREEN whitewash for potato beetles on tomatoes.

THE hen *vs.* the cow—see Mr. Chapman's note on page 587.

CONSIDER the roots of the apple tree, how they grow—and don't cut them at the wrong time.

WE would like to eat a baked apple or a dish of apple sauce with every meal in the year.

THINK of a car-load of Jersey cattle leaving Delaware County, N. Y., at $13 to $20 per head—page 584.

IT is a singular thing that lime on sour soils benefits sweet corn more than it does the ordinary field varieties.

THE hole within the hay mow made the farmer look forlorn. He sewed a patch upon the hole by sowing fodder corn.

READ that cow dialogue on page 576. Very likely there is a man on your farm who knows those cows are talking right straight at him.

IT is fortunate that potato beetles do not often attack tomatoes in large numbers, for even the entomologists are puzzled as to how to fight them.

THE milk consumer has a right to demand that the milk he buys be clean, pure and unadulterated. Has he a right to go further and say how the dairyman must keep and test his cows?

MR. CLARK says that he can cure 15 tons of hay on an acre in two days. See how he does it—page 581. Is it the sun or the air that takes the moisture out of hay? The air! Can you get the air to circulate through a layer of hay two feet thick by shaking it up? Why not?

A NEWARK commission man recently received a load of peaches. One lot of 37 baskets sold for $37. Another lot of 200 baskets sold for $50! The 200 baskets might have been packed and sorted so that 35 would have sold at 75 cents each, and the rest at 25. Who paid the difference? The farmer!

THE army worm has taught some farmers a lesson. Fields of green oats were threatened and in some cases, they were at once cut down and cured for hay. Such farmers now find that they have a lot of first-class fodder to help out the hay crop. The army worm may not come again soon, but don't let them stop the oat-hay crop.

MORE ABOUT THAT GRASS CROP.

THE SEED AND THE CURING.

In a "Good Crop of Grass," page 525, you say that Mr. Clark uses, for each acre, 14 quarts each of Red-top and Timothy. Do you mean 14 quarts of cleaned Red-top, or Red-top in the chaff? Most of our farmers are using cleaned Red-top, about four pounds, where a bushel in the chaff was formerly used. CHAS. O. FLAGG.
Rhode Island Experiment Station.

Apparently, the article this week concludes the story of Mr. Clark's hay crop. Yet, glancing again at the caption, "From Seed to Mower," there must be more to come. If you stop at the mower, you will not satisfy one of our friends who declares that that amount of grass cannot be converted into hay without calling other acres of land into requisition for a curing place. N. S.

ANSWERED BY GEORGE M. CLARK.

I use all recleaned seed. I have never used, of late, any Red-top that had chaff in it, for the simple reason that I could not tell how much seed I was using.

As to the quantity of hay that can be cured upon an acre at one time, from my experience, I think that 15 tons could be easily cured upon one acre in two bright, sunshiny days. Much depends upon the work expended upon it. It certainly costs not one-quarter as much per ton to make 10 tons upon an acre at one time, as it would to make 10 tons on 10 acres. When cutting six tons or more of hay to the acre, I have never found tedder sticks on any mower that would clear a track; hence I have a man follow the mower and turn the swath off so that the mower knife will have a clear sward to travel on at all times. This, also, by tilting the blade forward, allows the knives to pass under any crinkled or fallen grass, and cut all smooth, and, by immediately turning the swaths over when cut, brings the wet grass on top. As soon as the mower has been round the field three or four times, I start the hay tedder which I keep going all the time from about 8 A. M. to 2.30 P. M. About 10.30 o'clock, I turn all my hay again by hand. About 1, I again turn by hand so as to be sure that all green or wet hay is brought up to the sunlight. Usually, my field is gone over with the hay tedder from eight to ten times the first day, besides the hand turning. At 2.30 P. M., I start the horse rake and the hand forks raking and heaping when the weather looks fine, into heaps of about 100 pounds each. If the weather turn bad, I pile four to eight of these heaps into one, just in proportion to the weather risk. By 4 to 5 P. M., all has been heaped, and each heap raked after and nicely trimmed. In this manner, the hay is piled when hot, and goes through a sweat. The ground is uncovered, and the vapor passes off without passing through the hay at night, and in the morning, at 7.30 o'clock, the field is dry, the hay warm. It has passed through a sweat. I then spread it over the whole surface of the ground, and turn it with the tedder about once every hour until near 2 o'clock, and once or twice by hand. Usually, by 1 o'clock, much of the hay will be in fine order for carting, at which time I commence and try to get it all into the barn before the dew commences to fall. This refers to good weather, and is modified in accordance with the weather. One thing, however, is certain: My hay is all heaped up and heaps nicely trimmed, and the field made as clean as possible before the storm, even though the grass has not been cut two hours.

An adjoining landholder, this year remarked in a sarcastic way, that he thought that he knew how to make hay, but he found that he did not. A few days later, he cut about 10 acres and 10 tons adjoining my field. I had 20 tons cut at the same time. I stirred and heaped mine as usual. The weather looked bad, so I made heaps of 1,000 pounds each, and secured my hay the second day all right. He pursued his usual course, viz., to rake with the horse what he could, and let the rest go, so that his field was about half raked and half spread at random. We had a slight shower in the night that, together with the steam from the earth, wet and damaged his hay, and the ground was wet. It took until 1 o'clock to get the water out. At 3, it was hardly dry. Then came another shower and caught it—some in small heaps, some in windrows, and some spread, all wet. Four days' rain followed, and the hay was hardly fit for bedding. A few days later, I cut a dozen tons more, stirred, heaped and completed the haying on the second day. He cut about 20 tons at the same time, and treated in his usual way. A little only of that 20 tons he secured in a damaged condition on the second day. The rest of it was caught in a three days' rain storm and spoiled. Now, his way may be better than mine, but he has not as heavy grass as I have. If he had, he would agree with many of your correspondents, that it is impossible to cure three tons of hay upon one acre of land at one time.

A word as to the hay tedder: Use any good make, one with action enough to crimp the plant. The hay tedder of the general pattern of the Bullard's or knuckle-arm style, will move the hay so quick that the stalk will be bent and fractured on each fork tine, and thus allow the sap to pass off easily. That is the kind of hay tedder to use, and when one uses that kind, he will find the grass plants full length when dry, but fractured in many places for the escape of moisture.

It is said that eternal vigilance is the price of success and liberty. I have found, in making hay, that it is not so much the amount of work as the time it is done. When a boy, before the time of mowing machines, horse rakes, horse forks, improved cultivators, etc., the new grass culture was out of the question. Then it was all work and no play. It was a large meadow with small barn and not grass enough to fill. Now we can have a small meadow and a large barn in the lower corner well filled with hay, and with modern tools, filled easily. That is part of the new grass culture. The farm I occupy had then a larger meadow, but never cut 10 tons of hay. I now cut 60 tons from a smaller field.

BIG STATEMENTS REGARDING NEW FRUITS.

S. E. H., in speaking of a new raspberry, page 531, stated that it was 10 times as productive as Shaffer, Gregg and many others on his grounds. This is a monstrous claim to make for any variety of fruit. Shaffer will yield, say, 100 bushels of berries per acre, This new variety, yielding 10 times as much, would yield 1,000 bushels per acre. Consider a single cluster of raspberries. The new variety would be worthy of dissemination if it produced one-tenth more, other things being equal; therefore, on this single cluster, we assume that the new berry has one additional berry of the same size as the others. It must be a good berry that will yield one-tenth more than the Shaffer, which is itself a monstrous yielder. But consider this cluster of fruit magnified 10 times in number, or if not a single cluster thus magnified, consider a bush containing 10 times the number of clusters. Looking at it in this light, is it not apparent that, when any one claims one variety to yield 10 times more than another, he is making an extravagant claim? But there is a clause, "10 times as productive as any other variety on my ground." While the natural assumption is that the new variety yields 10 times more than others, it is possible that the others were destroyed by cattle, or frost, or met with some other similar misfortune. In any event, the statement is misleading.

But now we have a statement from the sober, sedate, reliable S. D. Willard, long and favorably known as vice-president of the Western New York Horticultural Society, claiming that this new currant is four times as productive as Fay or Cherry. I know Mr. Willard to be a truthful man, and know that he would not intentionally mislead; but I am tempted to believe that he made this statement somewhat rashly, and without consideration. Should it bear twice as much as Fay or Cherry, it is a wonderful variety. It seems to me that, knowing, as we do, the value of Fay and Cherry, a new variety that would yield three or four times as much would be too much to expect.

I am an introducer of a new red raspberry, but I would not dare claim that it would produce twice as many berries as Cuthbert, much less three times, much less 10 times as many, as is claimed by S. E. H. The fact is that varieties of small fruits have been so greatly improved during the past few years, that we must not expect new varieties to double the yield, or warrant any extravagant expectations. If the new variety is a little better in quality, a little brighter in color, little larger in size, little more productive, and a little more hardy, is that not enough?

CHAS. A. GREEN.

HOW TO BLANCH CELERY.

METHODS OF MODERN GARDENERS.

The old custom of repeatedly handling the plants, has given way to more expeditious methods, and it is generally conceded that one hilling before the final banking is sufficient. When ready to hill the plants, cultivate deeply between the rows, then draw the soil loosely about the plants with a hoe or a scraper made for that purpose. This hilling should not be done till the plants have thickened up considerably, as the leaf stalks do not thicken after the soil is drawn about them. If banking with earth is to be practiced, one of the machines made for that particular purpose will be found very helpful.

For blanching the early crop, the use of boards is preferred to that of earth. The work is done more expeditiously, and there is less trouble from rotting. The method consists, simply, in placing boards about a foot wide along each side of the row, with one edge close to the plants. Two men then go along and raise the boards to a vertical position, placing clamps or hooks at intervals to hold them in place. A very good clamp is made by sawing two notches, about an inch wide and three inches apart, in a short piece of board. This will hold the wide boards rigidly in place. In 10 days or two weeks, the celery will be ready for use, and the boards are then available for use elsewhere, thus keeping up a succession.

Celery intended for the winter markets is not usually blanched before storing, though it is well to hill it up slightly to straighten up the leaves and make the plants compact. That intended for late fall use will, of course, need some attention, as from four to six weeks are required to blanch the later crop. Boards are seldom employed in blanching this late crop.

STORAGE.—If on well-drained soil, the plants may be left in the rows till the last of November. If the plants are well banked, a little freezing of the tips of the leaves will do no harm. The mistake of applying winter protection too early is often made, thus injuring the crop by keeping it too warm. For winter storage, the method in vogue in some celery-growing districts is, on well-drained soils, to make beds of four to six double rows of plants with a wall of earth between—in effect, a series of parallel trenches on the surface of the ground. Bank up on the outside till the tips of the leaves just show above the surface of the bed. Leave the bed in this condition till hard freezing begins, then throw two or three inches of soil over the surface. Let this soil freeze hard before applying litter, and never apply heavy covering at the first approach of cold weather. The soil in the bed is still warm, and if a heavy coat of manure be put on top, the frost is soon taken out of the surface soil, and the temperature will be high enough to induce decay. The secret of success in the winter storage of celery is to keep it cool. As severe winter weather approaches, the covering of litter may be increased unless there should be a fall of snow.

To open the beds, take the litter off from one end, break the crust of soil with a pickax, and remove any desired amount of the celery; then carefully replace the covering. This plan has the merit of cheapness, and for holding plants through the winter, is preferable to pit or cellar.

The treatment of celery stored in trenches varies with different growers. In general, however, it is best to have the trenches only wide enough for two or three rows of plants, otherwise there will be loss from heating. A single board is laid over the top of the trench, or, in some cases, two boards are put together, forming a span roof. As cold weather comes on, soil and litter are thrown over the outside of the boards. It is seldom advisable to place leaves and litter inside of the boards, next to the plants, not only because of the heat, but because this forms a convenient nesting place for rats and mice.

If the crop is to be disposed of as early as January, it may well be stored in a cool cellar or pit. In this case, the plants are set very closely together on loose, moist loam. To avoid the heating consequent on packing large quantities of plants together, compartments about two feet wide by eight or ten feet long, are made by setting up boards which shall come to the tops of the plants when in place. If the plants are closely packed, so as to exclude the air, it is unnecessary to use earth between them. The soil in which the plants are placed should be moist to prevent wilting, but the foliage should always be kept dry, or there will be trouble from rotting. When plants are stored in this way, it is important that the temperature of the pit or cellar be kept uniform and not much above 40 degrees. If, however, it be desired to hasten the process of blanching, the temperature may be raised.

W. M. MUNSON.

BUSINESS BITS.

IF you care to know about a new bean harvester, send your address to the Farmer's Handy Wagon Co., Saginaw, Mich.

IF you wish to learn about ensilage and ensilage machinery, write to Minard Harder, Cobleskill, N. Y. It'll soon be time to fill the silo.

DON'T neglect to paint those harvesting tools and implements before they are stored away for future use. And, by the way, don't forget to store them away under shelter. This will, also, be a good time to put a new coat of paint on the buildings and fences. O. W. Ingersoll, 246 Plymouth St., Brooklyn, N. Y., will send you paint ready mixed, just as you want it, and cheap, too.

THE large acreage of corn planted this year to supply the deficiency in the hay crop in many sections, will cause especial interest in corn harvesting machinery, and manufacturers in these lines are meeting the demand by issuing catalogues and books that not only give illustrated descriptions of the implements, but also the best information obtainable in regard to harvesting and preserving the crop. The L. B. Silver Co., Salem, O., have issued illustrated circulars and catalogues describing their hand and power cutters and shredders, and also "A Book on Silage," by Prof. F. W. Woll, all of which are sent free on application.

THE Blekmore Gall Cure Co. are sending out a reduced facsimile of one of their advertisements, also the response of one of the large mining companies of West Virginia to that advertisement, and two letters from the same company, telling how their gall cure cured two mules suffering from sore shoulders—which until then they were unable to heal—while the animals were working in the mines. Most large companies are reluctant to be quoted as recommending such an article, and this fact, together with the reproduction of the actual handwriting on the letters, seem to show that the Blekmore gall cure will cure a collar or saddle gall under the harness, while the horse is being worked.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

ONE day recently, we saw a man with but one leg riding the bicycle, and shortly after, a little hunchback girl. It is an all-around blessing, a boon to the weak and crippled, and the strong man's steed.

*

SAVE the tea left after meals. Pour it off into a pitcher, and stand in a cool place until you make lemonade. Cold tea with a little lemon juice in, is the way some like it. But a generous amount of the lemon, with sugar and water enough to weaken the tea, in fact, tea lemonade, is better, according to our taste. Try it and adjust the proportions to suit your own palates.

THE CARPET BEETLE.

ITS LIFE AND HABITS.

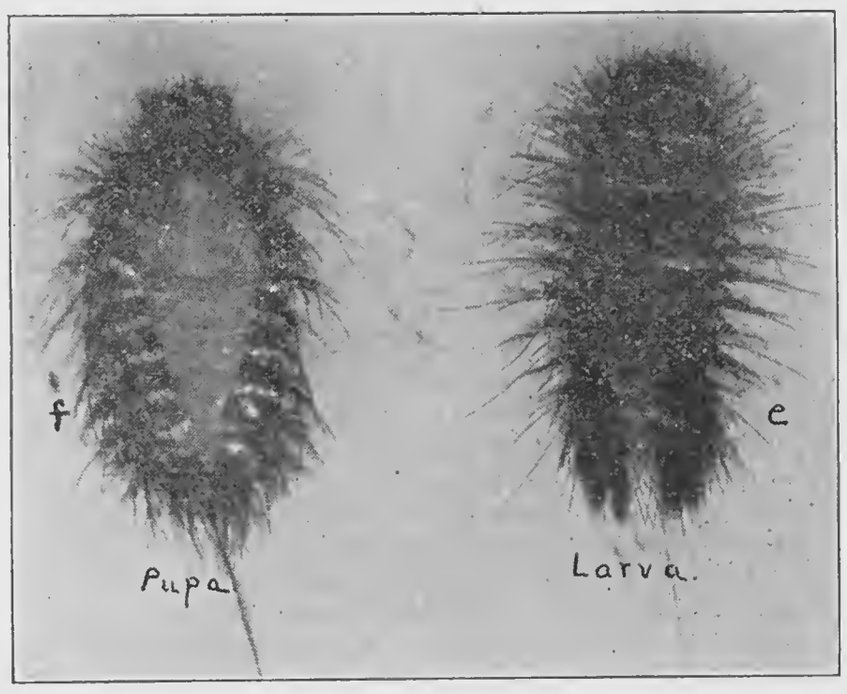
How to Treat and Beat It.

What is the life history of, and remedy for, the Buffalo bug or moth? MRS. A. J. WALKER.

During the past few years, another insect has been added to the list of torments of the good housewife. It is to be found all the year 'round, in well-heated houses, but more frequently in summer and fall, in the form of an active little brown creature, one-quarter inch or less in length, and clothed with stiff, brown hairs, as shown at *c* in Fig. 180. It feeds upon carpets and woolen goods, sometimes attacking furs, and usually works in a hidden manner from the under surface, either making irregular holes or, frequently, following a line of a floor crack, and thus cutting long slits in a carpet. This destructive creature has come to be known as the "Carpet bug" or "Buffalo moth"; it is, more properly, a "Carpet beetle," since the adult insect is not a moth or a bug (true bugs suck their food like plant lice or stink bugs).

The insect was described by Linnæus in 1761, and given the name Scrophulariæ. The larva, which is the only stage of the insect familiar to most housewives, has been known since 1774. It is a native of Europe, where it is common, but rather as a museum, than a carpet pest. The exact date of its introduction into the United States is not known; one woman thinks that the insect occurred in Pennsylvania as early as 1863. In 1874, public attention was called to the pest through newspaper articles complaining of its ravages. There is strong evidence to indicate that it was, at one time, imported almost simultaneously by carpet dealers in New York and Boston, and thence shipped to inland cities. It was thus spread quickly over a large territory, and now occurs as a carpet pest in all the New England States, and west through Ohio, Indiana, Michigan, Wisconsin, Illinois, Iowa, and Kansas; it also occurs in museums in San Francisco, having been introduced in insect collections imported from Europe. The large cities have been centers of distribution for the insect; we receive many complaints from the vicinity of Buffalo every year, and one of its common names seems to have originated from that city. It is not yet common in Philadelphia, and is not known as a carpet beetle in Washington and southward.

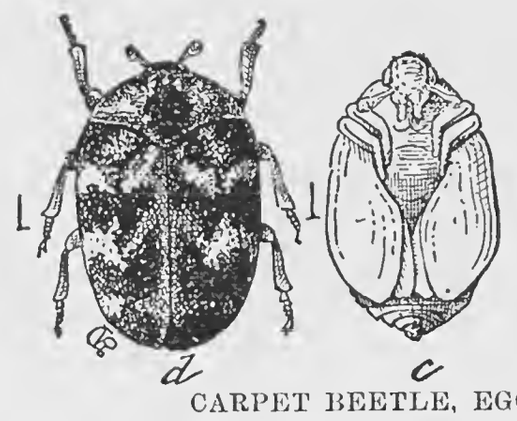
Its life history, so far as known, presents some curious and interesting phases. The adult insect, shown enlarged at *d*, Fig. 181, looks like, and is often mistaken for, a Lady-bird beetle. Its colors are white, black and scarlet. The white and black are indicated in the figure, while the red is confined to a stripe down the middle of the back, widening into projections at three intervals, and meeting the irregular white bands. These pretty little beetles are, sometimes, to be seen in considerable numbers on the windows or walls in houses, and are very common in spring and during the summer, in many different flowers upon whose pollen they feed; we have collected hundreds of them from the flowers of pear, cherry, currant, etc., in May and June. Since the beetles occur so numerously on these flowers, it is probable that most of them are not bred in dwelling houses, and only a comparatively few enter our houses to prey upon carpets. Furthermore, our observations here, at the Cornell insectary, indicate that those which are bred in houses, endeavor to escape outdoors as soon as they reach the beetle state; and this is natural, for the food of the beetles, the pollen of flowers, is not obtainable inside the house.



CARPET BEETLE IN THE DESTRUCTIVE STAGE. FIG. 180.

The Eggs and Larvæ.

Observation indicates that the pairing of the sexes does not, commonly, take place in our houses. We have had no trouble in getting plenty of eggs from beetles collected on flowers outdoors, and placed in glass cages. The beetles, usually, all died in 10 days after being placed in the cages; but during this time, they laid many eggs on pieces of flannel placed therein. No one seems ever to have pictured the egg of this carpet pest, and I have, therefore, asked Mrs. Slingerland to make a drawing of one, that the many readers of THE R. N.-Y. may see how its egg looks under a microscope. As shown at *a*, Fig. 181, the egg is rather a peculiar object. It would take about 70 of them, placed end to end, to measure an inch; yet, as they are white in color, they can be seen with the naked eye in their nests among the fibers of dark-colored flannel where the mother

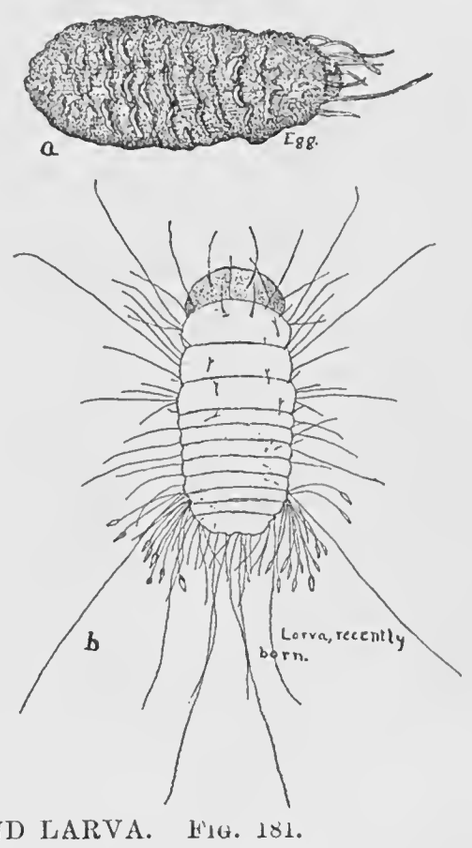


CARPET BEETLE, EGG AND LARVA. FIG. 181.

places them. The irregular projections on one end serve to hold the egg more firmly in place among the fibers. The surface of the egg is very finely longitudinally striated, and has many small, elongate, irregular depressions which give it a slightly wrinkled appearance.

In our cages, the eggs hatched in from two to three weeks. The little creature which emerges is shown (from the same pen as the egg) greatly enlarged at *b*. It is of a semi-transparent white color, and clothed with dark brown hairs, those in the tufts near the tail end being barbed at the end. These little larvæ begin feeding at once, and so transparent are their skins, that the contents of their food canals show through, and one may thus readily tell whether they have been eating red or blue fibers. Like the larvæ of other insects, these little hairy creatures have to shed their skins, or moult from time to time, to allow their bodies to grow. In our experiments, the larvæ were variable in their growth, both as to time and number of moults. After the second moult, the bodies of the larvæ take on their characteristic brown color.

Our observations indicate but one brood of this Carpet beetle a year in New York State. The change from the larva to the beetle develops some interesting phases in its life. Instead of going into the ground, or spinning a cocoon about itself, the larva simply makes use of its last old suit of clothes; in other words, its skin splits down the back and spreading open, reveals the yellow, tender pupa snugly ensconced within its hairy shroud as shown at *f*; the pupa itself is shown at *c*, all much enlarged. How long the pupal stage lasts, seems not to have been determined. Some of the beetles, doubtless, emerge in the fall, others, perhaps, during the winter in houses; but our observations indicate that most of them appear during the spring and summer, egg-laying, probably, taking place mostly from May on throughout the summer.



We find that the larvæ feed readily and thrive on their own cast skins and the dead bodies of other insects, or of their own parents. They seem to prefer old, dirty woolen goods to clean, new ones, and there are some indications that they prefer certain colored fibers to others. When disturbed, the beetles "play 'possum," folding up their legs and feelers and feigning death. They are strongly attracted to the flowers of the plants of the family Scrophulariaceæ; this fact was, doubtless, recognized when they were named Scrophulariæ Spiræas and many other flowers, also, strongly attract them. Housewives afflicted with this pest should learn to know the insect in the beetle stage, as the destruction of every one seen would aid in the warfare against the insect; especially should one learn to discriminate between this injurious Carpet beetle, and the similar, but beneficial little Lady-bird beetles often found in houses.

How to Get Rid of It.

There is no easy way to keep this Carpet beetle in check. When it has once taken possession of a house, nothing but the most thorough and long-continued measures will eradicate it. The best way to avoid its ravages is to use rugs instead of carpets, and to trap the larvæ by placing woolen cloths on the floors of closets; these cloths should be shaken once a week over a paper, and the insects captured. Carpets that are tacked to the floor and taken up only once or twice a year are unwholesome; the larvæ thrive best in dirty carpets. When the carpets wear out, replace them with rugs or art squares; and good carpets can be made over into rugs. Usually, carpeted floors are not finished, as rugs necessitate, but they can be made presentable by filling the cracks with putty and painting the exposed part of the floor. The frequent shaking which neat housewives give rugs, soon discourages the Carpet beetle, and it migrates to more peaceful and dirtier fields.

If carpets must be used, the practice of annual "house-cleaning" should not be so often carelessly and hurriedly performed, and it should be done, at least, semi-annually. But one or two rooms should be attended to at one time. The carpets should be taken up, thoroughly beaten, and sprayed out of doors with benzine, and allowed to air for several hours. Thoroughly sweep and dust the rooms, wash the floors down with hot water, carefully clean out the cracks (dirty cracks are the favorite haunts of the pest), and pour benzine or kerosene into the cracks, and spray it under the baseboards. Benzine will kill the insect in all stages; but its extreme inflammability and that of its vapor when confined should be remembered, and fire carefully guarded against. Where the floors are poorly constructed, and the cracks are wide, it would be well to fill the cracks with a liquid mixture of plaster of Paris; this will soon harden and greatly lessen the favorite haunts of the insect. It is recommended to use tarred roofing paper under the carpet when relaying it. Tack the carpet down lightly at first, so that it may be easily raised on the edges and examined from time to time to see whether the pest again appears.

Where the insect is limited to small areas in the carpet, a good though somewhat laborious method consists in laying a damp cloth smoothly over the suspected spot, and ironing it with a hot flat-iron; the steam thus generated will pass through the carpet and kill the insects immediately beneath it.

Camphor, pepper, tobacco, turpentine, carbolic acid, tallow, Pyrethrum powder, and many other substances have been recommended for the pest, but none is nearly so effective as benzine. Larvæ have lived over three months in our cages where there was nothing to eat but a piece of red flannel, which had been rolled in Pyrethrum. One insecticide manufacturer sent us some Scrofularia Powder especially designed for the

carpet beetle. Several larvæ which we put in a cage on a piece of carpet well covered with this powder, thrived and grew faster than others of the same brood on untreated flannel; they lived for over nine months on the treated carpet.

If, as our observations indicate, our carpets become infested chiefly through the beetles that pair outdoors, and then come inside, the use of screen doors and windows would do much to mitigate this pest. If the house is already in possession of the enemy, only the most strenuous and persistent warfare will dislodge it; and only eternal vigilance will preserve the carpets from its destructive jaws. M. V. SLINGERLAND.

BEGINNINGS.

"WHAT makes you so thoughtful to-night?" asked Mr. Brown, looking across the tea table at Mrs. Brown.

She looked up with a grave face. "I had callers this afternoon, and they have set me thinking."

"Well?"

"Mrs. Johnson and her little boy came in. You know him, that pretty little boy in kilts, about four years old! I got him some books to look at, and he was quiet for a while looking at them; but when he got through, he had torn a leaf out of one book, and tumbled the rest on the floor. Then he went and banged on the piano a little, and he pulled two or three leaves off my best begonia. He wanted something to eat, and I got him some cookies. He ate three, walking all around the room and dropping crumbs; he took two bites from the fourth one, and the rest of it he ground into the carpet and rubbed into the seat of the olive plush chair.

"Well, all the time, would you believe it? his mother said not a word to him, except when he pounded the piano; that disturbed her. She talked as pleasantly as could be. She's a well-meaning woman, but after they had gone, while I was clearing up the room, I got to thinking. She doesn't let that boy act so at home. Her rooms are in apple-pie order. She makes him eat in the dining-room, sitting at the table, and he is not allowed to touch the piano. But over here, he does as he likes, and of course, I can't say anything.

"Now, she is training that boy to have an utter disregard for other peoples' property, and with such beginnings, will it be any great wonder if he grows up to be a thief or an incendiary?"

S. B. R.

PRINTED PATCHWORK.

If a man seek one thing in life and but one,
He may hope to attain it before life be done;
But he who seeks all things wherever he goes,
Only reaps from the hopes which around him he sows,
A harvest of barren regrets. —*Owen Meredith.*

....PHILLIPS BROOKS: "Make a great deal more of your right to praise the good than of your right to blame the bad."

....OLIVER WENDELL HOLMES: "Fame usually comes to those who are thinking about something else; rarely to those who say to themselves, 'Go to, now, let us be a celebrated individual.'"

....LILLIAN BELL IN LADIES' HOME JOURNAL: "If men chose their wives oftener with regard to the mothers' looks and characters, there might be more marriages which retain their flavor."

....HARYOT HOLT CAHOON: "When we women become one-half as interested in political issues as we are in recipes for lemon pie and sweet pickle; when we can wax as genuinely indignant over the shortcomings of an inferior lawmaker, as we do over the methods of an inefficient domestic servant—in short, when we grow to great things because we have been faithful over little things, we shall be qualified to work out the scheme which the Creator had in mind."

ODDS AND ENDS.

LEGHORN HATS.—Concerning Leghorn hats, says a foreign letter, women who pride themselves on wearing the genuine straw can know little of the hardship and misery which their production entails. The straw plaiters are paid three-pence for every 63 yards, but at this rate they can, at most, earn only two-pence a day, and many of them earn but a penny. The manufacturers complain of foreign competition, and now the women have "struck," and are crying, "Down with the fashions;" they have threatened to wreck the city of Florence. They demand to work only eight hours per day, and to be paid five-pence each for their labor. Regiments of infantry and squadrons of cavalry were recently engaged in restoring order.

BLISTERS AND POULTICES.—For the benefit of those obliged to use a fly-blister, I tender this advice. Do not use one of the "ready made" plasters; they are simply torture, as they almost always tear off all the skin under them when taken off. Instead, procure from the drug store, Spanish fly (it resembles a dark, greasy ointment) and spread thinly on thick paper the size and shape desired. Care must be taken to hold it in place when applied, as it does not "stick" readily. When ready to remove, by exercising a little care, using warm water to soak it off, etc, the skin is often left entire. A clip with sharp scissors furnishes the outlet for the water; it usually needs opening several times. I find that a poultice is just as soothing and healing made from bread, over which boiling water has been poured, drained, and mashed fine, as a cooked bread and milk one, which is so much more trouble to prepare.

SWEET FERN.

WASHING TABLE LINEN.—The beautifully embroidered centerpieces and doilies with which many housekeepers delight to furnish their tables, should be carefully handled to retain their freshness and delicate coloring. Many of the embroidery silks are warranted to wash nicely, and will do so if the proper method be employed. But with the rough treatment they usually receive at a laundry, their beauty is soon destroyed; therefore they should be laundered at home. The following method of doing the work has always proved satisfactory at our house.

Use soft water if it be possible to obtain it, and heat it until it is as warm as you can bear your hands in comfortably. Use enough Ivory soap to make a good suds, and wash gently between the hands—never on a washboard. Two waters are all that are necessary, and if they are but little soiled, one will be sufficient. Rinse through two waters, with a very little bluing added to the second. If any starch is thought necessary, put it in the second rinse water. The linen of which these articles are made requires but little starch, and many housewives do not use any. Hang them up until almost dry, then roll tightly in damp, white cloths for two or three hours. Iron the embroidery on the wrong side, which will make it show up nicely. The remainder of the linen may be ironed on the right side, if a smooth finish be desired. E. J. C.

ERRORS IN TRAINING.—The greatest and most common error in the training of children, is allowed to be *irregularity of behavior toward them*, says the New York Ledger. At one time, they are coaxed, petted and indulged in every fancy, and at another, they are scolded, abused and cruelly chastised. One moment, a mother will be seen fondling her child, and the next pouring out her wrath upon him. Impetuous in temper, she will, for a trifling fault, inflict personal punishment on her infant, and then, moved by compassion or remorse, seize him up in her arms and cover him with caresses. All this is decidedly improper, and ruinous to the dispositions of children. Let it be remembered that *example* will go a great way in communicating both good and bad habits to children, and it is required of those who undertake the duty of infant education, that they should learn to know themselves and command themselves. Another common error is favoritism in families. One child, because he happened to be born first, or is called by a particular name, or from some other equally absurd cause or, perhaps, from mere caprice, is idolized and advanced, while all his brothers and sisters are treated with indifference. Much strife and petty misery have arisen from this system of favoritism, which, wherever it occurs, is discreditable to the parental relation. All the children in a family, whatever be their capacities, and whether male or female, should be treated with equal consideration and kindness. On no account prefer one to another.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

Miscellaneous Advertising.

IN writing to advertisers, please always mentio THE RURAL NEW-YORKER.

"Pretty Pill" says Pretty Poll

She's just "poll parroting." There's no prettiness in pills, except on the theory of "pretty is that pretty does." In that case she's right.

Ayer's Pills

do cure biliousness, constipation, and all liver troubles.

FARMERS

Go where you can cultivate land 365 days every year, and get big prices for your crops.

FLORIDA GARDEN LAND CO., Rochester, N.Y., offer the opportunity of a lifetime. Write them for particulars.

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New York State Fair,

SYRACUSE, N. Y.,

Aug. 31st to Sept. 5th.

Bold! Brilliant! Successful! The greatest programme of education and amusement ever presented to the public. Every day a big day. Watch the papers for special announcements. Ask your ticket agent for the low rates of fare and time of special trains. A Fair for everybody, and "up-to-date." Unapproached in excellence of exhibits and magnitude of attendance.

J. B. DOCHARTY, Sec'y, Albany.

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The International Correspondence Schools, Box 946, Scranton, Pa.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

FOR SALE—High-Grade Farms. Also a few cheap Farms. Write for my list. J. LELAND HANNA, Baltimore, Md.

VIRGINIA FARM near Lynchburg; population, 27,000; with stock, crops, implements, and household furniture worth $2,000, included, for $5,500. Easy terms. 318 acres; 225 cultivated, balance oak woods. Soil, rich dark loam; all fenced; admirably watered. Nice residence; large bank barns. Extensive bearing orchards. Very attractive; everything in good condition; must sell, hence low price. For full particulars address Box 282, Lynchburg, Va.

RAIL ROAD LANDS

FOR SALE AT LOW PRICES AND ON EASY TERMS.

The Illinois Central Railroad Company offers for sale on easy terms and at low prices, 150,000 acres of choice fruit, gardening, farm and grazing lands located in

SOUTHERN ILLINOIS

They are also largely interested in, and call especia attention to, the 600,000 acres of land in the famous

Yazoo Valley of Mississippi

lying along and owned by the Yazoo and Mississippi Valley Railroad Company, and which that Company offers at low prices and on long terms. Special inducements and facilities offered to go and examine these lands both in southern Illinois and in the "Yazoo Valley." Miss.

For further description, map and any information, address or call upon E. P. SKENE, Land Commissioner, No. 1 Park Row, Chicago, Ill.

WALL PAPER SAMPLES FREE

Cheaper than ever before. Over half million rolls to be sold at less than cost. It will pay you to send for samples and Guide how to hang, etc. Describe rooms you wish to paper. Paper Hanger's full set of Sample Books, price, $1.00.

CHAS. M. N. KILLEN, 1231-1233 Filbert Street, PHILADELPHIA, PA.

THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

PIANOS—THE WORLD RENOWNED—**PIANOS**

Finest Tone, Best Work and Materials.

EMERSON

Sold and Rented, Moderate Prices, Easy Terms.

NO. 92 FIFTH AVENUE, NEAR 14TH ST., N. Y.

Presidential Campaign News.

The Presidential Election next November promises to be one of the most exciting and important since 1860. We can't print all the news about it in THE R. N.-Y.; but we have made special arrangements with the leading National papers of both parties in the following list, so that we can send your choice of them for the rest of the year at a trifling cost. This will give you all the political news during the campaign, and the results of the election in November. Every regular issue of any paper in this list will be sent from the date your order is received, until January 1, 1897, together with THE R. N.-Y. for one year for the price opposite the name of paper. Agents and club raisers may take these orders, and retain their regular commissions on THE R. N.-Y., but no discount can be allowed on the other papers.

THRICE-A-WEEK WORLD, New York	$1.45
THE BALTIMORE SUN. (Weekly)	1.30
THE DEMOCRAT AND CHRONICLE, Rochester. (Weekly)	1.30
THE CINCINNATI ENQUIRER. (Weekly)	1.20
THE CINCINNATI GAZETTE. (Weekly)	1.20
LOUISVILLE COURIER-JOURNAL. (Weekly)	1.40
ATLANTA CONSTITUTION. (Weekly)	1.30
THE INTER-OCEAN, Chicago. (Weekly)	1.30

Remember, these prices are for the papers mentioned until January 1, 1897, and THE R. N.-Y. one year, or we will send any paper in the list free to any subscriber who will send $1 for a new subscription (not his own) to THE R. N.-Y.

THE RURAL NEW-YORKER, NEW YORK.

The Agent's Share!

The first week of our contest for trial subscriptions is over. Following are the names of the senders of the largest three clubs received for the week:

CHAS. R. FARNUM.....Massachusetts..... 36 Trial Subscriptions.
M. DE FREEST.....New York ..... 20 Trial Subscriptions.
CHAS. P. AUGUR.....Connecticut ..... 10 Trial Subscriptions.

They have already received their premiums of $3, $2 and $1 respectively. Besides this, they have retained 10 cents for each name sent, and every name will count September 30 for the five cash premiums which will be given to the senders of the largest five clubs received by that date. The cash premiums for September 30 are as follows:

Largest club, cash	$50
Second largest club, cash	30
Third largest club, cash	20
Fourth largest club, cash	10
Fifth largest club, cash	5

In the meantime, **$3, $2** and **$1** will be sent out every Saturday night during this contest to the three agents who send the largest three clubs during the week, and three extra premiums of **$3, $2** and **$1**, will, also, be sent out next Saturday night to three agents who have not won any of the premiums during this week, and also every following Saturday night during the contest. Messrs. Farnum, De Freest and Augur, who won premiums as above, may compete for the first three weekly premiums for the rest of the contest, but they will not be eligible to the second set of three weekly premiums, which are reserved for those who won no other premiums this season.

You see just how many names won the premiums last week. Next week, you have a better chance, because there will be six premiums instead of three, and you have a chance at any one of them, if you did not win last week, and a chance at three of them is open for those who have already won.

Haven't you made up your mind now that you want that $50 September 30? In working for that, you are quite sure of several of the weekly premiums.

We are going to tell you just who wins the six premiums every week, and just how many names are sent to secure them. When it is over, we will tell you just who won the five cash premiums September 30, and the whole number of names sent by each winner.

We are already receiving a great many names from friends who are not competing for any of the premiums. Some of them, however, will be surprised when they get premiums. Most of these come in clubs of two or three names each, and often only one name at a time. In the aggregate, all these count up into large numbers, and we fully and duly appreciate the interest manifested in this way by those who have neither the time nor the inclination to compete for a premium.

But, as you see, these prizes are going easy. You can hardly make an effort and miss one.

THE RURAL NEW-YORKER, NEW YORK.

WINTER FEED IN NEW YORK STATE.

WILL THERE BE A SHORTAGE?

The hay crop is very short, but corn and oats are looking well with a large acreage; many farmers will feed part of the oats unthrashed. A number of silos are being built, some round, some square, others octagonal, and all old silos will, probably, be used. But little stock is for sale; large numbers were sold a year ago very cheap, but very few calves or colts were raised this year.
Herkimer County. J. H. H.

There are no silos around here, and the hay crop is not very good. There is considerable millet and fodder corn; I have about nine acres of fodder corn myself. As far as I can see, the farmers intend to keep the same amount of stock as formerly. New milch cows are in great demand; the low price of milk does not stop the buying of cows. I prefer to raise my own cattle rather than buy. T. B.
Orange County.

The hay crop is only one-half an average one, but is supplemented largely by corn and millet, while brewers' grains have been and are being stored. Ensilage has been but sparsely adopted, and no new silos are being built. Although farmers are short in winter supplies, I think that there will be but a small reduction in their stock this autumn; they will depend on western ground feed, and a favoring Providence to bring them to the spring of 1897. D. T. B.
Orange County.

Hay is not over one-half of a good crop. With a large acreage of corn and millet, farmers are better prepared for winter than last year, so I think that they will keep as much stock, if not a little more. Potatoes are looking well, but do not yield very heavy. Apples will be a good crop. We have lots of grasshoppers, and they are getting red lice on them. Will it destroy them. Not many silos are being built around here—four to six, perhaps. H. M. H.
Chenango County.

Most farmers in this section are short of fodder; some, however, have quite a large amount of White-daisy hay, owing to the fact that the grasshoppers—which were terrible here last year—were unable to kill the daisies. Most meadows were plowed, either in the fall and sowed to rye, or this spring and put into oats, corn or potatoes. A great amount of corn has been put in. I have about 23 acres, and am putting up a silo intended to hold 200 tons. Many others would build silos, but don't feel able to do so and get the needed machinery to fill them properly. Nearly all the farmers here will be able to winter what stock they have, but we have only about one-half to two thirds as many as formerly. I formerly wintered about 40 cows and 20 young cattle, besides horses. I now have 28 cows and 10 calves, and expect to winter all of them except two or three of the old ones, which must be turned off. My condition fairly represents, in this respect, that of my neighbors. M. B. W.
Wyoming County.

The hay crop is not more than one-half crop in this section; but most farmers prepared for the short crop by putting in Hungarian grass and sowed corn. There is no demand for silos; no new ones are being built. Most farmers sell milk to the New York Condensed Milk Company, and they will not allow them to use silos. I think that most farmers will have enough fodder to keep their stock through the winter. D. B. H.
Dutchess County.

I find, upon inquiry, that the majority of farmers cut a light crop of hay—less than one-half the usual crop. There is a large growth of straw, which will be fed, and an unusually large amount of corn was put in, the most of which has made a large growth. I think that most farmers will have fodder enough to carry their stock through the winter without selling. The demand for silos is not large. I know of three being built. F. H. K.
Oneida County.

The hay crop is short, about one-half crop. Oats are above the average. Corn is looking better than usual for the time of year. Live stock will be somewhat reduced this fall. Not so much grain will be bought and fed this winter as usual. The demand for silos is growing; many new ones are being built. One large farmer is building four new ones, and he has two that he has used and learned the value of. Apples are very plentiful in this neighborhood. W. S. H.
Delaware County.

Hay is the poorest crop for years. Corn fodder is a very good crop. Most farmers sold their stock last year—from one-quarter to one-half. Many will have to reduce their present stock before winter, or feed pretty freely on grain, which they are not able to buy with butter at 15 cents per pound and milk at 1½ cent per quart. About one-half the farmers have silos; a few are being built this fall, and I think that a number will be built next year. L. M. W.
Delaware County.

Hay will average 75 per cent of a crop in this locality; but there is nearly double the usual acreage of corn, besides considerable millet sown for fodder. This will make up all deficiency in hay, and farmers will be enabled to keep the full number of stock. There are few silos, although numbers of farmers have what is known here as grain cisterns (built on the same principle as a silo), in which are stored brewers' grains. These grains are put in during June, July and August, and are kept for winter feeding. Some put in as much as 100 tons, a few even more, and others less, according to the number of stock kept. In my immediate neighborhood, and, in fact, for from eight to ten miles all around Middletown, quite a large proportion of dairymen sell their milk to the Anglo-Swiss Condensary, located at Middletown, and all who sell to that company are not allowed to feed ensilage, grains or any sour feeds. I have a near neighbor, who, last year, built a silo and filled it; but last spring contracted his milk to this company, and will not fill his silo this year. I think that ensilage is a good feed, and would like to try it; but am selling my milk to the company—consequently cannot. I am satisfied that it pays dairymen to grow as much corn as can be well cared for, even though they do have to feed the stalks dry. In fact, I think that the corn is of more value than the silo. I keep about 30 head of cattle, and last winter they did not get a forkful of hay until January 1, and I had stalks to feed once a day, for six weeks longer. Thanks to those stalks, I have about 12 tons of old hay in the bottom of my mow.
Orange County. D. P. A.

The hay crop of this section was very short, not over half a crop; but a large acreage of fodder corn has been sown which is looking very fine, also considerable millet; so that I do not think that the shortage of fodder will be nearly so great as anticipated. This is especially so with those of us who have silos, and why there are not more of them being built, I cannot understand, as those who do not have them will lose a large per cent of the fodder they so much need. Most farmers, I think, will carry about the usual stock through the winter, though there may not be quite so many cows bought for wintering, which is quite a general practice hereabout. H. D. L.
Dutchess County.

The hay crop here was very light. Last year I do not think that hardly two-thirds of an average crop of hay was cut in this immediate vicinity, and in some parts of Delaware County, the crop was even less than that. This year, there was no new seeding to speak of, as the dry weather and grasshoppers last fall killed it almost completely, and the old meadows, in many cases, did not do as well as they did last year, so that generally, a lighter crop of hay was cut than last year. But, on the other hand, plenty of land was plowed last fall and spring, and much of it put into corn, which is looking fine, although it has been quite dry here lately. The oats are not thrashed yet, but the straw, in general, was very large. Many cut the oats green, as they were afraid that the grasshoppers or army worms would take them. The grasshoppers have been plentiful all summer, and have done much damage. The army worms destroyed some pieces of oats, but they were mostly in the valleys, although, occasionally, they got into a piece on the hills. Most of the farmers around here reduced their stock last fall, as many car-loads of cows were shipped from Delaware County to the West and other parts. Some dealers are around buying cows now, but farmers generally have some surplus stock which they wish to dispose of in the fall, and I think that the most of them will try to winter about the same number as last year. Cows sell very well, considering the price of butter. I have heard of one dealer paying as high as $30 for springers. I know of one car-load

(Continued on next page.)

Miscellaneous Advertising.

Found dead!

There is something so shocking about sudden death that the mere mention of it wrenches the nerves of sensitive people. Millions of people pray for deliverance from it. Every Sunday in every Episcopal church in the world, these words are said:

"From battle, and murder and sudden death, Good Lord, deliver us."

Just why sudden death should be shocking, and death after lingering disease easy to bear, would puzzle any one to tell. It would seem that it would be more terrible to see some loved one wasting away, daily becoming weaker—daily slipping toward a death no less certain because it was slow in coming. Consumption causes more deaths than heart disease—more than cholera—more than yellow fever—more than any other disease the world has ever known. And yet people are careless about it. A man in danger of sudden death from heart disease can avoid the danger simply by keeping quiet and avoiding excitement. Consumption goes right on with its deadly work, no matter what the man does or how he conducts himself, if he doesn't take the right medicine to cure it. Consumption affects the whole body. It is a blood disease. It permeates the whole system. It shows in the lungs because the blood goes to the lungs for purification. It carries impurities there to be made pure. If there is too much impurity, the lungs are over-worked—overloaded—the impurity stops there. The germs of disease stop there. They develop and multiply and then consumption takes definite form. Dr. Pierce's Golden Medical Discovery cures 98 per cent. of all cases of consumption, lingering coughs, throat and bronchial diseases if it is taken according to directions. Get it at drug stores; learn all about it in Dr. Pierce's great 1008 page work, "Common Sense Medical Adviser," sent FREE on receipt of 21 one-cent stamps to cover cost of mailing *only*. It contains 1008 pages, profusely illustrated. It is a veritable medical library, complete in one volume. Every family should possess a copy for ready reference in case of sudden sickness or accidents. World's Dispensary Medical Association, Buffalo, N. Y.

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Relatively More Profitable than Ever Before.

Send for new circular in explanation,

Some Practical Facts In Up-to-date Dairying

Also, ask for

NEW "BABY" OR DAIRY CREAM SEPARATOR CATALOGUE No. 246.

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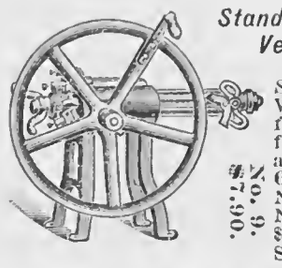

Standard Green Bone and Vegetable Cutter Co., MILFORD, MASS., *Suc. to The E. J. Roche Co.* Warranted the only Manufacturers of automatic feeding, easy running, durable Green Bone Cutters. 6 sizes for hand & power: No. 10, $6.75; No. 9, $7.90; No. 8, $9.50; No. 3, $16; No. 4, $18; No 2, for power, $25. Sent on trial. Send for cat. No. 9, $7.90.

WANTED—Situation, by an expert milker of cows and good all-around farm hand with family. Address WM. COOP, No. 207 Ann Street, Paris, Ill.

WANTED—To exchange house and lot in village, or stock in store, for a small farm. Address P. O. Box 74, Springville, N. Y.

USE TAYLOR'S **FUMA** CARBON-Bisulphide.

For killing Woodchucks, Prairie Dogs, Gophers and Rats, Insects in Grain, Seeds, etc. Shipped in 50-pound cans by the manufacturer.
EDWARD R. TAYLOR. Cleveland, Ohio.

OUR RURAL BOOKS.

Any Book on this List will be forwarded promptly on receipt of price.

Accidents and Emergencies.
G. G. Groff, M. D. What to Do In—Home Treatment of—What to Do 'till the Doctor Comes. Sunstroke, poisoning, broken bones, cuts, bites of mad dogs, insects, snakes, etc., freezing, bruises, burns, choking, colic, drowning, exhaustion, explosion, suffocation by gases; what to do in storms, being stunned, wounds, etc.....20

A Fortune in two Acres.
Fred Grundy. This is a story of how a workman in a small market town gained independence and a fortune on two acres. Paper.....20

Canning and Preserving Fruits and Vegetables, and Preparing Fruit Pastes and Syrups.
The experience of practical workers. The best methods by which the surplus fruits may well be saved for home use and for the large market demand. Hundreds of tested recipes from famous preservers. Evaporation of fruits. Paper.....20

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H. W. Collingwood. A concise and practical discussion of the all-important topic of commercial fertilizers, in connection with green manuring, in bringing up worn-out soils, and in general farm practice. Paper.....20

Country Roads.
I. P. Roberts and others. Expert opinions upon laying out, constructing and maintaining public highways. Highway laws. Illustrated. Paper.....20

Fruit Packages
A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper..20

Fertilizers and Fruits.
H. W. Collingwood. How the Hudson River fruit growers cultivate and market their crops, and especially shows how these skillful men are feeding their vines and trees. Paper.....20

Fruit Culture.
W. C. Strong. Laying out and management of a country home. Illustrated. Each kind of fruit treated separately. Injurious insects described. How to fight them. Cloth.....$1

Horses, Cattle, Sheep and Swine.
Geo. W. Curtis, M. S. A. Origin, History, Improvement, Description, Characteristics, Merits, Objections, Adaptability South, etc., of each of the Different Breeds, with Hints on Selection, Care and Management. Methods of practical breeders of the United States and Canada. Superbly illustrated. About 100 full-page cuts. Cloth.....$2

Winter Feed in New York State.

(CONTINUED.)

of Jerseys going to Iowa, shipped about two weeks ago, which were bought for from $13 to $20, but part of them were farrow, and no telling when they were coming in. I do not hear of any silos being built around here; I think that the silo craze has entirely died out. I know of some who have them that do not use them now. Most of the farmers who have corn fodder cure it in the field. G. M.

Delaware County.

The hay crop was short in our county. The grain crop was immense, and there is a much larger acreage and growth of corn than ever before. Many new silos have been built, particularly in our immediate vicinity and among our cheese factory and creamery patrons who have an opportunity to produce profitable winter milk. About two-thirds of the number will feed ensilage this winter. Our locality has been favored with rains, and crops here are above the average of northern New York. All stock will be kept and more purchased. H. E. C.

Ulster County.

Hay will average about one-third of a crop. Winter grain was almost a complete failure, while corn and oats are fully 100 per cent. I think that farmers will try to keep the stock they have, unless it be some worthless ones, and not buy any more until spring. The farmers in this immediate vicinity, sell their milk to the Reid Ice Cream Company, which pays within one-quarter of a cent of the New York price for the entire year. There is not much demand for silos, not over seven or eight in the township. There is talk of building more this summer. Those who have silos, won't do without them. Alex. Decker built one last fall; he says that it paid for itself in one year. It cost $60, and is a round one, which is, undoubtedly, the best shape. Apples are a good crop this year. Pears, peaches and plums a failure. J. H. C.

Orange County.

CROP AND MARKET NOTES.

Receipts of milk and cream continue heavy.

The trade in canned goods is extremely dull.

Grapes are in large supply and prices are lower.

Pears are in lighter supply, and fancy fruit is higher.

The export price of barbed wire is to be advanced.

Considerable butter in boxes is arriving from the West.

Arrivals of plums are small, and the quality, generally, poor.

Bogus commission merchants are thicker than ever. Beware of them!

The market for dried beans grows duller and duller and prices lower.

What kind of eggs must they be which sell for 50 cents per 30-dozen case?

Choice muskmelons sell readily, but there are many poor ones in market.

Arrivals of peaches have been quite large, but not excessive, and the demand is good.

Trade in all kinds of dried fruits is extremely dull, and prices are tending downward.

The use of parchment paper is said to lessen materially the loss of butter by evaporation.

Many farm buildings have been destroyed by lightning, and some of them were uninsured.

Watermelons are dull and sales slow. The weather the past week has been too cool for this fruit.

Choice apples are in good demand, but poor stock is in little demand, and prices rule low and irregular.

Beeswax has gone lower under pressure to sell, and sales have been made at 23½ to 24½ cents per pound for pure.

The Commissioner of Internal Revenue has issued a series of regulations to cover the manufacture and sale of filled cheese.

The hot weather heated plenty of butter in spite of refrigerator cars and all other cooling devices for shipping and handling.

The ocean steamers are now carrying quantities of butter to the other side. They are fitted up with refrigerators for the purpose.

The fruit growers of Pasadena, Cal., have, it is reported, organized a protective association to oppose the consignment of dried fruits.

The New England cranberry crop has been ravaged by worms, and reports place the yield at 75 to 80 per cent of that of last year, which was a light one.

Receipts of butter are unusually heavy for the time of year, but prices have shown a slight advance for the best qualities. Stocks of the latter are extremely light.

It is said that meat is now being cured by forcing the brine into it by hydraulic pressure, thus accomplishing in 20 seconds what usually requires several weeks.

The cheese market has been in pretty good shape. Supplies have been moderate, considerable has been bought on speculation, and foreign prices have been higher. The hot weather affected the quality of some of the arrivals, but not so much as with the butter.

At the recent meeting of the Cape Cod Cranberry Growers' Association, the following officers were elected: President, A. D. Makepeace, West Barnstable; vice-presidents, Emulous Small, Harwich; George R. Briggs, Plymouth; secretary and treasurer, Franklin Crocker, Hyannis.

The Secretary of Agriculture has received a communication from a Greek resident of Asia Minor, who desires a commission for the cultivation, propagation and fishing of sponges on the shores of the United States. He is confident of his ability to develop a profitable industry.

The recent egg market has been the worst ever experienced. The loss from heat has been large, and many eggs have become absolutely worthless. One car-load was sold for $100. The situation is somewhat improved, but the effect of the heat is likely to be apparent in the receipts for some time to come.

Denmark is one of the leading butter exporting countries. The New York Produce Review prints the following from Copenhagen: "We have had some rain, but far from sufficient to improve the condition of the pastures to any great extent. Grass is very scarce and in many places the cattle have to be stall fed. The production of butter is steadily decreasing, at any rate, the arrivals to the Copenhagen market were, this week, much smaller than usual. At the same time, the demand is excessively large from all parts, and the exporters had to divide their butters proportionately between their customers, as it was quite impossible to give every one full quantity. Secondary butters were in even greater demand, taking the place of finest in the local consumption. The cellars are swept of butter of all kinds but decided confectionery stuff, and the tendency is to an equally brisk market again next week." The United States would'nt have any trouble in making up this shortage.

Geo. A. Cochrane, a Boston apple exporter, recommends boxes for shipping some of the more delicate varieties that do not carry well in barrels. He has been experimenting for several years, and claims to have demonstrated its practicability during the past two years. The box he recommends, is in shape and style similar to the orange box now in general use, but somewhat different in measurement and construction. It can be made of any kind of wood that does not warp. The ends and middle piece should be made of ¾-inch wood, and be cut just 12¾ inches one way, and 13 inches the other. This will make two compartments 12¾x12¾x13 inches. The pieces for forming the ends should be planed on the outside, but the rest of the wood for the case may be made of fine sawed lumber. The pieces forming the sides should be of ⅜-inch wood, and consist of, at least, two pieces and not more than three to a side. When nailed up, there should be a space of at least one-fourth inch between each strip to admit air. Use two-inch wire nails in putting together. The ontside dimensions of the case are exactly 28¼ inches long, 13½ inches wide and 13½ inches deep.

This box is intended to cater to a better class of trade than the barrel generally invites, and the higher the selection as to quality, the greater will be the price for the fruit. Fall fruit, such as Oldenburg, St. Lawrence, Alexander, Gravenstein, Fameuse, Wealthy, and, in fact, any kind of a red apple that will not carry safely in barrels, except Astrachan and Williams, are claimed to carry perfectly well in these cases.

In packing, care should be used not to bruise or injure in any way, and in selecting, throw out any wormy, bruised or defective apples. Each apple must be wrapped in paper somewhat after the style in which oranges and lemons are packed. Pack snugly and carefully, but do not use any force sufficient to bruise the fruit. Any slack space fill up with excelsior or crumpled balls of paper. Keep the fruit in a cool place and out of the sun after picking and packing. Avoid leaving the fruit on the grass overnight. When winter fruit comes along, any day will do for shipment, but fall fruit should be handled quickly, and must be shipped as late as possible and catch the steamers

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 12	@	1 15
Medium, 1895, choice	97	@	1 00
Pea, 1895, choice	1 00	@	—
Medium or pea, common to good	85	@	95
White Kidney, 1895, choice	1 20	@	1 25
Red Kidney, 1895, choice	1 05	@	—
Red Kidney, common to good	90	@	1 00
Black Turtle soup, 1895	1 45	@	1 50
Yellow Eye 1895, choice	1 17	@	1 20
Lima, Cal., 1895 (60 lbs)	1 65	@	—
Green peas, bbl., per bushel	72	@	—
Bags, per bushel	67	@	—
Scotch, bags	70	@	72

BUTTER—NEW.

Creamery, Western, extras	16	@	—
Western, firsts	14	@	15
Western, seconds	12½	@	13½
Western, thirds	11½	@	12
State, fancy	15½	@	16
Common to prime	11½	@	15
State dairy, half-firkin tubs, fancy	14	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	13½
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	12	@	—
Seconds	10	@	11
Western dairy, firsts	11	@	12
Seconds	9½	@	10
Thirds	8½	@	9
Factory, fancy	11	@	—
Factory, firsts	10	@	10½
Factory, seconds	9	@	9½
Factory, thirds	7½	@	8½
Old butter	6	@	9

GRASS SEED.

Clover, per 100 lb	6 75	@	8 25
Timothy	3 50	@	4 00

CHEESE—NEW.

State full cream, large, colored, fancy	8⅜	@	8½
Colored, good to choice	8	@	8¼
Fair to good	7	@	7¾
Fancy white	8⅜	@	—
White, choice	8	@	8¼
Small, colored, fancy	7¼	@	7½
Small, white, fancy	8	@	—
Small, good to choice	7½	@	7¾
Small, common to fair	6	@	7
Light skims, choice	6	@	—
Part skims, good to prime	4	@	5
Part skims, common to fair	2	@	3
Full skims	1	@	1¼

EGGS.

Near-by, new laid, fancy, per doz	16	@	17
State, fresh gathered, average receipts	14	@	15
Penna., country marks, average best	14	@	15
N. Ohio, Ind., Ill. and Mich., prime	12	@	13
Other Western, prime	13	@	—
Western, fair to good	11	@	12
Western & South'n, poor to fair, per case	1 75	@	2 40
Western culls, per case	50	@	1 00

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	5½	@	6
Choice, 1895, per lb	4¾	@	5¼
Prime, 1895, per lb	4¼	@	4½
Common to good, per lb	3	@	4
N. C., sundried, 1895, sliced, fancy	3¼	@	3½
Southern, sundried, common to choice	2	@	3
State, sundried, quarters, bbls	2½	@	3½
Western, sundried, quarters, bbls	2½	@	3½
South-West'n, sundried, quarters, bbls.	2¼	@	3
Southern, sundried, quarters, bbls	2	@	2¾
Southern, sundried, coarse cut bags	2	@	2¼
Chopped, 1895, per lb	—	@	—
Cores and skins, 1894, per lb	—	@	—
Peaches, Sundried, 1895, peeled, per lb	3	@	6
Cherries, 1895, per lb	9	@	9½
Cherries, 1896, per lb	9½	@	10
Blackberries, 1895, per lb	5½	@	6
Raspberries, evaporated, 1896, per lb	15	@	—
Huckleberries, 1895, per lb	7	@	7½
1896, per lb	7½	@	8
Plums, Southern Damson, 1895, per lb	4	@	—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25	@	1 75
Alexander, per bbl	1 25	@	2 00
Gravenstein, per bbl	1 25	@	2 00
Fall Pippin, per bbl	1 25	@	1 75
Holland Pippin, per bbl	1 50	@	1 75
Oldenburg, per bbl	75	@	1 75
Nearby, Nyack Pippin, per bbl	1 25	@	1 75
Nearby, other k'ds, h'd-pick'd, per bbl	1 00	@	1 50
Nearby, windfall, per bbl	25	@	75
Blackberries, fine and large, per quart	7	@	8
Soft and poor, per quart	4	@	6
Grapes, Md. & Del., Moore's Early, per car'r.	50	@	75
Md and Del., Concord, per carrier	50	@	75
Up-River, Champion, per 25-lb carrier	40	@	50
Up-River, Wyoming, per 25-lb carrier	75	@	1 00
Up-River, Moore's Early, per 25-lb car'r.	75	@	90
Up-River, Worden, per 25-lb carrier	80	@	1 00
Up-River, Niagara, per 25-lb carrier	1 25	@	1 75
Up-River, Delaware, per 25-lb carrier	1 25	@	1 75
Huckleberries, Jersey, per quart	5	@	7
Mountain, Penn. and State, per quart	6	@	8
Peaches, Md. and Del., fancy, large, per bkt.	70	@	1 00
Md. and Del., poor to fair, per crate	30	@	60
Fair to fancy, per carrier	1 50	@	2 50
Common, per carrier	75	@	1 25
Muskmelons, Baltimore, per basket	75	@	1 00
Md. and Del., per carrier	75	@	1 50
South Jersey, per bushel-crate	25	@	50
South Jersey, per bbl	1 00	@	3 00
Anne Arundel, per bbl	1 00	@	2 00
Hackensack, per bbl	2 00	@	3 00
Plums, Green, per 10-lb basket	20	@	25
Ordinary Blue, per basket	20	@	30
Extra fancy blue, per basket	35	@	—
Pears, LeConte, Southern, per bbl	1 00	@	2 00
Kieffer, Southern, per bbl	1 00	@	1 50
Bartlett, per bbl	2 50	@	4 00
Bartlett, per keg	1 25	@	1 75
Clapp's Favorite, per bbl	2 50	@	3 25
Clapp's Favorite, per keg	1 25	@	1 50
Nearby, Scooter, per bbl	2 00	@	2 50
Nearby cooking, per bbl	1 75	@	2 25
Watermelons, choice, large, per 100	16 00	@	25 00
Small to medium, per 100	6 00	@	20 00
Per car-load	75 00	@	175 00

GAME.

Woodcock, choice, per pair	90	@	1 00
Partridges, choice, per pair	75	@	1 00
Grouse, choice, per pair	75	@	1 00
English snipe, choice, per doz	1 75	@	2 00
Plover, golden, choice, per doz	1 75	@	2 00
Grass, choice, per doz	1 00	@	1 50

HONEY.

State, white clover, comb, per lb	—	@	—
Buckwheat, comb, per lb	7	@	8
White clover, extracted, per lb	5	@	6
Buckwheat, extracted, per lb	4	@	—
California, comb, fair to prime, per lb	10	@	12
Extracted, per lb	5½	@	6½
Southern, in bulk, per gallon	45	@	55½

HOPS.

N. Y. State, crop of 1895, choice	7	@	7½
Medium to prime	5½	@	6½
Crop of 1894, fancy	4	@	—
Prime	3½	@	—
Medium	3	@	—
Common	2	@	2½
Old olds	1½	@	2½
Pacific Coast, crop of 1895, choice	6	@	6½
Prime	5½	@	—
Medium	4½	@	—
Crop of 1894, common	2	@	2½
German	14	@	20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	10	@	—
Fair to good, per lb	9	@	9½
Com. to med., per lb	7	@	8½
Small, per lb	5	@	7
Buttermilks	5½	@	6½
Grassers	4½	@	5½
Pork, country dressed, light, per lb	6	@	6½
Medium, per lb	5½	@	6¼

POTATOES.

Long Island, in bulk, per bbl	1 00	@	1 25
Jersey, per bbl	87	@	1 12
Sweets, yellow, per bbl	1 12	@	1 50
Jersey, yellow, per half-bbl basket	1 00	@	1 25
Sweets, red, per bbl	75	@	1 25

POULTRY—LIVE.

Spring chickens, per lb	9½	@	10
Fowls, local, per lb	9	@	—
Western, per lb	9	@	—
Southwestern, per lb	9	@	—
Southern, per lb	9	@	—
Chickens, yearlings, per lb	10	@	11
Roosters, old, per lb	5	@	5½
Turkeys, mixed, per lb	9	@	10
Ducks, local, per pair	70	@	85
Western, per pair	60	@	70
Southern, per pair	50	@	—
Geese, local, per pair	1 00	@	1 37
Western, per pair	1 00	@	1 25
Southern, per pair	75	@	1 00
Pigeons, old, per pair	20	@	—
Young, per pair	15	@	—

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DRESSED POULTRY.

Turkeys, average, hens, per lb	10	@	11
Average toms, per lb	9	@	10
Chickens, Phil., selected, per lb	13	@	15
Phila., ordinary, per lb	10	@	12
L. I., scalded, per lb	10	@	12
Pennsylvania, per lb	10	@	12
Western, dry-picked, per lb	6½	@	9
Western, scalded, per lb	7	@	10
Western, small, per lb	7	@	8
Fowls, Western, dry-picked, choice	9½	@	10
Dry-picked, fair to good, per lb	8	@	9
Scalded, choice, per lb	9	@	9½
Old cocks, per lb	5	@	6
Spring ducks, Eastern, per lb	12	@	12½
Spring ducks, L. I., per lb	12½	@	13
Spring ducks, Western, per lb	7	@	9
Old ducks, Western, per lb	5	@	8
Spring geese, Eastern, per lb	14	@	—
Squabs, tame, white, per doz	1 75	@	—
Mixed lots, per doz	1 25	@	1 50
Dark and poor, per doz	1 00	@	—

VEGETABLES.

Beets, per 100 bunches	75	@	—
Cabbage, L. I., per 100	2 00	@	2 50
Carrots, per 100 bunches	75	@	—
Cauliflower, L. I. and Jersey, per bbl	1 50	@	2 50
Celery, fancy, large, per doz	40	@	—
Average, prime, per doz	15	@	25
Small, per doz	5	@	10
Cucumbers, Jersey, per box	20	@	30
Long Island, per 100	40	@	50
Pickles, L. I., per 1,000	1 00	@	2 25
Pickles, Jersey, per 1,000	1 00	@	2 00
Egg plant, Monmouth County, per bbl	50	@	75
Jersey, per bbl	40	@	60
Green corn, Hackensack, per 100	50	@	75
Other Jersey, per 100	25	@	50
Green peas, Western N. Y., per bag	50	@	1 75
Long Island, per bag	75	@	1 00
Lettuce, Boston, per doz	35	@	40
Lima beans, Hackensack potato, per bag	75	@	1 00
Jersey flat, per bag	40	@	60
Onions, Southern, potato, per basket	50	@	60
Southern, potato, per bbl	1 12	@	1 25
Orange County, red, per bbl	75	@	1 00
Connecticut, red, per bbl	1 25	@	—
Connecticut, white, per bbl	1 75	@	2 00
Connecticut, yellow, per bbl	1 25	@	1 50
State, Multipliers, per bbl	1 25	@	—
Long Island, yellow, per bbl	1 25	@	1 50
Long Island, Red, per bbl	1 00	@	1 25
Peppers, S. Jersey, per bbl	60	@	75
Spanish, per bbl	75	@	1 00
Spinach, per bbl	—	@	—
Squash, marrow, per bbl	75	@	—
White and yellow crook, per bbl	50	@	75
String beans, Jersey, per basket	—	@	—
Long Island, per bag	75	@	—
Tomatoes, Moun'th Co., J'y, fancy, per crate	20	@	30
Monmouth Co., Jersey, Grant, per crate	20	@	30
South Jersey, per crate	10	@	15
Turnips, new, white, per 100 bunches	1 50	@	2 00
Russia, per bbl	60	@	75

WOOL.

XX and above, Ohio	18	@	19
X, Ohio	15	@	16
Other grades	20	@	22
Washed combing and delaine	18	@	23
Unwashed combing	17	@	20
Texas, medium to choice	10	@	13
Fine and medium, fall clipped, Texas	9	@	10
California	9	@	15
Oregon	12	@	13½
Territory	7	@	14

MILK AND CREAM.

The total daily supply has been 22,689 cans of milk, 188 cans of condensed milk and 978 cans of cream. The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

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NOTES FROM "LUAVA."

At the present time, the garden yields an abundant supply of Lima beans, turnips, beets, cabbage, sweet corn, squash, egg plant, tomatoes, peppers, cucumbers, celery, and lettuce. There are an even dozen of good friends that sadly interfere with the butcher's business. We like the Tetofsky apple for home use. It is later than the Red Astrachan, keeps better, and can be used for a greater variety of purposes.

* * *

Our first picking of Crosby sweet corn was made August 1, from rows planted May 11. The Adams corn gave us a good supply of ears from July 19 until after the Crosby was ready. By comparing the two varieties at the same meal, it is quite evident that the Adams is not a true sugar corn. Still, when picked green enough, it gives a good boiling ear of fair quality. When fully ripened, it gives an ear that resembles a firm, white dent quite different from the ripened ear of a true sweet corn.

‡ ‡ ‡

The Crimson clover has made an excellent start. The abundant rains made the ground moist, and there was no repetition of last year's failure to sprout the seed. In the tomatoes, we simply scattered the seed among the vines and left it without covering. It has, apparently, all started and is growing rapidly. Among the raspberries and currants, the seed was sown on well-prepared ground and well covered. Part of it was rolled or packed after seeding, but in this damp season, the rolling does not appear to have helped the crop. In a dry time, we would expect good results from the rolling, but this year, in our part of the country, rolling or packing was just the thing *not* to do, for the ground usually contained too much water, and the object was to get rid of it rather than to hold it.

‡ ‡ ‡

A row of cow peas planted July 24, has grown about 18 inches high, and the plants are now beginning to run. The seed came from North Carolina, and was of this year's first crop. There is, of course, no hope of maturing seed so late in the season, but we shall, evidently, obtain a heavy growth of vines. Early Black cow peas were planted in the sweet corn, July 28. We dropped them at random in the drills, four or five feet apart and three or four peas at a place. The "planting" was done by kicking a hole in the earth, dropping the peas and covering with the foot. The peas started in four days, and have made a fair growth, though the corn is very dense and thoroughly shades the ground. The peas grow over a foot high before starting to run along the ground. They will have nearly a month to grow yet.

‡ ‡ ‡

Evergreen sweet corn planted May 21 is now ripening. On one small patch in the garden, the stalks stand over 13 feet high. This is the place on which potatoes were grown under a mulch last year. The potatoes were dropped in shallow drills, a little earth pulled over them and the whole thing covered with about two inches of well-rotted manure. This was not disturbed until the potatoes were dug. After digging, Crimson clover seed was broadcasted and worked in with the wheel cultivator. The clover made a fair growth, and this spring, it was spaded under and the place was planted to sweet corn. The growth is enormous, and extends just as far as last year's mulch was spread. Outside of that area, the corn is, at least, 18 inches shorter and of a lighter color. There was just as much manure used where this poorer corn grows, but it was spaded in. The line of last year's mulch—where the ground was shaded during the entire season—is plainly marked by the growth of the corn. Now is this extra growth due to the Crimson clover that was turned under, or to the last year's mulch? H.

Live Stock Matters

A TAINT IN THE BREED.

The Influence of Former Breeding

THE QUESTION.

I read in some of the poultry papers the claim that if fowls of one breed were mated with another breed, they would never breed true again. For instance, if a P. Rock hen were mated with a Light Brahma cock, then the P. Rock hen be bred to a P. Rock cock, the hen will never breed true again. This is the claim made by many, but I do not believe it. W. A. M.

THE ANSWERS.

I believe and, in fact, I know, that if a P. Rock hen should run with a Light Brahma cock, and afterwards be put with a P. Rock cock, as soon as she wanted to sit, that she would throw pure P. Rocks, and would breed just as true as though she had never been with the Brahma cock. PHILANDER WILLIAMS.

From experience and observation, as well as from the reason of the thing, I believe that, if there is any possibility of contamination of a female by mating with a male of a different breed, it is so small that it can be ignored. Such contamination is not worth taking into account. The claim that the male, by running with females of another breed, will become contaminated, is contrary to experience, observation and reason. It is ridiculousness itself. H. S. BABCOCK.

It has been claimed that, as there is no arterial circulation of blood between the dam and the embryo, no ill effects can result from crossing. My experience has been that the chicks come true to the breed, no matter how many times the hen has been bred to different males. Some breeders affirm, however, that they have known of instances where the effects of previous crossing were noticeable. I believe them mistaken, and that, if a hen is separated from the first male a sufficient length of time, the chicks will partake of the characteristics of their sire (the second male), being in no manner affected by the influence of the first male. So far as the male being useless for breeding with purebred hens, after having been mated with scrub hens, it is an impossibility, as the organs of reproduction of the male are such as to make it almost absurd to suggest such a possibility. P. H. JACOBS.

I believe the statement, that the female of any species, is permanently contaminated by a scrub male, to be wholly untrue. The influence of the cock upon the hen's eggs does not extend beyond the 10th day, and he does not affect the hen in any other way than upon the eggs. If more than 10 days are allowed to elapse before she is bred to a male of her own breed, the eggs will be pure. A mare, I believe her name is Ella McGoffin, was bred three consecutive years to a jack, and produced three mule colts. If ever there was a female that should have been ruined, this mare was that one. Then for two consecutive years, following the third mule colt, she was bred to the great trotting sire, Blue Bull, and produced two fillies, one of which afterwards trotted in 2:25, and the other in 2.25¼. Neither of these colts showed the slightest trace of contamination, nor has any subsequent colt produced by that mare. A mare carries her colt about 342 days, and there is a more intimate connection between her and the fœtus than there is between the hen and her eggs, in my opinion. If, then, a mare is not contaminated by a jack, it shows that there is not such a circulation through the fœtus as to poison the blood of the mare. When the hen, or any other female that has been bred to a scrub male, does not breed true afterwards, I believe that the fault lies wholly in the pedigree of the female. If the female is but partly bred herself, she cannot breed true to any one line, unless the male is prepotent enough to control the offspring. Some females, although purely bred, will breed back to a far distant scrub ancestry, in spite of the fact that they have never been bred to any other than males of the highest breeding. These are mere "freaks of Nature," and all such females should be converted into food as soon as possible. I believe the laws of Nature in regard to breeding to be universal, and apply alike to animals, birds and reptiles.

F. A. LEHMANN.

Authorities differ on this question. As I understand it, the claim is not that birds never breed true again, but that they are not as sure to breed true, or that they cannot be depended upon afterwards, that they receive a certain influence or impression that may last, and which affects future progeny. Cattle breeders find that this is often the case with cattle. It is said that, if a heifer produce her first calf by a certain bull, her other calves are very liable to resemble this bull, although she is served by a different bull that is very much unlike the first. It is said that mares which have been used for the production of mules, very often produce colts having long ears and other mulish characteristics, when they are bred to a stallion. It would be hard to say why or, in the case of fowls, to give anything to show that it is the same with them. Experiments in this line, unless carried on with the utmost care for a score of years, would be worthless.

Personally if I were breeding the highest grade of any purebred fowls for exhibition or fancy points, and desired to secure other specimens to breed with them, I would not, on any account, buy of a breeder who allowed different breeds to run together when not mated for breeding. I would be more particular about the females than the males. It would, I believe, result in more variation, a smaller per cent of choice birds, and more sports among the progeny when they were mated up with their own breed for a proper length of time. I would not pay high or fancy prices for stock managed in this way. Practical egg producers and breeders of the business hen would have less reason to take this precaution. SAMUEL CUSHMAN.

Influence of Sire and Dam.

It is a fact that some bulls, of noted ancestry, even, will beget calves exceedingly indifferent for dairy purposes. On the other hand, when a good cow is served by a bull of much shorter pedigree, the offspring may prove to be quite a famous milker. Personally, therefore, regardless of pedigree, I would rather pay $5 for the service fee of a bull with noted progeny, than $1 for a bull with a pedigree a mile long, but of whose progeny I know nothing. The offspring will approximate the physical characteristics of the sire, such as shape, size and constitutional vigor. Let us take this Holstein-Jersey cross as an example, as regards size. The offspring of the Jersey bull were larger than he, but not as large as purebred Holsteins. In the case of the Holstein bull, the offspring were smaller than he, but larger than purebred Jerseys. In either case, the change in size was from that of the breed of the dam toward that of the sire, either ascending or descending. Quantity of milk is more of a physical characteristic of a breed. Quality is more of a motherly or individual trait. As a general thing, the Holsteins give more, the Jerseys richer milk. According to the laws of heredity, we would, therefore, expect from a Jersey-Holstein cross, cows giving milk in decreased quantity without a corresponding increase in quality. From a Holstein-Jersey cross, we would expect an increased quantity of milk to the credit of the sire, and an increase in quality for which the motherly trait of the dam is responsible. Even the sex seems to be very much dependent upon the dam.

As an illustration, let us take two of my cows with whose every trait I am particularly familiar. The one has been served by a different bull every time, but she always drops heifer calves. The

(*Continued on next page*).

FOR ECONOMY

in the feeding of the corn crop, something that will **SAVE THE 37 Per Cent.** of the total nutriment, which is contained in the stalk after the ear is husked, we commend you to the use of the

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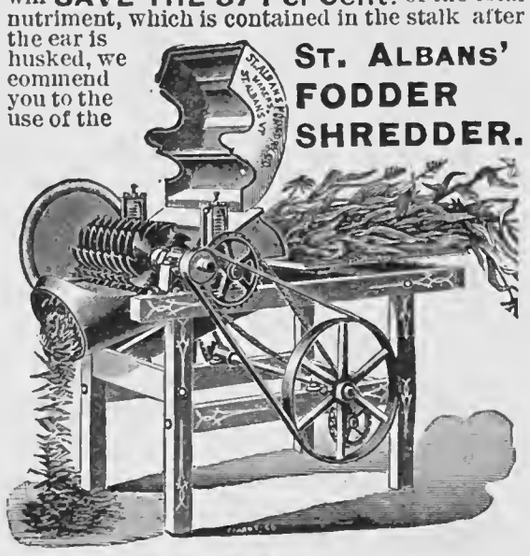

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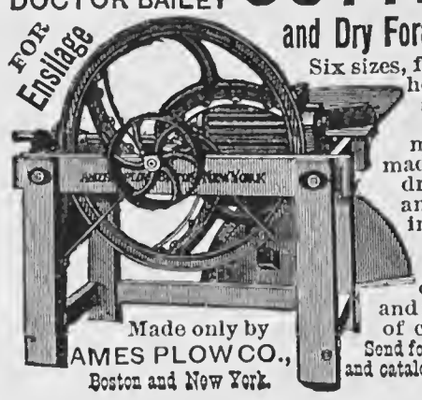

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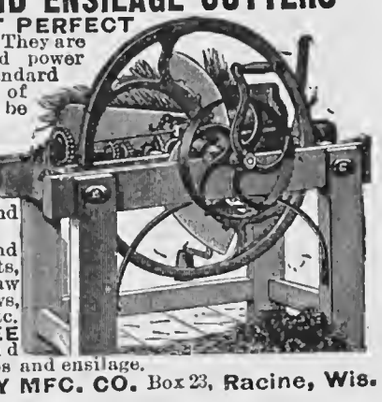

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LIVE STOCK MATTERS.

(CONTINUED.)

other has been served by the same bulls, but always drops male calves. The latter is slightly the better cow, but I value the former more for evident reasons. Now, these are far from being isolated cases. THE R. N.-Y. says that, in crossing these breeds, the bull should be of the larger size. But if we had to look to the Holsteins for quality, and to the Jerseys for quantity, the reverse would be true, our object being to increase the quantity of the quality. Now, this is the matter in general terms, but without asserting that quality is not likewise affected by the sire. Briefly stated, the sire exerts a "predominating" influence in one direction, the dam a "predominating" influence in another, while other vital forces are so intimately blended that little is required to turn the balance one way or the other. There are some so-called scrub cows whose progeny is, by no means, neeessarily improved because the sire was a purebred, for the simple reason that there are some very despicable "scrubs" among the purebreds. The most notable changes when a cross is made, are physieal characteristics which are comparatively suddenly reproduced. The motherly traits are more tardy in manifesting themselves, and more repeated crosses are necessary to bring them towards perfection. How essential, then, to know beforehand that the sire possesses, in a marked degree, the ability of reproducing these traits. J. C. SENGER.

SOME HEN NOTES.

Eggs won't hatch; difficulties with an incubator; reading a thermometer; how often shall we feed? Vinegar for gapes; hens vs. cows.

A neighbor who keeps his fowls confined to their house and yard, has too many in one flock, and makes no effort to feed properly, has gathered bushels of eggs, and almost every egg put in an incubator or under hens, has hatched; 36 eggs under hens gave 35 strong chicks; 60 chicks were hatched from 70 eggs in the incubator. Another neighbor fed carefully, studied "balanced rations," wishing to raise a large number of chicks, yet not 25 per cent of his eggs would hatch. Nearly all in this locality have had trouble this season, and I cannot find out the reason for the two notable exceptions.

Our first two attempts with the incubator were almost total failures. Weak with illness, I was easily persuaded that once a day was often enough to visit it, to turn the eggs, and that airing was unnecessary. Often a boy was sent to fill the lamp and take the temperature. He came back, one time, reported 106 degrees, and remarked, "I turned down the lamp." The next morning, I found the thermometer at 80 degrees, and, of course, everything was spoiled. I called him and asked, "What is the temperature now?" He looked and said, "85 degrees." The thermometer was leaning from the door, and he was looking at it through it. I raised the thermometer up straight, and then we saw where the error came in.

A hen sat a week and left her nest; the eggs were uncovered all night. A second hen played the same trick a week later, and another was substituted. The seventeenth day, the nest was again found abandoned, and the eggs very cold; evidently the hen had been gone some time. As a matter of experiment, the eggs were put under another hen, and every fertile egg hatched. The second hatch grew all right until the twentieth day, then all died, except 30 poor to fair chicks. Those that picked a hole through the shell on the under side were gummed in by a yellow, thick, sticky fluid that dried very quickly when the air struck it. In some cases, the fluid made a little pool on the floor under the egg as it ran out. If the chick broke out on top, it might not drown. "Too much moisture, of course" writes one. "Not enough heat to dry them down," says No. 2. While No. 3 says, "The cellar was too damp." But the facts are that not a drop of water was put in the machine from beginning to end. The temperature averaged 103½ degrees, and the incubator was not in the cellar at all, but in the new henhouse where everything dries out and wood shrinks.

Should the growing chick absorb the moisture in the egg, or should it evaporate through the shell? The reasons given by P. H. Jacobs in a late R. N.-Y. are not satisfactory, as the condition he supposes did not exist. There should not be any fluid in the shell at hatching time. The third hatch showed none—no moisture was used—and every chick that pipped came out. The thin membrane was just damp enough to prevent sticking to the shell. In starting the hatch, the temperature was kept down the first half day, and did not reach 103 degrees until the close of the second day. The eggs were turned twice a day, and kept air end up. The head of the chick should be in the large end of the egg, and will be at the top until it grows fast which is said to be the eighth day. I did not want them to drown or suffoeate this time and I found that most of those that hatched were "right end up." The eggs were cooled down by opening the doors until the thermometer showed 85 degrees as it laid on the eggs inside. This was done every other day. The 18th day they were cooled to 80 degrees and I did not open the incubator again until done. The heat did not vary a half degree, and the ventilators were wide open. I did everything I could to "dry them," even though it was July, and so hot that the lamp would heat enough if burned as low as possible.

I find that wooden and metal cased thermometers do not register alike, and that position affects them also. We had an 85 per cent hatch this time, of the fertile eggs. If this last hatch shows anything, it shows that turning often, cooling, keeping large end up, and a uniform temperature are necessary; but who will tell me what made the fluid in one case and the entire absence in the other? On page 481, the cause of the sticky fluid is said to be a lack of heat, but in the incubator, there is no lack of heat.

How often should we feed? A friend has one hen that stayed back of the barn in the meadow; she and her brood were fed in the morning and not seen again that day. "She raised every chick and they are twice as large as those I kept near the house and fed five times," was her summing up. At another farm, a hen hatched four chickens somewhere, and was first seen in the yard with 200 other hens. Their owner said, "I did not care for them, and thought that two days would finish them. When the hens were fed, the chicks were afraid and ran under the fence. I do not see where they could get a single mouthful to eat after 200 hens had gleaned, yet every one, at two weeks of age, was larger than some we did everything for." A little food, only gained after some searching, seems to be what they need, and constant activity makes growthy chickens.

Our farm is infested with gape worms, and our only sure preventive is to keep the chicks shut up. I was told that wetting their feed with vinegar would effect a eure. I have tried all the remedies printed, without success, and see no reason why vinegar should benefit; but two of us have tried it, and although it did not eure at once, no more died, and in a short time, all were well. I hope that others will try it and report.

Some begin to think that the theory that old hens are no good for egg producing, lacks proof. One yard of three-year-olds laid more eggs in a year than the yearlings. Pullet eggs are likely to be small and not suitable for the fancy trade. Do not be in a hurry to dispose of a good, healthy Leghorn hen! And do not pay too much for pullets!

The returns for July, from 200 hens, exeeeded those from 10 cows. The eggs sold for 15 cents per dozen, and the milk at 60 cents per 100 pounds delivered at the milk depot. My friend kept the milk at home, and after feeding the skim-milk, the daily supply of eggs increased 60 per cent in two weeks. Said he, "If I had 400 hens, and let nearly all the cows go and used only what land is needed to grow grain for the hens, I would make more money with half the work." I think that he is more than half right, at least in refusing to sell good milk for less than the skim-milk seems to be worth for hen feed. I say seems, for the increased product may be due to an increased respect for the hen business since the test between cow and hen was made. C. E. CHAPMAN.

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—*Washington Star.*

A WOMAN knows a bargain—after she has been married long enough.—*Detroit Free Press.*

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A LAZY man, of a sort that most of us have seen, is said to have remarked, "I git so tired doin' nothin' that I can't do nothin' else."—*Youth's Companion.*

A LADY and gentleman touched each other's feet accidentally under the table "Secret telegraphy," she said. "Communion of soles, I think," said he.—*Credit Lost.*

JUDGE: "You say your husband gave you that black eye. Then why isn't he in court to answer to the charge?" The Plaintiff: "Sure, your honor, he can't see or walk."—*Life.*

ECONOMICS.—"The present trouble is that there are too many men for the number of jobs," said the amateur lecturer on the situation. "And that ain't all, mister," interrupted Dismal Dawson; "another trouble is that there is too much work to the job after the man gets it."—*Indianapolis Journal.*

AN old fellow who had recently buried his fourth wife was accosted by an acquaintance who, unaware of his bereavement, asked: "How is your wife, Cap'n Plowjogger?" "Waal," replied the captain, with a solemn, not to say sad, countenance—"waal, to tell the trewth, I'm kinder out of wives just now."—*New York Tribune.*

HE was very deferential, but he was a deacon in the church and he felt that he had a right to criticise. "I hope you'll pardon me," he said, "if I suggest that your sermons are—ah—" "Too prosy, I suppose," suggested the minister. "Oh, no; not that. But too long." "But you mustn't blame me for that," returned the minister pleasantly "If you knew a little more I wouldn't have to tell you so much."—*Chicago Post.*

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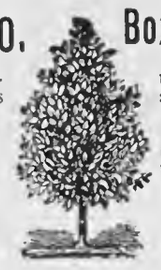
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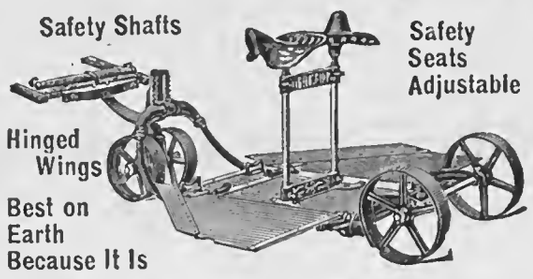

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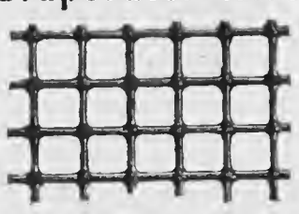
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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A NEW ENGLAND APPLE ORCHARD.

THE "NEW" APPLE CULTURE.

There Is Profit In An Apple Tree.

Mr. Edwin Hoyt, of New Canaan, Conn., is well-known as a veteran nurseryman and fruit grower. Last winter, at the Connecticut Farmers' Institutes, he gave an excellent talk on "Apple Orcharding." With this address for a basis, THE R. N.-Y. has prepared the following talk on apple growing in New England. While it refers especially to Connecticut, there are many ideas in it that will be useful to fruit growers everywhere.

"What do Connecticut farmers think of apple growing, Mr. Hoyt?"

"They seem to think that there is no profit in it."

"Are they right, in your opinion?"

"I do not deny that there is good ground for this belief, from the present conditions of apple raising."

"But is the failure to make it profitable, because apples cannot be profitably grown in this section of the country, or is it because those having the orchards are not pursuing the proper methods for profitable results?"

"To my mind, the latter is the reason. What crop is there on the farm that will pay if no more care, expense or attention is given it than that given most apple orchards throughout our State, and, I might say, our country?"

"You mean to say that the apple crop should receive as much care and attention as field crops of vegetables or grain?"

"Certainly? Why not? While farmers are raising large and profitable crops of farm products, how few there are who set an apple orchard, and give it the care and attention they do other farm crops, or the care necessary to insure a good and profitable crop of apples. Do you know of an apple orchard that is treated and cared for as one would treat an onion or potato crop? Is there an apple orchard in your community that is manured annually, and as carefully watched and attended to as the potato or onion crop? People say, 'Orcharding does not pay.' No, of course not. How should it, or how can it pay when there is very little or no outlay? To grow apples by the old methods, there is little, if any, profit. But if you ask, Can apples be grown in this section at a profit? I should certainly say, yes."

"What is the first important thing about your new apple culture?"

"First make up your mind to follow orcharding as a business, and to follow it as such almost exclusively. Farming and fruit raising may, but will not, as a rule, be carried on together successfully on the same farm. The necessity for annually manuring the orchard, frequent spraying and pruning the trees, thinning the fruit, cultivating, or stirring the soil to insure success, is apparent, and to neglect these things for other pressing farm work, is to sacrifice the apple crop to a very large extent. If orcharding is followed as a business, as it should be, then the time and attention necessary for securing a successful and profitable crop will more likely be given the trees, the same as is now given other farm products."

"But you have to wait too long for an apple crop?"

"I would plant trees with the idea of making the most money possible from it in our day, and not as an investment for those coming after us. To do this I would set the trees 18 feet apart, which would require 135 trees to the acre. Of course you will say at once, 'That is too close'; but wait till I show you what can be done. Remember, we are after the money in this, our new departure in orcharding, and want to get as much as possible out of it in our own day; therefore, plant quickly."

"What soil would you select?"

"Do not select some back lot, too poor and stony to be used for ordinary farm crops, as has only too often been done in the old way; but select the very best land you have, which should be dry and well adapted to growing onions, potatoes, corn, clover, etc. Much of our ridge land may, however, grow good crops of onions, potatoes and corn, yet be too wet for trees. Any land in which a hole dug for a tree, to a depth of about 20 inches, which, if left over night in the spring, would fill half full or less with water, is too wet for best results from an orchard, and should be underdrained. It is always best to have the land well manured, plowed and cropped one season before setting the trees."

"What about setting the trees and manuring?"

"In digging the holes for the trees, it is not necessary, in such tilled soil, to dig large ones; two feet in diameter, and 20 inches deep are sufficient. But in digging, be careful to place the surface, or black soil in a pile by itself, and, likewise, the subsoil, or yellow earth; then, when setting the trees, use the black soil only, and to make up a sufficient quantity to fill the hole, take a shovelful of the surface soil from here and there about the tilled field. The yellow soil may afterwards be sprinkled over the surface of the ground away from the trees. After the trees have been set, and the holes filled in, sprinkle about two or three pounds of some good fertilizer about each tree. The rains will then carry this plant food down through the soil to the roots in good time. The orchard should be manured or fertilized every year, using 25 to 30 tons of stable manure, or if fertilizer be used, one ton or more per acre. The land may be planted to onions, potatoes, or some low hoed crop, until the trees come into bearing, which will be in about four or five years, at which time cropping should cease, but manuring and cultivating should be kept up annually, as well as pruning, spraying and thinning the fruit."

"Now then, what do you expect to get from such an orchard in the way of fruit?"

"An orchard set on good soil, manured and cultivated with crops annually for four years, will, the fifth year, produce from one-half to three-quarter bushel of apples per tree, and should, and will, if properly handled, bear every year, each year with an increased yield; at eight years each tree should bear two barrels; at 12 years, five barrels, and at 15 years, 10 barrels per tree. Now, as we have 135 trees per acre, and each tree bears, say, one-half bushel of apples the fifth year, we have 67 bushels, or 50 bushels more than if the trees were set 35 feet apart, the usual distance. The sixth year, we would have one bushel per tree, or 135 bushels in all, which is 100 bushels more than if set 35 feet apart. The seventh year, say, 1½ bushel per tree, 202 bushels per acre, or 150 more than if 35 feet. The eighth year, two barrels per tree (as an orchard in New Canaan, Conn., did), would give you 270 barrels per acre, or 200 barrels more than if set the old way. The trees should thus continue to yield more each year until the fifteenth year, at which time they will begin to touch each other. The orchard has now borne 10 crops. There have been 100 trees more per acre to bear apples those 10 years, by being set 18 feet apart, than if set 35 feet apart, and each tree has yielded fully as much fruit as it would have done had they been set 35 feet apart. Now, it is safe to say that more money has been taken from this orchard in these 10 years, with 135 trees to the acre, than could be had from the acre in 25 or 30 years, had there been but 35 trees on the ground."

POTATOES WITHOUT HAND LABOR. THE WHEEL CULTIVATOR AT WORK. FIG. 182.

"What is done to the orchard when the trees grow large enough to touch each other?"

"If the trees begin to crowd at the end of 15 years, cut down every other row, and every other tree in the rows left, and we then have 35 trees to the acre, the same as though we had started with that number at first; but the 100 extra trees have produced thousands of barrels of apples, thus enabling the planter to realize more from that acre of orchard in the first 15 years from planting, than he could have done in 30 years had they been planted 35 trees to the acre originally. Again, the expense for manuring, spraying, cultivating, etc., is not, proportionately, as heavy with 135 trees to the acre as when there are only 35,

and there is no temptation to raise other crops in the orchard for any length of time, to its detriment, as the trees are too thick to admit of it. It is safe to say that the bearing of these 135 trees for the 10 years has been, on an average, 2½ barrels per tree each year, which would make a total of 3,370 barrels for 15 years. These, at $1 per barrel (which is a very low estimate), would make an average income of $225 per year for the 15 years. And we still have an orchard of 35 trees per acre to keep on bearing, which should produce, at least, 10 barrels per tree, or 350 barrels from the acre, and more money will be realized, per acre, from the orchard than from any other farm product."

"Have the crops ever been grown that will substantiate such statements?"

"Benjamin Hoyt, from 90 trees, set 18 feet apart, the sixth year, picked one bushel per tree; the eighth year, from the 90 trees, 206 barrels. Frank Olmstead, of Ontario County, N. Y., sold from 1½-acre of orchard, 379 barrels of apples, at $2.40 per barrel, amounting to $909.60, and had between 300 and 400 bushels of paring and cider apples. Geo. T. Powell, of Ghent, N. Y., wrote me last year that the apples from two Baldwin trees near his place sold for $110. A tree in Glastonbury, Conn., is reported to have produced 95 bushels last year. We, ourselves, have picked 12 barrels of apples from Greening and Baldwin trees the fifteenth year. The Jones Orchard Company sold Messrs. Baker & McFarland, of Chicago, $1,493 worth of apples per acre. There are many other instances of orchards set on the old plan realizing for their owners a large profit, so I feel justified in making my statement of yield. The estimate of $1 per barrel, which I made, is, as above stated, very low for such apples as we can raise by properly caring for the trees and fruit."

(To be continued.)

A HOTHOUSE FOR EARLY CABBAGE.

I would like a plan for a hothouse for starting early cabbage plants. What variety of cabbage do you consider best for early crop? What would be the cost of a house 20x30 feet? What is the best mode of heating? B. J. C.

Sodus, N. Y.

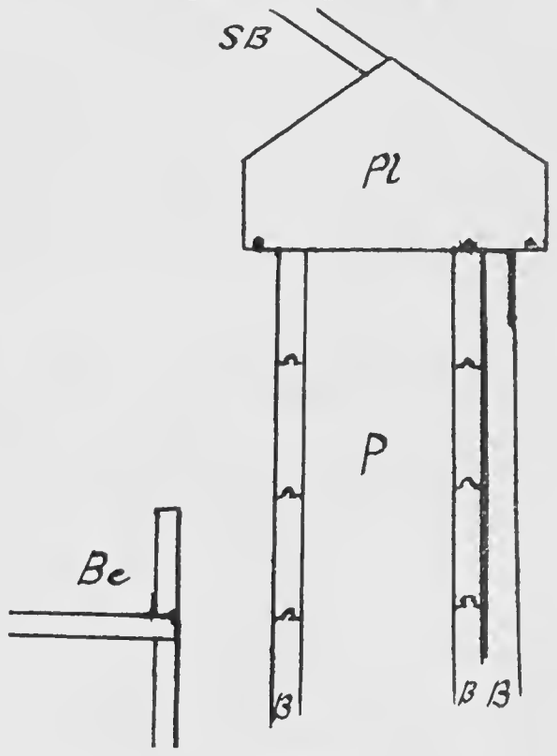
ANSWERED BY E. G. LODEMAN.

Two types of houses are in common use for this purpose—one form has only two benches, these running the entire length of the house, with a two-foot walk between them; the other style is much wider, allowing a bench at each side of the house, and a wide, double bench in the center. The width of the benches may vary, but unless the person who is to do the work has extra long legs, it will be found that 3½ feet is far enough to stretch. If the house is to be used only for starting early cabbage plants, tomatoes, etc., the seedlings may be grown in boxes, and the benches might be widened an extra foot; but in that case, they would be inconvenient for other crops.

It is of prime importanee that the side benches should not extend to the walls of the house. As the heat is almost invariably applied underneath, a space of about three inches should be left between the wall and the bench, so that the warm air may rise and meet the cold current which deseends along the glass. This point cannot be too strongly emphasized. The walks are generally made two feet wide in commercial establishments, and this is commonly found to allow sufficient room for work. A distance of 33 inches will be found convenient for the height from the walk to the bottom of the benches. Having the above dimensions given, the total width of the house may easily be estimated.

The structure of the wall, form of plate, and the position of the side benches are shown in Fig. 183; this arrangement I consider to be ideal, so far as warmth and cheapness are concerned. Posts (*P*) are set in the ground at intervals of eight feet; they should be dressed so as to receive matched lumber on two sides. Only one thickness of boards (*B*) is necessary for the inner side of the wall; but two are desirable for the outer covering, and if these run at right angles to each other, the outer sheath vertical, so much the better. Between these two outer layers of boards, there should be inserted a layer of thick building paper, to make the wall all the more tight. The wall, when finished, will be about nine inches thick, including the air space between the outer and inner layers of boards.

The form of the plate (*Pl*) is of the greatest importance. No other part of a greenhouse rots so fast as that exposed to the moisture which runs down on the inner side of the glass. This water penetrates all cracks and crevices, and the rotting of the wood progresses with wonderful rapidity. The plate should, therefore, be made of one piece, using some durable wood, as locust, cypress, white oak, etc. Its base should be flat, and wide enough to project on each side, at least an inch beyond the wall. A groove cut underneath one-half inch from the edge, as shown in Fig. 183, will prevent all water from finding its way to any portion of the wall. It is also desirable to have a third groove in the underside of the plate to receive the tongue of the first layer of boards placed upon the outside of the posts. The sides of the plate need not exceed three inches in height, this being sufficient to give it all necessary firmness. The top is bevelled in the form of a broad, inverted V. The outer side should have the same pitch as the roof, the angle shown in the illustration being 35 degrees. By having such a top, it is impossible for any water to collect and rot out the plate. Paint should be freely used when the pieces are put in their proper places, and if this be done, the wall, plate and roof will be, practically, indestructible, provided an occasional coat of paint be given in future years.

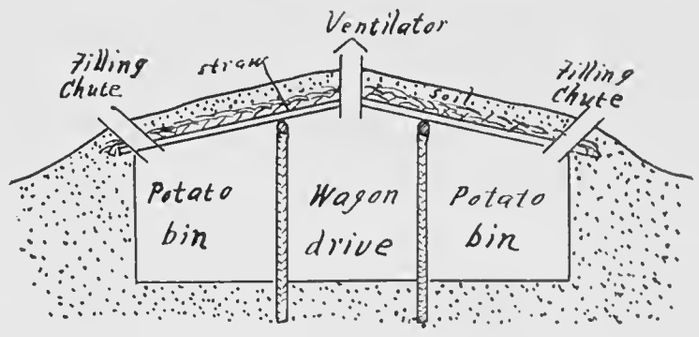


BUILDING A HOTHOUSE. FIG. 183.

The bottom of the bench (*Be*) may be from 12 to 15 inches below the lower side of the plate.

For a house 20 feet wide, sash bars (*SB*) should be used. The dimensions of the last ones we have put in our houses, are as follows: 1¼ inch thick, 1¾ inch high exclusive of the tongue, three-eighth inch height of tongue. These are bevelled at the base and at the top to fit the plate and ridge pole. A good size of glass to use is 12x14 inches. It should be double thick, third quality; when put on the roof, it should be bedded in putty and lapped not more than one-eighth inch. A line of ventilators, about 2½-inch, should run along one side of the roof at the peak; it is better to have them hinged at the bottom to leaders that are inserted between the sash bars at the proper distance from the ridge-pole

A house 30 feet long made as above described, may be heated either by hot-air flues, or by the use of hot water. The latter method is to be preferred. The amount of piping required for a house of the above dimensions, will vary with the temperature required, but for early cabbages, etc., a 3½-inch flow pipe situated overhead just below the ridge pole, will supply 12 returns each of 1¼-inch wrought iron pipe;



A COLORADO POTATO CELLAR. FIG. 184.

six returns may be placed under each of the side benches, or four only may be used instead, the other four being under the central bench. Such a system is expensive, but it is the most durable and satisfactory in the end. In case hot air be used, the furnace should be placed at one end of the house; the flue may then run under the bench on one side of the house and back along the other side to the chimney above the grate. A continuous rise should be given, and this is obtained by having the entrance into the chimney about two or three feet above the starting point of the flue. It is a good plan to have a damper which will shut off the flue connection; this allows the chimney to become heated rapidly when a fire is started, and when the damper closes the direct connection with the chimney, a strong draft is secured through the flue. The grate for the above house should have an area of about four square feet, whether coal or wood is burned, the former is preferable. The flue for the first 20 feet, should be lined with fire-brick, the inside dimensions being about 8x10 inches. From this point on, it is a good plan to use eight-inch vitrified tile, such as is used in sewers. Such a house, heated with a flue, costs from $10 to $12 per running foot, making the total cost of a house 30 feet long, about $300. In case a boiler be used, the expense will be greater.

The cabbage which has been most extensively grown for early market is, undoubtedly the Early Jersey Wakefield. Local conditions will determine the proper time for seed sowing. Our rule is to transplant seedlings (cabbage, tomato, etc.) as near four weeks after seed sowing as possible; a second shift is given four weeks later. If, therefore, we wish to set out cabbage plants April 15, we sow the seed February 15. The most convenient method of doing this is to make flats from common soap boxes; saw the latter into three pieces. The top and bottom parts are ready for use immediately; but the central section must have a bottom put on before it can be used. Each flat will take seed enough to produce 1,000 plants. On March 15, these seedlings should be transplanted into other flats, about 150 being set in each one. The temperature of the house, thus far, may range about 60 degrees F. at night to 70 degrees F. or more during the day. But when the plants have been handled, it is better to drop the temperature from 10 degrees to 15 degrees, so as to harden them off before they are out in the open ground. A good plan is to move them to cold frames, protecting them by mats, etc., during cold nights. Four weeks later, or about April 15, the plants may be set in the field.

POTATOES WITHOUT HAND LABOR.

NO CHANCE FOR THE BUGS.

For a number of years past, it has been a perplexing question how to raise potatoes at prevailing prices. Hoeing once or twice and digging by hand, leave very little for the farmer after paying hired help. The question now is how to raise potatoes with as little hand labor as possible.

Potatoes, with us, require a clover sod on a sandy or gravelly loam. We start in the fall to prepare for the following year's crop, by hauling and spreading the manure as fast as made. We have 33 acres of potatoes; the soil, a sandy loam, part Timothy and part clover sod, was plowed as early in the spring as the ground was in condition to work, eight inches deep, was rolled as fast as plowed, and harrowed every 10 days until planted. This frequent harrowing germinates all foul seeds, and holds moisture, which is an important factor in such a season as the one through which we have just passed. We planted the second and third weeks in June, using the Robbins Improved potato planter, which gave good satisfaction. We planted 3½ by 1½ feet, and four inches deep, at the rate of four to five acres per day.

A very important part in successful potato growing, is the selection and care of seed. Healthy, smooth potatoes of a uniform size, should be selected, and kept in a cool, dark place until planted to prevent sprouting. The planter left a plain mark which was easily followed, and in 10 days after planting, they were given a deep cultivation followed by the lever smoothing harrow. When the potatoes were first making their appearance, they were harrowed again, one man harrowing 18 to 20 acres per day. Then they were given a shallow cultivation once in 10 days, and the level theory was followed to the end of cultivation. Fig. 182 shows the field with the cultivators at work.

By planting in June, we escape the usual July and August drought, and while early-planted potatoes are setting and maturing, ours are growing, ready for the September showers to mature and insure a crop. We also escape the first crop of bugs, and by the time the last crop appears, the potatoes have made a growth that defies the most vigorous attack of the bugs, which is no small item in raising potatoes for 10 cents. When the crop is dug, I will give an account of the expense of growing 33 acres of potatoes by machinery, from starting the plow to the close of harvest.

Wayne County, N. Y. GEO. H. WESTCOTT.

WHAT THEY SAY.

Potato Cellars in Colorado.

I have just returned from a trip through the irrigation districts of the West, and while in Colorado, at Greeley, where potato growing is so large an industry, and where they do know how to raise potatoes, my attention was called to their potato cellars of which there are large numbers. The cheaper forms of simplest construction are, usually, holes in the ground, preferably, although not always, on a slope facing south or east. They are long, narrow and, usually, three-fourths or more below the general level of the ground, but often they are built so much

above ground that a wagon may be backed into them when it is desired to remove the potatoes.

Fig. 184 gives a general idea of their construction and interior arrangement, as seen in a simple cross-section. Usually, these cellars are without walls of masonry, and are provided with a roof made of poles covered with a layer of hay or straw upon which are 6 to 12 inches of earth. A row of chutes arranged along each side, serves to fill the bins easily from the wagon; these are made of inch lumber, and are about one foot square in cross-section, projecting six to eight inches above the roof. In the crest of the roof, there are, usually, two or more ventilators constructed in the manner of the chutes. The entrance to the cellar, especially when constructed so as to be entered with a wagon, is provided with double doors separated by a hallway having a length of six or eight feet, and has for its object the shutting out of the frost from in front. When necessary, potatoes are stored in the driveway as well as in the bins, the rear of the drive being filled first. F. H. KING.

Wisconsin College of Agriculture.

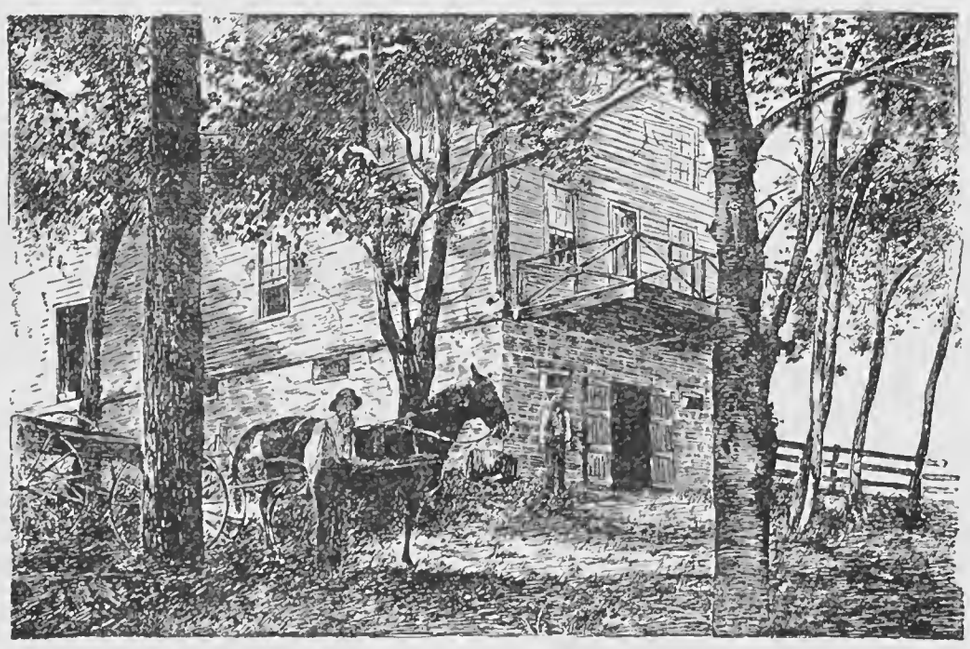
DOCTORING PEAR BLIGHT.—A year ago, I saw a remedy for pear blight, in the Orange County Farmer, and I tried it on one of my trees that was struck with blight. It was to run a sharp knife down from the blighted part to the ground, cutting through the bark. I did so, and the next day there was a black streak down both sides of the cut which can be seen yet. The tree is all right and growing finely this season. I have treated all my pear trees the same this year; cut the body of the tree in two or three places, and some of the larger branches once. Where I found the bark dead, I shaved it off and put wax on, and all are doing well. The pear bark is hard, and it struck me that it might be a sunscald and the bark wanted relief some way. When I was a small boy, I came near getting a thrashing for doing the same to a stunted cherry tree, but in two years, it was the largest tree in the row; then I was told to give the other trees some of the same medicine.

Marlboro, N. Y. J. B.

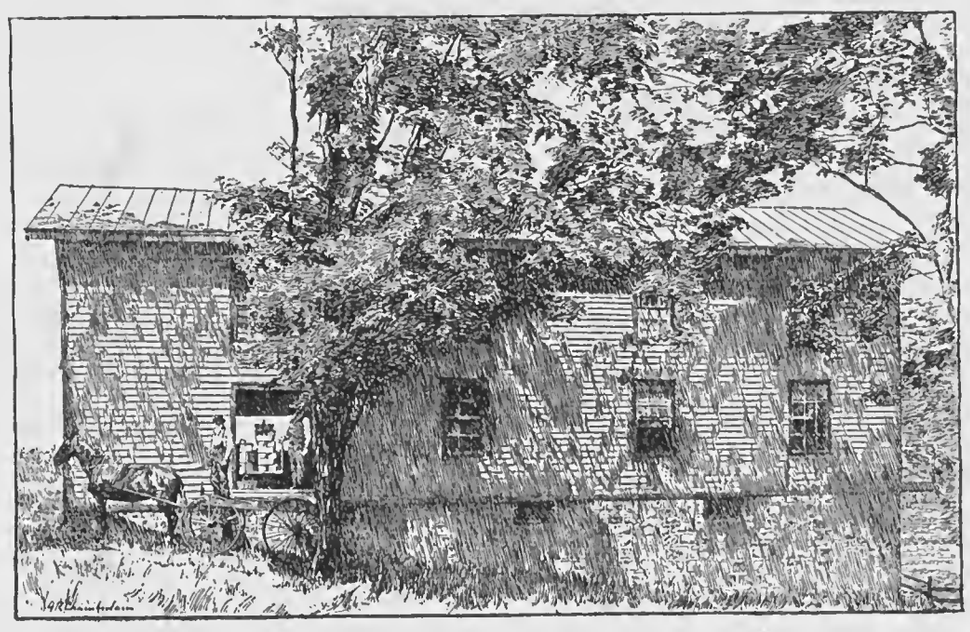
PACKING HOUSES FOR FRUIT.

In the past two issues of THE R. N.-Y., we have had quite a good deal to say about cooling rooms for fruit or dairy products. Another very important place on the fruit farm is the packing house or shed. So important is this matter that Prof. L. H. Bailey has recently devoted the greater part of a bulletin (No. 117), of the Cornell University Experiment Station, to a description of the types of packing houses used in the grape regions of western New York. We give, this week, three views of the packing house used by Mr. Geo. C. Snow, of Yates County, N. Y., taken from the bulletin mentioned above. This house is typical of the buildings used in the districts where large crops of Catawba grapes are grown and held until winter or spring. These packing houses have cellars or cool rooms connected with them, wherein the grapes are held. The house, shown at Figs. 185 and 186, is thus described by Prof, Bailey:

"It is built on a sidehill, and the basement or cellar is used for the storage of grapes, the first floor is used for packing, and the second floor or attic for the storage of baskets, crates and the like. This building measures 25 x 60 feet over all. The foundation walls are 24 inches thick, and the cellar is provided with ample means of ventilation by outside windows, and also by means of a chimney which runs from near the middle of the cellar up through the roof. The floor is of earth. By means of careful attention to ventilation, this cellar can be kept to 50 degrees or below during September and October, and is frost-proof during the winter. The windows are provided with close-fitting screens to keep out rats and squirrels. This cellar will easily hold 50 tons of grapes in the picking trays. The first floor is divided into two rooms, the front one being a packing-room 25 feet square, and the back room being a storage and shipping department, 25 x 35 feet. This packing-room is provided with heat, and is lighted by seven large windows. The floor above the cellar is double, and made of 1¼-inch matched pine, with an abundant air space between the two layers. This, therefore, protects the cellar from sudden fluctuations of temperature. The building is also shaded, especially from the afternoon sun, by large trees. This building can be erected for about $1,200. It has 18-foot posts, a tin roof, the two rooms in the first floor ceiled with pine, but the top floor not ceiled."



GRAPE PACKING HOUSE WITH BASEMENT ENTRANCE. FIG. 185



PACKING HOUSE ON A WESTERN NEW YORK GRAPE FARM. FIG. 186.

Speaking of the way in which grapes are kept through the winter, Mr. Snow says:

"Any good building in which the temperature can be held even at about 35 degrees, with ventilation as may be required, this to be determined by noting how the fruit is keeping, will be found available for grapes. No positive rules can be laid down. A cooling room, in which the fruit can be first cooled, is a necessity; if placed directly in cold storage, the temperature will be found to be raised rapidly by placing a quantity of warm fruit in the room. As even a temperature as possible is much the best. Grapes should not be packed in baskets for shipping before being stored. They should be ripe, as grapes do not mature after picking. Niagara or any other variety can be held only for a limited time, some varieties longer than others."

A CIRCULAR REVOLVING FRUIT PACKING TABLE. FIG. 187.

Fig. 187 shows a packing table in this house. The packers sit at a circular, revolving table, with the baskets in their laps, the table being turned as fresh fruit is put on it. This whole matter of packing houses and packing is of great interest to fruit growers, and THE R. N.-Y. will welcome any discussion or comment on this subject.

Cooling or cold storage houses are especially needed in such localities as the Maryland peninsula. This year's peach crop there was quite abundant, yet prices have been very unsatisfactory, because farmers had no option but to ship as soon as the fruit was picked.

SOME OF THE NEWER GRAPES.

SHALL WE SWALLOW THE SEEDS?

As I remember, THE R. N.-Y., a year or two ago, used some such words as "tedious" and "nearly disgusting," when it was telling about taking field notes on the behavior of the different fruits and vegetables. While I can see that it is sometimes tedious, especially when the thermometer shows above 90 degrees in the shade, it seems to me that the word "disgusting" is a rather strong one. Before disgust comes, one should wait a day or two for a better feeling to come around—or, enter into politics, a realm that disgust never (?) enters. I think that I remember, also, of your advice to separate the seeds from the pulp when eating grapes, because of danger from appendicitis. But is it good, practical advice? How many millions are to-day swallowing seeds with the juice and pulp? And how many dozens eject the seeds? For my own part, "I would as lief not be (eating grapes), as live to be in awe of such a thing as" a little grape seed. True, I may die of the dreadful disease next week, in which case I shall be mounted as an awful example. But I cannot, for the life of me, arise to the occasion and tremble when the artillery sounds so distant.

Yet, as I have been taking a few notes in my vineyard, I find that there is some reality in the danger from seeds after all. In separating the seeds from the pulp, to note the number, size and shape, I come to, say, a fair Concord. Next an immense, pulpy, musky Woodruff; next a little, sweet Poughkeepsie that has no pulp, or a regular pig-squealer like Janesville, and so on through the day. Well, the stronger I draw on the skin and pulp to separate the seeds, and get the last flavor, the more acrid the flavor is, and by night, my tongue is sore enough to give evidence to 40 lies—if the old saying about a connection between lies and a sore tongue is true.

No! when I have to separate seeds, I am going to quit eating grapes. But the usual "exception" comes in. When, as with Delaware, Berckmans, Poughkeepsie, Montefiore, and several of that class, or Amber, Elvira, Mo. Riesling, etc., of the rotten wood flavor, the seeds separate on crushing the berry, of course the seeds are ejected.

Excelsior (not reliable) is the meatiest little grape of which I know, and I would eat a great many grapes—seeds, skin and all—if it would succeed with me. Several of Mr. Munson's new grapes are fruiting with me, mostly for the first time, and here we get still another class with another flavor. Many of his varieties show, on the under part of the leaf, the galls of the Phylloxera; but, usually, the growth is thrifty; and in some cases, rampant, as with America and Hopkins. Some are fine in quality and some not so good. Whether any will prove as widely productive as the Concord, is a question for the future Many will be more free from rot. The bunches are usually more compact than are the older varieties, and none, so far as I have seen, will class in size of berry with the Rogers' hybrids.

Herman Jaeger is a continual surprise to me all the time I am eating it; it seems as though ground pulp, juice and seeds were all thrown in together into the thin, tough skin, and the skin closed again—seeds are not swallowed here. There is a little of the Post Oak, wild flavor, but, Mr. Rural, I like it, and I will propagate for my own eating. My taste here may not be correct, but I have marked it "Best." Yet it has not the pure, rich, sugary flavor of the Dela-

ware which one cannot find fault with—yet it is cloying. The bunch is large, very compact. Berry, full medium, quite black with a heavy, blue bloom. Ripens about with the Concord, and has not been injured, unprotected, with the mercury as low as 22 degrees below zero. Seems productive and about free from rot so far.

Elvicand gives a quite small bunch (unless closely pruned), which is often drop-shaped. The berry is large, black, with a reddish tinge, and adheres well. There is some tough pulp, and an abundance of free juice. It does not seem very productive.

Beacon is worthless from one (at least) fatal fault—it shells very badly, not from a thin, tender skin as with Lady and Carlotta, but because it loosens from the pedicel as Hartford and Champion. If it behaves in this way everywhere, then, exeunt Beacon. The berry and bunch are large, the latter long and cylindrical. The parting is red, and there is a peculiar red filament attached to the seeds, which separate readily from the pulp. This filament seems a distinguishing mark. Quality good enough—a rich vinous sweet, and it seems productive, and so far, free from rot.

Dr. Hexamer is under the standard for quality, and subject to bitter rot (which is the fault here of that fine variety, Moore's Diamond, also). I do not think it promising, although the bunch is neat and compact, and the berry large.

Hopkins would like to smother all the other vines in the vicinity, if allowed to. The bunch is large and very compact; kidney-shaped, but some tapering, with a medium, black-blue berry that seems not very juicy, but rather seedy. But the fruit is showy. The vine seems productive, berry rather free from rot, and it may hold a place, especially for wine.

America and Big Extra are both early, seem productive and rather free from rot; the quality is, also, very good, the pulp of the former being especially melting. Here Munson, Laussel and Opal are late kinds. Among them all, new and old, the old, poor Florence still holds the lead for earliness.

BENJ. BUCKMAN.

DENDROLENE FOR FRUIT TREES.

IT HAS KILLED THEM HERE.

Mr. Slingerland, in his article, Borers in Fruit and Shade Trees, page 557, makes the statement, "When properly applied, there seems to be, as yet, no authentic evidence of either substance" (Raupenleim or Dendrolene) "having killed or severely injured fruit or forest trees, either in Europe or in this country." The orchard of the Wisconsin Agricultural Experiment Station can furnish unquestionable evidence that Dendrolene has killed many apple trees. As to whether or not the Dendrolene was "properly applied," in this orchard, the printed directions on the package were strictly followed, except that the coating was, in most cases, considerably thinner than the directions recommend.

It was applied to some trees set the past spring, to others set in the spring of 1895, to still others set in 1894, and so on back to 1892. The trees set the past spring were the first to show injury; but some of these are still, apparently, uninjured, while many that were set in 1892 are entirely dead. The whole number of trees to which the Dendrolene was applied, was 180. Of these, 42 have already been removed as hopelessly dead. Of the remainder, a large number have the cambium brown entirely around the trunks. These are left standing in the hope that the branches may remain fresh until scions can be procured. Some do not, as yet, seem to be injured. The season has been peculiarly favorable for the growth of trees, and at the time the Dendrolene was applied, every tree was in apparent health. It is true, however, that a certain number of trees, I do not know how many, had been injured by borers at the time of the application. A very few such trees might have died, without the Dendrolene, but in the part of the orchard to which this material was not applied, no trees have died this season from borers.

The Dendrolene was mainly applied the last week in May and the first week in June, and a few trees were coated about two weeks later. The printed directions say distinctly, "It may be applied at any time during the year," and no cautions are offered as to time. The second week in July, after the injury to the trees was distinctly apparent, a further trial was made with a few trees that could be spared of the apple, plum and a single one of the wild red cherry. The latter was the largest tree to which the Dendrolene was applied, being 3¾ inches in diameter at the base, and it is of interest that, within four weeks after the application, this tree was dead.

The Dendrolene has killed the trees, in our case, by penetrating through the bark, into the cambium. In some cases, it has penetrated some distance into the wood. Sometimes it has killed the cambium in patches only, leaving intervening spaces alive. In one case, I observed the whole bark dead on one side of the tree, while on the other side, it was still alive. In many of the trees of which the tops are still fresh, the trunk is very perceptibly larger above the point reached by the Dendrolene, showing that the growth was promptly checked by the application. After the injury was discovered, the attempt was made to remove the Dendrolene, but it was found very difficult to do this, and it was evident, also, that the main injury had already been done.

I infer that, as Mr. Slingerland suggests, the Dendrolene as thus far made, is not uniform in composition, and that the sample received at this station is different from that used in New Jersey last season. I do not yet give up hope that something of this kind may yet be found that will do much of what has been claimed for Dendrolene. The Raupenleim has not been tested at this station.

E. S. GOFF.

Wisconsin Experiment Station.

WHERE BUTTER PRICES ARE MADE.

THE ELGIN BOARD OF TRADE.

Small Bidding That Affects a Continent.

It was in a plain room about 40x70 feet and, perhaps, 25 feet high, situated in the rear of some offices on the second floor of a good looking business block on a prominent street in Elgin, Ill. From the rear of the room, one is refreshed with a view of Fox River. This box-shaped room is relieved by a gallery at the street end of the building, which will, probably, seat 100 people, and enables the unintroduced visitor to watch the proceedings below. On one side of the room, is a platform one step high, and on it is a desk, not unlike a good-sized class-room desk, while on the wall in the rear of the desk is a blackboard, which is ruled as shown below. On the blackboard, one may read that a week ago 95 tubs of butter sold at from 14 to 15 cents; that at the nearest corresponding date in 1895, butter sold on the Board at 20 cents, and in 1894 at 23½ cents.

At 1:30 P. M., the secretary sits at the desk busily writing. when the president steps upon the platform and calls for reading of the minutes of the last meeting. After the approval of the minutes, the president quietly announces that the Elgin Board of Trade is open for the transaction of business. Around a table which is on the floor and against the desk, sit about a dozen men. All have their hats on, about half of them have their feet upon the table, and several are smoking, notwithstanding the rule that "Smoking in the Exchange Rooms of the Association shall be deemed discourteous and offensive conduct, and the same is hereby prohibited." There is a row of chairs around the edge of the room. A railing fences off two corners of the room for the use of telegraph operators. Near the president and secretary's desk above described, is a table containing the reports of the Illinois State Dairy Association, copies of dairy papers and similar literature. Aside from this and a few pictures upon the wall, the room is destitute of furniture.

Perhaps 25 men are sitting around the edge of the room lazily talking in groups. After announcing the opening of the Board, the president walks across the room and is introduced to a visitor to whom he talks, while from the crowd about the table are heard shouts of laughter. From the frequency with which 16 to 1 is heard above the laughter, it is evident that we are in the midst of a political campaign.

Thus for half an hour the time drags wearily on. Presently some one shouts, "Well; come! Put up your butter."

"Why don't you put up your butter?"

"Tillman Ridge, put up *your* butter."

"I will, if you will give me 16 to 1 for it."

"All right, put it up."

The secretary writes at the dictation of Mr. Johns that Tillman Ridge puts up 36 tubs at the option of the bidder. Mr. Soles promptly bids 14 cents, and the secretary so indicates on the blackboard. For obvious reasons, fictitious names are here used. Mr. Seeds offers the make of five factories, and the secretary having written them down, Mr. Soles bids 14 cents on them:

Offered by	Tubs.	Asked.	Bid.	Sold to	Offered by	Tubs.	Asked.	Bid.	Sold to
Tillman Ridge	36	Op.	14	Soles	Sanford.....	11	Op.	14	Hood
Shad Run.....	40	Op.	14	Soles	Andover.....	15	Op.	14	Hood
Sunbury.....	24	Op.	14	Soles	Colebrook...	36	Op.	14	Soles
Silverton.....	15	Op.	14	Soles	Emerald.....	36	Op.	14	Soles
Overland.....	43	Op.	14	Soles	Delta X.....	25	Op	14¼	Merwin
Steward	38	Op.	14	Soles	Flat Rock X.	30	Op.	14¼	Merwin
Bozeman.....	42	Op.	14	Hood	Milbrook X..	17	Op.	14¼	Merwin
Galien	55	Op.	14	Hood					

The president steps upon the platform and says politely to Mr. Johns, "Isn't Tillman Ridge contracted?"

"We were just guying," was the reply. "Soles offered to bid 16 cents."

"Rub it out," says the president.

Many of the factories have their butter contracted to be sold at stated prices. Manifestly this butter cannot be sold on the Board, because a fictitious price could thus be made by the contractor bidding off the butter, which would affect all contracts which are based upon the Elgin markets. No sooner is this matter settled, than a member representing Regal factory challenges Mr. Seeds's right to sell the make of Silverton factory, on the ground that Mr. Seeds does not own the factory. Everybody crowds around the desk and listens intently.

"Unless you own the factory or a share in it, you do not have a right to offer this factory, Mr. Seeds. I leave it to your honor," firmly states the president with a courteous bow.

"Rub it out," says Mr. Seeds.

The suspense is broken, and for a moment there is silence, when some one shouts, "Well, put up your butter."

Good naturedly, some one else shouts, "Regal, why don't you put up *your* butter?"

"Yes, Regal, put up your butter," says another.

"All right," says Regal nodding to the secretary. The secretary writes Regal, and turning, asks the number of tubs. Before the secretary can write the number of tubs, Hood steps up close to the desk and says quietly, "I bid 14 cents."

"You can't bid until the butter is offered," some one shouts.

The moment the secretary finishes writing Op, which indicates that the butter is offered at the option of either the buyer or the seller, several persons bid 14 cents, and the secretary recognizing Soles, writes his name opposite the amount bid.

"Rub it out," demands Regal, instantly. Evidently, he did not wish to sell to Soles, and he was afraid that no one else would raise 14 cents. Sometimes there are personal reasons for not wishing to sell to a certain party. Sometimes a buyer gets in bad repute through the habit of rejecting butter by claiming that it is off in quality. Fraud of this kind is provided against by official inspectors, and by the committees of arbitration and appeal. The findings of the latter tribunal are final. However, a buyer who makes a resort to these officers necessary, is naturally shunned.

The members now stood around and talked more or less confidentially to one another until about five minutes before the close of the call board, when the secretary rang the bell and began to call the bids. From 15 to 20 factories had been offered, and 14 cents had been bid upon all of them. Members have been coming in all the time, and there are now 75 to 100 members upon the floor, all of whom are now standing.

The secretary calls, "Shad Run offers 40 tubs. Fourteen cents bid by Soles."

"Make it a quarter," says Hood. The secretary adds a quarter to the 14 cents and erasing Soles writes Hood.

"Make the rest a quarter," says Hood, meaning Sunbury, Overland and Steward factories, all of which were offered by Mr. Seeds.

"I'll give a half," says Merwin. The secretary rubs out the one-quarter and writes one-half in its place and puts Merwin's name in place of Hood's.

"Sold," shouts Mr. Seeds. The secretary makes a cross after each of Mr. Seeds's factories, and the transaction is closed. The price paid is for Extra Creamery butter f. o. b. the cars at the factory or the nearest shipping point.

So the bidding went on, until 14¼ or 14½ had been bid upon all the factories offered, and most of it had been sold. No further offers being made the secretary declared the call board closed at 2:35. At this time, 268 tubs had been sold at 14½ cents, and 58 tubs at 14¼ cents. There were still unsold, 105 tubs carrying bids of 14½ cents, and 56 carrying 14¼ cents.

After the close of the call board, the members have the privilege of selling upon the the floor at private sale for half an hour, and having the sale recorded as regular. Perhaps half the butter sold upon the Board is sold in this way, and helps to make the price at which Elgin butter is quoted. On this day, 82 tubs were sold on the floor after the call, at 14½ cents.

This is a true account of the transactions of the Elgin Board of Trade for August 3, 1896, except the fictitious names as before mentioned. On this date, butter sold for 5½ cents less than one year ago, and for nine cents less than two years ago. It is said to be the lowest price for August butter in the history of the Elgin Board.

According to the Report of the Elgin Board of Trade for 1895, there were sold in that year 39,028,543 pounds of butter, and 10,696,010 pounds of cheese. This is about 12,500 tubs of butter per week, while, probably, not more than one-tenth that amount is

sold upon the floor of the Board, and a member of a couple of years' standing told me that he had never seen a pound of cheese sold there. This apparent discrepancy is due to the fact that members are required to report monthly the product of the factory or factories which they may own or with which they may be connected. The statistics thus obtained are incorporated in the annual report of the Board.

Ohio. THOMAS F. HUNT.

CO-OPERATIVE INSURANCE COMPANIES IN NEW YORK STATE.

There are, in New York State, 110 mutual or co-operative insurance companies, one of the largest of which is "The Farmer's Reliance," which insures farm property in Chemung, Schuyler and Yates Counties. This company has been in existence 18 years, and now covers over $5,000,000 worth of property. Nearly $1,500,000 have been added during the past year. This rapid growth is, no doubt, due to the fact that a number of the old stock companies refuse to insure farm property. The rate, for a number of years past, has been two mills on a dollar per year, or at the rate of $6 per $1,000 for three years, while the stock companies charge $10. This year, the assessment will be three mills, or at the rate of $9 per $1,000. The increased loss is not chargeable to farmers setting fire to their buildings to secure the insurance, but to a large number of destructive thunder storms.

The members living in each county meet annually and elect one of their number as a director for three years. This makes a board of nine directors, and not more than three (one from each county), can be new members. The directors elect a president and secretary from their own number. The expenses are kept down to a minimum. The directors get $2 per day for time actually given, and the secretary receives $300 per year. But one assessment is made each year. They carry over some money each year, so as to pay the losses which occur during the earlier part of the year, and borrow money for the losses of the latter part. They find it cheaper to borrow than to make numerous assessments. The whole expense for the year is much less than $1,000. Any director can examine property and take the application for admittance. The secretary issues the policy, which runs for five years, and costs the applicant $1 for each $1,000 insured. They are very careful not to insure property at too high a figure, and then in case of loss, they pay all for which it was insured. Most insurance agents will take risks on the highest value on which a man will pay a premium; then, when loss occurs, pay what the official sent on by the company will allow, which is generally far below the face of the policy.

The director in my district keeps his eye on all buildings he has insured, and knows their condition. He said to me when I renewed my policy the last time, "Your house is kept in good condition; in fact, you have improved it since your last renewal, but your barns are not worth as much as they were five years ago." I explained that I made them convenient for myself and comfortable for stock, but did not wish to lay out much money on them till I could tear them down and build anew. He then advised me to lower my insurance on the barn, which I did.

A carpenter and builder here told me that this director had often consulted him as to the value of buildings he was about to insure. Some two years since, an agent of some of the old stock companies tried to get me to insure with him, but after finding that I was a firm "Reliance" man, he acknowledged that, were he a farmer, or an owner of farm property, and not an insurance agent, he, too, would insure in the "Reliance." E. C. GILLETT.

THE TUB SILO.

WHAT IT IS; HOW MADE.

The "tub silo" is what its name implies—a big tub of wooden staves held together by iron hoops, and set upright on a floor of cement. The ensilage is cut into it, the hoops are drawn up tight, the top of the ensilage covered and weighted—"and, there you are." Prof. Clinton, of Cornell, gives the following directions for making such a silo:

The foundation should be of cement. While this is yet soft, or before it is laid down, a peg should be driven near the center; then with a line whose length shall be one-half the desired diameter of the silo, strike a circle with the peg as a center. This will give the form for the bottom. With a trowel, scrape away the soft cement outside the circle to a depth of about one inch, thus giving a shoulder against which to set the staves.

The staves are best made from well-seasoned Georgia pine, though other material may be used. They should be two inches thick, and from five to six inches wide with the edges beveled. This beveling should be done at the mill so that, when the staves are set up, tight joints can be made between them. Some recommend having the staves grooved and tongued, but this is entirely unnecessary, and makes extra expense.

With the scaffolding constructed, the work of setting the staves in place can go on very rapidly. A form may be made for the top to give the circle. One ingenious man used old barrel staves, nailing them to the outside, the curve in the barrel staves giving him the curve for the silo, and serving to hold it together until the hoops were put in place.

The hoops should be of round, half-inch galvanized iron or steel, or common iron may be used. The first hoop should be within one foot of the bottom, and the space between hoops 3½ feet for small silos, three feet for large ones, one hoop being within 12 or 18 inches of the top.

After the hoops are all in place, the staves should be drawn up moderately tight. The doors should now be cut out, every second or third space between hoops being sufficiently close. Bolt to the outside of the staves where doors are to be cut, two pieces similar to the felloc of a wagon, then with the saw set at a bevel, cut out the door. The bevel should be such that the door can be removed only from the inside, and when in place, cannot be crowded out. The cut made by the saw will permit the insertion of the tarred paper above and below the door when filling, and by planing slightly at the side, paper can be inserted there, also, making the door perfectly air-tight.

Paint the interior with coal tar after the hoops have been drawn tight. Should it be done before, there would be danger of the tar getting on the edges of the staves, and when hardened, it would prevent their being drawn close enough to exclude the air.

The only objections I have heard to this form of silo, are that, during the summer when empty, it will all fall to pieces, and that when filled, the strain will be so great that the hoops will break. If the staves are of well-seasoned material, there will be very little shrinkage when empty. Should it be seen that the hoops are becoming loose, they could quickly be tightened, and all danger of the silo falling to pieces would be removed. Short staples could be used to hold the hoops in place, and to prevent the falling to pieces of the silo. The staples should be driven over the hoops and into the staves, six or eight over every hoop, so that, finally, every stave will have, at least, one or two staples to hold it in place.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate pieee of paper.]

When to Set Berries.

M. V. G., Mill City, Pa.—1. When is the proper time to bury black raspberry tips? How deep? 2. When is the best time to set out red raspberries? 3. Is fall or spring preferable for setting strawberries? 4. Should horseradish and pie plant roots be set fall or spring?

ANS.—1. Just as soon as the canes are long enough Insert the tips two to four inches into the soil. 2. Either fall or spring—it matters little which. For your climate, we would choose fall, covering the sets with manure. 3. Spring. 4. As one prefers.

An Ice House of Concrete.

F. P. B., Liberty Corners, Pa.—In one of my books, I find a plan to make gravel houses, which states that they are cheaper and better than wood or stone. I wish to build an ice house 12x12 feet on the inside, and 10 feet high. Wood does not last very long in an ice house, and good wall stones are not very plenty in this place. Will concrete do? How thick shall I make the walls? Can I make them part at a time, that is, about three feet high, then let them harden, then put in more?

ANS.—If the foundations are made with sufficient care, good walls may be built of grout; but from the fact that the walls must be rather thick, and much material used in their construction, they are seldom as cheap as stone walls, and never cheaper, if all the labor is counted, than wooden walls. A concrete wall should not be less than 18 inches, for if made but 15, what is gained in material will be lost in having to make the mortar much richer than in the thicker wall. It may be made part at a time; in fact, it is better to build such walls slowly. The usual method is to erect 2x4 scantlings as wide apart plus the board which is to hold the grout, as it is desired for the thickness of the wall. The boards are usually 12 to 16 inches wide, placed on the inside of the scantlings, which should be taller than the proposed height of the wall. These scantlings are kept together by means of about three cleats nailed across them, which cleats, except the top and bottom ones, are removed as the work proceeds, to give room for the boards. We have just built a wall of small, round field stones and mortar, 22 inches broad at the base and 15 inches broad at the top, being battered on the inside. From four to five inches of the round and irregular stones were laid in the box; upon this, mortar (rather thin, composed of one part of water lime and four parts of sand) was poured and worked into the interstices; then a new layer of stones was placed in this mortar, and a second coat of mortar put over the top, and so on until the wall was completed. As the work proceeded and the wall hardened, the boards were raised to form a new box for the material. When well constructed on a firm foundation, such walls are really better than stone, and if they could be constructed with farm help instead of high-priced labor, they are usually much cheaper. I. P. ROBERTS.

Hoops for a Tub Silo.

A. B. B. C., Hampden, O.—I intend to build a tub silo 20 feet deep by 12 feet across. Which is the best for hoops, one-half-inch rods, or hoop iron, and how many will be needed?

ANS.—Round hoops are better than flat ones; six of them will be ample for a silo 20x12 feet. The most satisfactory hoop that we have yet seen is one made by the Aermotor Company, Buffalo, N. Y., of galvanized iron, with two or more places, as desired for tightening. They cost but a trifle more than common plain iron hoops, provided they are furnished with tighteners.

Warts on Cow's Teats.

G. D., Trimble Co., Ky.—What will remove warts from a cow's teats?

ANS.—The common small warts may be clipped off with very sharp scissors, and the part burned slightly with lunar caustic or chloride of zinc. Sometimes warts are removed by tying a thread tightly around, drawing it up occasionally until the wart drops off. Treatment should be given, if possible, while the cow is dry.

Garget in Cow and Its Results.

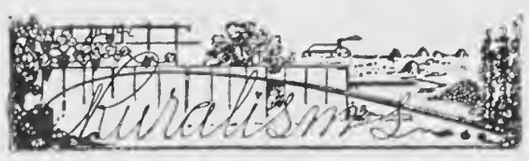
E. T., New Berlin, N. Y.—My three-year-old heifer was a large milker; pasturage being poor, it was supplemented with a liberal grain ration, consisting of wheat bran and hominy meal. About a month ago, when milking one night, one quarter of her udder was a little inflamed and I gave her 25 drops tincture of aconite. In the morning, the milk had some lumps in it, and I gave her 1¼ pound Epsom salts, and three 20-drop doses of aconite during the day. At night, I could get nothing but water from that quarter, the solids staying in the udder. I then gave one-ounce doses of saltpeter and three 20-drop doses of aconite daily for three days, and then physic was repeated and followed by the saltpeter and aconite for two weeks. During this time, the udder was bathed with warm water and camphorated oil. The udder was badly inflamed and very painful, and one-half of it became involved. When the pain subsided somewhat, I stopped treatment. A little more than a week ago, I found a soft spot on the quarter, and when it was opened, a large quantity of watery fluid came out. Since then, two other places have opened. They do not open into the tissue of the udder to any extent, but the fluid is located between the tissue and the skin. I have syringed it out as well as may be with carbolic acid and warm water; but the holes keep getting larger, and the tissue protrudes. One hole is about as large as a hen's egg now. How should the cow have been treated at the start, and how can I heal the udder?

ANS.—This was an unusually severe, persistent case of garget terminating in suppuration. The description of your treatment shows that you treated the heifer as well as a non-professional man could. It was a case requiring the personal attention of a competent veterinary surgeon, and when the inflammation did not yield to the ordinary treatment, it would have been well to call a veterinarian. If the diseased tissues still protrude or have an unhealthy appearance, dust over with finely powdered sulphite of copper. Then after 12 hours, wash off and dust night and morning with iodoform. If there are cavities into which the iodoform cannot be dusted, syringe out with a two or three-per cent solution of carbolic acid. F. L. K.

Chop Feed Ration for Horses.

J. V., Sewickley, Pa.—What is the best formula to feed horses chop feed? I have hay, straw and corn fodder of my own, and have to buy all chops. The horses are about 10 and 12 years old, and weigh nearly 1,500 pounds each. I wish to keep them in good condition. How much shall I feed each one?

ANS.—No definite ration can be made up that will be "the best" under varying circumstances, or for any length of time. I would suggest that the following is, probably, best adapted to your case: I would feed chop feed morning and noon, when the horses have less time to eat, with a ration of long fodder at night. For the chop feed, give each horse about one-half bushel of cut hay to which add four to six quarts of ground feed; dampen slightly and mix thoroughly. The composition of the ground feed will vary with the work required, the season of the year, and the price of each article in your locality. An excellent general mixture is made up of two parts by weight of ground oats, and one part each of corn meal and wheat bran. During cold weather, or if it be desired to lay on more flesh, increase the proportion of corn meal. The proportions may, also, be materially changed to suit fluctuation in prices, so as to buy the cheaper article, without seriously affecting the efficiency. For the night ration, give a full feed of straw, or of the corn fodder if you prefer, with three to six quarts of white oats or the ground feed. The quantity of grain will have to be varied to meet the requirements of each horse, depending upon their present condition, work being done, and individual characteristics. F. L. KILBORNE.



A FRIEND tells us that, on the grounds of Whitman & Clark, Earlville, N. Y., some of the plants of the Primus blackberry (Burbank) have vines over 30 feet long. The plants were killed to the ground the past winter.....

MR. J. M. MERSEREAU sent us a fruiting branch of the Mersereau blackberry, August 17. The remarkable thing about it is the quantity of fruit borne as a second crop on branches that grow from the base of this season's main canes. He says that they continue to bear and to ripen until about October 10. The berries are black and of about the size of the Kittatinny, though the quality is more that of the Lawton which itself often ripens its berries until frost.....

THE black grape, Early Ohio, this season as in previous seasons, was the first to ripen among the 75 varieties in our collection. Our vine was planted in May, of 1892. The berries are a trifle larger than those of the Delaware, the bunches small, the quality medium only. The berries were ripe August 17.

OUR Logan raspberry-blackberry was planted in April, of last year. Now, August 18, the vines are five feet long, trailing like those of a dewberry. The vines are closely set with short, straight prickles .....

How rarely nowadays one sees the Cardinal flower (Lobelia cardinalis) in gardens, yet few herbaceous plants are more satisfactory, and not one other bears flowers of a more brilliant red....

IT strikes us that Columbia is just about the finest canna of its class. The flowers are large, and open fully, the petals broad and of good substance, the color a clear, bright, fresh scarlet inclining to crimson. The leaves are large with purple edges, the leaves being a dark bluish green. It is now, August 20, three feet high, or nearly so. The flower stems and the leaves are the same height.....

OUR *first* decayed potatoes were found in hills not treated to sulphur.....

WE are preparing to talk about pole Lima beans. Which are the best of the old kinds? How do the old kinds compare with the newer and new kinds? Do you prefer a large, flat Lima or a smaller *fat* Lima? As to pods, which sell best in the market, the six-inch pods with four or five large, flat seeds, or the three-inch pods with about three smaller, thick seeds? Have you tried Siebert's Early Lima, Salem Improved Lima, King of the Garden? How do they compare with the Dreer Lima, the Jersey Extra Early, the Large White Lima, Challenger, etc.? For home use, which are the best in quality? Which are the most productive? Which are the earliest? Which bear during the longest season? We trust that our friends may be interested in this exposition, and will help it all they can..

OUR respected and, we guess we may add, venerable, friend, D. S. Marvin, of Watertown, N. Y., has, for many years, made the gladiolus a special study. Last spring, he sent us a set of two dozen or so of his varieties to show the results of his work. Mr. Marvin has crossed rather, we judge, to secure a straight, firm flowering stem than to improve the size or change the colors of the flowers. At any rate, with the exception of his Old Gold, there is nothing remarkable about the flowers of the varieties sent to us.....

A REMARKABLE FLOWER.—But his Old Gold is just the oddest flower we have ever seen among gladioli, and we have had to do with this popular flower ever since it has been popular in this country—some 30 years ago. The parent is Dracocephalus which, Mr. Marvin tells us, he procured from the Hallocks of Garden City some 12 years ago. Dracocephalus is itself a remarkable gladiolus, and it is something of a marvel to the writer that, during his 30 years of gladiolus growing, it has escaped him—*and* the seedsmen and florists.....

DRACOCEPHALUS.—When the flowers begin to open, they are a delicate green, penciled, lined and speckled with brown, nearly black. As the flowers open, the green changes to greenish-yellow. They are the same in color and markings inside and out. In shape, they are long and narrow as compared with the flowers of ordinary gladioli. The flower stems are straight, strong, and about four feet high, bearing nine flowers which turn one way instead of being two-ranked or twisting about the stem.....

OLD GOLD is not the prettiest gladiolus flower we have ever seen, but it is the oddest and, *for the oddest*, the prettiest. The flowering stem is 3½ feet high, straight and strong as with its parent. The flowers are like those of its parent, too, in form and markings, but the colors are such as to render Old Gold an appropriate name. The outside is a greenish-yellow, with fine, close pencilings of dull red. The inside lower petals have each a blotch of velvety maroon upon a greenish-yellow ground with fine hair lines close together. The flower is much curved downwards, so that one must raise it to look into it.....

THE other seedlings of Mr. Marvin do not strike us as superior to—scarcely the equal of—the best of those catalogued by seedsmen. Lucille, for instance, the first to bloom, has a spike 18 inches long, bearing 20 flowers. They are light and dark pink, with yellow and maroon throat. They are medium size only. Another is named Open, because the flowers, which are of medium size only, open more widely than other kinds.....

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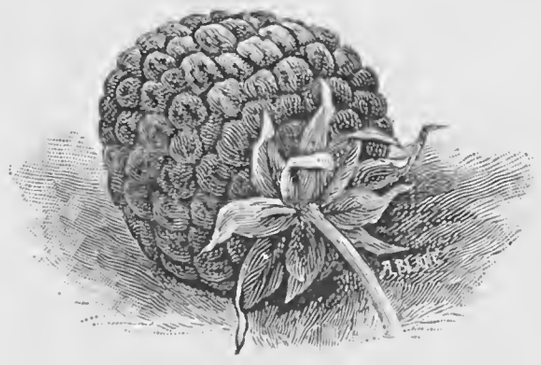

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At our farm the size and yield was immense. Loudon beats the world. It is superior to Cuthbert, hardiness, size, brighter color, firmness and quality. A large fruit grower here who has been incredulous, says he has been convinced that Loudon is more profitable than Cuthbert, and he will plant all the Loudon. From various parts of the country we get word that Loudon is ahead of all competitors.

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The berries on plants set one year ago are as large as average strawberries. The bushes are loaded from bottom to tip. E. H. BURSON.

Prices, $1 per 12, postpaid; $4 per 50; $8 per 100; price per 1,000 given on application.

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From E. S. CARMAN, *Rural New Yorker:*—

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To Kill Woodchucks.

C. D. H., GENESEO, N. Y.—If M. H. C. Gardner will take an old rag of any kind about as large as a common handkerchief, pour on it about a tablespoonful of bisulphide of carbon, and put it in the hole as far as he can with a stick, then cover up the hole and all other openings, with earth pressing down firm enough to keep the odor from escaping, he will have no more trouble with that chuck. I have tried this, and know that it will kill.

Antidote for Poison Ivy.

S. L. B., MOTTVILLE, N. Y.—I spent the first 11 years of my life on a rocky brook farm in Fairfield County, Conn. Poison ivy was very common, and it was no uncommon occurrence for the laborers in the hay fields, especially, to be poisoned by it. My elder brother (now 76 years old) was especially subject to the poison. But it seems that Nature had made provision for the trouble, for there was a common weed which we called "Blue Top," which was a speedy and certain remedy. This plant, steeped in water and used as a wash, was said to produce almost immediate relief, two or three applications being sufficient to cure. This weed is not very common in this locality, but is found occasionally in damp places, or along water courses. I have never found any one who knew its true name. I chanced to find a sprig of it yesterday, and inclose it for your examination and a name.

R. N.-Y.—The plant is Verbena hastata, common Blue Vervain.

Weather Service in the Hop Country.

F. O. S., COOPERSTOWN, N. Y.—Central New York is a great hop growing country, one of the greatest in the world. The heart of it is the Susquehanna valley, which, including the hills surrounding it, produces as a general thing, hops not only of unquestionable quality, but in surprisingly large quantities. One of the largest growers has yards which occupy 150 acres of ground, and he has hops good enough this season to yield nearly 3,000 pounds to the acre. There are scores of minor growers, having anywhere from three to 30 acres, and the most of them, comparativcly speaking, keep their yards under a high state of cultivation. No crop grown in these parts is more susceptible to injury by storms and high winds than hops; yet, I fail to see where any of the bulletins or signals of the Government Weather Bureau ever did any good to the grower in helping him to avert the fury of a relentless storm, or in saving the hops themselves any more at picking time. When the harvesting of the crop comes, nearly every grower engages help enough so that his kilns for drying the hops, lodging and boarding places, in fact, all accommodations and appliances necessary in hop culture, are run for the most part to their utmost capacity. Therefore, even if warned of the approach of a hard storm, the average grower could do but little in bettering his situation.

As to the planting, growing and harvesting of other crops, however, some benefit is, no doubt, derived by farmers living near towns where they can readily avail themselves of the bulletins and signals sent out; but even such cases hereabouts rarely come to my notice. Those farmers residing more remotely in the country, though, have to depend, for the most part, upon their knowledge of reading the weather "signs" as nature herself presents them, and then, trust to luck; I am almost inclined to believe that this method is about as good as any for the generality of farmers, especially in a hilly country. If one will only take pains to study the peculiarities of the elements a little, in all ordinary times, he can usually foretell truthfully, what kind of weather there is liable to be 24 hours in advance.

Yet, for all this, I would hardly approve of the abolition of our weather bureau. Not to speak of the good it achieves along our seaboards in helping fishermen and others, to escape the fury of violent storms, it has become an almost indispensable luxury to our cities and towns, both large and small.

"Good Grass" on the Pacific.

C. J. P., ROCK ISLAND, WASH.—I have read all of every R. N.-Y., kept still, and studied until I have got past keeping still; so I will start in, but will come easy at first. Your notes from Mr. Clark are the last straw. Mr. Editor, it is a pity for a man of his push, to waste so much vim and enterprise in trying to do on the poor, eastern farm, what any common scrub can do here, where we have good soil, and sunshine all the time, and absolute control of the rainfall. He has, no doubt, astonished the natives with his six tons of hay per acre, but if he had the conditions we have here, he could astonish the world by producing twice or three times as much We raise mostly Alfalfa hay, of which we cut four crops; but I have a patch of Timothy and clover which will do for an illustration of what I say of Mr. Clark and his grass. This piece, which measures 20 square rods, was sown four years ago, and has made a fair crop every year since. But last spring, my hogs got in and rooted out and ate all the roots they could find. After this, I passed a light harrow over the ground, and on June 20, cut the first crop, which to-day measures 588 cubic feet in the stack. The second crop, now ready to cut, looks as heavy as the first.

"Mineral Oil" for Paint.

E. H. A., ITHACA, MICH.—THE R. N.-Y. in answer to H. C. G., as to red paint for a barn, page 401, says, "Mineral oil is not a paint oil." Whether it is or not, it makes a good barn paint mixed with Venetian red. Some time ago, THE R. N.-Y. said, speaking of some other matter, "Mr. So-and-So speaks from actual experience. and a fair trial is worth more than theory." I have painted three barns and one house with residue oil, and I have a barn built three years ago that was given two coats of daub formed by mixing one pound of Venetian red to one gallon of residue oil, and my neighbor used oil and ochre for first coat, and mixed paints for second coat on his barn one year later. My barn has stood one year longer, and looks to-day two years better. I have just completed a barn 34x60 feet and 40 feet from ground to peak; I have bought two barrels of summer black oil, and shall use ochre and lamp black as roof paint, and Venetian red for the sides, and the cost will not exceed 10 cents per gallon.

R. N.-Y.—Our answer was written by a painter of long experience.

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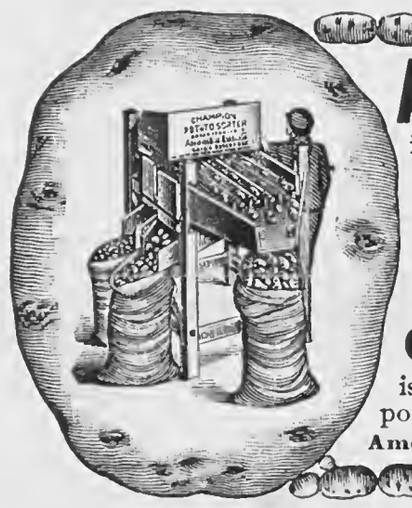

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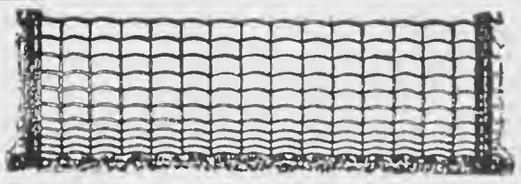

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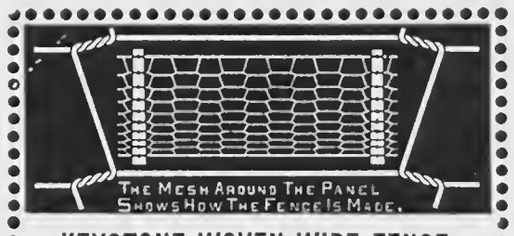

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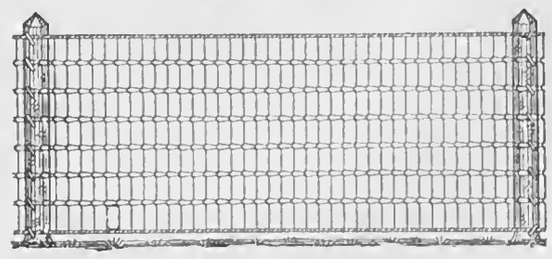

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SATURDAY, SEPTEMBER 5, 1896.

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We want our friends not to forget that we are willing to send THE R. N.-Y. for the rest of this year for 25 cents. Have you not one friend or neighbor who needs it?

⊙

LOOK over that book list on page 599. Don't you need one of those books? No doubt that a minute's talk to one of your neighbors will secure it for you.

⊙

THE article on our first page will, no doubt, sound like rank heresy to some of the orchardists who have been planting apple trees 40 to 50 feet apart. But the advocate of this new apple culture presents a strong case. The trouble with many planters is that they will lack the nerve to cut out a part of the trees when they become so thick that such a proceeding is imperative.

⊙

THE reports as to the condition of potatoes printed on page 601, indicate that, on the whole, the crop will not be as large as was anticipated. Remembering last year's experience, many farmers, evidently, expect to sell as soon as they can after digging. Of course it will not do to base any definite conclusions on these reports. They are quite widely scattered, however, and give a fair idea of the feeling among potato growers in different localities.

⊙

THE article on "Lightning Rods", by Prof. Anthony, printed on the next page, is, probably, the clearest and simplest statement of the matter that has ever been made in a short article. As was said last week, "lightning rod agents" are again at work in certain sections, and, of course, they tell remarkable stories about electricity, and the value of the rods they have for sale. Prof. Anthony's article may be regarded as accurate in every way. It will pay you to keep it for reference.

⊙

CREDULITY and carelessness often go together. We are in receipt of an inquiry from a subscriber who was either so forgetful or so modest that he didn't sign his name. But he wishes to know about one of the fake "electrical agencies," and the benefit to be derived from their so-called appliances. Credulous people are the ones usually taken in by such swindlers. If the inquirer hadn't been careless in reading THE R. N.-Y., he would have seen this class of charlatans denounced time after time. Then, too, if he hadn't forgotten to sign his name, his inquiry would have been answered.

⊙

PROF. E. B. VOORHEES of New Jersey, in a recent address, gave a forcible illustration of the difference to be found in different samples of milk. He has examined hundreds of samples, and finds the amount of fat varying all the way from less than three per cent, to more than eight. It is ridiculous to say that three-per cent milk is worth as much as milk that averages six per cent. A grocer would not give a customer his option of 12 or 20 ounces of butter at the same price; yet that is what a milkman does when he sells "milk" at a uniform rate, without regard to its quality. The trouble is that most consumers regard milk as a luxury rather than as a food. Most families buy a little milk for coffee, or to eat with oatmeal or mush. That should not be, for clean, rich milk ought to be used as a *food* the same as meat or potatoes. Prof. Voorhees has devised a simple system of testing milk so that the milkman may guarantee a certain per cent of fat, and then supply samples of definite richness. He believes that milk dealers can educate the people to understand that they buy milk, not for the water it contains, but for the solids or actual food. When they understand that, they will be able to distinguish different values in the different samples of milk, as they now do in flour, tea or coffee. The Babcock test has enabled the patrons of creameries and cheese factories to take advantage of quality, and future success in the retail milk business is likely to be along the same line.

⊙

WE are often asked to state how prices for farm products are made. Of course, there must be some basis for the prices that are printed in the market reports, and telegraphed all over the country. On page 592, is given an actual report of a meeting of the Elgin Board of Trade, at which prices for butter were made. Some months ago, we had a similar account of a meeting of the New York Mercantile Exchange. This is a fair illustration of the way in which dairy prices are regulated. These figures are telegraphed all over the country, and upon them are based numberless trades in dairy produce. Wheat, grain and provisions are priced in much the same way, with enough added or deducted to cover the cost of shipping to or from the market where the price is arranged.

⊙

THE correspondent on page 595, who commiserates Mr. Clark on having such difficulties to overcome in raising six tons of hay per acre, thinks that he should come to the State of Washington where all things are favorable for growing large crops. Most farmers must make the best of the conditions surrounding them. All can't live where everything is favorable. If Mr. Clark has produced such a yield under difficulties, it reflects all the more credit on him. But does he need any sympathy of this kind? After the Washington farmer has grown his enormous crops so easily, for how much can he sell them? How much of a market has he? Measured by its purchasing capacity, how does his price compare with that received by the eastern farmer? Do his advantages so greatly exceed those of the latter, or are they more apparent than real? In short, is the condition of the western farmer superior to that of his eastern brother? We can't all go West, even though it were desirable; but, then, we'd just like to know, you know!

⊙

THE R. N.-Y. has urged its New York State readers to apply for mileage railroad books whenever they were needed, and in case of a refusal of the railroad managers to comply with the law, to bring suit. A member of THE R. N.-Y. staff tried to buy such a book from the Erie officials, but could not obtain satisfaction. He brought suit against the company, and has just obtained a judgment for $50 and costs. The company pleaded that the law is unconstitutional, and also that such sales would injure their regular passenger traffic; but the case was decided against them. If 1,000 farmers, in different parts of the State, who are unable to buy these books, would bring similar suits, that law would be quickly obeyed. It was passed chiefly for the benefit of country people, and enables them to obtain a wholesale rate of travel. It is a singular thing if the railroads think themselves powerful enough to defy the law, and compel farmers to pay retail rates. The remedy is very simple, and THE R. N.-Y. has shown the way to compel the railroads to come to time.

⊙

THERE has been considerable trouble in New York State about the sale of skimmed milk. In Connecticut, there is a large factory population—people who desire to use large quantities of skimmed milk for drinking and cooking. It was thought necessary to frame the laws regulating the sale of milk in such a way that these people could procure skimmed milk. At the same time, it was thought necessary to prevent the sale of such milk for the perfect article. The section of the dairy law covering this point is as follows:

SEC. 2660. No person shall sell, offer or expose for sale any milk from which the cream, or any part thereof, has been removed, without distinctly and durably affixing a label, tag, or mark of metal in a conspicuous place upon the outside, and not more than six inches from the top of every can, vessel, or package containing such milk, and such metal label, tag, or mark shall have the words "Skimmed Milk" stamped, printed, or indented thereon in letters not less than one inch in height; and such milk shall only be sold or retailed out of a can, vessel, or package so marked.

We believe that this law has worked reasonably well. Immense quantities of skimmed milk are sold at 10 cents a gallon, and at that price both producer and consumer are benefited. It will be interesting to see how much of this skimmed milk was sold for the pure article. Dr. E. H. Jenkins states that 105 samples of milk were taken from grocers and bakers in New Haven. Twelve of these samples were, evidently, adulterated, 11 more, or 23 in all, were so inferior that their sale might fairly be prohibited. In speaking of a milk standard for Connecticut, Dr. Jenkins says:

We believe that, in this State, milk which is sold at the usual market rates, ought to have a specific gravity between 1.029 and 1.033, with not less than 3.5 per cent of fat and 11.50 per cent of solids; and if any two of the three fall below the minimum named, the milk should be declared unsalable.

⊙

UP among the hills of northern New Jersey, is a summer boarding house at which 30 or 40 city people are stopping. In the farmhouses 'round about, are hundreds of other city folks engaged in the pleasant task of manufacturing the pure air and water and the solid food into highly-colored flesh and firm nerves. A dairyman supplies cream to the boarding house mentioned above. It is separator cream, and the 35 people use two quarts per day. In the farmer's own family, two persons use a full pint for oatmeal and coffee at breakfast alone! The city people may go into ecstacies over that cream, but they get only a taste of it at best—and that taste is, probably, diluted with skim-milk. They do not know what it means to use half a pint of cream at a meal for one person! Nor are city people alone in this. A good many farmers do not know what it is to use cream as a *food*. With butter selling at Elgin at 14½ cents a pound, the home consumption of pure cream might well be doubled. Use it with oatmeal or mush! Freeze it for hot days! Eat it up! It is a good food and a medicine combined, and you will feel better for living on it!

⊙

SOME of our readers are interested in the business of feeding lambs. Of late years, large numbers of lambs have been fed in Colorado and adjoining States where Alfalfa, sugar beets and cheap grain enable the feeders to make up a very cheap ration. This competition has been seriously felt by farmers nearer the eastern markets, and their feeding during the coming winter will be determined somewhat by the condition in the West. They will be interested in the following note from Larimer County, Colo.:

There were some 75,000 lambs fed in this county last year for the Chicago market. We feed mostly Alfalfa hay, oats and corn, the latter shipped in from Kansas and Nebraska. Lambs cost us last year $1.65 per head laid down here with freight paid to Omaha. This year, owing to a short supply of water for irrigation, there will not be more than two-thirds of a crop of hay, and not more than 50,000 lambs will be fed. The farmers do not raise the lambs; they are shipped from the ranges of New Mexico. They weigh from 50 to 60 pounds each when bought, and when fattened, from 75 to 90 pounds. In Chicago, we usually get about five cents per pound. J. S. MCCLELLAND.

Sheep feeding in Colorado is comparatively a new industry. It has come into practice chiefly through the growing of Alfalfa. This crop has provided an abundance of excellent fodder and has thus given the irrigated portions of the West a great advantage from the feeder's standpoint.

⊙

BREVITIES.

MRS. CITY COUSIN TALKS.

We're going, Uncle Farmer, and we're mighty sorry, too;
  We'd like to stay right by you all the while.
We've been here all the summer making company for you,
  And trying hard to give your farm some style.
We kept the horse a-going till we foundered him with work,
  We sampled all your butter, cream and milk;
We sat on the piazza while you labored like a Turk,
  We're going home as fine as any silk.
We've had a splendid summer, we're as fat as seals, you know!
  From baby up to mother. Now it's cool,
I guess we'll have to leave you, though I'm really loath to go,
  But William must be started in his school.
So fill our trunk with apples and potatoes, and with cheese,
  And send some ham and butter by express,
And in around the corners we will see if we can squeeze
  A dozen jars of jelly, more or less.
We're going, Uncle Farmer, and I must confess, we hate
  To leave you, but, somehow, it has to be,
For we are somewhat doubtful if you quite appreciate
  The benefits of our society.

DIVORCE is a pair blight.

KNIFE, not life, for the scrub.

DENDROLENE again—page 592.

A MINISTER'S milk business—page 602.

THE fat hog is a good thing to *lean* upon.

A HEATED argument will not always sterilize a lie.

SOD is a "root" crop for hogs when there are grubs in it.

THIS is a bored dough mixture—said the cook as she cut out the biscuits.

FIFTY cents a barrel offered for good sorted apples in central New York!

"SCENTS make dollars." So say the rose grower and the fertilizer dealer.

READ those articles on the cost of raising scrub or thoroughbred—page 602.

"ROOT hog or die!" Under that constitution, the scrub beats the thoroughbred.

NOTICE what Mr. Gale says on next page about hiring your own boy and not paying him.

THE exhibits of "fakirs" at the county fairs seem to be as large and noisy as ever this year.

YOU will never know what poultry keeping may represent until you eat "fried chicken" on a southern farm!

THE country girl should be well bred in the art of bread making. Get her used to the flour of the family.

THE worst piece of "road repairing" we ever saw was in Delaware last week. The sod at the sides of the road was plowed and scraped into a high ridge two feet high at the center. It was hardly possible to drive on any part of the road and not have one wheel 18 inches higher than the other.

A SCIENTIFIC LIGHTNING ROD.

HOW AND WHERE IT SHOULD BE BUILT!

What Is the Rod to Do?

A great deal has been said and written about the use of lightning rods on buildings, and there is, among practical men and even among engineers, some difference of opinion as to their real value. But that difference of opinion seems to me to arise from the fact that lightning rods, as they have been erected upon buildings, are very seldom put up according to scientific principles, and in some cases are erected with such entire disregard for the proper rules which should govern the application of lightning rods to a building, that they are really worse than useless.

A lightning rod serves two distinct purposes: First, and this I consider most important, is the neutralization of the electric charge by the transfer of electricity by the action of the points with which the lightning rod should always be tipped, which tends to equalize the electrical condition between the cloud and the earth. Second, to convey harmlessly the effect of a disruptive discharge, or lightning stroke, in case such discharge occur.

Every one who understands anything at all of electrical science, knows that a discharge of lightning is due to an accumulation upon a cloud of an enormous electrical charge, exactly as electricity is accumulated upon an insulated metallic body when such an insulated body is connected to a powerful electrical machine. The source of this charge upon the cloud is not well understood, and it is not a matter of any consequence so far as the question of the employment of lightning rods is concerned what this source is. The charge is there, and the discharge to the earth is, sometimes, the cause of very serious damage. These things we know, and perfectly well understand. We also know that damage from an electrical flow always occurs where the electricity, in its passage, has to overcome resistance, especially where it forces its way through exceedingly poor conductors. But no matter how good the conductor, if it be too small to convey the current of electricity that must flow over it, it will be heated, and may be even melted and destroyed.

Why Does Lightning Damage?

The damage from lightning is due to a flow of electricity, usually over very bad conductors, and that flow is between the cloud and the earth. If the electricity find a good conducting path of ample size, its flow will be accompanied by no injurious effects. This fact is perfectly well settled, is borne out by experiments upon electrical discharges on a small scale, as produced by electrical machines, and is, certainly, not disproved by any results occurring in the case of buildings which have been equipped with lightning rods, because, in the case of injury to such buildings, a proper investigation has always shown a good and sufficient reason why the lightning rod did not serve as a sufficient protection.

It is evident that, in order that the lightning rod may protect a building in case of an actual discharge, the rod must furnish the easiest path to the earth to be found in that building. It is essential, therefore, that the lightning rod be a good conductor of electricity; that it be of sufficient size; that its communication with the earth be as perfect as it is possible to make it. Beginning with the latter, dry earth is an exceedingly poor conductor, and a lightning rod simply terminating in dry earth, might as well not reach the earth at all. Furthermore, moisture, or even earth that is soaked with water, is a very poor conductor as compared with metals, and its power of diffusing the electricity from the rod will depend upon the extent of surface in contact with the rod. That surface should be very large. It is not at all sufficient simply to bury the rod itself in the ground, even though it be carried down to a point where water permanently stands.

The Ground Connection; Size of Wire.

To make an efficient ground connection, a hole should be dug down to permanently moist earth, and a plate of copper or galvanized iron, presenting a surface of six or eight square feet, should be buried in the ground, preferably set up edgewise, and the lower end of the rod wired and soldered firmly to it. The rod itself would best be a cable of copper or galvanized iron wire. As to the necessary size of this cable, there has been a great deal of misapprehension. In determining the size, the problem has been solved as for a continuous flow of electricity, ignoring the fact that for a sudden rush of current, as occurs in the case of a lightning discharge, certain resistances come into play that do not exist where there is a steady flow. It is now perfectly well understood that, for a sudden rush of current, or for currents that rapidly alternate in direction, the flow is almost entirely confined to the surface, and, consequently, that a large conductor, in proportion to the metal it contains, is less efficient for such currents than a smaller one.

It is impossible to give any hard and fast rule as to the necessary size of conductors for a given building. A great deal will depend upon the exposure and upon the surroundings. Assuming an isolated building, as a barn in the country, placed, we will say, upon something of an elevation, and having no trees in its vicinity, adequate protection would be afforded if it were equipped with three-sixteenth-inch galvanized iron cables extending from the highest points, with permanent connection with moist earth, as has already been described. The cables, in any event, should not be more than three-sixteenths or one-fourth of an inch in diameter, and enough of them should be used to furnish an ample path for any possible discharge. These cables should all be connected by branches running along the ridges or eaves of a building, and their upper ends should terminate in sharp points extending above the highest points of the building; in case of ventilators or chimneys or other elevations, the cables should be carried up above the tops of these. In case there is a system of metal pipes inside the building, it is well to connect the lightning conductors to these at the highest point that these pipes reach, carrying the conductors into the building for this purpose.

The conductor should *not* be insulated from the building. The insulators are absolutely useless against a discharge, or if the rod do not furnish an adequate path for the lightning, and there be any tendency to leap from the rod to the building, any insulator that it would be practicable to use would be entirely useless in preventing the discharge from the rod to the building, and such insulator does tend to prevent the efficient action of the rod in effecting a silent neutralization of the charge existing between the clouds and the earth. As I said at first, I consider this the most important function of the lightning rod, since, if the charge can be neutralized and a disruptive discharge prevented, then all possible danger is absolutely removed.

"A Lightning Stroke"; Mistakes in Rods.

It is a well understood fact in electrical science, that the presence of any body highly charged with electricity, causes, by "induction," a corresponding charge of the opposite kind upon other bodies in the neighborhood, and it is the rushing together of these two opposite charges that constitutes what we call a disruptive discharge which becomes manifest in a stroke of lightning. A highly-charged cloud will, therefore, induce such an opposite charge on buildings situated on the earth below it; but if these buildings be covered by a network of metallic rods terminating in sharp points, not insulated from the building, but as closely as possible connected with it, then the induced charge upon the buildings will find its way through these rods and, escaping out through the points, will be diffused over the clouds, and so, by a continuous silent flow, neutralize the charge that existed there without any effect whatever being manifested.

As lightning rods have been erected by the "lightning rod men", they are faulty in several particulars. In the first place, they are generally insulated from the building. In the second place, they are often inadequate as to aggregate cross section. In the third place, they are often put up in pieces loosely joined together, not making a continuous conductor from the top of the building to the earth. Finally, the connection with the earth is, in almost all cases, totally inadequate. Often, the man who erects the rod does not do more than drive an iron bar into the earth three or four feet deep, sticking the lower end of the rod into it. The rod, in such case, is absolutely useless as a protection, and it is no wonder that buildings so equipped should often have been damaged by lightning.

In respect to size, also, buildings have frequently been equipped with a few large rods which would be ample to carry any such current as is produced by a lightning discharge, if this were a continuous, steady current; but as has already been stated above, such large rods offer a high resistance to the sudden rush of current that occurs in the case of a lightning discharge. In place of two or three large rods, there should be ten or a dozen small ones, as has already been stated. A building thoroughly equipped according to the principles outlined, could be insured without any risk whatever, against damage from lightning.

WM. A. ANTHONY.

WESTERN NEW YORK POTATO NOTES.

Potato blight is general this season; but, so far, I cannot find that blight has induced rot, as the blight is everywhere, and the rot has appeared only in low, wet lands, and undrained clay, neither being suitable for potatoes. Potatoes were not nearly so well put in last spring as in 1895, less fertilizer and manure being used, and the ground not so well fitted, owing to the rush of last spring's work.

The yield, so far as I am able to learn by numerous inquiries, will not nearly compare with that of last year. When planted on stubble, the yield is very light. In a very few instances, where the crop is on dry ground, and has had the best of care, the yield will be up to an average. The continued wet weather, with the prevailing low price at which potatoes are selling—20 to 25 cents per bushel—seems to have discouraged farmers, and they have abandoned their potato fields, and given the weeds full possession. On such fields when digging time comes, a short crop will be found.

If anything be left for the grower, potatoes must be handled as little as possible, and with the least amount of hand labor. I do not feel like recommending one of the high-priced diggers for small fields, at present prices of potatoes; neither do I think it profitable to dig by hand; besides it is hard work. I have been using a cheap digger, the Hallock Improved, for four years, and its work has been very satisfactory. None of the diggers I have seen does as good work going down hill as when working up, consequently it is sometimes best to "carry the swath," and only work up the hill where the grade is too steep. I would use a digger, even if I could not get along any faster, for the reason that the potatoes are not cut and pierced as when taken out by hand, especially if hooks are used.

As far as possible, boys are employed to pick up; the price paid is one to two cents per bushel crate, according to the yield. The crates are distributed in the field, and the boys are given light, one-half bushel baskets, which they fill and empty into the crates. Each boy has a mark for his crate. The boys are not expected to handle the crates; a man does that part of the work, and keeps tally of the number of crates each boy picks up.

Now, fathers, don't hire the neighbors' boys, and ask your own to pick up for nothing! Shame on you if you do it! Pay them when you do the others; do not tell them to wait until after supper! Boys like to earn money as well as men, and have it for their own.

One person can do the loading and unloading if a rack is used instead of a box on the wagon. I make a rack by taking two pieces 4 x 4, 16 feet long. I place them at the outside of each bolster, cut gains 1½x2 inches for cross-pieces, which should drop enough below the top of the bed piece so that, when the boards are laid lengthwise, they will be a little more than flush with the sides; crates will not then catch when sliding off. Then I bore two 1⅛-inch holes for the length of each crate, in the bed pieces. My crates are 20 inches long, and a shorter crate might need but one. I put in stakes that will reach two or three inches up on to the second crate, and it is done. It could be made nicer by having staples made, and put in a slat, as draymen in cities do. When loading or unloading, the stakes are removed, and there is nothing in the way.

The feeling in this section among the best producers is that it will pay to store for better prices. There is a stronger tone in the potato market here. Last week, the price advanced in the local market to 35 cents, and might have been maintained if the farmers would combine. But there is always somebody that is nervous and lacks confidence, that will take advantage of a rise, and is ready to dump the whole crop on the market at a few cents below what others are asking and getting.

L. D. GALE.

Chautauqua County, N. Y.

BUSINESS BITS

THE old reliable commission firm of S. H. & E. H. Frost have removed to larger quarters at 103 Park Place, and ask for consignments of first-class produce.

GEO. A. SWEET NURSERY COMPANY, Dansville, N. Y., issue a neat catalogue of trees and small fruit plants, that they are willing to send to any one interested in this line of goods. The company is situated in a good position for growing fine stock.

IT is stated on good authority that the late Austin Corbin adopted the Adrian woven wire fencing for enclosing his private game preserve near Newport, N. H. His purpose was to get a fence which would hold the American buffalo without in any way injuring him. There is nothing about the Page fence to injure an animal, and that is one of the features that makes it popular with horse men. It is made by the Page Woven Wire Fence Co., Adrian, Mich.

To destroy woodchucks, hold a ball of cotton batting, or anything dry that will absorb fluid quickly, over the entrance of the animal's den and pour one to two tablespoonfuls of bisulphide of carbon on it. Put it in the den two or three feet, then fill the hole with a piece of turf, 18 inches down, hoe on soil and tramp it down; from two to three pounds will kill 100 woodchucks, and is an easy day's work for a part-grown boy. The bisulphide of carbon can be had in suitable quantities and shape of Edward R. Taylor, Cleveland, O.

THE R. N.-Y. hopes that none of its readers is in need of artificial limbs of any kind; but if any of them or of their friends should be in need of them, they can hardly find, in this country, a more reliable place to get them than of A. A. Marks, 701 Broadway, New York. Mr. Marks, like every one else, is, no doubt, in the business for a livelihood, but he has devoted himself to the perfection of artificial limbs; and in his success, has contributed very much to the comfort and happiness of those who, through misfortune or accident, are in need of his services.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

WHEN IS A WOMAN OLD?

This query on my mirror hung:
"When is a woman old?"
It clings to me, and long has clung—
The answer must be told!

Ah, some are old before half-way,
And some are never old;
For these but laugh life's cares away,
While those both fret and scold!

And yet it is no easy task,
However well controlled,
To answer one, if she should ask—
"When is a woman old?"

The young ones never ask you, sir,
The answer to unfold—
The old ones only ask you, sir,
"When is a woman old?"

Conceited ones are never so—
Unhappy ones too soon;
But wise ones love life's morning glow,
And prize its afternoon.

The graceful old ones are still young,
And those alone are old
Who try to make themselves look young
When age has taken hold.

The old in years who live among
Those younger in their hearts,
Will find themselves remaining young
Long after youth departs—

As long as women cling to youth,
And disregard their age,
They never can be old, forsooth—
Their youth fills up the page.

Yes, some are old before their time—
Old age usurps their youth;
And some are young beyond their prime—
Unless they hide the truth.

—*Washington Post.*

We have received no answer, as yet, to our question regarding the preparation of cardoon for the table, and in place of something more definite, we give this bit of information gleaned from a catalogue: "Treat in the same manner as celery. Grown for the midrib of the leaf, which is blanched like celery." That would seem to indicate that it is served as a salad.

*

An absent-minded or preoccupied person cannot be as courteous and polite as he should be, no matter how good his intentions may be; for real and effective politeness is the outcome and expression of our thoughtfulness for others, and with the mind already absorbed in some foreign subject, one cannot be mindful of his surroundings, and think of the right thing just at the right time. Let us avoid absent-mindedness, and overlook the shortcomings of others when they arise from a habit which so often completely overshadows a charming personality.

BEING NEIGHBORLY.

Joe came in the other day, and said, "John's sick, Maria; he's threatened with a fever. Don't you think that we would better go over and offer our services?"

"No," I answered calmly, "I don't think we would;" for I remembered John's and Sarah's experience of two years ago when he was threatened with typhoid. Joe came in as to-day, and proposed our going over. I was a little doubtful whether we could do any good, but as Joe said that it seemed more neighborly to go, we went. But I decided then that neighborliness was not always the best thing for a person threatened with a fever. We found Sarah's brother, Simon, and his wife there, and John's father and mother, and Mrs. Doolittle, their next-door neighbor, and, of course, they all had to go in to see him for a few minutes (they would never have got over it if they had been refused, and he was not dangerously ill then). With so many going and coming and sympathizing, Sarah could stay with him hardly long enough to give him the medicine which the doctor had ordered.

It is needless to say that John's threatened fever rapidly developed into a real one; and when the doctor came, about dark, he found him in a raging fever of the worst kind. And you ought to have seen the look he gave us (for we all waited to hear what he thought of John, and Sarah would go and get supper for us all, although she was clear tired out.) when he said, "No one must go into John's room at present, but his wife; that is her place now, and no one must keep her from it. And he must have rest and be kept absolutely quiet."

You could have knocked me down with a feather; but Joe spoke up and said, "But wouldn't some of us better stay to-night? It doesn't seem hardly safe or neighborly to leave Sarah alone with John sick in the house."

"I will stay awhile until he gets quiet," the doctor replied, "and Jimmy here can run over after one of the neighbors if any one is needed, which I don't think they will be," he added sarcastically.

We accepted our dismissal, and got off as quickly and quietly as possible; but I decided then that personal neighborliness in times of sickness, was not always desirable. I knew that, if Joe got over there, they would talk cattle, and horse, and crops, lawsuits, and religion, until John would be all tired out. Then I put myself in Sarah's place (figuratively speaking) and thought how, if Joe were sick, I would want to be with him every minute I could spare, instead of entertaining the neighbors. So I told Joe that I would pack up a basket, as I was baking that day; perhaps it would save Sarah's baking; and I put in some of my prettiest flowers and a bottle of my dandelion wine for John, and wrote a note to Sarah offering to come over if she needed us. We sent it along by the boy when he went to mill that afternoon. Joe rather wanted to carry it over himself, but I knew that, if he went over, he would go in and visit.

A few days later, Sarah drove over to bring back the basket, and said that it was a great help and comfort to them. It gave her so much more time to take care of John, that he had got along finely, and escaped the fever after all, and would be as well as ever in a few days. She and John agreed that the basket was the best neighbor they ever had.

ALICE E. PINNEY.

THE LATEST IN PINCUSHIONS.

The Narcissus pincushion is a novelty both useful and ornamental, and a charming adjunct to the toilet table. Suspended beside the mirror, it is a friend in need, and a thing of delight. The calyx of the flower is formed from a round piece of orange-colored velvet, four inches in diameter. Gather the edge of this circular piece and draw it in, not entirely to the middle, thus forming the cup-like center. To be true to the original, the rim of this cup is painted red, or chain-stitched in scarlet silk.

Each of the five petals is cut of white velvet, after the pattern indicated at *a* (Fig. 188.) The velvet is folded along the dotted lines, the two edges, *x* and *y* are sewed together, and the edge, *z*, is gathered and sewed to the orange center.

Three leaves are cut of green velvet, as shown at *b*. A lining of crinoline allows the leaf to be naturally bent. A 12-inch reed or round stick, wound with green and orange ribbons, forms the support for this dainty affair. To the upper end, securely sew the flower. At the proper distance below, tie the three leaves, with a full bow of green, orange and white ribbons. To the lower end of the stick, with a similar tri-colored bow, tie a cushion six inches square. This cushion is of green and orange velvet, with green, white and orange silk pompons at each of the three free corners.

The large cushion is used for stick and fancy pins, the center of the flower, for ordinary pins. Fashioned of velvet, this cushion is extremely rich. It is quite as pretty and less expensive, made of shimmering satin. Often a pin is wanted in the parlor; it is not convenient to trip to the sewing basket, neither is it appropriate to have a pincushion in the parlor. The want is charmingly supplied by an English fad—floral pincushions nestling within the folds of draperies, or peeping forth from behind a picture or bric-a-brac.

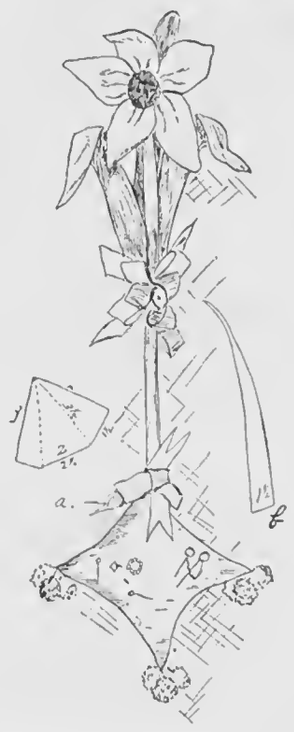
These floral cushions are true to nature in size, form and color. They are made of velvet and satin; the center, which serves as the cushion proper, is filled with cotton.

ANNA HINRICHS

THE ELDEST DAUGHTER.

After the approaching wedding of my older sister, I shall be "the eldest daughter;" so I put my elbows on the table and my head in my hands, to think about this matter:

Her Relation to the Home.—Why, home wouldn't be home without me! Who would run to get papa's slippers when he comes in tired; who'd smooth mamma's headache away; who'd see that Tom's necktie is straight; who'd always see that there were pretty flowers upon the tables, or who'd be sunshiny when



A NARCISSUS CUSHION. Fig. 188.

every one else feels "blue," if it were not for me?

Her Influence.—That depends, as does everything else, upon herself. It should be felt in, at least, one way—in keeping the boys at home. She must make the home so thoroughly pleasant and "homey" that the boys would rather be there than anywhere else.

Her Authority.—Ah! That's the best part of it all! No important decision will be made without first finding out what "sister" thinks about it. If Tom comes into the kitchen with his boots all covered with mud, some one is sure to say, "Oh, Tom! Do brush off your boots before you come into the kitchen that Mary has just swept so nicely." Then, too, it needs an eldest daughter to see that mother does not work too hard, and get all tired out; and that servants do not impose upon her.

Her Duties.—She must take all the responsibility that she can. She must have regular duties which must be performed every day. To brush up and dust the rooms; to set the table; to make the beds, and to do all the little things that come up every day, such as threading needles for grandma, and running up and down stairs for mother, are some of these duties.

Her Privileges.—She knows that Tom would be delighted to take her to concerts and sociables. He knows where there is the best skating, and he would enjoy taking her there. If he is going to the lake on business, he is sure to call, "Say, Mary! Put on your hat and come with me!" If there has been a heavy snowfall, the call would be "Polly! Want a sleigh ride?" Ah, yes, I will cheerfully take the duties with the privileges.

FILIOLA.

BED-MAKING.

There is a popular notion to the effect that anybody can make a bed, says Harper's Bazar. To the fallacy of this belief, let those who have tossed through the long hours of the night upon wrinkled sheets and under uneven blankets testify. While good springs and a firm hair mattress are the starting points of a comfortable bed, even they are of no avail unless properly dressed by mistress or maid.

Over the mattress is smoothly laid a pad made of heavy muslin with an interlining of cotton batting. Then comes the sheet. This should always be drawn as tight as strong hands can pull it, and tucked in firmly at top, bottom, and sides. This is a *sine qua non* of a good bed. Then the upper sheet is laid over this, and it, with the blankets, must be turned under the foot of the mattress to prevent all danger of the covers slipping up at night and leaving the feet uncovered. The average servant will never, of her own will, fasten the clothes down firmly at the foot of the bed, and it takes a saint to bear patiently the feeling of general coolness and discomfort caused by the coverings creeping up from the feet. Neither does a domestic comprehend that double blankets should be put on with the open end at the top, so that one thickness may be thrown back if necessary. Next the blanket comes, of course, the counterpane, over the hem of which the upper hem of the sheet is neatly folded. Then the plump bolster and pillows are put in place. A light but warm duvet is laid across the foot of the bed, and behold a couch towards which the weary man or woman looks with a sigh of longing, and in which he or she finds complete rest in deep sleep! The bed-furnishings may be elaborate or simple, as the housewife's means and taste dictate, but hem-stitching, embroidery, antique lace and satin count as hollow shams if the bed they adorn is not properly, and, therefore, comfortably, made up, from the mattress out.

AN ACCOMPLISHED CHIMPANZEE.

Mr. R. L. Garner, the man who went to Africa to study the monkey language, tells, in Harper's Round Table, of the cleverness of some of his monkey acquaintances. We select the following:

One of the most intelligent and quite the best educated chimpanzee that I have ever seen, is Consul II. He is an inmate of the Bellevue Gardens at Manchester, England. He is the most humanlike in his manners of any of his kind that have ever been known in captivity. The many clever feats done by this ape would fill a small volume; he has not been trained to perform them as tricks, simply to amuse or entertain visitors, but many of them he has taken up of his own accord, having seen others do so.

The feat that impressed me most was his skill in riding a tricycle, and his taste for that sport. He often takes his machine without being told, and rides all about the place; if he finds it lying on its side, he sets it upright, adjusts the handle-bar, mounts it, and takes a ride. He propels it with ease and guides it with dexterity. No boy of his own age can handle it with more skill. He rides all about the place, around the

walks and drives, all over several acres of ground; he steers it around the posts and corners, around the curves of the paths, makes his way through crowds of people without colliding with them. He amuses himself by the hour at this pastime. When he tires of it, he sometimes shoves the vehicle up in some corner and leaves it.

Consul also smokes cigar, cigarette or pipe. He often finds a cigar stub about the place, picks it up, puts it in his mouth, and goes to his keeper for a light. One amusing habit he has is that of spitting; he is not very skillful in this, but is persistent. However, he has the politeness not to spit on the floor; he spreads a piece of paper on the floor, and uses it as a cuspidor.

Consul uses a handkerchief the same us a person does; he eats with a knife and fork, cuts up his food with ease, and never uses his fingers in eating; he can blow a horn, but does not attempt to carry any tune. He knows the first three letters of the alphabet, which he has painted on a set of blocks; when asked for any one of the three, he will select it and hold it up.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Fancy Basque.

The fanciful fronts are simply arranged over smooth linings that close in the center, the jacket fronts flaring apart over a full vest portion of tissue over satin that closes under the left front

6845—LADIES' BASQUE.

edge. The smooth yoke bolero of satin is included in the right shoulder, arm's eye and under-arm seams, and closes on the left. The back is rendered glove-fitting by the usual seams, the shaping below the waist line forming a stylish pointed ripple basque. The sleeves are arranged over fitted linings, the tops being faced with tissue over satin to match the vest. The lower portions of the sleeves are of the material, and overlap the top in rounded outline, the trimming finishing the edges. The smooth, standing collar of satin is covered with a band of jet embroidery, loops and ends of satin forming a stock bow at the back. Pattern No. 6845 is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure.

ODDS AND ENDS.

SEEDED TOMATOES.—It is an easy matter when preparing tomatoes for canning or for the table, to slip out of their pockets the bulk of the seeds. The seeds are very harmful to all persons with digestive or intestinal ailments, and should not be eaten. Moreover, some persons who have experimented with tomato canning, think that the fruit which is put up without the seeds, keeps much better. M. W. F.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

TO PREVENT JARS BREAKING.—For several years, I have filled glass jars with hot fruit without ever losing a jar by cracking with the heat. My method is to set the jar on a wet cloth. That seems simple, and it is, but it is effectual. I cannot understand why the wet cloth prevents breakage, but I know it does. Try it. MRS. A. A. K.

AT A GREAT BARGAIN, PAUSE AWHILE.—Often what might be called a good bargain, becomes a bad investment to the one who makes it, unless his or her circumstances fit the purchase. A person who has no use for a horse except an occasional ride for pleasure, would make an unwise move if he bought one that was offered him at half its value. The horse would soon become too expensive for him to keep, and it would be cheaper for him to hire a horse whenever he had use for one, than to feed and care for one of his own. So with many other things, if we do not need them, even though they seem to be great bargains, we would better resist the temptation to buy. AUNT RACHEL.

CRUMBS FROM DIFFERENT TABLES.

The tear down childhood's cheek that flows,
Is like the dewdrop on the rose.
When next the summer breeze comes by
And waves the bush, the flower is dry.
—*Scott.*

....PHILLIPS BROOKS: "You never felt a new power start up within you that a new weakness did not start up by its side."

....MODES AND FABRICS: "There is a great difference between accepting a husband merely in order not to remain single, and accepting one for the sake of spending the remainder of one's life with a particular man—a difference the importance of which few girls appreciate."

....THE HOUSEKEEPER: "No one can be absolutely sure that his position is right, his opponent's position wrong, and all discussions should be entered into more with a view to learning from another by comparison of opinions than to convince him of the infallibility of those you entertain."

....MARGARET SUTTON BRISCOE IN HARPER'S BAZAR: "There is no garment so becoming as an easy, happy mind, and the house-mother, if she be wise, will don it on rising; or if she be wily, and find only a garment of somber hue in her wardrobe when she opens its door, she will speedily weave into its dullness forced brightness and determined cheer, for what she wears at breakfast she may be sure all her little court will copy and wear faithfully throughout the day."

Miscellaneous Advertising.

IN writing to advertisers, please always mentio THE RURAL NEW-YORKER.

Blood Pure?

Is it? Then take Ayer's Sarsaparilla and keep it so. Is n't it? Then take Ayer's Sarsaparilla and make it so. One fact is positively established and that is that Ayer's Sarsaparilla will purify the blood more perfectly, more economically and more speedily than any other remedy in the market. There are fifty years of cures behind this statement; a record no other remedy can show. You waste time and money when you take anything to purify the blood except

Ayer's Sarsaparilla.

FARMERS

Go where you can cultivate land 365 days every year, and get big prices for your crops.

FLORIDA GARDEN LAND CO., Rochester, N.Y. offer the opportunity of a lifetime. Write them for particulars.

THE DIETZ
DRIVING LAMP

Is about as near perfection as 50 years of Lamp-Making can attain to. It burns kerosene, and gives a powerful, clear, white light, and will neither blow nor jar out. When out driving with 't the darkness easily keeps about two hundred feet ahead of your smartest horse. When you want the very best Driving Lamp to be had, ask your dealer for the "Dietz."

We issue a special Catalogue of this Lamp, and, if you ever prowl around after night-fall, it will interest you. 'Tis mailed free.

R. E. DIETZ CO.,
60 Laight St., New York.
Established in 1840.

SAVE ½ YOUR FUEL

By using our (stove pipe) RADIATOR. With its 120 Cross Tubes, ONE stove or furnace does the work of TWO. Drop postal for proofs from prominent men.

TO INTRODUCE OUR RADIATOR, the first order from each neighborhood filled at WHOLESALE price, and secures an agency. Write at once.

ROCHESTER RADIATOR COMPANY,
27 Furnace St., ROCHESTER, N. Y.

Little Giant Cider Mill
PRICE $7.50.

Smallest, Lightest, Cheapest, Strong, Durable, Handy. Entire new process of grinding and pressing. If your dealer hasn't it send to the Factory. Delivered free upon receipt of price. Write for leaflet. LITTLE GIANT CIDER MILL CO., NASHVILLE TENN.

Agents wanted in every County

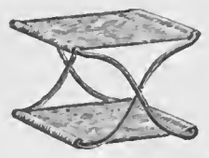
Cider Machinery.—Send for catalogue to Boomer & Boschert Press Co., 118 West Water St., Syracuse, N.Y

FRUIT EVAPORATOR

"THE GRANGER."—For family use. *Cheapest in the market.* $3. $5 & $8. Cir.
EASTERN MFG. CO., 257 South 5th St., Phila., Pa.

FRUIT EVAPORATOR
THE ZIMMERMAN
The Standard Machine
Different sizes and prices. Illustrated Catalogue free.
THE BLYMYER IRON WORKS CO., Cincinnati, O

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.



DO YOU EVER NEED A THIRD SEAT IN YOUR BUGGY? The New I D is a perfect one. Steel frame, folds, and wears a lifetime. Fits anywhere; needs no fastening. Price, tapestry, $1; velvet, $1 25; Wilton, nickeled, $2. Catalogue tells more.
Agents w'd. WILLIS W. FRANTZ, Mfr., Waynesborough, Pa

$5.75 BUGGY WHEELS WITH TIRE ON.

Don't waste money repairing old wheels. Get our prices. Can furnish any size with axles, ired, boxed and painted.
WILMINGTON WHEEL CO.,
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Cheaper than ever before. Over half million rolls to be sold at less than cost. It will pay you to send for samples and Guide how to hang, etc. Describe rooms you wish to paper.
Paper Hanger's full set of Sample Books, price, $1.00.
CHAS. M. N. KILLEN, 1231-1233 Filbert Street, PHILADELPHIA, PA.

THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

PIANOS—THE WORLD RENOWNED—PIANOS
Finest Tone, Best Work and Materials.
EMERSON
Sold and Rented, Moderate Prices, Easy Terms.
NO. 92 FIFTH AVENUE, NEAR 14TH ST., N. Y.

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FOR GETTING US
NEW SUBSCRIPTIONS.

For one new subscription we will send you, postpaid, your choice of any one of the books in this list.

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L. H. Bailey. It tells, plainly and briefly, what every one who sows a seed, makes a cutting, sets a graft or crosses a flower wants to know. Paper 50

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James Morton. An excellent and thorough book, especially adapted to the culture of Chrysanthemums in America. Paper, 60

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H. W. Collingwood. Breeding and Feeding Poultry for Profit. The egg and the dollar are what it chiefly considers. Cloth.....75

First Lessons in Agriculture.
F. A. Gulley, M. S. It is just what the practical farmer, without a knowledge of chemistry or botany, needs. Cloth.....$1

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L. H. Bailey. Illustrated by photographic engravings of the actual growing vines, and represents all the practical systems of training in detail. Indispensable to every grape grower. Flexible cloth.....75

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The New Potato Culture.
Elbert S. Carman. Grower of over 1,000 bushels of potatoes per acre. This book gives the result of 15 years' experiment work on the Rural Grounds. Cloth.....75

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Cabbage and Cauliflower, How to Grow. Burpee.....30
Carrots and Mangold Wurtzels. Gregory.....30
Fertilizers. Gregory. 116 pp.....40
Melons, How to Grow for Market. Burpee.....30
Onion Culture, New. Greiner. Paper.....50
Onion Raising. Gregory.....30
Onions, How to Grow. Burpee.....30
Squashes. Gregory.....30
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Hyperion. Longfellow.....30
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A Wonder-Book for Boys and Girls. Nathaniel Hawthorne.....30
Uncle Tom's Cabin. Stowe.....30

Every book is fit for any library. Bear in mind these books are not given to the subscriber as an inducement to take the paper; they are given as reward or pay for work and trouble in introducing the paper to new subscribers. If the new subscriber is not satisfied with his bargain he can have his dollar back.

THE RURAL NEW-YORKER, New York.

"PUFFS."

A GREAT many people wonder how it is that the manufacturers or dealers in new things are able to print such strong letters of commendation from people who are apparently sincere. You will find circulars and catalogues filled with letters praising the article named, in the highest terms. These letters are printed and reprinted in some cases, long after the public have discovered that the article is not worth buying at any price. Now, how are such genuine letters secured?

Usually in this way: The manufacturer or dealer makes it his business, about a week after the article is sold, to send a letter to the buyer asking him how he likes it. Such letters hit certain enthusiastic men just when the thing under trial is right at its best. It *promises* to be a great success, but has not been in use long enough to develop fully its defects or weak parts. Most of the flattering letters we read are written at this time. It often happens that the men who write them find, after fuller experience, that they were wrong. Then they write another letter changing what they said at first, but this one seldom gets into print. The first one is what the dealer wants in his advertisement. It is a record of promise, while the other is a record of experience, and promise is always better looking than experience ever thought of being.

*

Now we have brought this matter up here because any quantity of people will, this year, be asked to subscribe for THE R. N.-Y. Our agents are at work everywhere, on hill and in dale, explaining the merits of the paper, and urging friends or strangers to subscribe. Now, we fully realize that no sensible man will play with a dollar or with five cents this year. Every investment must be made with an eye to business, and when a man comes to you with a plausible story about THE R. N.-Y., you do right in asking if that is a mere promise, or the result of experience! That's right, and we are glad to meet you right on that ground.

Now, here is a man in Vermont; see what he says:

Your paper is worth everything to us back-country farmers. JOSEPH MEARS.

That is his honest opinion, for we never asked any one to give us a "puff."

Here is another from New York State:

I inclose $1 for renewal, and shoot it back at you as requested. I purpose to take THE R. N.-Y. so many years, that, when I subscribe myself "Old Subscriber," you will instantly recognize *us*. W. S. ANDREWS.

That's enough for us. The fact that this man expects to take the paper for years to come, shows that he is talking from experience and not mere promise.

And here we have a whole batch of them:

We all enjoy THE R. N.-Y., and in a family where several young men are employed, I find it the most sought paper that comes to the house. Its articles furnish the topic for more conversation than all the other papers. W. F. BAKER.

Manitoba.

I got this dollar to-day for four bushels of oats, and I'm going to plant that dollar instead of sowing the oats, for I know that it will return me a hundred fold (for I have tried it so many times) with a pleasant harvest. ROYDEN E. PAUL.

New York.

I must write you that I cannot do without THE R. N.-Y.; it is the best paper on earth for the tiller of the soil. P. E. V.

Jerseyville, Ill.

Times are hard and dollars few, but if each and every dollar expended should bring as good returns as the one I invest in THE R. N.-Y., I would soon have them in abundance. I have not missed reading a single number in 15 years, and I hope to read it with pleasure and profit as long as my life is spared, let the number of years be many or few. The little Rural New-Yorker No. 2 potato has more than recompensed me for the subscription price past and to come. And it has been worth hundreds of dollars to the neighborhood. More of them are now raised than all other kinds combined. G. W. B.

Auburn Four Corners, Pa.

We might go on and preach a sermon from each one of these texts, but no—this is a time for practicing rather than preaching. Here is a bit of practice that we like:

I have been laid up for two months, but am getting so that I can ride out now, and I can enjoy myself much better with a lot of sample copies in my buggy than without. My wife says that I can't even go to mill without being loaded, and I reply, "Don't be weary of doing good." Geauga County, O. H. J. E.

This is sound counsel for you. Even though the man was "laid up", he laid down the law to the neighbors, and from such laying down will rise up a big army of subscribers.

But where does the agent come in? you ask. No promise about this, but simple experience. Here is the experience for the past week. Here are the prize winners for the largest three clubs:

	Number of Trials.
$3.—Geo. H. Colvin, Pennsylvania	21
$2.—Chas. R. Farnum, Massachusetts	17
$1.—J. S. Crooks, Connecticut	12

The cash was sent them promptly Saturday night. But there are three more fortunate agents Here they are:

$3.—E. F. Babcock, Washington	12
$2.—C. C. Pyle, Pennsylvania	12
$1.—C. A. Miller, New York	11

They sent the largest three clubs which were sent by agents who had not won a prize last week. They also have their money.

So they go marching on to a share of that cash. Where are you? On the road, we hope, hunting subscribers. Six more premiums of the same kind will go out in the same way next Saturday. You may have one of them if you will it.

THE PROSPECTIVE POTATO CROP

COMPARED WITH LAST YEAR.

When Will Farmers Sell?

The potato crop will not be very large here. In some parts, potatoes are rotting in the ground on account of extreme hot or extreme wet weather. Most farmers will dispose of their potatoes this fall. Some are beginning to dig. A. F. BIXLER.

Tuscarawas County, O.

The acreage and yield of potatoes in this locality is about the same as last year. Possibly 10 per cent of the crop has rotted from excessive heat and moisture. Some growers are having trouble with the rot after digging. I think that farmers, generally, are inclined to sell this fall.

Darke County, O. GEO. W. MACE.

The acreage in southern Michigan, is about one-half of that of last year. The present condition of the crop does not warrant a yield to exceed an average of 70 bushels per acre. The blight, bugs and rot during the past three weeks, have reduced the yield one-half. Ground is now too wet for potatoes to do well. If we should get an early frost, late potatoes will be practically a failure. HARRY N. HAMMOND.

Van Buren County, Mich.

About twice the usual acreage of potatoes was planted last spring. Late potatoes will be a failure on account of bugs, blight and rain. Early potatoes are fair, but are rotting on low ground, and are affected considerably with scab. All conditions considered, it is doubtful whether the crop will be larger than last year. The season has been so disastrously wet, that farmers will be inclined to sell all they can dispose of this fall.

Wood County, O. R. P. WILCOX.

As near as I can judge from reports in different sections of this county, the potato crop will be very much lighter than last year. Probably the average will not be over 50 per cent of last year's yield. Late crops are rapidly ripening, and can grow but little more. The quality of the early crop has been fully up to the average. As a rule, farmers will sell about half their crop this fall, and keep the rest for higher prices.

Windham County, Vt. CARL S. HOPKINS.

Potatoes hereabouts were injured by the extreme wet weather. All potatoes on low ground are drowned out; those planted early on heavy land are badly rotted, and some early ones on sand are rotting. Our own, planted June 15, on dry, sandy soil, look well, and promise to go 200 bushels to the acre. Celery and onions are badly damaged by wet weather, as, also, were wheat and oats. Apples are a big crop of fine fruit.

Lenawee County, Mich. ABNER WILSON.

In consequence of the extreme variableness of the potato crop, really authentic information is difficult to obtain. I know of some pieces yielding as high as 400 bushels per acre, while on the piece adjoining, not more than 150 could be obtained. Some growers think that the dry weather of the past two seasons has caused an undue amount of nitrification, and with the seasonable rainfall this summer, has resulted in an overgrowth of the tops. Certainly, throughout this section, the foliage indicated a larger yield than, in the majority of cases, was afterward obtained. The acreage is about the same as last year; everybody seemed to think, at planting time, that the "other fellow" would be discouraged and drop out. The yield, on account of more favorable weather, is rather better, on the whole, than a year ago; but rot is seriously affecting the crop, especially on heavy land. Prices are ruinously low, 30 to 35 cents per bushel, and slow sales. Growers are forced, from necessity, to sell for, practically, what they can get. M. GARRAHAN.

Luzerne County, Pa.

Potatoes, as a rule, are planted late here, and it is too early to form a correct idea of what the crop will be. I would say, however, that the acreage in this town is somewhat less than last season, and that the condition at this time, is not as good as it was last year. Early potatoes, that is, those planted early and already harvested, were a very light crop; but the early varieties, planted late, are looking very well.

Ontario County, N. Y. A. G. ALDRIDGE.

(*Continued on next page*).

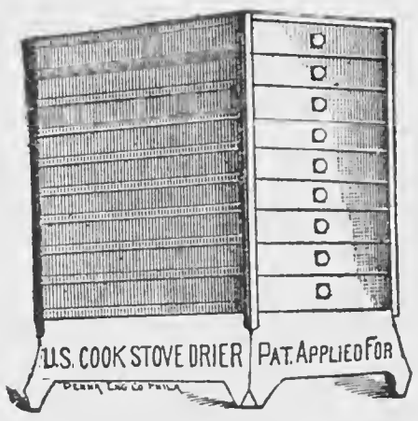
Miscellaneous Advertising.

Is there any reason for dodging and ignoring a great and vital fact simply because a few prejudiced, misguided people have antiquated ideas of what constitutes morality and modesty? Reason and honesty say *—certainly not.* Men and women are attracted to each other because they are men and women and because it is right and necessary that they should be so attracted. The things that make a man attractive are the characteristics caused by his inherent manliness—by the strength which makes him a perfect man. The same is true of woman. There is strong attractiveness in perfect health. There is fascination and magnetism in it. A woman cannot be entirely womanly—she cannot be a perfect woman—if she is not in perfect health. In just so much as her sickness affects the organs that make her a woman, in just so much she loses attractiveness. This is the vital part of her health. If anything is wrong there, it may result in all manner of ills all over the body, Careless, or too busy, physicians frequently treat the symptoms of this kind of disorder as separate and distinct ailments. The symptoms are many and varied, so much so that when a woman is sick in any way, the first thought should be given to the organs distinctly feminine. About 9 times in 10 the cause of the trouble will be found there. Dr. Pierce's Favorite Prescription cures all disorders of this kind. There is no guesswork about it. There is no chance about it. It is a fact that has been demonstrated in 30 solid years of extensive practice.

Thousands of women have written grateful letters, who have wished the whole world of women to know the wonderful things the "Prescription" has done for them.

U. S. Cook Stove Drier.

In many localities, fruit is an abundant crop this year. Choice fruit will, undoubtedly, command a fair price; but you must not put one inferior apple in the barrel for shipment. Mix choice and inferior fruit, and the whole will sell at the price of the poorest. The inferior stock would better be dried for future use or sale. There is, besides, a certain amount of fruit around almost every farm home, that goes to waste.



Why not gather this and dry it for use when needed? The U. S. Cook Stove Drier will be found a great convenience in this work. It may be set on top of the cook stove, and no extra fire is needed. The regular price is $7, but we have been able to get better and better rates every year, and can now send it and a year's subscription to THE R. N.-Y. for $5. There is no experiment in using these driers now. They have been used for years with perfect satisfaction.

THE RURAL NEW-YORKER, New York.

Time

and experience have already proved the necessity of fertilizers. Low prices and sharp competition demand their intelligent application.

Successful farmers will tell you that they use fertilizers containing a high percentage of

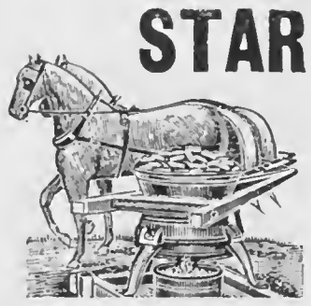
Potash

and that they secure the largest yields and most money for their products by doing so.

We have collected in our pamphlets the results of long and carefully conducted experiments by leading authorities, which we send free to all farmers who apply for them.

GERMAN KALI WORKS,
93 Nassau St., New York.

STAR FEED Grinder



Grinds Ear Corn, dry or damp, Shelled Corn, Wheat, Oats, and other Grains. Does not choke. Sold on a guarantee. Send for Descriptive Circular.

STAR MNFG. CO.,
63 to 69 N. St.
New Lexington, O.

TO DAIRY FARMERS!—A butter dairyman wanted in the South for an established business. Must have some capital. Address T. B. BROOKS, Newburgh, N. Y., or Worcester, Mass., during the Fair.

SOLD! UNDER A **POSITIVE GUARANTEE**

75,000 in use.

to wash as clean as can be done on the washboard and with much more ease. This applies to **Terriff's Perfect Washing Machine** which will be sent on trial at wholesale price; if not satisfactory money refunded. **Agents Wanted.** For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

OUR RURAL BOOKS.

Any Book on this List will be forwarded promptly on receipt of price.

Accidents and Emergencies.
G. G. Groff, M. D. What to Do In—Home Treatment of—What to Do 'till the Doctor Comes. Sunstroke, poisoning, broken bones, cuts, bites of mad dogs, insects, snakes, etc., freezing, bruises, burns, choking, colic, drowning, exhaustion, explosion, suffocation by gases; what to do in storms, being stunned, wounds, etc.....20

A Fortune in two Acres.
Fred Grundy. This is a story of how a workman in a small market town gained independence and a fortune on two acres. Paper.....20

Canning and Preserving Fruits and Vegetables, and Preparing Fruit Pastes and Syrups.
The experience of practical workers. The best methods by which the surplus fruits may well be saved for home use and for the large market demand. Hundreds of tested receipes from famous preservers. Evaporation of fruits. Paper.....20

Chemicals and Clover.
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A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper..20

Fertilizers and Fruits.
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Fruit Culture.
W. C. Strong. Laying out and management of a country home. Illustrated. Each kind of fruit treated separately. Injurious insects described. How to fight them. Cloth.....$1

THE RURAL NEW-YORKER, NEW YORK.

THE PROSPECTIVE POTATO CROP.

(CONTINUED.)

The potato crop seems about an average one in this locality, about the same acreage, and the yield about the same as last year. As a general thing, more were planted last year and this than has been the custom here. Most likely less will be planted next year. I think that, as a rule, the farmers are inclined to sell as soon as they can, and not hold for higher prices. There are some fears of rot on account of protracted wet weather.

Columbia County, Pa. MAHLON SAGER.

After diligent inquiry among farmers, both in Ontario and Wayne Counties, and after examining my own crop, I have come to the conclusion that the yield will not be over half what it was last year. If the dry weather continue much onger, it will not be over one-fourth of last year's. Most farmers with whom I have conversed, seem to be inclined to market this fall. The yield of early potatoes was less than it has been for years. J. G. H.

Ontario County, N. Y.

From present conditions prevailing over this section of country, the potato crop will be, at least, 50 per cent less than last year, which may bring the yield up within 20 per cent of a normal crop. Carman No. 3, that yielded 685 bushels per acre last year with us, does not promise more than 175 bushels at present. All other late varieties are in the same proportion; early varieties very light yield on an average. Farmers will sell as soon as the shipping season begins. These estimates are from authentic sources.

Waukesha County, Wis. FRASIER BROS.

The potato crop here is very poor on high land, and rather below the average on low land. Last season, the best yields were obtained on high land. Sod land has more White Grubs than I have ever before seen, and potatoes planted on such, are badly eaten. I think it fair to estimate this season's yield at one-half that of last. Last August, the price for Al potatoes was 75 cents per bushel; now they have been sold as low as 35 cents. No farmer seems to want to hold a bushel if he can sell. I think that one-third of last year's potato crop was fed to cattle. C. H. BREWSTER.

Plymouth County, Mass.

I have made some inquiries concerning potatoes, and find that, on 11 farms, the acreage is 80 per cent of last year's crop. Two or three estimate their yield greater than last year, the others from one-half to two-thirds of previous crop. I think that the majority favor selling as soon as the market opens. There is considerable blight, and it is very dry. I believe it is safe to say that there will not be more than three-fourths as many potatoes in this locality as there were last year, probably, not more than 50 or 60 per cent of that crop. Grubs are doing some damage, but I can make no estimate as to how much. G. A PARCELL.

Bradford County, Pa.

It is the general opinion of farmers in northern Berks and northwestern Lehigh Counties, that the crop of potatoes now being gathered is the best ever grown in that locality. The tubers are large, and generally sound. In low land, they have rotted badly, but the percentage is too small to be of much account. The crop, as far as taken up, exceeds that of last year, which was unusually large. Some growers are selling for what they can get, others are holding off for higher prices. There are, probably, more potatoes grown in this section than in any other equal amount of territory in the State. J. M. M.

Pennsylvania.

While the acreage is somewhat less than last year, the crop will be as large, as they have made a better growth, and, consequently, more of them are of marketable size. I think that farmers would be inclined to sell this fall if they could get, say, 25 cents per bushel at home. Altoona, a city of about 40,000 population, is our prineipal market for produce, but is already overstocked. Potatoes are dull of sale at 20 to 25 cents per bushel, delivered. We are 25 miles from our market. A great quantity of potatoes were fed last spring, as there was no sale for them at any price, and that will, probably, be the situation next spring. No great quantities of potatoes are raised here, most farmers having but from one to four acres, a few having eight and ten acres. S. K.

Bedford County, Pa.

Among professional growers, as much area is planted as usual, perhaps a little more; but the small operators, sharemen and gardeners have dropped out. I believe that the total acreage is considerably smaller than last year. The farmers are predicting a much lighter yield, some say one-half of last season. The reasons given are, a light setting of tubers, from three to six being the average; the blight, which is prevalent everywhere; the rot, which is bad among early varieties, and the grubs, which spoil the tubers for market. As a class, the farmers feel slight losses more, and grumble harder on slight provocation, than those of other occupations. Potatoes never made a larger growth of tops, and are maturing fast. The blight is retarded by the hot, dry weather, and is making slow progress. The rot, so far, is confined to a small area, mostly in gardens, and three to six tubers are enough, if merchantable, for a good yield. The grubs are doing damage on dry knolls which constitute a small percentage of the area. Better care has been given this crop than usual, in hopes of a "revolution in conditions", and some yields will average better. There is an immense crop of potato bugs now, and as but few are doing anything about it, many will lose more than by all the other causes combined. A friend who travels extensively in New York, Pennsylvania, Ohio and Michigan says, "Potatoes look well everywhere, and I predict a good yield and low prices." One speculator offered to contract for delivery at digging time, at 25 cents per bushel, and claims that he could have bought a million bushels, but bought but one lot of 15 acres. Early potatoes are excellent in quality, which will increase the consumption; and late potatoes have plenty of time to grow half yet. Potatoes make the most of their growth in the last few days or weeks of their life. Buyers are talking down prices so as to begin buying cheap. All other kinds of food are so cheap that it will not be possible to force the price, even with a half crop, above reasonable limits. No one can more than guess at the prospect, which is more variable with this crop than any other on the farm. C. E. CHAPMAN.

Tompkins County, N. Y.

The yield of early potatoes this year will not be one-quarter of last year, when we had a full crop. It will cut the average 5 per cent in the total yield of this section. With the blight in early-planted late varieties, it will be hard to make an estimate of the total yield until September 15. I have known from one-half to all to rot where the blight has struck them. In the towns of Newark, Lyons, Phelps, Palmyra and Sodus, the average is about 85 per cent of last year. I have been on the road all over these towns in the past two weeks, and from what I can learn, that will be a safe estimate. The tendency will be to market most of the stock direct from the field, as in the towns of Newark and Phelps, farmers grow potatoes for their money crop, and they will be obliged to sell to pay help and settle other bills.

Wayne County, N. Y. C. E. KELLEY.

In my immediate vicinity, the early potato crop suffered all the season from a deficiency of deep moisture. Since the frost left in the spring, there has not been sufficient rainfall at one time; to moisten the soil 12 inches deep, though there have been many small showers. This has cut our early potatoes nearly or quite 50 per cent in yield. Where I counted on 400 bushels, I get a trifle over 200. Others, trying for less, get about the same proportion. All the potatoes are there, but are small sized and poorly matured. In other localities, where the drought has been less severe, the vines are promising, but disappointing when the crop is dug. From the fact that our wholesale rates have gone as low as 50 cents per bushel; and are now 70 cents or more, I infer that the product, generally, will fall considerably short of last year; especially as rot is beginning to show in late potatoes. Farmers are divided in opinion whether it is best to sell at once or hold for better prices. DR. JABEZ FISHER.

Worcester County, Mass.

The potato crop will be smaller than last year. We have several hundred acres growing, and I question whether they will yield over 150 bushels per acre right straight through. We have a few acres that will run as high as 300 bushels, and some few kinds that will not give us over 75. Taking western New York as a whole, I would say that the acreage is 20 per cent less than last year, and the condition is about 70 per cent. I believe that the average yield will not be over 100 bushels per acre. Farmers are complaining that potatoes are not setting heavily; in fact, at least a score have told me that they have pulled up great big hills only to find one to three potatoes in them, while last year, under similar conditions, they would find a peck. In some sections of our State, blight is general, but just around here, we have no blight whatever. Our crop does not come into the market till after November 1 to any extent, and I believe that farmers will sell largely for what they can get. Times are so extremely hard that they will be compelled to sell to get money to live on. With beans, wheat and apples as cheap as they certainly will be, I can see no possibility of high prices for potatoes. The indications are that with wheat and beans at 60 cents per bushel, apples at 60 cents per barrel, potatoes at comparative prices, should not be worth over 20 cents per bushel. I hope, however, that I am mistaken in the last statement.

Monroe County, N. Y. EDWARD F. DIBBLE.

MARKETS

BUTTER—NEW.

Creamery, Western, extras	16½@—
Western, firsts	14½@15½
Western, seconds	12½@13½
Western, thirds	11½@12
State, fancy	16 @16½
Common to prime	11½@15½
State dairy, half-firkin tubs, fancy	14 @15
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14 @14½
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @12½
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9½@10
Thirds	8½@ 9
Factory, fancy	11 @—
Factory, firsts	10 @10½
Factory, seconds	9 @ 9½
Factory, thirds	7½@ 8½
Old butter	6 @ 9

CHEESE—NEW.

State full cream, large, colored, fancy	8 @—
Colored, good to choice	7½@ 7¾
Fair to good	7 @ 7¼
Fancy white	7¾@ 8
White, choice	7 @ 7½
Small, colored, fancy	8 @—
Small, white, fancy	7¾@—
Small, good to choice	7¼@ 7½
Small, common to fair	6 @ 7
Light skims, choice	6 @—
Part skims, good to prime	4 @ 5
Part skims, common to fair	2 @ 3
Full skims	1 @ 1¼

EGGS.

Near-by, new laid, fancy, per doz	17 @ 18
State, fresh gathered, average receipts	15 @ 16
Penna., country marks, average best	15 @ 16
N. Ohio Ind., Ill. and Mich., prime	12½@ 13½
Other Western, prime	14 @—
Western, fair to good	12½@ 13½
Western & South'n, poor to fair, per case	1 75 @2 50
Western culls, per case	50 @1 25

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	5½@ 6
Choice, 1895, per lb	4¾@ 5¼
Prime, 1895, per lb	4¼@ 4½
Common to good, per lb	2¾@ 3¾
N. C., sundried, 1895, sliced, fancy	3¼@ 3½
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	2½@ 3¼
Western, sundried, quarters, bbls	2½@ 3¼
South-West'n, sundried, quarters, bbls	2¼@ 3
Southern, sundried, quarters, bbls	2 @ 2¼
Southern, sundried, coarse cut bags	2 @ 2¼
Chopped, 1895, per lb	—@—
Cores and skins, 1894, per lb	—@—
Peaches, Sundried, 1895, peeled, per lb	3 @ 6
Cherries, 1895, per lb	9 @ 9½
Cherries, 1896, per lb	9½@10
Blackberries, 1895, per lb	5½@ 6
Raspberries, evaporated, 1896, per lb	14 @14½
Huckleberries, 1895, per lb	6½@ 7½
1896, per lb	7½@ 8
Plums Southern Damson, 1895, per lb	4 @—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25@1 75
Alexander, per bbl	1 25@2 00
Gravenstein, per bbl	1 25@2 00
Fall Pippin, per bbl	1 25@1 75
Holland Pippin, per bbl	1 25@1 75
Oldenburg, per bbl	1 25@1 75
Nearby, Nyack Pippin, per bbl	1 25@1 75
Nearby, other k'ds, h'd-pick'd, per bbl	1 00@1 50
Nearby, open heads and common, per bbl	50@1 00
Blackberries, fine and large, per quart	7@ 8
Soft and poor, per quart	4@ 6
Grapes, Up-River, Concord, per 25-lb carrier	60@ 80
Up-River, Champion, per 25-lb carrier	30@ 40
Up-River, Wyoming, per 25-lb carrier	65@ 85
Up-River, Moore's Early, per 25-lb car'r	60@ 80
Up-River, Worden, per 25-lb carrier	60@ 80
Up-River, Niagara, per 25-lb carrier	75@1 00
Up-River, Delaware, per 25-lb carrier	75@1 00
West'n N. Y., Concord, per large basket	15@ 17
Huckleberries, Jersey, per quart	5@ 7
Mountain, Penn. and State, per quart	6@ 8
Peaches, Md. and Del., fancy, large, per bkt	50@ 60
Md. and Del., poor to fair, per crate	30@ 60
Fair to fancy, per carrier	1 00@1 50
Common, per carrier	50@ 75
Muskmelons, Baltimore, per crate	50@ 75
Md. and Del., per carrier	75@1 50
South Jersey, per bushel-crate	25@ 50
South Jersey, per bbl	1 00@2 50
Anne Arundel, per bbl	75@1 25
Hackensack, per bbl	2 00@3 00
Plums, Green, per 10-lb basket	20@ 40
Ordinary Blue, per basket	20@ 40
Pears, Bartlett, per bbl	2 50@4 00
Bartlett, per keg	1 25@1 75
Clapp's Favorite, per bbl	2 50@3 50
Clapp's Favorite, per keg	1 25@1 50
Seckel, per bbl	2 50@4 00
Seckel, per keg	1 25@1 75
Nearby, Scooter, per bbl	2 00@2 50
Nearby cooking, per bbl	1 75@2 25
Watermelons, choice, large, per 100	16 00@25 00
Small to medium, per 100	5 00@20 00
Per car-load	50 00@140 00

GAME.

Woodcock, choice, per pair	90@1 00
Partridges, choice, per pair	75@1 00
Grouse, choice, per pair	75@1 00
English snipe, choice, per doz	1 75@2 00
Plover, golden, choice, per doz	1 75@2 00
Grass, choice, per doz	1 00@1 50

GRAIN.

Wheat	60 @70
Rye	52 @38
Barley	27 @32
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	28 @31
Oats	20 @30

HAY AND STRAW.

Hay, No. 1 Timothy, per 100 lbs	82@ 87
No. 2	75@ 80
No. 3	65@ 70
Clover, mixed	65@ 70
Clover	60@ 65
Salt	45@ 50
Straw, No. 1, long rye, old	75@ 80
No. 2	65@ 70
New	75@ 80
Short rye	50@ 55
Tangled rye	45@ 50
Oat	30@ 35
Wheat	30@ 35

HONEY

State, white clover, comb, per lb	—@—
Buckwheat, comb, per lb	7 @ 8
White clover, extracted, per lb	5 @ 6
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	10 @12
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @55½

MEATS—DRESSED.

Veals, country dressed, prime, per lb	10 @—
Fair to good, per lb	8½@ 9½
Com. to med., per lb	6½@ 8
Small, per lb	4½@ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, light, per lb	6 @ 6½
Medium, per lb	5 @ 6

POTATOES.

Long Island, in bulk, per bbl	75@1 25
Jersey, per bbl	75@1 00
Sweets, yellow, per bbl	1 25@1 50
Jersey, yellow, per half-bbl basket	1 00@1 25
Sweets, red, per bbl	75@1 25

POULTRY—LIVE.

Spring chickens, per lb	10 @ 11
Fowls, local, per lb	9½@—
Western, per lb	9½@—
Southwestern, per lb	9½@—
Southern, per lb	9½@—
Chickens, yearlings, per lb	10 @ 11
Roosters, old, per lb	5½@ 6
Turkeys, mixed, per lb	10 @ 11
Ducks, local, per pair	70 @ 85
Western, per pair	60 @ 75
Southern, per pair	50 @—
Geese, local, per pair	1 00 @1 37
Western, per pair	1 00 @1 25
Southern, per pair	75 @1 00
Pigeons, old, per pair	25 @—
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, average, hens, per lb	10 @ 12
Average toms, per lb	9 @ 11
Chickens, Phil., selected, per lb	15 @ 16
Phila., ordinary, per lb	11 @ 13
L. I., scalded, per lb	11 @ 13
Pennsylvania, per lb	11 @ 14
Western, dry-picked, per lb	9 @ 11
Western, scalded, per lb	10 @—
Western, small, per lb	9 @ 10
Fowls, Western, dry-picked, choice	10½@ 11
Dry-picked, fair to good, per lb	9 @ 10
Scalded, choice, per lb	10 @ 10½
Old cocks, per lb	6 @ 6½
Spring ducks, Eastern, per lb	12 @ 12½
Spring ducks, L. I., per lb	12½@ 13
Spring ducks, Penn. and Va., per lb	9 @ 11
Spring ducks, Western, per lb	7 @ 9
Old ducks, Western, per lb	5 @ 8
Spring geese, Eastern, per lb	14 @—
Squabs, tame, white, per doz	1 75 @—
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @—

VEGETABLES.

Beets, per 100 bunches	75@—
Cabbage, L. I., per 100	2 00@3 50
Carrots, per 100 bunches	—@—
Cauliflower, L. I. and Jersey, per bbl	1 00@3 00
Celery, fancy, large, per doz	25@ 35
Average, prime, per doz	10@ 20
Small, per doz	4@ 8
Cucumbers, Jersey, per box	20@ 30
Long Island, per 100	40@ 60
Pickles, L. I., per 1,000	1 50@2 50
Pickles, Jersey, per 1,000	1 25@2 25
Egg plant, Monmouth County, per bbl	60@ 75
Jersey, per bbl	40@ 60
Green corn, Hackensack, per 100	50@ 75
Other Jersey, per 100	25@ 50
Green peas, Western N. Y., per bag	75@1 75
Long Island, per bag	75@1 00
Lettuce, Boston, per doz	—@—
Lima beans, Hackensack potato, per bag	50@ 75
Jersey flat, per bag	25@ 50
Onions, Southern, potato, per basket	50@ 60
Southern, potato, per bbl	1 12@1 25
Orange County, red, per bbl	75@1 50
Connecticut, red, per bbl	1 25@1 75
Connecticut, white, per bbl	2 00@2 50
Connecticut, yellow, per bbl	1 25@1 50
State, Multipliers, per bbl	1 25@—
Long Island, yellow, per bbl	1 25@1 50
Long Island, Red, per bbl	1 25@1 75
Peppers, S. Jersey, per bbl	60@ 75
Spanish, per bbl	75@1 00
Spinach, per bbl	—@—
Squash, marrow, per bbl	75@—
White and yellow crook, per bbl	50@ 75
String beans, Jersey, per basket	—@—
Long Island, per bag	75@—
Tomatoes, Monm'th Co., J'y, fancy, per crate	20@ 30
Monmouth Co., Jersey, Grant, per crate	20@ 30
South Jersey, per crate	10@ 15
Turnips, new, white, per 100 bunches	1 50@2 00
Russia, per bbl	50@ 75

MILK AND CREAM.

The total daily supply has been 22,300 cans of milk 185 cans of condensed milk and 512 cans of cream The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

Miscellaneous Advertising.

SEEDS

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New Fall Catalogue

is now ready. It gives the fullest and latest information regarding SANDVETCH RAPE, WINTER OATS, CRIMSON or SCARLET CLOVER, LUCERN or ALFALFA and ITALIAN RYE GRASS; also, valuable information regarding Grass and Clover Seed Mixtures adapted to different soils and situations, and about all SEEDS and SEED GRAIN for fall seeding.

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Address, MINARD HARDER, Cobleskill, N. Y.

DIARY OF A DAIRY FARM.

GETTING INTO THE MILK BUSINESS.

[This article was written last winter. It has been held until now in order to call attention to some of the necessities of winter dairying. We hope for a continuation of the story later.—EDS.]

First, let me state that I am not a practical farmer, but a clergyman, and, therefore, not in a position to give a farm constant, personal attention. Something like 14 years ago, a stony, hillside farm of about 200 acres in Columbia County, N. Y., came into my possession, and has since been used rather as a place on which to spend the summer months, than as a source of revenue. A tenant, known to me from childhood, worked the farm for a period of years on shares, putting in general farm crops, keeping three or four sows, about 50 breeding ewes and six or seven cows, from which butter was made and sold in the general market. During all these years, no net income to speak of, was received from the farm, and I noticed that its producing capacity grew steadily less until, in years of drought, it failed to pay expenses. One or two changes of tenants made no difference with the general result, and, therefore, tenant No. 1 was re-engaged, and remained until April, 1895. These tenants were all honest, most of them economical and hard working, but conservative and content to go along in the good old ways of their fathers.

The year ending March 31, 1895 was the most disastrous in our farming experience. The sheep industry had been ruined, the general depression had hammered down the price of most farm products below the cost of production, and the prolonged drought joined hands with both to torment and impoverish landlord and tenant alike. It became evident that some change must be made or our summer vacation would become altogether too expensive for a far from princely salary. Just about this time it was rumored that a milk station would be erected at the railroad depot, a mile away, if a sufficient number of patrons could be secured to warrant the outlay and assure its success. A canvass among the adjacent farmers disclosed a willingness to give the project a year's trial, and a building—small and rough, simply intended as a shipping station — was erected. Feeling kindly inclined toward the new departure, I consulted the tenant about embarking in the business of milk production for the New York market, but found him utterly unwilling to entertain the idea. "It required too great an outlay"; "was too laborious"; "feed cost too much"; "it demanded seven days' labor in the week," and various other reasons were urged against it.

But what was to be done? We could not go on as in previous years, for sometimes we ran at a loss, and all the time the plant was being gradually impaired. Just how to arrange with a tenant in changing from butter, sheep and grain farming in the middle of the year—for sheep and lambs must be kept until marketed, and cows could not be purchased until after that event—was a question. So badly, also, had tenant farmers fared during the preceding year, and so suspicious were they of the new enterprise, that it was well-nigh impossible to secure a suitable man to work the farm on shares. Two men, therefore, well recommended and said to be reliable, were hired by the month, but neither men nor myself had had any practical experience in milk production, and were compelled to feel our way gradually, profit by mistakes, and pay for all knowledge gained.

This, then, was our condition April 1, 1895: A stony hillside farm of about 175 acres of arable land, fences in a tumble-down condition; soil considerably impoverished by long-continued cropping and slight returns in enriching material, pastures and meadows thinly seeded and eaten down to the very roots because of drought, and no green forage crops the fall before; no hay in the barn or grain in the bins, except a possible 150 bushels of oats; a stock consisting of three horses, one pair of working cattle, three sows, 45 ewes, thin and weak, and seven cows, spring poor. My first care was to purchase hay and grain feed for the stock, and caution the man to give them his whole attention. Under his treatment they began to improve, but feed and care came too late for the sheep, as only 31 lambs could be saved by the most painstaking nursing, though many more were dropped, some still born, others living a few hours or days but all too weak to survive. The sows, likewise, proved to be so weakened by inbreeding, that only one farrowed and she but four pigs.

It was of the cows, however, that I started more particularly to write. April 1, 1895, we had six cows in milk, most of them fresh along in the early winter, and one other due to drop her calf the same month. This herd consisted of two registered Jerseys and five high grades of the same breed. After considerable thought and much advice, I decided not to purchase any more cows at that time. The price of milk was low, we still had our sheep and lambs on hand, pastures and meadows were certain to be short, and besides, I was convinced that a winter dairy would be more profitable. Notwithstanding this resolution, however, I did buy two heifers—one a two-year-old, due to drop her calf in June, and the other a yearling—from a neighbor who had no fodder, and who offered them at a reasonable price, though I am now convinced that I made no money by the operation.

And now we were ready to send what milk we made to the creamery? Hardly! for some place to cool it, with cans, strainer, etc., must be secured. We were fortunate in having a spring near the barns, of sufficient capacity and coolness that we need make but one trip a day to the milk depot. Two or three chestnut logs taken to the sawmill furnished plank and timber for vat and frame, and $5 to $6 worth of lumber, with about the same amount for a carpenter, fitted up the milk house. The purchase of three cans and a second-hand harness and wagon, completed the outfit, and we began to take the milk to the depot.

Our feed, at this time, consisted of a mixture—five or six pounds daily—of two parts shipstuff to one of hominy, with good Timothy hay, no other being available. The first month disclosed the fact that our cows were not a success as milk producers. Indeed, I had long doubted that they were profitable as butter makers, but had been unable to get a test made at any time. The proceeds for milk in April, at two cents per quart, amounted to $19.50, which was better than the butter returns had been, as our half from seven cows barely supplied the table. In May, under the stimulus of better care and feed, and with a run in the swamp during the latter part of the month, the cows — though far from satisfactory—did better, turning off $29.97 worth of milk at 1¾ cent per quart. In June, at 1½ cent per quart, the returns were about the same, lacking a few cents, for while a few of the cows gained on pasture, those longest in lactation did not increase, and even failed in quantity. In July, notwithstanding that the two-year-old heifer bought in the spring, was now in milk, the shrinkage was quite marked, the proceeds being only $23.

In the latter half of this month, we began to supplement the pasture, brown and burned with the prolonged drought, with a nightly feed of oats and peas, which had been sown with this object in view. The oats and peas were continued during the first part of August, until they became too ripe for green forage, when the rest were cut and cured for hay. We had planned for, and expected to have, plenty of corn fodder to follow the oats and peas, but the sheep broke over into the sowed corn got a taste of the fresh, green blades, and, notwithstanding every one was poked, fences repaired, and lambs and sheep sold as fast as fit for market they continued to get into the corn almost nightly, and destroyed every possibility of a fodder crop. During this month, therefore, pasture and water were both short, but we supplied their place as best we could by opening springs, feeding what corn stalks we had, and the oat and pea hay. In spite of all this, the milk yield from six cows, with the price at two cents per quart, netted only $19.44.

(To be continued.)

COST OF SCRUB OR THOROUGHBRED

Does it cost more to raise a well-bred hog horse, sheep, cow or fowl to maturity than it does to produce a scrub of the same age?

To breed and raise a good animal, the cost of the service of the male, the money invested in the dam, the care and attention are all greater than in raising a poor one. On the other hand, in the case of those animals which are raised for the flesh, the good animal will produce more pounds of growth or increase per unit of food than the poor one. Good animals imply better sires, more expensive dams, better food, proper care and environment, all of which cost money. On the other hand, the product of good animals costs less for the food consumed than that from poor ones.

I. P. ROBERTS.

After the foundation stock is established, it costs no more to raise a well-bred animal than a scrub. In fact, when the well-bred animals and scrubs are raised on the same feed, and run together from calves up, the highly-bred one is usually larger, more thrifty, and

(Continued on next page).

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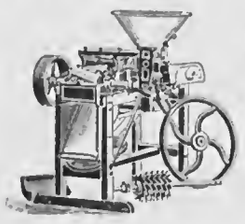

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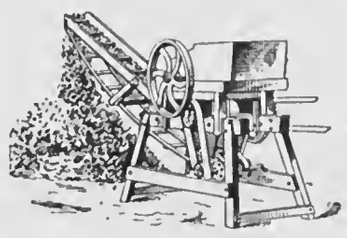

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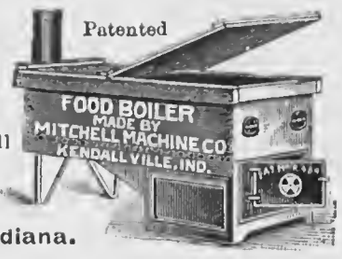

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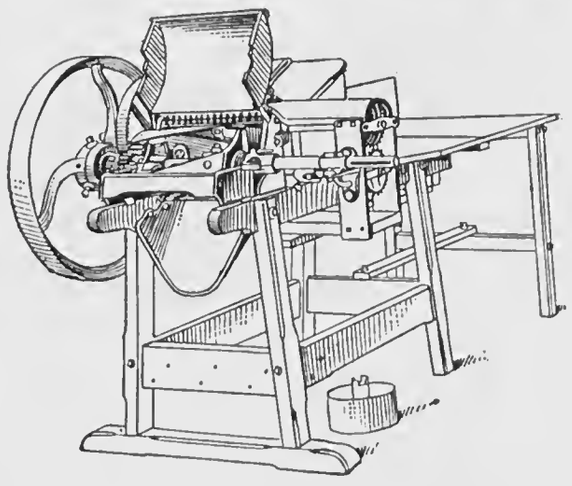

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Cost of Scrub or Thoroughbred.

(CONTINUED.)

in better condition, at almost any period of its existence. In dairy cattle, it should be borne in mind that the well-bred animal usually gives double the amount of milk, and consequently, when milking, would naturally require a little more feed, but when not in milk, can usually be kept as cheaply as the scrub. We think this statement will prove correct in the generality of cases. Of course, there may be exeeptions.

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We have never raised standard-bred horses, but we have three kinds of purebred sheep, three kinds of purebred hogs, two kinds of purebred cattle, and several kinds of purebred poultry, including White and Bronze turkeys, pea fowls, guineas, etc., and I am very decidedly of the opinion that it does not cost more to raise a well-bred animal than it does to raise a scrub. Indeed, I would say that the reverse is true, because, while the first cross of purebred cattle, sheep and pigs, has proved, with us, every way satisfactory, and they do fairly well as long as a purebred sire is used, I know from experience that purebred animals will, as a rule, do better than a scrub with the same chance.

J. D. VAN VALKENBURGH.

Whether it costs more to raise a thoroughbred or scrub, depends, to a great extent, on the way he has been bred. It ought to cost less to raise a well-bred animal than one bred at random. If a breeder is an expert, he will thoroughly inform himself of the peculiar traits of the ancestry of his breeding stock, and an intelligent coupling of animals should produce healthy stock—which, at birth, inherit a strong constitution. There is no trouble in raising an animal with a sound, healthy body and strong constitution, and a well-bred animal ought to have digestive organs and power of assimilating food that would cause him to grow faster on the same food than a scrub. Breeders sometimes inbreed their stock, and thus cause a weakened constitution, or do not use sufficient care always to breed only strong healthy stock. I believe the constitution to be the foundation of success, and that, if an animal has been well-bred, it may be raised to maturity as cheaply as a scrub, and should bring enough more to pay a good dividend on the extra cost of the purchase money of his ancestry.

C. M. WINSLOW.

Costs Less for Well-bred Stock.

I can state most emphatically that it does not. On the contrary, it costs *less*, providing that the well-bred animal has been *skillfully* bred. This is not always the case, of course, though it is so in the majority of cases. The object of good breeding is to remove defects of structure, and add perfection to the frame, as well as to the appearance, and if properly and intelligently followed, we would expect to get an animal having, not only a more sightly appearance, but with fewer defects, and with the milk, butter, or meat-producing qualities enhanced. A first-class cow, undoubtedly, returns more money from a given quantity of feed than a scrub possessing a rangy frame, small udder, and having no butter record in her ancestry. Thoroughbred swine—bred for deep side and ham and quick-maturing qualities, must of necessity, make pork more quickly than the long-legged and rangy class that do not begin to fatten until they reach maturity. The same holds true in regard to sheep and fowls. If, therefore, the purchase has not been made at a fancy price, and the animal is really what it purports to be, well and skillfully bred, the slight extra first cost will be quickly repaid, and the future profit will be much greater.

It is, unfortunately, true, however, that there are too many professed breeders of thoroughbred stock that do not own an acre of ground, or breed a single animal, and who flood the land with alluring advertisements. Such men have done much to discourage fancy breeding, and have led purchasers to believe that all advertisers are dishonest men, and that well-bred stock (so-called) is of no value. For this evil, the farmers hold the remedy in their own hands—if they would but use it. Public exposure should be made relentlessly of all parties who perpetrate swindles on the public, and complaint should also be made to the recording secretaries of the stock associations. But the best and most practical safeguard a stock buyer has is to buy only from men who have enough faith in the quality of their stock to ship subject to approval, the *shipper* to pay all charges *both ways*, if the stock be rejected. This insures shipment of the highest quality of stock only, and while it does not guarantee the pedigree, it stands to reason that a man who will ship in this way, is much more likely to be honest than one who ships in the ordinary way, and then makes it so hard for a buyer to return an unsatisfactory animal that he would rather keep it than be bothered with a long correspondence, coupled with aspersions on his knowledge of what constitutes a good animal. "Caveat emptor" (Let the purchaser beware!) is an old legal maxim that holds good in stock buying as well as in all other branches of business to-day. The intending purchaser should first look in the columns of a high-class, reputable paper, like THE R. N.-Y. for stock advertisements, and then make "assurance doubly sure" by patronizing only the breeders who ship subject to return at their *own* expense. If this plan be followed, I do not think that any one will be sorry that he invested in high-class stock. The "best is always the cheapest" in the end.

GEORGE RHYFEDD FOULKE.

Registered Jerseys Cost More.

It costs me considerably more to grow registered Jerseys than it does to grow scrubs or grades. When I raise a grade or scrub, I expect to get a medium price when I sell it; knowing this, I do not give it extra feed or care—just merely common treatment—and sell the animal for the ruling price. In every such case, it has cost more than it will sell for. In my experience, I find that, in fully nine cases out of ten, farmers are selling scrub cattle and horses for less than cost of production.

I commenced the cattle business with a grand herd of grades, averaging 300 pounds of butter per cow per year. I had to sell yearling heifers from this herd for $15 to $18 each. I sold the entire herd, and bought the best herd of registered Jerseys I could find in New York State. This made the interest on the investment greater. To raise this class of cattle successfully, I had to provide much warmer stables. The young calves are fed whole milk warm from the dam for the first four weeks; then warm creamery milk and linseed meal are gradually substituted for the whole milk. I never fed a grade calf whole milk after the first week. Then the thoroughbred calf is fed all the grain, milk and hay it can digest until July 15 or August 1, when the calves are turned into clover pastures and fed wheat bran. Calves treated in this way, at six to eight months of age, are as large as common yearlings, and are in demand at $40 to $50 each. It has been seldom that I could sell a full-aged, grade cow for this price.

Our farmers are going out of the business of raising calves, preferring to buy young cows for $25 each. Our horse breeders have made public sales and disposed of their horses at a heavy loss. I have reached the conclusion that, while it costs more to raise a well-bred animal, and get it into shape to sell for a paying price than it does to raise a scrub, in these days of keen competition and low prices, it is the only way to make the farm pay.

MYRON REIGHTMYER.

SOME INDIANA POULTRY.

I have had the care of poultry, more or less, for more than 40 years, and have always been considered "lucky with chickens." For the past 10 years, we have had a plastered henhouse, 10x36 feet. We keep from 200 to 250 fowls in it at night; during the day, they have unlimited range. During the summer, they find most of their living; in the winter, they are fed corn in the ear that they must pick off for themselves, some wheat or oats, and sometimes, a warm feed of mush. The henhouse has a pile of sharp sand and gravel in one corner, and the floor is covered with leaves or trash and chaff from the barn on which the grain is thrown. They are fed all the spare milk the year 'round, and all the scraps and cracklings at butchering time. Sometimes scraps are bought from the butcher for them, but not a great many. We have never given our poultry that extra care that some people deem necessary, yet we have never had cholera. We bought the roup once in buying some fine White Leghorn cockerels, and had some trouble to stamp it out which we did, after a loss of a dozen or so.

Our greatest trouble is lice, which we have to fight early and late. We used to lose some chicks from gapes, but since we learned to put the coops on freshly-plowed ground, sprinkling ashes or lime around, and moving the coops on fresh ground frequently, we have no trouble with it.

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H.

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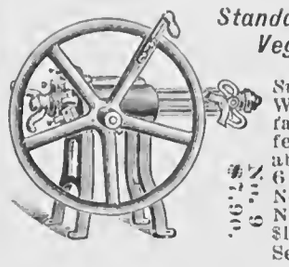

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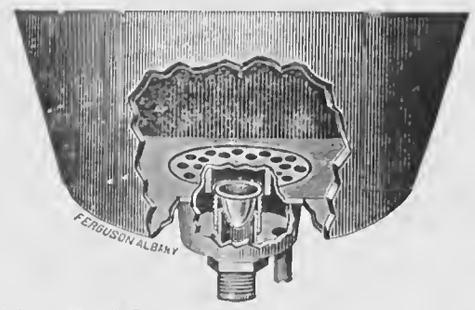

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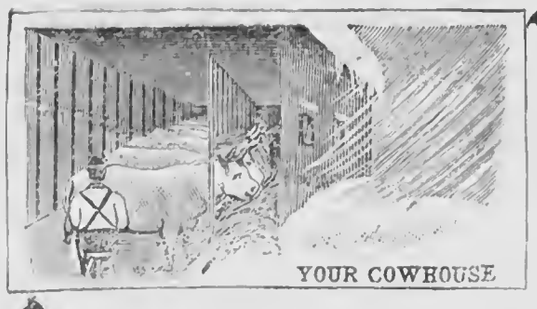
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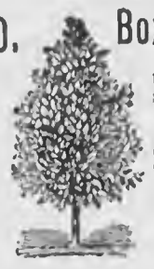
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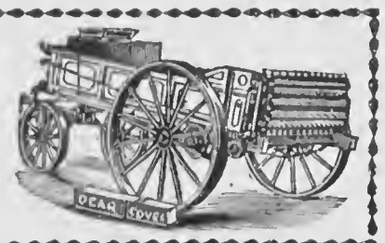

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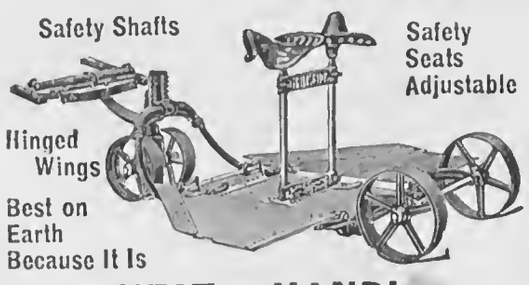

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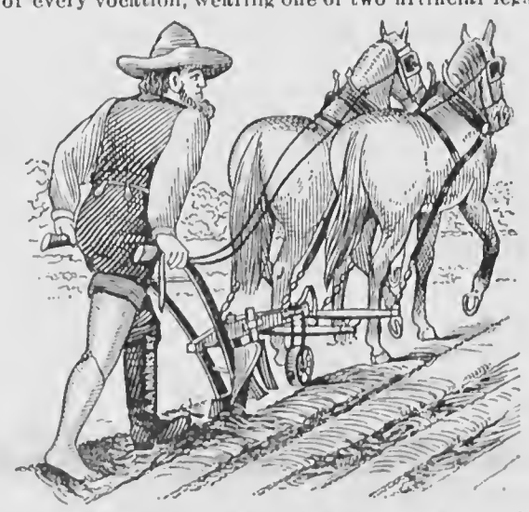

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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AN AMERICAN SHETLAND PONY.

A WORTHY RIVAL OF THE BICYCLE.

A Popular Piece of Horse Flesh.

PART I.

The bicycle craze has swept a good many boys and girls away from habits and ideas that most of us cherish as among the happiest of childhood's memories. The boy or girl of 20 years ago always had some pet animal to be loved and cared for. It was a hen or a dog, a calf, colt or sheep—some living animal that grew up with them, and really seemed to share their childish troubles and joys. The work of training and mastering this living pet was a most useful drill for the boy or girl, for it taught lessons of patience, self-control and watchful care that could hardly be learned in any other way. The bicycle craze or habit has changed this, to a great extent. In many cases, the "wheel" has taken the place of the living pet in the child's life. While the wheel has, certainly, done its full share in the world's development, it is, at best, only a machine. A child cannot love or pet a machine as it would a living animal, and it can generate no such spirit of companionship as will grow up between a boy and a dog or pony.

Mr. D. H. Nash, of Millington, N. J., is one of those men who believe that it is an essential part of childhood to have the care and ownership of some living pet. His own children have grown up among farm animals. A big black dog, about the same age as the little boy, watches and guards his young master and mistress with more care, and a greater sense of responsibility, than any human beside their parents could be expected to assume. It is safe to say that the companionship of that noble old dog will help make a better man and a better woman out of that boy and girl.

When the bicycle craze started, Mr. Nash saw that, some day, there would be a reaction among those parents who do not care to have their children waste all their love and sympathy on a steel machine. The desire to "go" and to get about easily from place to place, cannot be headed off. The bicyle has planted that desire so that it cannot be pulled out. The child must have something that will cost no more than a good wheel, and which will carry people about from place to place, and give the child a truer sense of responsibility and care. Mr. Nash decided that a well-bred Shetland pony answers these requirements better than anything else, and for a number of years, he has been breeding them. He visited the Shetland Islands in order to secure good stock, and to see how these little horses are kept and bred at home.

In July, I visited Mr. Nash's farm in order to see the ponies and learn something about them. A Shetland is a dwarf horse. Its small size is due, chiefly, to the hard fare it has received on its native island. Exposure to cold and storm, with scanty food, has, through many generations, reduced its size and given it a rough, shaggy appearance. When brought to this country and given plenty of good food and comfortable shelter, the Shetland grows larger. Mr. Nash says that, with several generations of heavy feeding and the best of care, he can produce a 1,000-pound horse from the original 500-pound pony. This is not desirable, however, for such a horse would have few, if any, points of superiority over a small Morgan or French-Canadian. The public want a Shetland about 44 inches high, and one of the hardest things with which American breeders have to contend, is the tendency of the pony to increase in size under improved care. About the only way to prevent this increase, is to import new blood from Shetland.

Though the size of the Shetland has been reduced by many generations of hard usage, its temper, vigor and intelligence seem to have been even bettered by the treatment it has received. A well-bred and trained Shetland is the most lovable, patient and "knowing" little animal that has ever held a place in the stable. At the same time, it is strong, sturdy and active. You may have seen some little, short, sturdy Frenchman or Italian raised in some poor district, where food was scanty and rough, and where home comforts were few. Under such conditions, some men would grow long and thin and consumptive, but the little man simply turned into muscle and gnarl and tough fiber, so that you have been astonished at the amount of work he can turn off in a day. He does it all so good-naturedly, that it is a pleasure to see him at work.

AN ATTENTIVE READER "LOOKING THROUGH THE R. N.-Y." FIG. 189. PAGE 616.

That man represents among his fellows, what the Shetland does among horses. There are other dwarf horses, however, and I asked Mr. Nash why he picked out the Shetlands. He has investigated them all. The Icelands, he says, compare well in size and strength with the Shetlands, but are dull and sluggish and ugly in disposition. A child might as well have a donkey and be done with it, so far as intelligence is concerned. The Welsh and Exmoor ponies are quick and graceful, and many of them can, doubtless, out-travel the Shetlands; but they are inclined to be ugly and treacherous, and are not safe for children to drive. The Shetland is as good-natured as a sheep. A little child might play about its legs without fear of a kick or injury. The Shetland is not intended for grown-up people to drive, but is above all a child's animal.

There is no use trying to claim that it can trot as fast as Maud S., or that it can haul a plow or a ton of hay. Your child does not weigh a ton, and you do not want the baby to go whirling over the road at a break-neck pace behind an excited horse. A child is sure to take some life-influence from its companions—even from its pets. No man would give his son a bulldog in preference to a collie, unless he wanted to make a fighter out of the boy. A Shetland possesses the qualities of dignity, patience and loyalty, to a greater extent than any other horse that a child can safely drive. The Shetland is a gentleman—that's what he is—and if your boy learns to love him, and care for him properly, the per cent of "horse sense" in that boy's make-up will be considerably increased. Some of our readers may think that I spend too many words in talking about this side of the matter. I do not think that we have talked half enough about the influence of farm animals in developing character. The Jersey cow has not only increased the money output of the American dairy, but her influence has unconsciously gone deeper, and improved the social and moral side of every man or woman who has championed her cause. She is a dainty little lady among cows, and from the milker to the owner, everyone who brushes up against her, gets a little inspiration for something better in life. You may have dozens of horses on your farm, but the chances are that a Shetland colt added to them, will give the children just what they need to make a closer link to tie them to the old home.

Mr. Nash says that, sometimes, people with young children buy a little Shetland as soon as it is weaned. The little thing can be kept on the lawn or in a little house of its own. It grows up to be as much a member of the family as the dog, and will follow its master all over the house. When it is big enough to be harnessed, the boy can take care of it himself. Boy and pony are like two chums, and they will go driving about like comrades out on a vacation. As we said at the start, there are an increasing number of people who do not like to see their children giving

all their companionship to a wheel. Mr. Nash has been wise in concluding that a good Shetland pony, furnished at the price of a first-class bicycle, will, at an early day, prove about the most popular piece of living flesh that can be packed inside a horse hide.

Starting with a few animals direct from the Island, he has built up an excellent herd, without doubt one of the best in the country. The ponies on the Island are inferior stock, except where they are kept up and bred and fed with some regularity. Formerly, of course, when the ponies ran together in large herds, there was more or less inbreeding, and this with a diet of sea weed, coarse grass, and even fish, gave small and inferior animals, valuable chiefly for foundation stock. We have seen how, in a few generations, the stock can be improved and increased in size, so that the American-bred Shetland is as much more desirable for practical purposes as is the high-class, American-bred Jersey cow superior to an imported Jersey. Mr. Nash's herd is made up of several distinct families, so that there is no danger of too close inbreeding. In fact, he could furnish foundation stock for several distinct herds that are in no way related. Next week, we shall try to tell more about the herd and the care given an American Shetland. H. W. C.

POISONING CUTWORMS.

DO THE SONG BIRDS SUFFER?

Cutworms were very numerous in some localities in this vicinity during the cutworm season of 1896. A friend, who runs a fruit farm and market garden, called on me in the spring, and related his troubles. The ground was full of cutworms; they had nearly destroyed his first plantings, and were busier than ever. "Last night," said he, "they cut down 40 out of 300 tomato plants that we set yesterday."

"But why don't you stop them?"

"We can't; there are too many of them. All we can do is not a drop in the bucket."

"Have you tried Paris-green?"

"No, I never heard of using it for cutworms. How do you do it?"

"Wet some bran, putting in a little molasses to sweeten it, and put the Paris-green in that. Scatter the bran on the ground infested by the worms. I have never had occasion to try it, but those who have, say that the worms will eat it in preference to the plants, and will be destroyed."

"I will go right straight home and try it." And he did. Ten days later, he called on me again.

"I have come to tell you that bran and Paris-green work to a charm; they will save me hundreds of dollars this year. I went right home and fixed some as you told me, scattered it about among a part of my tomatoes and cabbages, and, having a little left, I put it on two rows of onions. It stopped the worms right then and there. Not another plant was taken where I used it, while the rest were just mowed down. The two rows of onions were left untouched, while those adjoining were taken. The only mistake was in not putting it on all my garden to start with. I fixed that as soon as I found out how it worked. I have time to get a crop yet, though, of course, the earliest and most profitable crop is nearly lost."

He has a farm of about 160 acres, of which about 20 acres of low land are used for garden. All the song birds in the county in which he lives, if they had been encamped on his farm last spring, would not have saved his garden from the worms. I have yet to learn that his bran and Paris-green killed a single song bird. If it did, it works differently from the way it does on my place. I have repeatedly tried putting out Paris-green, both in bran and in corn meal, to catch English sparrows, and I never yet caught a sparrow or any other bird with it.

As I look at it, there is a great deal of sentimental nonsense talked and written about saving the song birds. Nobody enjoys the sweet songs of birds more than I do, and I do not wantonly molest them; but when it comes to a question of which of us is to gather the crops that I have sowed and cultivated, I prefer to do it myself. If the birds insist on taking the crops, the birds will have to go. In this vicinity, the birds (except the English sparrows and game birds) have never been interfered with to any great extent by man, and we have the normal number. Yet they have not shown their ability, even though they had the disposition, to save our crops from the ravages of the cutworms.

If Fred Grundy, or anybody else, objects to our poisoning cutworms on account of the danger to birds, it strikes me that he should show, first, that the danger is real and not imaginary; and, second, if the danger is real, that the birds which are killed in poisoning the worms, are of more value to the farmer than the crops that he saves by the process. I do not believe that either proposition is true.

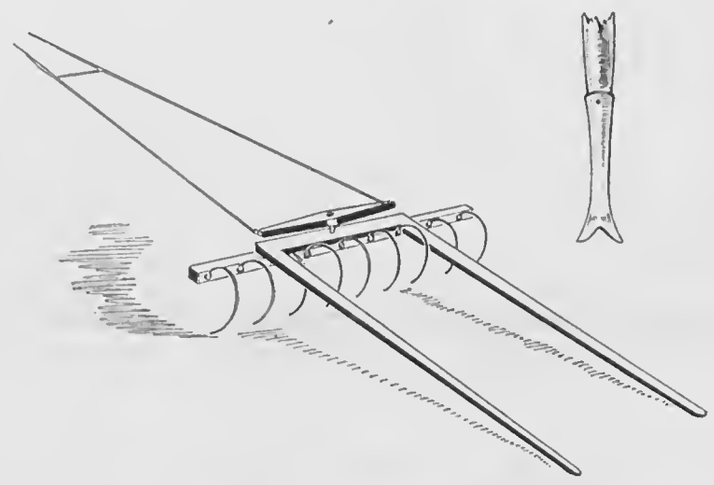
But I came near forgetting what seems to me a very important point regarding the use of Paris-green with bran and molasses, which I have not seen mentioned elsewhere, and that is, that it is likely to prove equally effective against other insect pests besides the cutworms, if used at the proper time. This same neighbor about whom I have been writing, came to me recently and, while discussing his experience with the poison, said, "There is another thing about that bran and Paris-green: We have lost a great many cabbages of late years, by a maggot in the root. You remember that I told you about our putting it on part of a cabbage patch. Where we used it, we have not lost a cabbage by the maggot, and where we did not use it, they are nearly all destroyed. We think that the poison was put there just in time to catch the insect which lays the egg, with the result that she did not lay any eggs. Another year, we shall use it on our whole garden, and keep it there as long as necessary."

It seems to me that this man's experience points towards a much wider field for the use of insecticides than has, heretofore, been considered possible.

Michigan. F. HODGMAN.

BLACKBERRY CULTURE IN MARYLAND.

With the advent of the Early Harvest blackberry, a new impetus was given the cultivation of this fruit. "Double blossom" and the attacks of the cane borer, had blasted not only the plantations, but the hopes of most of our blackberry growers, who had been accustomed to growing the varieties of the Wilson and Dorchester type. The Early Harvest was, also, found to be more hardy and free from rust than were those kinds. Although hardier, as I have said, I have, by no means, found it to be proof against such winters as were experienced in 1893 and 1895, when more than one-half the growth was killed almost to the ground. I have not, as yet, found it to be subject to any disease beyond a slight attack of rust; but such is its vigor, that it will often recover from such attacks of itself, something I have never known any other variety of the blackberry family to do. Its



A RAKE AND SPUD FOR BLACKBERRY VINES. FIG. 190.

habit of growth is such as to admit of easy cultivation; simply pinching back the new growth of cane at 2½ feet causes it to grow in tree form, and does away with the necessity of staking. Trained in this manner, it needs only shortening in of the branches in the spring, to make it easy of cultivation. Grown either in hills or by the hedge system, it does equally well, if attention is given to the proper cultivation, thinning of superabundant canes, and cutting back of side growth.

With my first venture with the Early Harvest blackberry, nine years ago, I was discouraged by the reports of several of my neighbors, who reported that it all went to growth of cane, that it overbore a lot of small, hard, half red berries, and took all summer and part of the autumn to ripen all its crop. But for a fortunate occurrence during the first winter of my experience with this variety, I, too, might have condemned it as worthless from the above-mentioned faults. Part of my patch extended to quite a depression in the field, between two prominent knolls. I noticed that the ends of the canes in this particular part of the patch were killed back, at least, one-half or more. I did not shorten back the side growth the first year, and the berries in the bottom were not only twice as large as those on the knolls, but ripened their crop in about one-half of the time. Here was a lesson in pruning of which I quickly took advantage. Next season, I cut back the side shoots to about six inches long, thinned the canes where too thick, and got an excellent crop of good sized berries, which all ripened within three weeks, except a few hills upon which too much wood growth had been left; these were loaded with an immense crop of small, hard berries which it took nearly all of August to ripen.

For shipping and canning, the Early Harvest has no equal, but the berries are, by no means, large, and will never bring as much in market as larger varieties, which may also be far inferior to them in flavor.

For dragging out the dead wood and canes, I use a contrivance made from an old horse rake, see Fig. 190. The bar to which the teeth are fastened, was sawed obliquely across, leaving as many teeth as would fit in between the rows in raking. A pair of old buggy shafts with the singletree left on, and nailed or bolted to the bar, answered for handles with which to guide the rake. The singletree faces the front of the rake next the horse, which is harnessed to the machine far enough from the rake to admit of dumping its accumulations occasionally. This improvised rake enabled me to do the work of 20 men with forks and rakes. It takes a stout pair of arms to hold and dump the rake, but it does the work quickly and well. I have no doubt that it will answer in raking out grape and tree trimmings quite as well as some of the rakes shown in recent numbers of THE R. N.-Y. R. S. COLE.

Maryland.

A NEW ENGLAND APPLE ORCHARD.

THE "NEW" APPLE CULTURE.

There Is Profit in An Apple Tree.

(*Concluded.*)

Last week, Mr. Edwin Hoyt told us about his new method of apple culture. He would plant the trees 18 feet apart each way, and cut them out when they grew large enough to touch. He made some estimate as to yearly crops that, doubtless, seemed large to many of our readers. When his attention was called to the fact that most orchards have an "off year", he said:

"In our new departure, we purpose to have them bear every year. Only two things are necessary to have annual crops of apples (aside from spring frosts); these are, first, plenty of food for the trees and second, thinning of the fruit. If the trees are relieved of from one-half to two-thirds of the fruit soon after it is set, we may be able to get more apples in bulk, which will sell at a higher price than the whole amount of fruit that sets, if left on, and without anything like the exhaustion to the tree. A tree will bear every year if it is given plenty of food, and is not allowed to ripen too much seed so that it cannot grow its full set of fruit, and at the same time lay up fruit buds for another year. How to manage this, the orchardist will soon learn after a little experience."

"But suppose that any large number of New England farmers were to follow your advice! Where could they sell their apples? They will say that they cannot sell what they now raise."

"It is true that they cannot — but why? Who is there in your neighborhood now, who raises a sufficient quantity of apples to bother any buyer or shipper? What few are raised are shoved into New York or nearby markets to be sold by commission men, who pay us just what they choose. Business is done differently now from what it formerly was. Everything is done on a large scale; buyers go where there is something to buy, and apple buyers and shippers like to go where they can secure, at short notice, 5,000 or 10,000 barrels (more or less) on the spot. If every acre of suitable orchard land in Fairfield County were planted to good varieties of apples, and the trees cared for as I have stated, the apples would find a readier market, and at better prices, than the few which are raised here now.

"Coöperation among our farmers in this fruit business, is what is wanted for best results. Then cold storage houses could be built on a coöperative plan, and apples held until it was thought advisable to ship them. If domestic buyers would not pay a price at which the growers thought best to sell, an agent could be sent to Europe to receive and sell the apples there. In this way, the farmer would not be at the mercy of the dealer or middleman, as he now is. The foreign market is almost unlimited. Distance is rapidly giving way to time, so that American apples can be transported to more distant cities where the demand for them will increase faster than the production. Furthermore, we in Connecticut are living in one of the most favorable localities on this continent for apple raising. In the first place, our soil produces the best-flavored and firmest apples grown anywhere. We are near and between New York and Boston, the two most important and favorable shipping points for foreign markets, as well as home consumption, thus giving us a great advantage over the West, or even western New York. Buyers from Boston and New York City could come here and purchase a cargo of apples inside of 24 hours, which they would do if the apples were here, and money was to be made out of it."

"What do you say about varieties?"

"Foreign as well as home markets take more quickly to, and pay a higher price for, red apples than those of any other color. The choice of varieties would depend largely upon the soil and climate, as some varieties will do much better here than in other parts of the country, and some sorts which are popular in the West, would be of very little value here. But as the matter now stands, the Baldwin is the most popular east of Ohio. The tree is a good grower, and the apples good sellers, they keep well, and the tree is a good bearer. There are varieties for this

section which come into the market earlier, and are nearly as good for their season as the Baldwin. There is no discount on the Baker, Hubbardston Nonsuch, Wealthy, King of Tompkins County and Hurlbut, for red apples. The R. I. Greening is one of the very best for a green apple; the tree grows strong, is a good bearer, and the apple is good for both eating and cooking. Peck's Pleasant is of the Newtown Pippin family, the tree being a better grower and the apples more easily raised than the Newtown Pippin. For a late variety, the English Russet stands very popular, especially where it does well. In Westchester County, N. Y., it is planted very extensively, and more money made from it than from any other variety. The Ben Davis has, from its large size and color, gained much reputation in the West, but for New England is not considered as profitable as for the West The quality of the apple is so poor that it will not sell where there are other varieties so much better. There are many new varieties about which there is much talk in the various catalogues and papers, but as yet, they have not been sufficiently tested here to warrant placing them above those already named. Some of them may, however, be even more valuable than any which are now grown here, and if so, we want them. They are Sutton Beauty, Stark, Paragon, Bethel, McIntosh Red, Wolf River, Salome, York Imperial, Gano, Belle de Boskoop, Kinnaird and others."

FRUITS IN THE COLD NORTH.

NEW PLAN FOR TRAINING PEACH TREES.

Grand Isle County is naturally the fruit-growing section of Vermont. Composed wholly of islands and peninsulas in Lake Champlain, it has an atmosphere especially suited to growing fruits of the choicest quality. Grand Isle does not boast any great bonanza fruit farms of several hundred acres in extent, but what is better for the community, it has a good many hundred acres in bearing orchards owned in small tracts by practical, industrious farmers and fruit growers. I made a trip over there recently, and talked with some of the leading fruit growers of the county.

Mr. T. L. Kinney's apple house has a capacity of 2,000 barrels, and he expects almost to fill it this fall from his own orchards. Mr. Kinney said, "I have about 1,000 apple trees in full bearing, besides 500 or more young trees set from two to three years. This orchard in front of my house, contains 500 trees, one-half Greenings and the other half Baldwins. The lower orchard has more varieties, Fameuse, Greenings, Yellow Bellflowers, Baldwins, Spys, Kings and other standard sorts. Our strongest winds are from the south, and that is why I have grown that tall cedar hedge along the south line to protect my trees."

PEACH GROWING IN THE COLD NORTH; TRAINING THE STEM. FIG. 191.

In walking through the orchard with Mr. Kinney, I noticed that nearly every tree was very evenly set with apples, some trees carrying more than should be allowed to ripen. Mr. Kinney believes in thorough and frequent cultivation to check wood growth and retain moisture for the trees. I asked him how and where the bulk of the apples raised on the island were sold, and he said, "Right here in the orchards; buyers from New York, Boston and from the West are here every fall, and buy all the apples they can get. My apple house is constructed with hollow walls, but plastered between the studding, so that I can keep my apples all winter without freezing, and I usually keep a portion of them to ship to commissionmen in New York and Boston later in the season."

This is the home of the Vermont Beauty pear, one of the choicest new varieties, and while on my rounds I met Mr. J. T. Macomber, in whose orchard now stands the parent tree. Mr. Macomber is one of the leading pomologists of New England, having originated many new and valuable varieties of fruits. Many years ago, he tried to raise peaches, but the severity of the winters in this latitude so interfered with the growth of the trees, that he never was able to mature good, sound fruit. Some 10 or 12 years ago, however, he tried an experiment in training the trunk of the tree to trail along the ground, so as to be able to give it a winter protection. This plan has worked successfully, and he now has a peach orchard of 50 trees, many of them in bearing this year. Fig. 191 shows one of the trees, a five-year-old, on which there is now growing a fine lot of fruit. The picture shows Mr. Macomber lifting one end of the fender so as to give an unobstructed view of the trunk.

"In the first place," said he, "I wanted to train the trees so that I could lay them down easily in the fall, and take them up again in the spring, without disturbing the roots or straining the bodies. I found that, by rubbing off the buds of the seedling or graft, and forcing it to grow up like a whip, I could bend it over flat, cover all but the tip with an inverted wooden trough, made of clapboards or any light material, to keep off the direct rays of the sun. By extending the trough and rubbing off fresh buds, I could, in two or three years, have a horizontal stem 16 or 18 feet long, and about one inch in diameter. I then turn the tip end up, and allow the buds to form branches in a line with the trunk so as to make a fan-shaped top that would more easily lie flat on the ground. This process of extending the trunk requires a couple of years before any top is attempted, so you see that it takes some time longer to get an orchard into bearing than by allowing the top to grow naturally."

"How do you protect these trees in winter?"

"I loosen the bandage that holds the top to the stake, remove the blocks of wood from under the trunk, and the tree turns over on its side as easily as a man turns over in bed. Then I cover the tops with old boards, replace the trough over the stem, and the job is done. I use no straw or litter, as I find that the boards alone are sufficient. At first, I gave my land level culture, but about five or six years ago, ice formed all over the orchard, and froze my trees down to the roots; so I had to commence all over again. I now plow my orchard in ridges so that, in a wet time, the water will run away from the trees."

"Do you think that your method of growing peaches could be employed profitably in raising fruit for market?"

"Yes, I do. Aside from the longer time required to bring an orchard into bearing, there is not much extra labor. I can lay down my whole orchard of 50 trees, cover them in a day, and raise them again in the spring in a day. The cost of spouting and the time spent in trailing the stems along the ground are, of course, something to take into consideration; but where parties are situated near our large, northern towns and can find a special market for something extra nice and fresh, I think that they could make peach growing quite profitable."

"What varieties do you grow?"

"Well, I hardly know; they are all seedlings of my own raising. I believe that, where we have so severe a climate to contend with, and wish to grow tender fruits, we can get better results to grow the tree from the seed under the same conditions of soil and climate."

I think that this process of training the growth of trees might well be employed, in the higher latitudes, in the culture of the apricot, quince, Japan plum and other fruits or flowering shrubs that require some protection in winter. It seems to me that this is especially applicable to small gardens and private grounds, where the owners take pride in growing choice fruits for their own tables. Thousands of dollars are squandered every year in northern New England for tender varieties of fruit trees that never bear fruit. Take, as an instance, the Russian apricot; every tree agent that comes around, has it for sale. The name, Russian, sells the trees. I have seen hundreds of them in the last 10 years, in private gardens. Others may have seen a real, live, ripe, Russian apricot, but I never have.

My first impression, after seeing Mr. Macomber's peach trees, was that they were too frail to be of any commercial value; but after learning of his experience, and comparing the necessary labor pertaining thereto, with grape culture, I concluded that a peach tree could be grown in Vermont by Mr. Macomber's method, almost as cheaply as a grape vine. When it is more generally known that peaches can be successfully grown in northern New England, I think that many will be glad to adopt this unique method of growing them. C. W. SCARFF.

Vermont.

POTATO NOTES FROM CONNECTICUT.

VARIETIES; ADVERTISING; TOMATOES; BUYING GRAIN.

A small acreage of potatoes was planted, and the crop is much lighter in this vicinity, this year. Many pieces blighted, and there has been considerable rot. Where neither blight nor rot has prevailed, not so many have set in the hill. I am unable to account for this, as the season would seem to have been a favorable one. Potatoes wholesale at 50 cents per bushel, which is a good living price when they can be delivered right from the field. We consider 50 cents now better than 60 or 65 cents in winter, as handling and reassorting cost, and the more handling, the greater the shrinkage. Our potatoes have sold unusually well this year. We have kept them moving as fast as ready to dig. We aim, by soil and the right kind of fertilizers, to grow tubers of extra good quality, and to get this fact before the people, have done considerable small advertising in our local daily paper, asking consumers to test our potatoes, and to insist upon getting ours from their grocer. Advertisements cost us one cent per word, and 15 cents or so per day for a couple of weeks, have helped sales. If one wishes to sell produce, have something good, then get people to talking about it!

We have learned that it does not pay to grow potatoes too many years on the same land; two years are long enough. We much prefer to follow corn. We don't want potatoes for seed, at any price, that have been chilled or sprouted. They will cost dear in the end. Not enough attention is given to the seed by the general run of farmers, and poor yields can often be traced to this cause. We like to grow varieties whose vines will cover the soil, thus providing a mulch and keeping down weeds. Rural New-Yorker No. 2 and Carman No. 3 are poor in this respect; nevertheless, they are very good yielders with us. This year, we planted all our potatoes in rows 32 inches apart, and 14 inches in the row. We want the first sprouts, and want the seed covered as soon as possible after being cut.

It's much cheaper to kill weeds before they are up, and to do this there is nothing like a smoothing harrow. Used once a week after planting until the potatoes are so high as to injure the tops, one will find his labor bill in growing potatoes materially lessened.

We cannot afford to dig by hand; it costs too much, is hard work, and quite a per cent are injured by the hook or fork. We use a Success Jr., digging every alternate row. After picking, we run through with half of a lever spring-tooth harrow, using one horse. In running the digger, we pay no attention to tops, but it will work a little better if the tops are partially dead. If they clog the harrow, release the lever, drive the length of the harrow, and it's clean to start in again.

We believe in going rather slow with much-puffed new varieties, giving them a trial in our soil to see whether they are at home before planting a large area. We tried Vick's Early Leader tomato this year, but shall not again. Good, strong plants set out at the same time as Dwarf Champion, Ruby, Matchless and others, failed to ripen before the others, and when doing so, gave us a lot of little tomatoes, too small to sell, and a large part of them very irregular. We have yet to find a tomato of better size, shape, yield and market quality than the Dwarf Champion.

The apple crop is heavy in this locality, and prom-

ises fine fruit. Baldwin is the winter apple for this region. It is the heaviest and most constant yielder, and yields a larger per cent of marketable fruit. Rhode Island Greening will yield two-thirds as much, while King does not yield over one-fourth. Yellow Bellflower yields well, and is a fine apple, but too delicate to handle.

Pears, which bloomed lightly, are yielding a fair crop of better fruit than usual. Corn promises fine, and a large acreage was planted. More silos are being built than ever before.

We have a rat and fireproof grain bin which we like very much, and have material on hand to build another this fall. It is made of sheet iron which we buy in strips six, seven or eight feet long as desired, and about three feet wide. We set it on studs about 18 inches apart, and lap the iron about two inches, using wire shingle nails. It costs 2½ cents per square foot, so is not much more expensive than boards and far superior.

We like to buy our winter's supply of grain during the summer. It is then, usually, at its lowest price, and we buy as cheaply as the miller. We don't have to run to the mill every few days, and we know where we are. Some of the creameries in this section are doing their patrons quite a service, and saving them considerable money by buying their grain. As soon as enough orders are in to warrant, one or more carloads are ordered, and it is usually all sold before arrival. Drafts are met out of the creamery surplus, so no one man has to advance money. Fifty cents per ton added to the actual cost of grain, covers all expense. H. G. MANCHESTER.

Connecticut.

IS THE TUBERCULIN TEST DANGEROUS?

THE VETERINARIANS GIVE THEIR SIDE.

On page 548, THE R. N.-Y. mentioned the case of a cow at the Wisconsin Experiment Station that was tested with tuberculin, but failed to respond. On killing her, it was found that a tubercle in her lung had become covered or encysted, so that it could not spread. In other words, Nature had healed the lung by covering up the tubercle. The New York Farmer, in commenting on this statement, said:

It is a well-established fact that tuberculin injected into such an animal, converts the latent and harmless tubercle into an active, dangerous and contagious case. Suppose such a cow had been tested, and as the test proved (?) her free from disease, she had been sold into a new herd. She might easily have infected the whole herd before her case became known.

This is a very important and interesting point, and we sent the Farmer's statement to some of our leading veterinarians, with the request that they tell us if, in their opinion, the objections are well founded.

Dr. Salmon Says Tuberculin is Harmless.

This Bureau, probably, has collected more records of tuberculin tests than any other institution in the world, and I am free to say that I have never seen any evidence that the use of tuberculin in cattle converts latent and harmless tubercles into active and dangerous ones; neither have I seen any evidence that tuberculin increases the liability to the disease. So far from this being the case, the tendency, as shown by the experiments which we have made, is for tuberculin to convert active tuberculosis into a chronic and latent form, and to give animals a certain immunity from tubercle infection. The objections which you mention to the use of tuberculin, are, I think, the most unreasonable and unjustified of any that have ever been put forth. D. E. SALMON.

Chief of U. S. Bureau of Animal Industry.

The Tuberculin Test on Cattle.

The objections are neither reasonable nor correct. Extended investigations have shown that the use of tuberculin does not excite or increase the liability to the disease in cattle. Opponents to the use of the tuberculin test still claim that the use of tuberculin will, frequently, produce tuberculosis, or excite into activity a latent case of the disease; but their assertions are never accompanied by experiments or facts to support their claims. American, as well as European, veterinarians and investigators are now almost unanimous in their opinion that tuberculin is a reliable and, practically, an infallible test, and that its use, as a diagnostic when applied to cattle, does not aggravate an existing mild or latent case of the disease, or have any injurious effect upon a healthy animal. During the earlier use of tuberculin upon man, in the treatment of tuberculosis, it was found that, in a large number of cases, the tubercular lesions were aggravated, and the disease hastened to a fatal termination. From this fact (and in no case as a result of extended observation or experiment), a few writers reasoned that the use of tuberculin on cattle would have the same injurious effect. Investigations have shown, however, that the deduction was not correct. There is no experimental evidence that tuberculin aggravates or excites disease in cattle, while on the contrary, there are numerous experiments which show that the use of tuberculin had no such injurious effect upon diseased animals.

At the International Veterinary Congress held at Berne, in September last, the following resolution on tuberculin was adopted:

RESOLUTION No. 1. Tuberculin is a very valuable diagnostic agent, and can yield the greatest assistance in combating tuberculosis. There is no reason for objecting to its general application on the ground that it may aggravate preëxisting tubercular lesions.

The resolution was supported by all the veterinarians present, with two notable exceptions, that of Gallebeau and Hess, of Berne. It, therefore, represents the most recent opinion of the foremost veterinarians of Europe.

The result of the investigations of American veterinarians is very fully given in Bulletin No. 29, 1895, of the Iowa Agricultural College Experiment Station. In giving the conclusions drawn from their own tests made at the station, and from well-established facts on the subject of tuberculosis as determined by other investigators, it reads: "The following may be said to cover a portion of the ground that has been practically cleared from doubt: (1.) Tuberculosis of the lower animals is identical with human consumption. (2.) It is an infectious disease. (3.) The disease may be transmitted from man to the lower animals, and from the lower animals to man. (4.) Tuberculosis causes more deaths in the human family than any other disease. (5.) Cows are especially susceptible to the disease, and are extensively affected with it. (6.) Milk from tuberculous cows may convey the disease to the consumers. (7.) Milk from tuberculous cows having non-affected udders, may convey the disease. (8.) The flesh of tuberculous animals may convey the disease. (9.) A large proportion of the cases cannot be recognized by clinical examination. (10) No other test yet discovered, than that afforded by tuberculin, can detect any considerable proportion of cases in the living subject, and this test is practically infallible. (11.) Injections of tuberculin cannot produce tuberculosis, or are the results harmful. Any one of these assertions can be successfully defended by observations made on the part of experimenters of unquestioned credibility. Most of them have been verified by our own station work."

Dr. Leonard Pearson, State Veterinarian of Pennsylvania, and one of the best authorities in this country on the use of tuberculin, in a paper read before the section on Public Health of the New York Academy of Medicine, November 8, 1895, states in his resumé, that "Tuberculin is a reliable diagnostic agent. There need be no fear that tuberculin, properly used, will cause generalization of preëxisting disease. All tubercular herds should be tested with tuberculin, and the tuberculous and healthy animals separated."

Dr. W. B. Niles, of the Veterinary Department of the Iowa State College, says: "The fact that it has been assumed by some to hasten the course of the disease, causing a mild case to become acute, has been heard of by the objectors to the use of tuberculin, and some are trying to make a good deal of capital out of the statement." Like a drowning man, the objectors clutch at any straw within reach, no matter how weak. Dr. Niles further says, "The results of the work here do not go to show that a mild case is made worse. In no case under observation, has a rapid decline followed the use of the agent."

I might quote similar results from the bulletins of the experiment stations of Delaware, Maine, Massachusetts, New Jersey, Pennsylvania, Virginia, Wisconsin and the United States Bureau of Animal Industry. Tuberculin is not a reliable agent for incompetent or inexperienced men. The original investigations with tuberculin, during its experimental stage, showed from 10 to 15 per cent of failures to diagnose correctly; but with improved methods and increased experiece, the proportion of failures in the hands of competent veterinarians, is now so small as to be almost disregarded. F. L. KILBORNE.

Dr. James Law Expresses An Opinion.

It is quite true that "tuberculin injected into such an animal" (a tuberculous one) "converts the latent * * * tubercle into an active" one. But it is not true that the "latent" tubercle is, therefore, "harmless," or that it requires this injection of tuberculin to render it "dangerous and contagious". The tubercle, however latent, harbors the bacillus, and where the bacillus is, there is the element of harm, danger and contagion. Had the writer said, more harmful, more active, more dangerous, and more contagious, his words would have been nearer the truth; but as they stand, they were, evidently, intended to imply that there could be neither harm, danger nor contagion, until the tubercle had been roused into greater activity. This is based on the old doctrine that cases of a contagious disease which would not be necessarily fatal, should be preserved if possible, a doctrine which has cost the Old World its hundreds of millions, but which, to-day, for enlightened economists, to say nothing of sanitarians, is no longer tenable. It is quite true that we cannot quickly and absolutely stamp out tuberculosis in man, but that is no reason why we should not do so in animals, and keep doing so until man, also, could be finally freed from it.

The supposition that "a cow had been tested, and as the test proved (?) her free from the disease, she had been sold into a new herd, she might easily have infected the whole herd before her case became known," is skillfully constructed to depreciate the tuberculin test; but it is based upon faulty premises. The supposed basis is that the tuberculin must have stimulated the latent tubercle into "dangerous activity," which is precisely what the test showed it had not done. If the test failed to detect the presence of the latent tubercle, it was because it had failed to bring about an excess of high temperature, and high temperature would, certainly, have been developed if the latent tubercle had been roused to activity. The same influence which produces the local activity in the tubercle, produces, simultaneously, an abnormal activity in the heat-producing center, and, as a result, the febrile reaction. If, then, there was no reaction, it may be safely inferred that there was no stimulus given to the activity of the tubercle. The argument, therefore, that this cow was rendered more dangerous by the use of tuberculin, has no basis in fact or in science.

In the case that does react, showing the febrile temperature, the argument would hold. The latent tubercle has been roused into greater activity, and an increased danger of infection has been brought about. But if tuberculin is to be used at all, the reacting cow should be promptly killed, and the possibility of infection from this source done away with. The stock owner who uses tuberculin as a test, and, therefore, preserves in his herd a single animal that reacted under its influence, is doing his best to secure an extension of the infection to his other animals, and the State that will compel the use of tuberculin, without paying for and promptly slaughtering all reacting animals, is guilty of a useless and unwarranted injury to private property. In sanitary work, the two things are inseparable—the tuberculin test and destruction of reacting animals.

Tuberculin must be used with great judgment, but, judiciously and intelligently used, it is the most valuable agent known, for dealing with tuberculosis in animals. As to the question whether "tuberculin can increase the liability to the disease," the answer must be qualified. Contagious diseases act on the animal system, or on the tissues through the poisonous products which they form. These tend to lower the vitality, or to irritate or otherwise to injure, the tissues attacked. If this injurious action is too powerful, the resisting power of the tissues and of the system fails, and the part, or the animal is destroyed. If, however, the poison is less powerful, the defensive powers of the part attacked, of the white blood cells, and of the system, are successfully called into play, and the attacking germs are, sooner or later, destroyed and cast out. In such a case, in most contagious diseases, the system acquires increased power of defense in case of any attack by the same germ in the future, and is usually considered as proof against a second attack of that particular disease. In measles, scarlatina, lung plague, anthrax, etc., this acquired power of resistance is very effective, whereas, in tuberculosis, it is relatively very much less powerful. In systems, however, that are naturally resistant to tuberculosis, this increased resistance may be quite perceptible, and upon this somewhat unstable basis, was built the Koch system of treating the disease by injections of tuberculin.

In a very susceptible animal, therefore, with a latent tubercle, or with the tubercle germ just entering the tissues, and not having had time, as yet, to produce visible local disease, the tuberculin would, for the moment, lay the system open to a more active progress of the tuberculosis. In a comparatively insusceptible animal, on the other hand, the education received through the presence, in limited amount, of the tuberculin, would train the white blood cells to produce an increased amount of the defensive proteids, and would, correspondingly, decrease the liability to the disease.

It is unfortunate that this matter has not been dealt with from a scientific standpoint, and by the mind of the trained animal pathologist, for this attempt to popularize the subject by men who start out with a one-sided view and object, serves only to distort and misapply facts and truths in such a way as to make them essentially misleading. Ignorance and prejudice make a dangerous combination at any time, but

a partial knowledge with prejudice, is much worse, as it deludes the public with a show of science, and produces a conviction which can only have an evil result.

As the opponents of measures for the sanitation of our herds and dairy products, habitually prejudice the public mind by charging that veterinarians advocate tuberculin for selfish ends, it may not be out of place to say that I am not, at present, connected with the State board charged with dealing with tuberculosis. Although I served, for one year, on the Tuberculosis Commission, I did so without one cent of remuneration, and when the law creating that Commission expired by its own limitation, the Commission made a careful report, and I have not since discussed the subject except by special request, and then for a semi-private rather than a public audience. In the report of the Commission, and in the bulletins previously published by the Cornell University Experiment Station, any one interested can read my views, which are given from the pathological and economical standpoint, and entirely irrespective of any animus shown by the opponents of the tuberculin test and of veterinary sanitary work.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Life History of the Apple Rust.

A. B. C., Toms River, N. J.—What is the trouble with the inclosed apple leaf? What would prevent the trouble?

ANSWERED BY M. V. SLINGERLAND.

The apple leaf bore, on the under side, many groups of minute cups with a fringed border, situated in a bright orange-yellow spot. When examined under a microscope, each little cup was found to be full of a fine, brown powder; each minute particle of this powder was one of the spores or seeds of a curious fungous disease known as the Apple rust. Sometimes, the fruit and branches are also attacked by this fungus; infested fruits become misshapen, and are rendered worthless. The disease works on the apple tree during May, June and July. Curiously enough, however, the seeds or spores formed in the little fringed cups will not grow on any part of the apple tree, but will germinate only on the branches of cedar or juniper. Thus, in midsummer, the spores of the Apple rust are borne by the winds to cedar trees, and there they find congenial surroundings in the tissues of the branches. They cause the cedar branches to enlarge rapidly in an abnormal manner, resulting in the production of hard, rounded, apple-like bodies, commonly known as Cedar apples, varying from one-half to 1½ inch in diameter. These Cedar apples attain their full growth in April, and then push forth a number of yellow, jelly-like, horn-shaped processes, often an inch or two in length, rendering the apple a conspicuous object. On the ends of these curious processes, the spores or seeds are developed. These spores will grow, however, only on the leaves, fruit or branches of an apple tree, where they produce the Apple rust.

It has been shown that the seeds of Cedar apples may be carried eight miles by the wind. Thus wherever cedars occur, the Apple rust may be expected to flourish, and, conversely, where there are no cedars within 10 miles or more, the apple will be free from the attacks of the fungus. Hence, it follows that Apple rust should be combated, first by removing all sources of infection—that is, all cedars or junipers should be destroyed so as not to allow the Cedar-apple stage of the fungus to develop. Where this is impracticable, the only thing that can be done is to spray the infested apple trees very thoroughly, literally paint the trees, with Bordeaux Mixture early in the season, in May especially. Keep a good coating of the fungicide on the trees for, at least, a month and I believe that the fungus can be controlled.

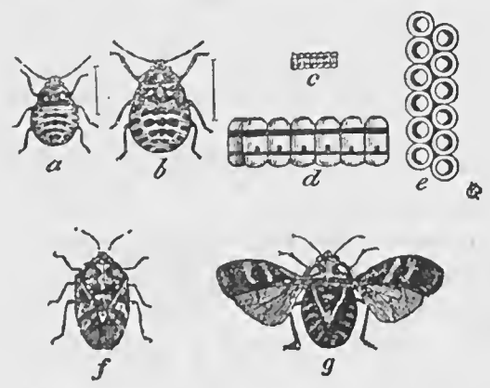
The Quince rust is a similar fungus, and it has been shown that sprayed quince orchards have much less of the disease than unsprayed ones. The Apple Rust is rarely very serious, and I believe that it can be checked by liberal and judicious spraying with the Bordeaux Mixture in May and early June.

The Harlequin Cabbage Bug.

W. V., Louisville, Ky.—I send some specimens of insects which are new to our county, and are very destructive to nearly mature cabbage plants. Where they touch the plant, the leaves wilt and dry up, causing considerable damage. What are they and what is a remedy?

ANS.—The insect proved to be the Harlequin Cabbage bug or Calico-Back (Murgantia histrionica). It is a black bug with bright red and yellow markings arranged as shown at *f* and *g* in Fig. 192. It was, originally, an inhabitant of Mexico and Central America. In 1866, it was noticed in Texas, and has slowly continued its northward march until it now ravages cabbage and radish plants in southern Ohio and New Jersey. It is not likely to become a serious pest much further north. It is proving one of the most destructive and hardest to combat of any of the insects that attack cabbage. The winter is spent in the adult state, the bugs hibernating in sheltered places under boards and other rubbish in the neighborhood of cabbage fields. These old bugs are astir early in the spring, and attack any cruciferous or mustard-like weeds growing about, and the first brood of the bugs develops on these weeds, or perhaps, upon radishes that may be up at the time. The time when the eggs for the first brood are laid in the spring, depends upon the latitude, and character of the season. The eggs, shown natural size at *c*, and enlarged at *d* and *e*, are usually deposited in two parallel rows of six or eight each. They are white and so peculiarly marked with black that they resemble miniature white barrels with black hoops. The eggs hatch in three or four days, and the young bugs grow rapidly, going through all their moults, and attaining the adult stage in about two weeks. The bugs sent by W. V. had laid several clusters of eggs on the sides of the box, all had hatched, and the young bugs had died before the box reached me, although I got it the sixth day after it was mailed; this is a good illustration of how fast the insect breeds. Thus there may develop several generations of the bugs during the summer. The young bugs or nymphs are shown at *a* and *b*, Fig. 192.

The insect seems to be a very difficult one to kill without injuring the plants. It gets its food from the inner tissues of the leaves by means of a long, slender beak which pierces the outer skin, and then acts as a pump to suck the juices up into the body. Insects that suck their food in this way, are entirely out of the reach of the arsenical poisons which can be applied only to the surface of the leaf. Possibly some of the younger bugs could be killed with kerosene emulsion,



THE HARLEQUIN CABBAGE BUG. FIG. 192.

but the important point to be striven for is the destruction of the over-wintered adults in the spring; there is no practicable method of getting at them in the winter. In the spring, they cluster largely upon mustard or radishes where they may be killed with pure kerosene oil, of course, killing the plants also. This plan of trapping the old bugs with mustard or radish crops in the spring, has been tried with excellent results in Mississippi. When the bugs once get at work on cabbages, the only practicable and successful method of fighting them is to handpick them in all stages and the egg clusters. It may be practicable, in some cases, to sweep the bugs off from the plants with an insect net. Thus only the most thorough and watchful efforts will succeed in preventing this serious cabbage pest from ruining a crop. M. V. S.

Crimson Rambler Rose.

E. W. W., Nashville, Tenn.—Where can I buy the Crimson Rambler rose?

ANS.—Of the Storrs & Harrison Co., Painesville, O.; Ellwanger & Barry, Rochester, N. Y.; Peter Henderson & Co., New York, or of almost any of the nurserymen who deal in roses and advertise in our columns.

When to Plant Peach Trees.

W. L. A., New York.—What is the best time to plant peach trees along the Hudson River—spring or fall? I bought 200 last spring, but my ground was not in good condition, so I set them in a nursery row. They have made a prodigious growth this season.

ANS.—The best time to set peach trees is early in the spring, when the ground is in good order, cutting them well back when set. The apple crop in our section is very good, of winter varieties. There are no peaches. Grapes are about two-thirds of a crop.

J. F. WYGANT.

A moderate-sized peach tree with one year's growth from the bud, is the ideal tree for setting. The severe pruning of a large, two-year-old tree seems to check its growth, so that it will, generally, make but little progress the season it is set. W. L. A. should set his trees in the spring. Save all the roots possible, and prune close to the trunk all branches; then cut the top down to about four feet. If care be taken to get the earth among the roots, and it be pressed firmly, the trees may do well. However, I would prefer to buy good one-year-old trees. This year's grape crop varies in different neighborhoods. It will, generally, be of good quality, but a little below the average in quantity. The apple crop is large. Baldwin trees everywhere seem overloaded. More thinning should have been done for best results. Strawberry fields are quite uneven, owing to the ravages of the White Grub. The plants that escaped are making a strong growth and sending out plenty of runners. On the whole, the outlook is good for a crop of strawberries next season.

W. D. BARNS.

Timothy and Raspberries in Canada.

H. J. W. T., Chettenham, Ontario, Canada.—1. When should Timothy be sown alone, here in Ontario, and how much seed per acre should be used to get the best possible results? 2. When and how should fall planting of red raspberries be done?

ANS.—1. September 1 to 15 is the best time to sow Timothy, or at the same time that fall wheat should be sown. About 12 pounds to the acre are sufficient. 2. Red raspberries should be planted as soon as the frost ripens the new wood enough to enable one to strip off the leaves readily. Plant in rows eight feet apart, if the soil is rich. If rather poor, six feet will answer. Run a furrow where you wish the row, place the plants about two or three feet apart, and plant a little deeper than they were in the original plantation. The important points to insure success are, first, to be careful in digging the plants, to preserve a portion of the cross root to each plant; to keep the roots covered while out of the ground, and to pack the soil very firmly around them when planting. After planting, the land should be plowed up toward the rows, and a chance given for all surface water to run off quickly. Cut the canes back to within a foot of the ground.

W. W. HILBORN.

Grass to Fill Gullies.

M. H., Grayson County, W. Va.—We are troubled, in these mountains, with gullies and washed soil, in pasture which we do not wish to plow. What grass, however poor its quality, or even weed, would take hold and cover these ugly spots? I have tried Japan clover, Bermuda grass, Red-top, etc., without success. We are nearly 3,000 feet above the sea in southern West Virginia. I am trying Crimson clover on your recommendation.

ANS.—If Bermuda grass does not answer this purpose, we hardly know what to suggest. That would be our first choice. We would suggest that you try Johnson grass and Saghalin.

An Easy Way to Catch Moles.

T. A., Hartford, Conn.—Is there any easy and inexpensive method of capturing a mole?

ANS.—An easy method of killing moles has not yet been discovered. Numerous traps, more or less effective, have been devised, and THE R. N.-Y. of April 6, 1895, described and illustrated the most of these. The Reddick trap, made by the Michigan Wire Shovel Co., Niles, Mich., seems to be the most effective of any we have ever tried. Some people watch the burrows, and when a disturbance of the earth shows the mole's presence, throw him out with a spade. Dogs and cats are sometimes trained to hunt them.

Poultry That Pick Feathers.

L. C. N., Middleboro, Mass.—What can I do to stop hens from picking feathers off from the rest of the flock? I have a flock of young pullets which are just beginning to lay. I noticed one that was picked clean, from the top of her head down about one-fourth of her neck.

ANS.—The young pullets have either contracted this habit from sheer idleness, or because something which they crave has been lacking in their food. It is safe to say that, if they had been allowed to range freely where they could secure grass and insects, they would not have contracted the habit. If yarded, provide the scratching material, straw or chaff, and bury their grain in it to keep them busy scratching. A small quantity of raw or cooked meat fed daily should satisfy the craving which causes them to pick the young, just-started feathers which are juicy and nutritious. The habit once formed is not always easily broken up when the cause is removed, and some poultrymen are obliged to shave the sharp part of the hen's bill so that she cannot grasp or hold the feather tightly. Poultry bits have been used for the same purpose. As with many other troubles, prevention is better than cure.

SAMUEL CUSHMAN.

Cows That Chew Bones and Sticks.

J. F. A., Farmington, N. Y.—All the spring, my cows chewed all the old sticks they could find and even pulled slivers off from the hemlock fence, and chewed them as they do bones sometimes. They have not done as well as usual, and are thin in flesh. They have had salt to go to when they wished, and had about the same fodder, winter and spring, that they usually have had. They have had lowland pasture most of the summer, but are in clover and Timothy now, and I see no difference. They have clean spring water from the same trough all the time. For fodder last winter, they had corn stalks, clover and Red-top hay? What is the trouble?

ANS.—The quickest way to cure these cows, will be to feed fine bone meal. There is a lack of phosphates in the food, and the bone meal will supply it. Some of the fertilizer dealers are making a specially fine bone flour for cattle feeding. Mix the bone meal, half and half, with salt and feed a large handful each day. The craving will soon disappear.

Some New Fruits.

S. G., EMMITSBURG, MD.—I have discarded the Parker Earle strawberry because it does not mature all the fruit set. Timbrell matures nearly every berry, is immensely productive, and, if it would color up all right, would be the best late berry on my place. I fruited the Older raspberry this year for the first time, and am well pleased with it; it is as large as Shaffer, and ripens up rapidly so that there are not many pickings, but it is very productive. Some of the canes that grew this year had immense berries after the others were all gone. Its season is after Hilborn, which is not superior to Palmer, and the season of the two is too near together to grow both. Kansas is much like Gregg, but ripens with Older, or a little before, and is not so liable to winterkill as Gregg. Ten years ago, I bought Hansell and Cuthbert, and the nurseryman sent me free one dozen marked Miller's Woodland. I planted them at the ends of two rows, but as they ripened between the first Hansells and Cuthberts, and as I thought them not quite so good as those varieties, I did not increase them any. Hansell took a late growth and winterkilled a few years ago, and Cuthbert last winter, while Miller's Woodland made the usual crop, and has produced more than Cuthbert three years prior to this; so it must be hardy.

Red Raspberries in Connecticut.

C. P. A., WOODBRIDGE, CONN.—In this latitude and soil, no variety of red raspberry except the Turner, gets through the winter entirely unhurt, every season. There may be another just as hardy, but I have been unable to find it. The Cuthbert is ruined four winters out of five, and though it sometimes puts out apparently all right in the spring, its outer surface is so injured that it dies before the fruit forms. The Turner is a little notional with me, and will not always do its best; when it does, it is a grand early berry for a nearby market. I have raised hundreds of seedlings, both black and red, but, except a chance Gregg seedling, I have found none of superior merit.

The Caroline (yellow or flesh pink) is our favorite berry, as hardy as an oak, and of superior vigor and flavor; but a yellow berry has little chance in the market. I have taken great care to ripen my Cuthbert canes, and those of other tender kinds, but I am convinced that it is the ripest and strongest canes that suffer most from freezing. I cut out all the young canes from a row I intended to destroy after the fruit was gathered, and the only canes left standing through the winter, started after July 20. Most of these canes came through last winter all right, while the riper and older canes that started early in the spring, were killed or badly injured without exception. Moreover, these late, immature canes ripened their fruit several days earlier than the others this season, and every fruit grower has, probably, noticed that the late summer growth on all raspberries starts the first in the spring. Hereafter, I shall work the other end first with my tender raspberries, and save my latest and tenderest canes. I haven't any theory about it, but facts beat theories, and these are the facts as they have occurred here.

Beware of the Fruit-Tree Jobber.

J. C. H., GRASS LAKE, MICH.—Having had some experience in buying nursery stock, for the past eight years, from six different firms, I have about come to the conclusion that it is impossible to get just what you order from any of them. Not that they don't wish to furnish what you order, but they make mistakes. In my case more especially, mistakes are made with the apple, than with anything else. My trees are just coming into bearing, and if I am any judge, there is not one such as I ordered; still, they are all good fruit. Most of the plums (with the exception of the order I received the spring of 1894), have been true to name. This 1894 order was a caution; I ordered 50 plum trees, and 500 Cherry currants. Of the currants, perhaps 200 are Cherry, the rest White Grape and an inferior grade of some kind. Of the plums, 12 were to be Abundance and six Burbank; they have borne fruit as near alike as two peas. The bark of the trees is like the bark of Abundance, the leaf is rather long, tough and glossy. They are abundant in one way, and that is growth. The rest of the trees in the order have not borne as yet. I ordered through a fellow townsman who had been soliciting orders through the winter, and wishing me to club my order with his, he doing all of the correspondence. I learned afterwards that he had corresponded with about 20 different jobbers, and one man's prices seemed to suit him. So you see the amount of evil resulting from one unprincipled jobber selling to another of the same kind. All of the orders that he solicited turned out just as mine did. My advice to all who wish to order nursery stock, is to select a man who has a reputation for honest dealing.

Thinning the Apple Crop.

CHAS. A. GREEN, ROCHESTER, N. Y.—I have been considering the question how to thin out the apple crop at least expense, the trees being in danger of being broken down by the weight of fruit. My man is now (August 12), engaged in raking off from one-third to one-half the apples with an ordinary steel garden rake. Ten or fifteen minutes' time will accomplish wonders in thinning out the fruit of an ordinary-sized apple tree, if the man is active and understands his business. After a few lower branches are thinned out with the rake, a step ladder may be used in reaching some of the upper branches. My man rakes out where the apples lie most closely together, or where they happen to be smallest, being careful not to remove any from a branch without necessity, and he has to remove quite largely from the branches that are attainable, since there are some branches which he cannot reach. Surely one would not set a blundering man at this work, neither should any one be employed without supervision at the start. It is, certainly, a novel way of thinning, and in the experience I have had, I judge a good way.

Orchardists, as a rule, dislike the idea of thinning fruit, fearing that insects or winds may continue the work of thinning to excess, or that the time spent in thinning may never be made up by the increased size of the fruit remaining. But it has been proved that the time spent in judicious thinning is actually saved in gathering fruit each fall, since the fruits are far less in number and larger in size after the thinning; but the main benefit is in securing larger and finer specimens, and in preserving

(Continued on next page.)

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FARMERS' CLUB DISCUSSION.

(CONTINUED.

the vitality of the tree from the injury that would result in producing an over-crop.

A large orchardist near Rochester, during an off year, found that there were a few apples clinging to his trees, but he had no idea that they would be enough to amount to anything, they were so scattered. But these few apples continued to expand to such a marvelous size, and there were so few culls or inferior specimens, that he was able, in the late fall, to gather a full crop of apples from the orchard. This illustration teaches that it is not necessary for the trees to be loaded down and the apples crowded on one another in order to gather a full crop.

Poison Ivy Again.

J. B., MARLBORO, N. Y.—I have been poisoned many times with poison ivy and sumac, and I know that it will "spread" in the blood, causing itching in parts of the body where the skin is the most tender. My remedy is to bathe it in as hot water as I can; it will sting as though one were being stung by insects, but it will draw the poison out. Then I bathe with alum water, or soda water, or some liniment. Bruised plantain would be good for a poultice, or to bathe the parts; it is an anti-poison. I have heard of snakes fighting, then leaving each other and eating plantain growing on the field of battle, then going at it again. Stramonium is poison—one poison sometimes kills another.

Sheep in Connecticut.

T. J. S., SHAKER STATION, CONN.—I was pleased to see THE R. N.-Y.'s late strictures on the "Connecticut Yankee." It is all true, yet I meekly rise to his defense. It is said that there are more patents to the square inch in Connecticut, than on an equal area in any other portion of the earth; indeed, I have heard some irreverent people say that all the men and half the women of this State are inventors. This may be an exaggeration, but it goes to show that the Nutmeg has brains, yet he deliberately lets the dog eat his mutton. So true it is that "with the talents of an angel, a man may be a fool."

The Future of Lamb Feeding.

J. E. WING, OHIO.—THE R. N.-Y. asks about the number of lambs to be fed in the lamb feeding districts. It is very hard to say just yet what will be done; but, at present, the feeders declare that the lessons and losses of the past two years shall not be repeated, that they will have their lambs much cheaper, or will not buy to feed at all. Yet the price is higher than last year. For one thing, the supply of feeders is smaller than usual this side the river, and, too, the lambs are far from being as good as usual. In Ohio, there is very great sickness and death among the lambs, caused, apparently, by invasions of parasites obtained, in large part, from drinking stagnant water. It is not uncommon to hear of a man losing 40 per cent of his lambs and having the remainder in deplorable condition.

I can read the handwriting on the wall, and see that the western feeder with his cheap and excellent Alfalfa hay, cheap grain and superior climate, is sure to run out most lamb-feeders in this country sooner or later. What we shall do then, I do not know, but it looks as though we would turn our attention to supplying fat lambs for earlier markets, say, about Christmas, and to the winter or hothouse lamb business. That, instead of being a business already overdone, as was predicted years ago, is yet very profitable to the man with the right combination of brains, pains and means to do it. No fear of western competition in that line unless, as an Arizona friend threatens, they raise and fatten the lambs on Alfalfa green, put them in a car along with their mothers and bring all East together, their shepherd in charge with a car-load of choice hay and grain to feed them along the way. As that scheme is practicable, it only awaits a genius with faith to start it going, and away goes our present monopoly of the winter lamb business.

I wish to impress the very great probability that now is the accepted time to embark in the sheep business, that is, if one is a capable shepherd, and if he has a well adapted sheep farm. Ewes can yet be bought at very low prices, and ram breeders are selling rams at less than the cost of production.

I spoke of the losses of the past two years; it depends on how you took things, and on how you figure results, whether there were losses or not. For instance, we fed each year, not far from 100 tons of hay, largely clover, about 30 to 50 tons of wheat bran or oil meal, not counting corn and rough feed. The manure from all of this was carefully saved and applied to the land, and as the result, we shall, this year, cut not far from 250 loads of hay, and husk above 3,000 bushels of corn from a 200-acre farm, besides growing as immense a crop of weeds as it was ever my lot to see. As nearly half the farm is in permanent pasture, it will do very well for the degenerate East, nothing at all, of course, to what a Kansas or a California farm could do.

I know a man who claims to have fed at a serious loss, and I will not dispute with him on the question. He has not yet cleaned up the manure from the feeding of 1894, 1895 or 1896. He is trying commercial fertilizers, but is inclined to think that they, and farming, do not pay.

Firearms On the Farm.

J. C. S., ORE BANKS, VA.—My excellent gun affords me a sense of relief similar to that which I feel every time my insurance policy is paid for. I want all my children to know how to handle firearms; not only to shoot, but to hit the mark when occasion requires. Not only that, I am glad that my wife has overcome the natural timidity of women, and can take steady aim, fire, hit and kill. When I find a rabit supping on the bark of my apple trees, I turn the tables on him by breakfasting on his flesh. It is cheaper to shoot a wild turkey than to raise a tame one. And when a deer disregards all fences and fence laws, and helps himself to the sweat of my brow—well, I like to be helped a second time to a nice, juicy piece of venison.

In a section of the country where the bulk of the land is covered with primeval forest, game would soon multiply so rapidly as to prove a serious nuisance were it not for firearms. One of my boys has recently discovered a den of foxes, and bold fellows they are. A body of artillery could not rout them in the stronghold of which they have taken possession, and it might prove a criminal offense to try poison, and for the same reason, traps cannot be used at the place. If I were now to dispense with my gun, I might as well make up my mind to dispense with my poultry. Is there any need of a gun on my farm?

I wish to ask our anti-gunnists in this matter, to consider that, if all law-abiding citizens were, forthwith, to dispense with firearms, the criminal class would immediately become emboldened, and murder, robbery and rapine would become the order of the day. We farmers who live isolated from our neighbors, keep firearms, not for the sake of committing offense, but in order to prevent any assault being made upon us. An argument against them based on the occasional accidents resulting therefrom, is void from the fact that it proves too much. On the same grounds, I might argue against travel by land and sea, the use of gas or electricity, the manufacture of explosives for industrial purposes, quarrying or mining, and so down the list. Many are so situated that the need of firearms may not be so apparent; but even some of these may yet rue the day because they did not provide themselves with the protection within their reach. "For", as once said a North Carolinian, "it may not be often that a man actually needs a gun, but when he does need it, he needs it darned bad." See Luke xii.: 39.

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Ladies' Gold Filled Waltham or Elgin Watch, $13.50

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The best full-sized Waltham watch is ealled "Crescent Street." This watch is made from the very finest materials, each part being seleeted by expert workmen. Every wheel is perfect, every jewel is a precions stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfeet in construction and finish." The Company also says in its eatalogne that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for eleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They eontain compensation expansion balanee, safety pinion, stem winding and setting apparatus, patent Bregnet hair-spring, hardened and tempered in form, patent regulator and donble sunk dial, made expressly for this watch. The dial is genuine.

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Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, earefully selected. The jewels are all eut and polished in Europe, where secret proeesses are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The ease is solid 14k. United States Assay, handsomely engraved. We will send this watch, dellvery guaranteed, for $20.

THE RURAL NEW-YORKER, NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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SATURDAY, SEPTEMBER 12, 1896.

THREE experiments with cow peas are recorded on the next page. The peas were sown with oats, and have not given satisfactory results. This is what we should expect. These peas should be sown alone to do their best. They are really beans, and do not have the upright growth of the Canada field pea. In the South, they are used alone, occupying the entire ground—either for stock food or for plowing under.

⊙

JUDGING from the appearance of many of the potato fields we have seen this year, digging will be a hard job, and it is likely to be particularly trying to the machine diggers. A tremendous crop of weeds completely covers nearly every field. To make any headway at all, it will be necessary to remove these, and, probably, the quickest way is to mow and rake them off. We don't believe that there is a machine made which will work in some of these weed-covered fields.

⊙

SOME years ago, THE R. N.-Y. gave a drawing of Mr. Macomber's method of laying down peach trees. Now we are glad to be able to give a better picture with a likeness of Mr. Macomber himself. This plan of treating the peach tree as one would a grape vine, may seem theoretical to some of our readers who number their trees by the thousand; but they must remember that the readers of THE R. N.-Y. are actually scattered all the way from Alaska to Patagonia. This method will enable some of them to grow peaches who would, otherwise, go without.

⊙

WHAT Mr. Manchester says, on page 607, about buying the winter's supply of grain, is as sound as a nut—all the way from the rat-proof granary to buying through the creamery. Bran is very cheap in Chicago just now, and it will keep better, perhaps, than any other broken grain or by-product. The creameries are able to order in bulk, and with the system of payment mentioned by Mr. Manchester, the trade is easy for all hands. But don't buy good grain and put it into old bins honeycombed with rat holes! Men do not put new wine into old bottles, neither do they put good bran into bad grain bins—at least, sensible men do not. The most profitable exercise a rat can have is to dull his teeth trying to gnaw into that sheet iron.

⊙

OUR friend, the minister, who concludes his milk story on page 618, has given us an interesting account of the development of a small dairy. Most of us have learned something from it—either a new fact or some old truth presented in a forcible way. It is a wide plunge from such a dairy to the great milk farm of Mr. Francisco in New Jersey. Only last week, we found 350 cows in milk at the latter place. Every cow was as clean as brush could make her, and every appliance known to the trade was employed to hasten the milk into glass bottles. The daily milk trade now amounts to nearly 3,000 quarts, with cream in addition. We say it is a wide plunge into such an establishment from the humble dairy described in this issue and the last one. The point to be remembered is that Mr. Francisco started with 12 cows and, at one time, peddled 35 quarts of milk per day out of an ordinary can. From 35 to 3,000 quarts is, certainly, a big jump; yet it has not been a jump at all, but a steady growth. The quality of the milk has forced the demand for quantity. Mr. Francisco's opinion ought to be worth something, and he says that there is no opening in any business to-day equal to that of producing a uniform grade of pure, clean milk that will be recognized in the market as food, like sugar, flour or meat.

WHEREVER we go, we find large fields of fodder corn. This was planted to help out the hay crop, which is short in all parts of the country. In the majority of cases, this corn fodder has been sowed too thick, and will make very poor feed. It is making small, spindling, light-colored stalks which contain little substance. Some farmers seem to think that they must plant corn by the handful when they want fodder. That is a great mistake. Corn is a sun plant, and cannot grow to perfection where it is crowded. There is always more butter in an acre of stalks planted as for grain, than in the great weight of puny stalks that result from this thick seeding.

⊙

THE Council of the Borough of Columbia, Pa., passed a resolution to the effect that no milk should be sold in Columbia except from cows that had been tested by the State Veterinarians, and guaranteed free from tuberculosis. As we expected, the authorities have not been able to enfore this resolution, and milk from non-tested cows is now sold in the town. They ought to have known that it could not be enforced. It is a dangerous thing for men who know little about such matters to pass resolutions and make laws that may vitally affect the business of honest men. They are likely to turn a good thing into a ridiculous failure, or to injure some deserving man's business.

⊙

IN spite of the low price of bran, dried brewers' grains find a fair sale. As we have often stated, the brewer seeks to turn the starch of the grain into sugar and then into alcohol. This is done by the use of moisture and heat, and after the process of malting is finished, the grains are dried and sold like oats or bran. Thus it is that, while a whole grain of barley may contain 10 per cent of muscle-makers, dried barley grains, after malting, may contain 23 per cent by weight—having given up a good proportion of their fats and fat-formers. Prof. Voorhees figures that, at $18 per ton, dried brewers' grains are equal in value to oats at 27 cents a bushel, and that is, probably, a fair basis for comparison.

⊙

COTTON GROWERS throughout the South are having a serious discussion over the question of ties for cotton bales. Of late years, the favorite tie has been a flat band of steel, but this year, for some reason, the Trust which controls the manufacture of this tie, has raised the price. No fair reason, that we have noticed, has been given for this increase. Southern farmers are considerably worked up about it, and have at once begun experiments with ordinary steel wire to see whether this cannot be used in place of the ties. It is believed that the wire will answer, and that, in the end, the Trust will be forced to reduce its price even below former figures. We hope so, for cotton is too low to warrant any increase in the cost of sending it to market.

⊙

AN attorney of the Post Office Deparment has decided that it is unlawful to send an ordinary letter by express, or otherwise outside of the mails unless it be inclosed in a Government stamped envelope. Also that it is unlawful to inclose a letter in an express package unless it pertain wholly to the contents of the package. We would like to be shown the law that such a procedure violates. There may be one, but if so, the quicker it is repealed, the better. Laws are supposed to be founded on common sense and justice, and there is neither in such a law. A friend couldn't send a written message by another, according to this decision, without violating the law. The United States mails are for the convenience of the public, but there is no power on earth to compl any one to use them. The tremendous assurance, stupidity and insolence of some of these Government menials who, though "clothed in a little brief authority," are nothing but the servants of the people, are amazing. They should be inoculated with a little common sense.

⊙

ARE you a tool or a toy? Possibly you can spend a profitable half hour by sitting right down and thinking out that question. What is the difference between a toy and a tool? Both require force to put them in operation. The work of the toy gives brief pleasure, and is then forgotten. There is nothing substantial about it. With the same force, the tool may produce something that will live for years as a monument to industry. The toy turns force into play, while the tool transforms it into useful work. A woman may be a toy, in her own home, or she may be a tool shaping the character and life of husband and children so that the world would be made better. A man may be a mere toy—spending his powers on trivial things that live but in memory. He may, if he will, be a tool with clear, sharp edge that will cut through the crust that has grown over society, and leave the good and the true in all their beautiful proportions. You are a tool, of course, but are you keeping your edge sharp? Where is your edge? It is inside your head!

⊙

WE have been hearing much about the use of Alfalfa in the Far West, and the wonderful help it has been to farmers and stock feeders. In parts of the Gulf States, also, this plant has proved a great success, and is entirely changing the character of farming in many southern counties. In parts of Mississippi, for example, stock raising has become an immense industry. The mild winters keep the pastures open, so that stock need but little housing, while Alfalfa, hay, ensilage, cotton hulls and meal make the cheapest possible ration. Within the next 10 years, this part of the South is destined to make wonderful progress in the production of beef, pork and butter. The southern people are already raising so much of their own pork that the decreased demand has lowered the price to the western hog raiser!

⊙

ENGLISH potato buyers go to a point in France each year to buy the local crop for the London market. Prices are low, and the buyers seem to have agreed to offer no more than $8.50 per ton. The growers refused to sell for less than $12.50, and stuck to their demand. The Mark Lane Express tells this little story:

> One English agent, who had refused to accept a cargo at the price demanded, was hung over the water until he agreed to the peasants' terms. This was somewhat on the same principle as the suggestion for the prevention of railway accidents, that a director should always be made to ride on a buffer of the engine.

This was certainly an effective way to advance the price. If Uncle Sam could only muster up courage enough to hold some of these big corporations over the "water" they have placed in their own stock, he might frighten a little liberality into them.

⊙

BREVITIES.

I like to read an article that figures things out clear,
That sort of cleans the answer up and sets it down so near,
In words so plain and simple that it seems jest like two friends
A settin' by the kitchen stove an' sorter matchin' ends.
You go an' send a telegram—the feller sets right there,
A pickin' at his instrument, but you can't never swear
That all that click is sayin' what you wrote out with the pen.
It makes a feller cautious to depend on other men.
But talkin' through a telephone is quite another thing.
You don't trust no man's fingers, for the living wire will bring
The human voice right to ye—though ye may be miles apart,
There's brotherhood and confidence strung out from heart to heart.
So one of these here articles from earnest, kindly men,
Comes to ye like a message on the telephone, for then
You feel that right behind it is an honest heart and true
That sends an honest message of experience to you

JACK FROST has a sharp tooth.

A JAW brake for the politician.

DON'T forget that milk is a food.

WILL sour dough make cross bread?

TRY a dish of baked Hubbard squash.

"SWEAT" your sweet cider to harden it.

YOU can be laid up without lying down.

READ Mr. Wing's article on lamb feeding.

"*Good roads by bad men!*" Put the convicts at work.

WHAT is a fair charge for broken or lost glass milk bottles?

LET'S hear from those who have tried cow peas for the first time.

THE ounce of prevention is often found in the "bounce" of some old scrub.

CAPITAL without good judgment for investments is a dangerous thing to borrow.

MORE dangerous than the unthinking are those who think in the wrong direction.

IT needs but a feather added to this weather to bring doubt and gloom together.

Is there any better grain than cotton-seed meal to feed with windfall apples? What is it?

SELLING bottled milk is one of the worst things you can do, unless you understand what c-l-e-a-n spells!

"SOMETHING to sell every day in the year"! That is the motto for a farmer who wants a regular payday.

MR. KEIFFER pear has deserted our markets this year. We shall miss him when the human ensilage is opened.

THE Argentine farmers have made havoc with prices of wheat and meat, and now it is said that they purpose raising potatoes on a large scale!

MAKE use of the local paper in selling your produce. See the way Mr. Manchester does it. Advertising has cured many a bad business. It may cure yours!

THE Connecticut food inspectors found that 89 per cent of the ground coffee they examined was adulterated. The adulterants were chiefly peas, wheat, rye and chicory. Harmless frauds!

"AUTOCAR" is the name given to carriages propelled by steam, gas or some power besides animals. A name is the first step towards practical service. Look out for the autocar—ye horse breeders!

BY next year, probably, some of our farm contemporaries will begin to talk about the effects of Dendrolene. Have you noticed that most of the new ideas in agriculture and horticulture *start* through THE R. N.-Y.?

PROF. LATTA, of the Indiana Station, after investigating the behavior of winter oats in that State, considers them unreliable. He would sow them only where spring oats are unprofitable, and then only in a small way.

A BATCH OF FRUIT QUESTIONS.

ANSWERS BY H. E. VAN DEMAN.

Why Persimmon Trees Do Not Bear.

G. R. B., Los Gatos, Cal.—When we came into possession of our fruit ranch, seven years ago, there was, in the garden, a Japanese persimmon tree that must then have been four or five years old. Three years ago, it bore 11 fine, large persimmons, but has never borne any before or since. Some years, I have pruned it, and some I have left it unpruned as an experiment I have never seen a blossom on the tree. Can you account for its behavior, and suggest a remedy?

There are material differences in the productiveness of the varieties of the Japanese persimmon. If G. R. B. has Heachiya or some other kind that is a shy bearer, it should not be expected to produce much fruit; but this tree seems remarkably shy, and it may be an inferior seedling. The varieties of the Japanese, as well as those of our native persimmon, vary greatly in the perfection and imperfection of their flowers, which are always of an inconspicuous green color. It may be that G. R. B. has not looked closely for the flowers, and that they are present, but imperfect. All species of the persimmon are very peculiar in their inflorescence, as they sometimes have their male and female organs in the same flowers and sometimes in different flowers. In some cases, our wild persimmon trees have the two kinds, both the perfect and the imperfect, on the same tree, and in others, they are on different trees, making the species appear to be dicœcious instead of semi-dicœcious. Ever since childhood, I have seen, here and there, a tree that always bore male flowers and no fruit, and others that always bore fruit. In the Japanese species, Diospyros kaki, there are somewhat similar varieties, although I have never seen or heard of a tree which was always absolutely barren, as is the case with some of our native trees. There have been many seedlings grown in America of the Japanese, or, more properly speaking, the Asiatic species, for it is also found in Corea and China, whence I have imported seeds and cuttings of named varieties, as well as from Japan. In the latter country, it is the leading fruit, and in this country, there is an increasing interest in it among growers and fruit dealers, and we should know more than at present of the peculiarities and value of the varieties. Although I have closely studied this subject for many years, I am at a loss to give better advice to G. R. B., or any one else who has barren Kaki trees, than to get scions from productive trees and graft them into theirs. Cut scions early and keep them retarded by cold storage in the sawdust of an ice house or similar place until the trees have started their growth, and use the tongue, splice or saddle method of grafting. If scions of Tane Nashi, Yedo Ichi or Zengi can be had, there will be little danger of unfruitfulness. In my official reports as Pomologist of the United States Department of Agriculture, from 1886 to 1892, may be seen this subject quite fully treated, and the best varieties described and illustrated. They are found in the annual reports of that Department.

Yellow Transparent and Other Apples.

No Name, Mass.—1. What is the value of the Yellow Transparent apple as a market fruit? 2. Have Sutton Beauty and McIntosh Red been sufficiently tested to compare them with Baldwin for market purposes in Massachusetts?

1. Yellow Transparent is an exceedingly early and heavy bearer, and, although of light color and rather poor flavor, its earliness, fair size and good cooking qualities, render it quite profitable. Its principal faults are, liability of the tree to blight, and to overbear and die early, or become stunted and bear small specimens. It is well suited to plant as "a filler" between other apple trees, that it may bear soon and get out of the way before the others need the space; that is, provided that early apples of light color are profitable to grow where the planting is done. 2. Sutton has been tested in Massachusetts enough to assure us that it will compare quite well with Baldwin. It is handsomely red striped and of better quality than Baldwin. It also bears well. McIntosh is dark red and bears well, but the quality is very poor. It is fit to grow only where its hardiness makes it desirable.

Sunscald of Apple Trees.

S., Stella, O.—What is the matter with my apple trees? They have been planted five years, and the most of them have made a good growth. The ground has been cultivated with potatoes, wheat and clover in a rotation. The first I notice wrong with them is a small patch of dead bark on the trunk, which enlarges until it encircles the tree and it dies. Some are affected just above the ground, some half way up the trunk, and some just below the first branches. Is there any remedy? Would it be safe to plant another tree where one has died?

In all probability, the trouble is sunscald, as it is commonly called. If so, the affection which S. mentions, nearly always begins on the south side of the trunk, although he does not say so. The cause of this is supposed to be that the sun in winter during warm spells sometimes excites the circulation of the sap in places in an uncommon degree, and severe cold spells that follow, kill or injure the tender cambium layer. During very hot weather in summer, the direct rays of the sun often scald the south side of the tree, which has a similar effect. In either case, there is no remedy or cure other than to protect the injured part by painting or waxing over the bare wood to retard decay. The course of safety lies in protecting the healthy trunks with a covering of lath woven between wires (see full description on pages 268 and 269 of Annual Report United States Department of Agriculture for 1892), or by a thin wood veneer such as berry boxes are made of. The latter may be cheaply secured where factories are handy. A board box, or simply a narrow board tacked with two nails to the south side of the trunk, will do quite well. Stiff straw or reeds tied at top and bottom are good. I have tried all these methods successfully on the Kansas prairies.

COW PEAS AT THE NORTH.

Will Not Replace Clover.

My experiment with cow peas was not very satisfactory. I sowed them on fairly good, sandy loam soil, that would grow 150 to 200 bushels of potatoes in a favorable season. They were sown broadcast June 18, quite a heavy growth of rye having been turned under a few days previous. They came up quickly, but did not make much growth, and were overtopped by a weed locally known as Barn or Pigeon grass. The season has been favorable—warm with plenty of moisture. Some that I planted in the garden have made a good growth of vine, and now have pods six inches long. I conclude, that on my farm they should be sown in drills and cultivated. I may experiment more next season. They were sown with the intention of plowing under next spring for potatoes. From this year's trial, I think that they can't take the place of clover for that purpose. Clover requires a longer time to grow, but less labor and expense. H. F. S.

Ceres, N. Y.

Their Behavior on Long Island.

I sowed, about May 10, one bushel per acre of Black cow peas, plowing them in lightly, after first working the ground with a spading harrow. I then sowed one bushel of oats per acre, and harrowed them in. I intended to plow in the crop, but was unable to do so at the proper time, and I cut the oats for grain. I used no manure of any kind, and the oats will yield only 30 or 35 bushels per acre. The cow peas, however, attained a height of only about a foot. They certainly were a failure in the oats. A small plot of Hebron potatoes failed to germinate, and in the early part of July I planted it over with the peas, in rows three feet apart. I put them in with a hand planter, about 16 inches apart in the rows. Now, the peas just about cover the ground, and stand 20 inches high; many runners are four or five feet long. At the same time I planted them in the potatoes, I planted some on one end of my corn where it was missing. The corn is in drills 3½ feet apart, two feet in the drill. The peas have done nearly as well in the corn as in the potatoes. I intend to turn them under. I think that, with the same chance, they will make nearly the same growth that our ordinary pole beans will. I don't think that I have any use for them on my farm. E. E. RAYNOR.

Long Island.

Failed With Oats in Connecticut.

I got five of my friends to sow cow peas, as we all wanted something to take the place of the Canada pea to sow with oats for a forage crop. We sowed at different times from April 15 to June 1, when I sowed about two acres, two bushels of oats and one bushel Black cow peas per acre; this was on a dry knoll in good heart for any crop. The oats made a heavy growth except on the very top of the knoll which was very dry; the peas grew strong and looked well, but made a growth of only 15 to 18 inches with quite a large leaf and looked rank. Down on the sides where there was more moisture, they did not come up, except those which were very near the surface; those two to three inches deep rotted. It is evident that they are a plant for hot, dry weather, and not suited to this latitude, at least, for this year, as we have had frequent rains and the cold weather in June checked the growth of corn and beans. They would not make enough growth for a crop to plow under. This is a milk country, and everything which is raised is fed to cows. I put this crop in to feed in August, but did not need it to cut green as I put up about 200 tons of good corn ensilage last fall.

The other parties all had about the same results with the peas, which were all sown with oats. I do not think that any will try them another year, although I intend to try them alone to see what they will do. I think the oats were sown too thick for any kind of pea to do well with them. The crop was left on till the oats were ripe, and all were run through the thrashing machine. The straw will be fed to cattle the coming winter, as cattle should have some dry fodder every day in connection with ensilage.

Waterbury, Conn. G. B. P.

PLANT TREES AND SHRUBS IN SEPTEMBER.

Every one accustomed to garden work, knows what little time there is in spring to set trees and shrubs. Even though garden work do not press closely, the nurseryman is often unable to ship stock at the proper time. If it were but known how entirely successful early fall planting is, many a farmer would be enjoying beautiful trees and shrubs who now has none. It would be a revelation to many to visit some large nursery in the fall and see the great lot of stock being transplanted. The old plan was to wait till the leaves fell before planting, but it is now well understood that it is better not to wait so long. Just as soon as the wood is well ripened, the functions of the foliage are, practically, over, and the leaves may be stripped from the trees with no harm whatever.

In these parts, towards the end of August and through September, is an excellent time for the planting of nearly all evergreens, and a month later, for deciduous trees. It has often occurred that I have had to remove trees in September, and, sometimes, these trees have been disturbed again a month or so later; invariably, I found that quantities of roots had formed in that time. The explanation is a simple one. The soil has been made very warm by the summer heat. It is often warmer than the air. This condition of things brings out fibrous roots at once, and the transplanted tree is safe. The leaves are cut off, of course, but as the growth is over and wood ripened, it makes no difference. If a few stems of leaves are left on the twigs, they will drop off clear in a few days if touched, which proclaims the success of the work. If they do not drop off, but wither up on the stem, the tree is not going to live. But I am sure that few cases of the latter kind will occur. Let those who wish to set fruit or ornamental trees, proceed with the work without hesitation when September is on the wane, resting assured that they will have more success than at any other time. What a tree needs to assist it in forming new roots is heat and moisture in the soil. The heat nature places there, but not always the moisture. As a matter of fact, I prefer that the soil be rather dry, as it enables me to ram it in firmly about the roots. After cutting off the foliage, the tree is set in its hole and the earth filled in and rammed in tightly about the roots until the hole is three-fourths filled. Then empty two or three buckets of water in the hole, filling in the remainder of the soil some hours later, without ramming it, and the work is done. JOSEPH MEEHAN.

Pennsylvania.

BUSINESS BITS.

T. W. Wood & Sons, of Richmond, Va., issue a catalogue of a large line of seeds. It is a good house from which to order cow peas, Crimson clover, or any seeds wanted from the South.

You can't afford to assort potatoes, apples and onions by hand when a sorter will do the work at the rate of 100 bushels per hour. It is claimed that the Pease sorter will do the work at this rate. Write F. B. Pease, Rochester, N. Y., for circular and full particulars.

Some time ago, we cautioned R. N.-Y. readers that the Disbrow Mfg. Co., Rochester, N. Y., receive remittances for berry baskets, and never send the baskets or give the remitter any satisfaction whatever. Some new subscribers have had a recent experience of the same kind. The caution is consequently repeated.

Many who live in towns and villages would enjoy the advantages of a wind mill and tank, if they had the room. These should use the outfit manufactured by the Perkins Windmill Co., of Mishawaka, Ind. The whole outfit occupies a small space, like a corner of the lawn. The position of the tank is such as to be entirely out of the way, yet in a position to supply all needed pressure for watering lawns, gardens, etc., and affords good fire protection. With one of these tanks on a 60-foot tower, the farmer may pipe his house, equip it with a bath, and convey either hot or cold water to any part with perfect safety and at small cost. The entire outfit is composed of steel, and is practically indestructible. The firm will be glad to submit full description or estimates.

To overcome the effect of the dirt in milk and to kill the germs that caused sickness and disease, it was first proposed to sterilize or boil it. But it was soon found that this made the milk less digestible. Now a few of the thinking farmers avoid the dirt and the germs, and there is nothing to kill by sterilizing and boiling. The R. N.-Y. has told of the care taken by Mr. Francisco and Mr. Cottrell in putting up milk. One of the best, if, indeed, not the best bottles, for this use, is that made by the Thatcher Mfg. Co., Potsdam, N. Y. This bottle has no metal about it of any kind, nothing but plain glass to clean, nothing to rust or twist out of shape. When the bottle is filled, a small disk of pasteboard is pressed into the groove in the neck of the bottle, and keeps the milk air-tight.

Mr. F. B. Fitch, has charge of Chatham Field, an establishment of 160 acres within the city limits of Chicago, where hundreds of city horses are sent to recuperate and board after the hard usage of city streets. A representative of the Breeder's Gazette visited the establishment some time ago, and asked Mr. Fitch what he used to reduce swellings and cure lameness. The Gazette quotes this reply: "For more than 15 years, I have used almost exclusively Gombault's Caustic balsam. It is great stuff. With it I have removed splints, curbs, windpuffs and the like, speedily and surely, and cured sprains and soreness. It can be used as a mild liniment or a blister, and I consider it the best blister I ever used. You may be sure that we have plenty of use for such a remedy on the horses that come here for temporary keeping, and it is the only thing of the sort that I have constantly on hand. My long experience with it justifies me in relying upon it to do the work."

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

"SAVE all the white cord that comes around bundles, tie the pieees together and crochet a dish cloth. It will make a nice one." So says a correspondent at the end of an artiele describing a fancy crochet stitch. We don't believe in ignoring the dish eloth, by any means; but we would like to know just how many housewives who, after doing the necessary things, would have the time and inclination to follow the above programme.

*

□ WATCHING the workmen putting down asphalt pavement, we noticed that the men whose work necessitated their being on their knees much of the time, had cushions fastened to the knees to protect them from the bruising whieh would result from constant contaet with the hard ground. Why do not women ease their oceupations by similar means? It is foolishness to allow one's work to be more laborious than necessary. Yet many a woman will not sit down to her work because it "looks lazy".

*

A PLAYGROUND for children, that has been constructed on a vacant lot in the city, has, as one of its leading features, several tons of elean, white sand, and the children enjoy playing in this more than anything else. The Park Commissioners have been petitioned to supply Central Park with heaps of sand for the children's benefit, but have not yet decided to do it. The cherished pastime of the country child, the making of mud pies, eannot be surpassed, and when the city child is initiated into the simpler pleasures which Nature provides, he will be happier.

A YOUNG REPUBLIC.

CHILDREN OF THE SLUMS TAUGHT HOW TO BE USEFUL CITIZENS.

THE following sketch of a work being done among the poor of New York, is taken from the Review of Reviews:

Mr. William R. George began in 1890, and took 22 ehildren for a two or three weeks' vacation to a farm near Freeville, Tompkins County, N. Y. He had himself grown up as a country boy in that region, and his sympathy with the ehildren of the slums in New York led him to try, in a small way, the plan of showing them what life in the country really meant. Mr. George has strong religious eonvictions, and his summer vaeation camps have always had a decidedly religious character. The first experiment was so satisfactory that, in 1891, with the assistance of several helpers, 210 ehildren were taken to the Freeville farm for two weeks. Besides religious instruetion, they were taught patriotism and the duties of eitizenship. The next summer, 265 children were taken; and among other things, the lads were given a considerable amount of military drill on the plan of the Boys' Brigade. From summer to summer, the quarters enjoyed by the camp were enlarged and improved. In 1893, 250 ehildren were taken, and beginnings were made in industrial instruction. The same number were taken in 1894, and the scope of instruction was considerably enlarged.

At length, Mr. George's experienee had prepared him for the evolution of the complete idea of his miniature republie; and his young commonwealth—destined to take its honorable place in the history of education — was duly launched in the summer of 1895, with a membership of about 200 children, who remained in the eamp for a period of two months. This Republic is not for the smallest ehildren, and the average age is, perhaps, about 15, the limits being from 12 to 17. The keynote of the plan introduced by Mr. George, is perfect liberty, under a reign of self-imposed law. When he is asked how he makes the Junior Republie work, Mr. George replies that he does not try to make it work, that the boys and girls do that for themselves; that he does not impose any laws, beeause his Republic is not a monarchy; that the laws of the Republic are made by its Congress, eomposed of representative citizens. Of eourse, Mr. George has provided at the outset a certain general framework for the guidance of his little eommunity. The Constitution of the United States, and our familiar every-day institutions, supply the model upon which the miniature Republic at Freeville proceeds to work out its destinies.

As a social organism, it must, of course, have its industrial and economic basis. Every member of the community is assumed to be a worker and a self-supporting citizen. The citizens are divided into three industrial classes, namely, the class of unskilled workers, the middle class, and the class of skilled workers. Eaeh citizen is allowed to exercise his own judgment and preference in the selection of his work. He may select farming, landseape gardening, or earpentry; while in the ease of the girls, eooking, millinery or sewing may be chosen. The triple classification (as to skill) applies to each kind of work. The different kinds of work are, of course, carried on under the direction of Mr. George's adult helpers; and the elassification of the workers is made upon very strict standards, in accordance with which fidelity and conscientious effort count for more than natural aptitude.

The pecuniary advantages of promotion from the lowest to the highest grade are very considerable. Thus 50 cents a day is the pay for unskilled labor, 70 cents for work in the middle grade, and 90 cents for work in the highest grade. The working hours are from half past eight until 12. The afternoons are devoted to recreation. No member of the community is *obliged* to work during the regular morning hours, or at all; but if he is off duty, he draws no pay, whilc, if he loses time, his pay is diminished *pro rata*. It must be explained that wages are paid in the paper scrip or currency of the Republic, and not in regular United States money. But so long as a lad sojourns as a citizen of the George Junior Republic, his money "goes."

Everything Must Be Paid For.

In faet, the money of the Republie is quite indispensable, for nothing is provided free of charge; all meals must be paid for, and lodging also has its price. Inasmuch as eaeh ordinary meal costs 10 eents, and the same price is exacted for a night's lodging, while the taxes of the Republic amount to about three eents a day *per capita*, it is evident that, unless the unskilled laborer is regular and faithful, he is not going to be able to pay his bills. If he has been tempted to idle away his morning hours, or to spend his money upon extra apples or eakes, or any other indulgences, he may find himself unable to meet the eost of regular meals and lodging. In that case, he becomes a pauper, and is subjected to the indignity of eating pauper's fare at a pauper's table, at the expense of the whole tax-paying community; and the public opinion of the commonwealth very soon gives him a lesson concerning thrift and self-support, which he is likely to remember as long as he lives.

The material out of which this Republie, last summer, was eomposed, it should be remembered, was taken from the tenements of New York City; and steady industry and pecuniary forethought were lessons that it was particularly desirable to inculeate. The effect of the Republic as regards training in habits of industry, and in habits of thrift, was truly remarkable. The Republic maintained its bank, and wages were paid no oftener than once a week. When a boy or girl drew his week's pay at the bank, he soon learned that, if he spent his money recklessly in special indulgenees, he would be a pauper long before the next pay day eame around. The thrifty ones began to aecumulate savings in the bank, and they were allowed an interest of three per cent a month on their deposits.

The training in citizenship and political methods was only less valuable than the training in praetical thrift and industrial economics. The several industrial classes were allowed to be represented in the two chambers of the Republic's Congress. Each industrial class elected one member of the House of Representatives for every 12 persons, and elected one member of the Senate. Representatives were elected for a term of one week, and Senators for a period of two weeks. Thus the experience of conducting an election was enjoyed eight or nine times in the course of the two months. The balloting was earried on in approved fashion, and so the members of Mr. George's little eommonwealth were prepared to understand, not only what elections mean, but all about the conduct and maehinery of elections, the necessity for pure and honest eleetions in a self-governing community, and the proper safeguards to protect the exercise of the elective franehise. The short life of each Congress, moreover, enabled a comparatively large number of boys to obtain the experience of serving as representatives. Here was the opportunity to learn the elements of parliamentary procedure, to acquire some training in debate, and to come through practical methods into a eomprehension of the origin, nature, and significanee of laws.

It must be remembered that these lads were not playing at law-making, or debating in an amateur, imitative fashion the silver question or the tariff question, or any mere academic propositions; but they were debating with full responsibility, a number of real questions actually affeeting themselves and the 200 fellow citizens whom they represented. In the eourse of the summer, out of, perhaps, 200 or 300 bills introduced in Congress, some 55 or 60 were enacted into laws, while seven or eight more failed to become laws through the exercise of the President's veto. It was a matter of praetical necessity which needs no defense or explanation, that Mr. George himself should fill the ehair of the President of the Republic. The eonstitution of this diminutive State does not permit Congress to pass a bill over the President's veto. It was ascertained, however, in the case of every one of Mr. George's vetoes last summer, that there was not a large enough majority in favor of the vetoed proposition to pass it over the President's head.

Learning to be Law-Abiding.

The offiee of the judge of the police eourt, who combined in his person all other judiciary functions, was filled by one of Mr. George's adult helpers; but trial by a jury of his peers was granted to every boy accused of any offense against the laws of the community. One of the regrettable, but necessary, features of such a miniature commonwealth, is a jail, or place of detention; and in the earlier days of the experiment there were a good many prisoners. Happily, in the last weeks, the jail was empty.

The whole *regime* of eleetions, law-making, the enforcement of law and the maintenance of order, the trial of offenders, and the punishment of those eonvieted of breaking the laws of the eommunity, was shown, in its actual workings, to be an exceedingly effective means of political education and training for honorable citizenship in that larger, but not more real, republic, to whieh Mr. George's graduates must, in due time, transfer their allegiance.

At the eonelusion of the season, the boys and girls who have eredits in the Bank of the Republic, are allowed to redeem their aceumulations in the form of clothing—or of potatoes or other supplies which are delivered for them at the homes of their parents in the New York tenements. Several young people, last summer, had aeeumulated $40 or $50 apiece by the end of the season, and were thus able to provide themselves with their winter elothing, or—as was actually done in several instanees—with potatoes enough to supply their families for the entire year. Those who had not saved anything, but had spent their wages, were obliged to return to town empty-handed. No exceptions were made to this rule, and the object lesson was a very valuable one.

Mr. George had, for some time, hoped to evolve a regular farm school and home out of his summer experiments; but had not expected to enter upon the permanent residence plan for several years to come. Last fall, however, he found that, as usual, there were a number of boys who wanted to remain, and who had no home or fixed abode in the eity to which they could return. Five of these boys were kept on the farm, and will remain until they are 21 years of age, being known as "resident citizens", in distinction from the summer company. The group in full residence is increasing gradually, and now numbers nearly 20. There are many applieations for places on the permanent list. It is easy to understand that this nucleus of "resident eitizens", as gradually reeruited—and domesticated, so to speak—will very materially assist in the task of organizing and civilizing the 200 or 300 "summer citizens" eoming from the streets of New York.

FOR JOHN'S BOYS.

I FEEL a deep sympathy for the kind auntie who entertains the boys of dear brother John (page 502). In the first place, let her study the nature of her guest. At home, he is under restraint, but when he goes to the country, he expects a rough and tumble time in the woods and fields; hay rides and pillow fights are conneeted in his mind, as congenial outdoor and indoor sports, each perfectly adapted to farm life. And I do not think that he understands why he may not indulge in one as well as the other. Therefore, she would better study his nature, and give him a eertain amount of freedom, and my word for it, he will not abuse her eonfidence.

Save the pretty spare room for the time when, perhaps, John will come to spend a quiet Sunday. To him, all its dainty neatness will speak in restful tones of affection. But for the boys, prepare another room, sunny in the morning if you ean; let everything be clean and sweet, but plain and strong. Five-cent muslin, well bleaehed and carefully ironed, will give the boyish head as sweet rest as the linen with laee edging. A plain shade with a graceful drapery at the top, and short pane eurtains that slip on a rod or stout wire and do not have to be tied up in knots to get them out of the way, will make a window just as pretty as the more graeeful long ones. Let the toilet set be of blue and white enameled ware—light, large and strong. A square of stout carpet securely taeked down will soften the racket of boyish feet. A set of roomy shelves is a wise addition to sueh a room, to hold the numerous treasures

that boys love to collect from forest and shore.

Ten chances to one that, after the first novelty wears off, they will conclude to take their active exercise in the barn or orchard, where it would be well to fit up a few things for their use on rainy days. A hammer and saw and some pieces of boards, with a good stout jack-knife or two, would keep them happily occupied through many otherwise dull hours. I think that, at the end of their vacation, they would love auntie just as well as though she had sacrificed her feelings and all her best things to their thoughtlessness. MARY BURWELL.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6819. Girls' Norfolk Suit.

The Norfolk waist has three box-plaits in the back and three in the front, which are stitched on their underfolds to the waist line. The center plait is formed on the right front edge, the closing being under the plait. The belt is passed through an opening under the front

6819—Girls' Norfolk Suit.

plait, where it closes. The rolling collar that finishes the neck flares in points at the front. The round, full skirt is gathered at the top and sewed to a plain waist lining that closes in the back. Pattern No. 6819 is cut in sizes for girls of 6, 8, 10 and 12 years of age.

ADVANTAGES OF CYCLING.

IT may be taken for granted that cycling is beneficial to the strong, says C. Everett Green in the Bicycling World. Those who enjoy robust health and are possessed of a considerable measure of physical strength, are sure to derive both pleasure and profit from a form of exercise which uses the muscles in a regular manner. Provided the cyclist does not indulge in the foolish practice of attempting impossible or tremendous feats in the matter of mileage, time tests, or steep hill climbing, his cycling will do him nothing but good. Like rowing and walking, the exercise is rythmical, and though the amount of effort required varies with the character of the surface of the road, the wind and the gradient, the moments when you must do "all you are good for" occur but seldom. In cycling, there is none of the strain which, in football, in cricket, in tennis, and such like games, constantly obliges you to do your part in regard to the ball almost, so to speak, whether it be possible or impossible. On the bicycle, you pursue the even tenor of your way, and quicken or slacken, exert yourself or relax your efforts entirely according to your own inclination, and whether you feel fresh or tired. Your efforts are not regulated by the exigencies of the game, but by the strength within you. It, therefore, follows that over-exertion, which is bad for the strongest of us, is not likely to result from cycling, and is much less likely than in such games as those alluded to above. In other words, cycling is an exercise exempt fron one drawback from which many other forms of exercise suffer.

PEN POTPOURRI.

Place a spray in thy belt, or a rose on thy stand,
When thou settest thyself to a commonplace seam;
Its beauty will brighten the work in thy hand,
Its fragrance will sweeten each dream.
When the task thou performest is irksome and long,
Or thy brain is perplexed by doubt or by fear,
Fling open the window and let in the song
God hath taught to the birds for thy cheer.
—*Credit Lost.*

....HARPER'S BAZAR: "That which we call the highest truth is but the apparent reflection of our ideals."

....N. Y. LEDGER: "A good deed is never lost; he who sows courtesy reaps friendship, and he who plants kindness gathers love."

....NEW BEDFORD STANDARD: "There is a superciliousness of poverty which is quite as disgusting as the superciliousness of riches."

....N. Y. SUN: "The charge against the practice by women, that it fosters immodesty, is attributable to the depravity or the narrowness of the minds of those who make it. So far from being immodest, the special bicycle costumes of which the so general use of the wheel by women has caused the fashioning, are both modest and suitable. They are also becoming. Moreover, they are tending to a change in the outdoor dress of women which is altogether desirable. The bicycle is producing a dress reform demanded by good sense which, otherwise, would have been long delayed."

ODDS AND ENDS.

A NEW KETTLE.—When I have a new kettle, I always fill it full of clean potato peelings, the first thing, add water, and let them boil for two hours, says a correspondent in the Housekeeper. Then I wash it with strong suds, rinse well, wipe dry, rub it with a little lard, and it is ready for use. If possible, I use it to boil pork in, the first time, for the grease is good for it. I rub it with lard, after each washing, for several times, and it never rusts, or gives any unpleasant taste to the food.

HAVE WE GONE TOO FAR?—Days and weeks used to be expended in teaching children their a b c's; then weeks and months more in teaching them to spell. ba, be, bi, etc. When they had learned to spell b-a, ba, k-e-r, ker, baker, they were thought to be well on the way towards knowing how to spell. Nowadays, however, all this is changed. Instead of laboring through all this drudgery, children learn to read! It is, certainly, a fine thing to reach such a coveted goal without so much plodding, but it is somewhat embarrassing later on, when they wish to look up a word in the dictionary, and do not know the sequence of the letters of the alphabet. Syllabication is not given much prominence in the new methods. No doubt it was carried to extremes in earlier days, but is it well to ignore it so entirely?

My little one's greatest trial in writing is that she never knows "where to split the words." In order to derive the full benefit of the work done in school, there must be some supplementary work done at home. They laugh at the old way of spelling and pronouncing, "baker," but in the new ways, is not syllabication too much neglected?

MRS. W. A. K.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best —*Adv.*

COLD SPICED PEACHES.—Rub off the fuzz. Stick a clove into three-quarters of them, or one in each peach if strong spiciness is desired. Pack in a stone jar, and cover with vinegar. Pour off the vinegar at once, and to it add moderately of sugar. Boil together until thoroughly incorporated, and when perfectly cold, pour over the fruit. Cover with a plate with a weight on it, and set in a cool cellar. Peaches so treated will not mold, and will be fine to eat next May, or thereabouts. M. W. F.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Poor Pilgarlic,

there is no need for you to contemplate a wig when you can enjoy the pleasure of sitting again under your own "thatch." You can begin to get your hair back as soon as you begin to use

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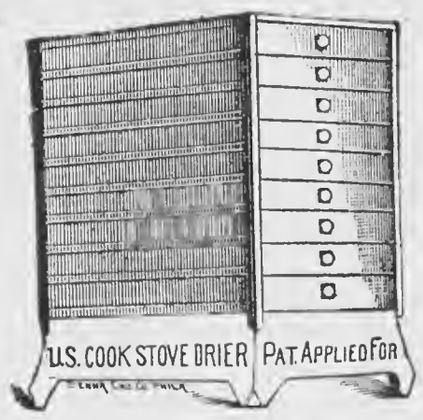
and others who cannot afford to lose time from work. *Send for Free Circular and References Stating the Subject you wish to Study, to*
The International Correspondence Schools, Box 916, Scranton, Pa.

U. S. Cook Stove Drier.

In many localities, fruit is an abundant crop this year. Choice fruit will, undoubtedly, command a fair price; but you must not put one inferior apple in the barrel for shipment. Mix choice and inferior fruit, and the whole will sell at the price of the poorest. The inferior stock would better be dried for future use or sale. There is, besides, a certain amount of fruit around almost every farm home, that goes to waste.



Why not gather this and dry it for use when needed? The U. S. Cook Stove Drier will be found a great convenience in this work. It may be set on top of the cook stove, and no extra fire is needed. The regular price is $7, but we have been able to get better and better rates every year, and can now send it and a year's subscription to THE R. N.-Y. for $5. There is no experiment in using these driers now. They have been used for years with perfect satisfaction.

THE RURAL NEW-YORKER, New York.

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Every book is fit for any library. Bear in mind these books are not given to the subscriber as an inducement to take the paper; they are given as reward or pay for work and trouble in introducing the paper to new subscribers. If the new subscriber is not satisfied with his bargain he can have his dollar back.

THE RURAL NEW-YORKER, New York.

The Agent's Share.

Those weekly premiums are going easy, and it is evident that the premiums of $50, $30, $20, $10 and $5 which go out to the largest five clubs September 30, will go to easy winners at the present rate. Here are the winners of the premiums last week:

R. R. GAGE	Ontario	33 Trial Subscriptions.
CHAS. R. FARNUM	Massachusetts	29 Trial Subscriptions.
C. A. MILLER	New York	22 Trial Subscriptions.

The three agents who sent the largest number of names from among those who had not won any of the other weekly premiums this season were:

W. H. HOLMES	Vermont	21 Trial Subscriptions.
JOS. SHROPSHIRE	New Jersey	20 Trial Subscriptions.
HARLOW LOVELAND	Massachusetts	18 Trial Subscriptions.

Remember, every one competes for the first three premiums, and new agents only compete for the other three weekly premiums. The five cash premiums September 30 are open to all. There are just about three weeks more in this contest. Three sets of weekly premiums, and then the sweepstake premiums follow right up. The figures are all given; you can see just how it works. Is not this hard cash worth an effort from you?

THE RURAL NEW-YORKER, NEW YORK.

"RIGHT IN IT."

We don't know who originated that expression, but it is a good one, for it expresses a good deal. The man pictured on our first page is, certainly, "right in it." He is "looking through THE R. N.-Y." with every feature he possesses. What we want to say is that THE R. N.-Y. will stand all the "looking through" you can give it. We want it examined and studied, and we are not a bit afraid to have you sit down and compare it, page by page, with the other agricultural papers. We haven't a word to say against any of them. They are all good, and worthy of support. We think, however, that you will find, after a careful examination of several copies, that THE R. N.-Y. is different from the others. We expect that you will come to the conclusion that THE R. N.-Y. gives a certain class and character of information that you cannot find in any other paper. Do you want that information or not?—that is the question to be decided, and we will leave it with you to decide.

The man pictured on the first page is "right in it," and you can see by the expression on his face, that he isn't making any complaints. "Looking through THE R. N.-Y." is a cheerful occupation, and if we could take you into the homes of our readers, we could show you thousands of men who sit reading our paper with just as cheerful an expression as this man has. You will see such men, after they have laid the paper aside, sit thinking over some idea that has crept out of the printed page into their brain.

People often say this: "What I like about THE R. N.-Y. is that, when I read it, I feel as though I were sitting down and talking with some good friend. It seems as though the writers understood my case, and take a personal interest in it."

That criticism always pleases us, because that spirit is just what we are trying to put into the paper. This is all we have to say on this side of the subject. We shall be pleased to see *you* "looking through THE R. N.-Y." with a face as good-natured as the one pictured on our first page. If you can get your neighbor to look with you, so much the better for all hands.

The other side, of course, refers to the subscription contest. The names of last week's winners are given above. It doesn't require any elaborate figuring to see that some one is going to make money out of this contest. In other words, some one will be "right in it". Shall you? We put that question right to you! If not, why not? Some people say that folks won't take a paper this year. That makes us think of the man who brought up the calf by hand. He said that he had to pull the calf's ears out to get her up to the pail, and then had to pull her tail out to get her away from it. Some of the strongest friends we have to-day wouldn't look *at* the paper a few years ago. Now they are looking *through* it as a regular part of life's duties. Why, see what this Jerseyman says:

A near neighbor has been borrowing our RURAL NEW-YORKER for the past several months, and he has concluded to subscribe for it the remainder of the year, and would like a copy of it this week. He gave me a quarter, and I retained 10 cents; is that correct?

Certainly that is correct—correct with a capital K, and we can stand it if 10,000 more good neighbors feel the same way. Keep at 'em! Look through THE R. N.-Y.!

CROP AND MARKET NOTES.

Trade in evaporated apples is light.

Beware of the bogus commission man.

There is a light supply of fancy Russia turnips.

Straw is selling slowly at slightly lower prices.

Fine dressed veals have sold well at good prices.

The new Filled Cheese law went into effect September 4.

The Delaware peach crop fell short of the early estimates.

Grapes are in large supply, and sell slowly at low prices.

Bartlett and Seckel pears are not in large supply, and the demand is good.

The price of lemons is much lower, the supply large and the demand small.

Increasing supplies of dressed poultry have checked the advance in prices.

The live poultry market is active in anticipation of the Hebrew New Year holiday.

Butter maintains its position, but there has been no advance during the week.

Potatoes are not in large supply, and meet a good demand, though the price seems very low.

Eggs have changed little in price, but there is a very short supply of strictly fresh, first-class eggs.

Beeswax is selling at 23 to 24 cents per pound for pure, but trade is moderate and the market weak.

There is a fair demand for hay, and as the offerings are only moderate, the market is in good shape at fair prices.

Sun dried apples should be in quarters, or, if small, better in halves. They should not be cut fine as for evaporating.

Cranberries have made their appearance from Cape Cod, and sell for $4 to $5.50 per barrel. They are mostly green and of light color.

From returns so far received, the Tennessee State Commissioner of Agriculture places the staple crops at 50 per cent of an average.

Eggs are coming in more slowly, and really fine goods are especially scarce. The price has advanced somewhat, and is liable to go still higher at almost any time.

The visible supply of coffee in the United States shows a decrease of 56,494 bags, as compared with the corresponding day last year, and it is 17,980 bags more than it was the same day two years ago.

The Los Gatos, Cal., News says that the apricot crop in the Los Gatos district has been almost a failure, canners not being able to obtain 50 per cent of what they had contracted for of a quality suitable for canning.

According to the Milk Reporter, the receipts of milk at New York City during July were 708,342 cans against 679,257 cans in 1895; of cream 30,421 cans against 29,045 cans in July last year; of condensed milk 6,908 cans against 7,083 cans for July, 1895. The daily average receipts were 22,849 cans of milk, 981 cans of cream and 223 cans of condensed milk. The average price of milk for July was two cents per quart. The average price of extra butter in July, 15 cents, was equivalent to the value of 7.5 quarts of milk; in 1895, the average price of extra butter, 18¼ cents, was equal to 9.2 quarts of milk at the market price then ruling.

There is a little more activity in Marrow and Red Kidney beans, and exporters are making some purchases. The prices of these varieties are somewhat higher, but that of other kinds shows little change, and the demand is light.

Cable dispatches from Liverpool, September 1, are to the effect that the demand for American apples is steady at the following prices for sound fruit: Kings, $2.43 to $3.65; Baldwins, $2.06 to $2.43; Greenings, $1.58 to $2.43; various others, $1.58 to $2.79.

Export shipments of American apples during the week ending August 29, were as follows: From the United States and Canada to Liverpool, 20,284 barrels; to Glasgow, 3,146 barrels; to London, 212 barrels; total, 23,642 barrels. The expense of exporting is about $1 per barrel.

The Price Current's weekly crop report says that there is no occasion for important changes in crop calculations; moisture delays ripening of a portion of the corn, but the bulk of the crop is now, or soon will be, secure from frost; indications of yield fully maintained. Wheat situation unchanged; fair amounts offering at interior points.

The Hebrew holidays, which always affect the live poultry market, occur 11 days earlier this year than last. The next year, according to their calendar, is 5657. The holidays are as follows:

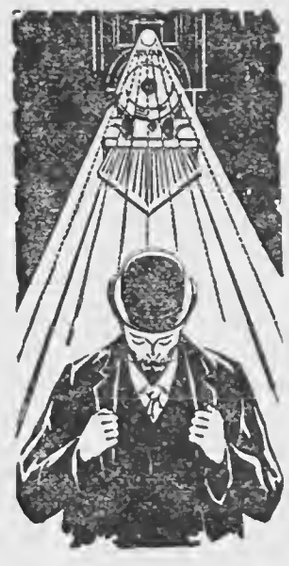
New Year	Sept. 8 and 9, 1896
Day of Atonement	Sept. 17 1896
Feast of Tabernacles	Sept. 22 and 23, 1896
Feast of Law	Sept. 29 and 30, 1896
Purim	March 18 1897
Passover	April 17 1897
Close of Passover	April 24 1897
Feast of Weeks	June 6 and 7, 1897

For the first holiday, fowls, turkeys, ducks and geese are most wanted.

TUBERCULOSIS AT COLUMBIA, PA.—I have collected some facts relating to the tuberculosis scare in this part of Pennsylvania. From the deputy veterinarian of this place, I learned that nine herds have been tested, and that, in some cases, the disease had reached an advanced stage, while in others it was but slightly marked. Under the test, some herds showed no symptoms of the disease. Of course, in cases where symptoms of the disease were developed, the cows were slaughtered, and the dairyman partially reimbursed by the State for the loss of his cows. The authorities of the town, believing that they were getting milk from diseased cows, thought that they should do something to protect the people. I think that their action was hasty and ill-judged, for the dairymen are selling milk without complying with the resolution of the council. There is no authority to enforce a mere resolution. If the test is infallible, and the health of the people in danger from the use of the products of the dairy, then I think that we should be willing to aid the State authorities in stamping it out.

J. H. OBERLIN.

Miscellaneous Advertising.



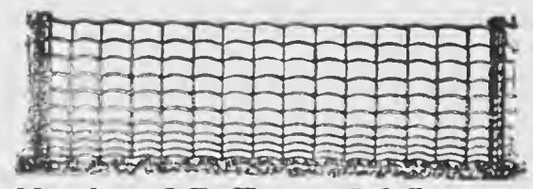
Disease is like a railroad train. It has a regular way of coming and going and keeps on steadily along a certain track. You can almost always tell how a disease starts, and where it will probably end. It won't go out of its way to oblige you any more than a locomotive will. Disease usually begins when the appetite gives out—that's the first warning whistle. Then the stomach and nutritive organs fail to supply good blood. The circulation grows poor, thin and tainted. Instead of carrying nourishment to the different parts of the body it carries poison, which settles at some point and eats away the tissues. According to where it settles it is called liver or kidney or skin disease—scrofula, erysipelas, eczema, or consumption if it settles on the lungs. It is all one trouble: tainted blood; clear out this taint and build up the tissues with rich blood and the disease is stopped; sidetracked; it can't go any further. No matter what the name of a disease is if it's a blood disease, Dr. Pierce's Golden Medical Discovery will cure it by driving the poison out of the circulation and creating a new supply of healthy, red, life-giving blood to revive and nourish the wasted tissues. It puts the digestion in order, invigorates the blood-making organs and builds firm healthy flesh. Consumption is a blood-disease. Don't believe it can't be cured! It *is* cured every day by Dr. Pierce's Golden Medical Discovery.

Dear Sir:—I cannot say enough for your "Golden Medical Discovery." For two years my little boy suffered with lung trouble—first taking la-grippe; second intermittent fever; third, lung trouble. For two years he coughed. The physician could do no good and I thought he must die. I was told to try Dr. Pierce's Golden Medical Discovery. I did, and before he had taken one bottle he began to mend and could eat a little. When he had taken four bottles he was well and now is as stout as before.

Respectfully yours,

(Mrs.) Martha Rache

Proctor, Morgan Co., Mo.

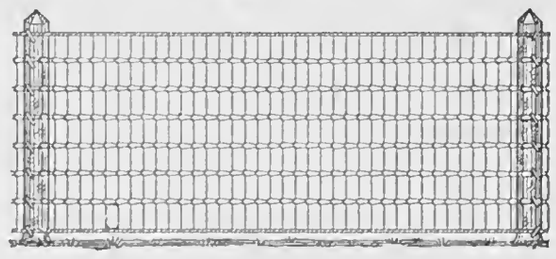


Under 25 Feet Of Snow.

We lately filled an order for a two mile sample for use in the great Yosemite Park, California. The statement that it would be subject to the above test, and that everything tried thus far had proved a **dead failure,** did not deter us, for the Page has no fear of "the beautiful." Send for evidence.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

RANDALL WOVEN WIRE FENCING.



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RANDALL FENCE CO., Le Roy, N. Y.

What Are You Reading?

Anything more than novels and the daily newspaper? If not you are missing a great deal.

THE FRENCH-GREEK YEAR

in the famous Chautauqua Reading Circle, begins Oct. 1. Try a definite plan and see how much pleasure it will bring into your life. Address

JOHN H. VINCENT, Dept. 17 Buffalo, N. Y.

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Any Book on this List will be forwarded promptly on receipt of price.

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G. G. Groff, M. D. What to Do In—Home Treatment of—What to Do 'till the Doctor Comes. Sunstroke, poisoning, broken bones, cuts, bites of mad dogs, insects, snakes, etc., freezing, bruises, burns, choking, colic, drowning, exhaustion, explosion, suffocation by gases; what to do in storms, being stunned, wounds, etc. ..... .20

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A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper .. .20

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Lucius D. Davis. Methods of Culture that shall Afford a Profit, and at the same time Increase the Fertility of the Soil. The contents treats exhaustively on renewing run-down farms. Cloth $1

THE RURAL NEW-YORKER, NEW YORK

HAY, POTATOES AND FRUITS.

THE PROSPECTS IN DIFFERENT LOCALITIES.

The hay crop is short; some fields did not yield 500 pounds per acre. Straw is a full crop, while corn fodder is not more than one-half of a full crop. The amount of fodder, taking hay, straw and corn, will not more than feed the stock during the coming winter. The demand for silos is small; I do not know of any new ones being built. Farmers will, generally, keep most of their stock, as this is a good dairy section and, although butter and milk sell at very low prices, they are holding on with the hope of better prices another year. F. R.

Steuben County, N. Y.

The hay crop in this section was about the same as last year—about one-half crop. There is a large acreage of corn, and it will be a good crop. A large acreage of oats was sown, but the army worms destroyed about one-half the crop. Potatoes will be a light crop; not so many were planted as last year. There are eight silos in this neighborhood, and six new ones are being built. This is one of the most fertile valleys in the State. Apples are a heavy crop. Early buckwheat is good. There will not be much stock for sale, for many were sold last year.

Delaware County, N. Y. W. R.

Farmers are very short of hay in this section; they feed the oat and rye straw and corn stalks, so this gives them quite a little fodder. Farmers in this section seem too poor to be able to build silos; they have got into the dairy business, and in selling the milk to the creameries, seem to be getting worse off every year. They will try to sell off some of their stock. New milch cows are worth about $30, and cows coming in in the spring about $20. W. G. TAYLOR.

Sullivan County, N. Y.

The hay crop was light; some cut more than last year, and some less. On the whole, I think that there is as much as last year. There is a very large acreage of fodder corn, and it is looking fine. I hear of some that will build silos. Farmers will, I think, try to winter most of their stock. There is more feed in this section than last year. J. R.

Delaware County, N. Y.

The hay crop was very light, but there is a greater amount of sowed corn than usual, which will take its place, and furnish plenty of food for the cattle next winter. It will not be necessary for farmers to sell off any of their stock, and I know of none who intends to do so. The rye crop was fair, oats very good, and there is a fine prospect for corn, provided we have rain. It is very dry here at present (August 22), and has been for several weeks. There is only one silo in the neighborhood; that has been built this summer. H. B.

Dutchess County, N. Y.

Our hay crop is fully two-thirds short, but a great quantity of millet, Hungarian grass and fodder corn has been planted. If this hot and dry weather continue, it will make pinching times, for there was not much old hay in these parts. I had over 40 tons left after wintering a dairy of 50 cows, and 5 horses. It helps me all right. I don't think that there will be any silos built here. Stock will be reduced. Feed is not high, but to buy hay and feed would not pay.

Orange County, N. Y. E. S.

The hay crop throughout the adjoining country, is very light; but, judging from observation in passing through, I would think that the farmers had, in a great measure, provided for the shortage by sowing a great deal of corn. Nearly every farm passed had one or more fields of corn. I have no knowledge of any farmer building a silo, or thinking of one, throughout this locality; they are still feeding their corn stalks by carrying a shock out in the barnyard, letting the cattle pick out what they want to eat, and trample the rest into the manure pile.

Ulster County, N. Y. E. G. B.

I have heard of no new silos being built; there are a number here and all speak well of them. The hay crop is short, not so good as last year, but farmers have planted fodder corn, millet, etc., to help through the winter. I do not know of any one who intends to sell off stock. Corn, oats, wheat and rye are all good crops. Potatoes are plenty, but not so good as last year; they are troubled with blight and there are a great many small ones. G. C.

Sullivan County, N. Y.

The early potato crop in this county is the heaviest for several years, but late ones do not promise so well. Last year's crop was almost a failure on account of drought. I think that most of the early crop is being held for better prices. Two car-loads have been shipped from this station during the present month, having been hauled to the cars direct from the field to save handling as much as possible. E. M. W.

Jefferson County, Ind.

The potato crop will not be over two-thirds as large as last season, owing to the poor stand, due to their coming up badly, and they have not been as well tended as last season. On the whole, I do not think that there will be over two-thirds as many tubers in the hill as last season. If the farmers were in a condition so that they could hold the crop, most of them would do so; but a very large per cent of them will be compelled to sell this fall in order to meet their bills. Potatoes will, I think, be of excellent quality.

Ontario County, N. Y. O. H. WHITE.

The potato crop is something of a puzzle. From the data at hand, however, I consider the crop in this county to be considerably less than the crop of 1895. The acreage was slightly decreased, and conditions have not been as favorable, on the whole, as last year. Early varieties were a fair crop, but were not harvested before the extreme wet weather, and many were lost by rot. The same cause damaged the later crop to an even greater extent. Weeds, in some cases, got such a start that it was impossible to get them clean. I place the crop at 75 per cent of that of last year. Growers show a disposition to sell at once. They are worth, at this time, from 25 to 35 cents.

Ashland County, O. J. M. F.

The fruit crop this year will exceed anything ever known in this valley. Small fruits have been more than an average crop, plums a full crop, and apples are 10 per cent above anything we have ever known, and are of excellent quality. Gravensteins are especially fine. Crimson clover is a failure here; it seems to kill out from the freezing and thawing during March and April. Would northern-grown seed be likely to do any better? [We think so.—EDS.] A. S. B.

Kings County, N. S.

Personal inspection of quite a district in this section, reveals the fact that the apple crop is a total failure when brought into comparison with other years. Many of the commercial growers have told me that they would not be able to harvest enough for their own use. It is true that this section of the State is not classed as among the apple-growing districts, still the aggregate of the production of the orchards in an apple year, would average up with other sections save those where apple growing is made a specialty. We had some extremely cold weather last winter, at least, cold enough for the thermometers in our village to show records of 35 to 40 degrees below zero. I notice in a recent article by John Gould that he mentions the prospects of a magnificent crop of apples on the Western Reserve. If Mr. Gould was speaking of the section between Erie, Pa. and Cleveland, O., I can confirm his statement, and venture the assertion that nothing like it was ever before seen. Four weeks ago, the trees were breaking down under their loads of fruit, which was not more than two-thirds grown, and it did not seem possible for the trees to carry the fruit through to full size and maturity. It is, certainly, an apple year in northeastern Ohio. A. R. EASTMAN.

Oneida County, N. Y.

The strawberry crop of 1896 was a very poor one for fruit, but a good one for price. Owing to the dry summer and fall of 1895, and spring of 1896, plants made a poor growth. One cannot get fine and large fruit and plenty of it without moisture, though I have no reason for complaint; I had a fair crop of berries that brought me very good prices. Many growers here had not more than one-fourth of a crop. I grew mostly large berries that brought me from two to ten cents per quart more than small kinds. Meeks's Early, the earliest of all, is a shy bearer. Hoffman was the best of the very early kinds this season. Michel's Early was not so early as usual, and made a short crop. Dayton was good. Rio is another good, early kind. Eleanor had some fine berries that were firm and of good color. Tennessee Prolific is very productive and firm. Lady Thompson is too soft for long shipment. Brandywine is good, also Haverland, Sharpless and Greenville; the last named is a good cropper, berries large and soft. Gandy is the best very late. Of the older, well-tried kinds, I have found nothing better than Bubach, except Hall's Favorite; this was the best berry that I have fruited. J. M. H

Marion, Md.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 20	@	—
Medium, 1895, choice	1 00	@1	05
Pea, 1895, choice	1 00	@1	05
Medium or pea, common to good	90	@1	00
White Kidney, 1895, choice	1 20	@1	25
Red Kidney, 1895, choice	1 10	@1	15
Red Kidney, common to good	90	@1	10
Black Turtle soup, 1895	1 45	@1	50
Yellow Eye 1895, choice	1 15	@	—
Lima, Cal., 1895 (60 lbs)	1 55	@	—
Green peas, bbl., per bushel	70	@	72
Bags, per bushel	65	@	67
Scotch, bags	70	@	72

BUTTER—NEW.

Creamery, Western, extras	16½	@	—
Western, firsts	14½	@	15½
Western, seconds	12½	@	13½
Western, thirds	11½	@	12
State, fancy	16	@	16½
Common to prime	11½	@	15½
State dairy, half-firkin tubs, fancy	14	@	15
Firsts	13	@	14
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	13½
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	12	@	12½
Seconds	10	@	11
Western dairy, firsts	11	@	12
Seconds	9½	@	10
Thirds	8½	@	9
Factory, fancy	11	@	11¼
Factory, firsts	10	@	10½
Factory, seconds	9	@	9½
Factory, thirds	7½	@	8½
Old butter	6	@	9

CHEESE—NEW.

State full cream, large, colored, fancy	8	@	8½
Colored, good to choice	7½	@	7¾
Fair to good	6½	@	7½
Fancy white	8	@	—
White, choice	7¾	@	—
Small, colored, fancy	8⅛	@	8¼
Small, white, fancy	7¾	@	8
Small, good to choice	7¼	@	7¾
Small, common to fair	6	@	7
Light skims, choice	6½	@	6¾
Part skims, good to prime	4	@	5
Part skims, common to fair	2	@	3
Full skims	1	@	1½

EGGS.

Near-by, new laid, fancy, selected, per doz	□17	@	18
State, fresh gathered, average best	□16	@	—
Penn., country marks, average best	□16	@	—
State and Penn., fair to good	14½	@	15
Western, northerly sections, fancy	15	@	—
Western, fair to good	14	@	14½
Western, fair to good, per case	2 70	@3	30
Western dirties, per 30-doz case	1 80	@2	75
Western checks, per 30-doz case	1 50	@2	00

FRUITS—DRIED.

Apples, evaporated, 1895, fancy, per lb	5½	@	—
Choice, 1895, per lb	4¾	@	5
Prime, 1895, per lb	4	@	4½
Common to good, per lb	2	@	3½
N. C., sundried, 1895, sliced, fancy	—	@	—
Southern, sundried, common to choice	2	@	3
State, sundried, quarters, bbls	2½	@	3¼
Western, sundried, quarters, bbls	2½	@	3¼
South-West'n, sundried, quarters, bbls	2¼	@	3
Southern, sundried, quarters, bbls	2	@	2½
Southern, sundried, coarse cut bags	2	@	2¼
Chopped, 1895, per lb	—	@	—
Cores and skins, 1894, per lb	—	@	—
Peaches, Sundried, 1895, peeled, per lb	3	@	6
Cherries, 1895, per lb	8½	@	9
Cherries, 1896, per lb	9	@	9½
Blackberries, 1895, per lb	4	@	4½
Raspberries, evaporated, 1896, per lb	14	@	14½
Huckleberries, 1895, per lb	6½	@	7½
1896, per lb	7½	@	8
Plums Southern Damson, 1895, per lb	—	@	—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25	@1	50
Alexander, per bbl	1 25	@2	00
Gravenstein, per bbl	1 25	@1	75
Fall Pippin, per bbl	1 00	@1	37
Holland Pippin, per bbl	1 00	@1	25
Oldenburg, per bbl	1 25	@1	75
King, per bbl	1 25	@1	75
Detroit Red per bbl	1 25	@1	75
Nearby, open heads and common, per bbl	50	@1	00
Grapes, Up-River, Concord, per 25-lb carrier	59	@	70
Up-River, Champion, per 25-lb carrier	30	@	40
Up-River, Wyoming, per 25-lb carrier	60	@	75
Up-River, Moore's Early, per 25-lb car'r	50	@	70
Up-River, Worden, per 25-lb carrier	60	@	75
Up-River, Niagara, per 25-lb carrier	75	@1	00
Up-River, Delaware, per 25-lb carrier	75	@1	12
West'n N. Y., Concord, per large basket	15	@	16
West'n N. Y., Delaware, per small bkt	15	@	16
Huckleberries, per quart	4	@	6
Peaches, Md. and Del., fancy, large, per bkt	1 00	@1	25
Md. and Del., poor to fair, per crate	30	@	60
Fair to fancy, per carrier	1 50	@2	50
Common, per carrier	75	@1	25
Jersey, per basket	25	@	75
Muskmelons, Anne Arundel, per bbl	75	@1	00
Jersey, Jenny L. & Gem, per bbl	1 00	@3	50
Hackensack, per bbl	2 50	@3	00
Jersey, Hackensack seed, per bbl	75	@1	50
Jersey, Christina, per bbl	1 00	@2	50
Plums, Green per 10-lb basket	20	@	40
Ordinary Blue, per basket	30	@	50
Pears, Bartlett, per bbl	2 50	@4	00
Bartlett, per keg	1 50	@2	00
Duchess, per bbl	2 25	@2	75
Anjou, per bbl	2 50	@3	00
Seckel, per bbl	3 00	@4	50
Seckel, per keg	1 50	@2	00
Flemish Beauty, per bbl	2 00	@2	25
Flemish Beauty, per keg	1 00	@1	25
Swan's Orange, per bbl	2 25	@2	75
Nearby cooking, per bbl	1 75	@2	25
Watermelons, choice, large, per 100	16 00	@20	00
Small to medium, per 100	5 00	@15	00
Per car-load	75 00	@125	00

GAME.

Woodcock, average, per pair	75	@1	00
Partridges, fair to prime, per pair	75	@1	25
Grouse choice, per pair	75	@1	00
English snipe, choice, per doz	1 75	@2	00
Plover, golden, choice, per doz	1 75	@2	00
Grass, average, per doz	1 00	@1	50
Reedbirds, per doz	20	@	25
Blackbirds, per doz	15	@	20
Rabbits, per pair	25	@	40

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75	@	85
No. 2	65	@	70
Prime, old	90	@	—
No. 1	82½	@	87½
No. 2	75	@	80
No. 3	65	@	70
Shipping	60	@	65
Clover, mixed	65	@	70
Clover	55	@	65
Salt	45	@	50
Straw, No. 1, long rye	75	@	80
No. 2	65	@	70
Short rye	50	@	60
Tangled rye	45	@	55
Oat	30	@	35
Wheat	30	@	35

HONEY.

State, white clover, comb, fancy, per lb	12½	@	13
Buckwheat, comb, per lb	8	@	9
White clover, extracted, per lb	5	@	5½
Buckwheat, extracted, per lb	4	@	—
California, comb, fair to prime, per lb	—	@	—
Extracted, per lb	5½	@	6
Southern, in bulk, per gallon	45	@	50

MEATS—DRESSED.

Veals, country dressed, prime, per lb	10	@	10½
Fair to good, per lb	9	@	9½
Com. to med., per lb	7	@	8½
Small, per lb	4½	@	6
Buttermilks	5½	@	6½
Grassers	4½	@	5½
Pork, country dressed, light, per lb	6	@	6½
Medium, per lb	5	@	5½

NUTS.

Peanuts, Va., h. p., fancy, per lb	4	@	4¼
H. p., extra, per lb	3	@	3½
Shelled, No. 1, per lb	4½	@	4¾
No. 2, per lb	—	@	—
Spanish, shelled, No. 1, per lb	6½	@	6¾
No. 2, per lb	—	@	—
Pecans, ungraded, per lb	4	@	4½

POTATOES.

Long Island, in bulk, per bbl	75	@1	00
Jersey, per sack	90	@	95
Jersey, per bbl	75	@	90
Sweets, yellow, per bbl	1 25	@1	50
Jersey, yellow, per d. h. bbl	2 00	@	—
Red, per bbl	75	@1	25

POULTRY—LIVE.

Spring chickens, per lb	9	@	9½
Fowls, local, per lb	9	@	9½
Western, per lb	9	@	9½
Southwestern, per lb	9	@	—
Southern, per lb	9	@	—
Roosters, old, per lb	5½	@	—
Turkeys, mixed, per lb	10	@	11
Ducks, local, per pair	70	@	90
Western, per pair	60	@	75
Southern, per pair	40	@	50
Geese, local, per pair	1 25	@1	50
Western, per pair	1 12	@1	37
Southern, per pair	75	@1	00
Pigeons, old, per pair	25	@	—
Young, per pair	15	@	20

DRESSED POULTRY.

Turkeys, average, hens, per lb	12	@	13
Average toms, per lb	11	@	12
Chickens, Phil., selected, per lb	15	@	16
Phila., ordinary, per lb	11	@	14
L. I., scalded, per lb	10	@	12
Pennsylvania, per lb	11	@	14
Western, dry-picked, per lb	9	@	11
Western, scalded, per lb	9	@	11
Western, small, per lb	9	@	10
Fowls, Western, dry-picked, choice	10½	@	11
Dry-picked, fair to good, per lb	9	@	10
Scalded, choice, per lb	10	@	10½
Old cocks, per lb	6	@	6½
Spring ducks, Eastern, per lb	12	@	13
Spring ducks, L. I., per lb	12½	@	13½
Spring ducks, Penn. and Va., per lb	9	@	12
Spring ducks, Western, per lb	7	@	10
Old ducks, Western, per lb	6	@	8
Spring geese, Eastern, per lb	14	@	16
Squabs, tame, white, per doz	1 75	@	—
Mixed lots, per doz	1 25	@1	50
Dark and poor, per doz	1 00	@1	25

VEGETABLES.

Beets, per 100 bunches	75	@	—
Cabbage, L. I., per 100	2 00	@3	50
Carrots, per 100 bunches	1 00	@	—
Cauliflower, L. I. and Jersey, per bbl	1 00	@4	00
Celery, fancy, large, per doz	35	@	40
Average, prime, per doz	20	@	25
Small, per doz	6	@	15
Cucumbers, Long Island, per 100	60	@	75
Pickles, L. I., per 1,000	1 50	@3	00
Pickles, Jersey and State, per 1,000	1 25	@2	25
Egg plant, Jersey, per bbl	60	@	75
Green corn, large, per 100	75	@1	00
Small to medium, per 100	50	@	75
Lettuce, Boston, per doz	25	@	50
Lima beans, Hackensack potato, per bag	1 00	@1	25
Jersey flat, per bag	75	@	—
Onions, State yellow, per bbl	1 37	@1	62
Eastern white, per bbl	2 00	@2	50
Eastern red, per bbl	1 50	@2	00
Eastern yellow, per bbl	1 50	@1	75
Orange County white, per bag	1 25	@2	00
Orange County yellow, per bag	75	@1	50
Orange County, red, per bbl	75	@1	75
Jersey and Long Island yellow, per bbl	1 25	@1	50
Jersey and Long Island red, per bbl	1 25	@1	75
Jersey and Long Island white, per bbl	1 50	@2	50
Western yellow, per bbl	1 37	@1	50
Pumpkins, per bbl	50	@	60
Red peppers, per bbl	75	@1	25
Green peppers, Jersey, per bbl	50	@	75
Spinach, per bbl	—	@	—
Squash, marrow, per bbl	60	@	75
Jersey white, per bbl	1 50	@	—
String beans, Jersey, per basket	—	@	—
Long Island, per bag	2 00	@2	25
Tomatoes, Jersey, fancy, per crate	25	@	35
Common, per crate	10	@	20
Turnips, Jersey and L. I. Russia, per bbl	75	@	85
Canada, per bbl	1 00	@	—

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DIARY OF A DAIRY FARM.

GETTING INTO THE MILK BUSINESS.

(Concluded.)

The last week in August, I purchased eight springers, grade Short-horns, Holsteins and Jerseys. One cow had a calf by her side, another dropped a calf by September 1, and all were due to be fresh either in September or October. With the new cows, another problem presented itself—that of providing succulent fodder to maintain the flow of milk, the drought not having yet been broken. Water, also, was scarce, and not at all handy. For fodder, however, we began cutting field corn, reinforcing it with a heaping, four-quart measure of the shipstuff and hominy, two parts ships to one of hominy—once a day. Four of the new cows came fresh in September, while two more of the old herd went dry, making eight cows in milk. The milk check for this month amounted to $52.52, with milk at 2½ cents per quart. By October, the pastures had greened up a little, under a meager rainfall, and with the addition of three more fresh cows, the milk receipts reached $86 93, the price remaining the same as for September. During this month, two cows from the old herd—one a registered Jersey, the other a grade—came into milk, and were sold for $55—very much less than the Jersey alone had cost; but it seemed a necessary measure, as they were not profitable as milk producers.

In November, we repaired our stables, putting in windows and stanchions, and battened all cracks, making them light and warm. We now began to feed four quarts of grain night and morning, with dry corn stalks, the pasture having utterly failed. Our grain feed consisted of corn and cob with oats, ground together and mixed with equal parts of shipstuff and hominy. We procured a cutter, also, and cut the stalks, having purchased of a neighbor his crop of corn stalks at 2½ cents a bundle. In November, two more of the old herd dropped calves, and as prices for cows were very low in the New York market, we determined to keep them, thinking that we could profitably do so, a conception that was afterwards disproved by the scales. In this month, our milk check amounted to $91.28, milk 2¾ cents, from 12 cows; all of the new cows were now in milk, two fresh from the old herd, and still other two milked since April and June. There were two more, also, from the old herd now dry.

In December, a new problem presented itself; that of securing an abundant supply of pure, sweet water, so situated that the cows could get to it without trouble, and drink without let or hindrance. For years, the stock had been watered from a brook which flowed at the foot of a steep hill in the barnyard, or from a spring about 300 rods distant; but the cold dip in December froze the edges of the brook so that the cows were afraid to approach it, and stopped the flow from the spring. Even when the cattle attempted to reach the brook, the master spirit stood guard and effectually prevented the younger ones from drinking, two or three valuable heifers being badly hooked. Of course, this condition of affairs seriously affected the milk yield, causing a shrinkage of more than $5 during the first two weeks. Clearly, something must be done or our hopes would be doomed to disappointment.

The first move was to send for a man and have the whole herd dishorned. The operation was neither long nor painful, neither did it affect the milk yield to any appreciable extent. The work was done with a pair of clippers, very little blood flowed—more in the case of the younger than the older cows—and all began to eat immediately afterward. The wounds also healed quickly, and the hooking business suddenly ceased. The water question, however, was not so easily disposed of. At length, it was determined to throw a dam, not over two feet in height, across a springy place by the side of the brook, where a small, but clear stream trickled down to join the larger current, put in a hydraulic ram, and force the water to the barn, a distance of 400 feet, and over a rise of 20 feet. For this purpose, a ram was purchased, 400 feet of one-half-inch and 20 feet of one-inch lead pipe were secured; the ditch was dug three feet in depth its entire length, the pipe laid, the ram put in place, and the solution was at hand. An abundance of soft, pure water is forced into a trough under a shed in the barnyard, where the cows come to drink with no flashing horns to deny them entrance to this Eden. Did it pay to go to the trouble and expense? Ask the milk yield for the next two weeks, which amounted to more than $8 more than the previous half month, making the total receipts for December, $90.22.

In January, our corn-and-cob meal began to fail, the crop having been a light one, and hearing Chicago gluten highly spoken of, I purchased one-half ton to give it a trial. We now fed about eight quarts of the grain feed with the addition—as soon as it could safely be done—of two quarts of the gluten meal, divided into two feeds. The last two cows of the old herd came into milk about January 1, and during this month, we milked 14. The increase in milk—probably owing to the fresh cows and the gluten feed—was very perceptible, the milk check amounting to $53.59 for the first two weeks of the month. The middle of January, our corn being now gone, I determined to sell 200 bushels of oats, and buy shipstuff and hominy to feed in connection with Chicago gluten meal. At this time, also, I became anxious to know which cows were "paying their keep," and which were kept at a loss. Accordingly, a pair of scales were purchased, and set up in the stables where feed and milk could be weighed and a record kept. We began, also, to feed from six to seven pounds of the mixed feed, with one quart, night and morning, of the gluten (the two quarts weighing five pounds) to each cow. Don't know whether this is a balanced ration or not, but intend to find out.

The revelation of the scales was not altogether a surprise, but it was satisfactory in confirming suspicions, and in giving exact knowledge concerning individual cows. Seven of the cows bought in August were found to be fairly profitable, giving all the way from 11 to 15 quarts daily, the third day of the test; two from the old herd that dropped their calves in January did better (I could give exact figures in each case, but this article is already too long), the two from the old herd which had been in milk since April and June. One was a registered Jersey, the other the two-year-old heifer; they gave 10 and 9 quarts respectively, while the three remaining, one of which I thought was a bargain, gave seven to eight quarts daily, hardly paying for fodder and grain.

The milk check for the last two weeks in January, under the changed ration of shipstuff and hominy, with gluten, amounted to $67.70, by far the best returns of the winter, and not so bad considering that most of the cows had been five months in milk, while two had been milked nearly 10 months.

F. J. BELCHER.

TEXAS FEVER; A REPLY.

Some months ago, there appeared in THE R. N.-Y. some statements in regard to Northern cattle brought South, and the danger of their taking Texas fever or acclimation fever. The article was written in reply to a question by a subscriber. I have, unfortunately, mislaid the number in which the article appeared, so that I cannot quote directly from it The writer said, in substance however, that Northern cattle brought South were no more likely to die of acclimation fever than natives, unless they were allowed to run in the woods and swamps where they would get covered with cattle ticks. The inference was that a few cattle ticks on Northern animals should cause no anxiety to the owner of the cattle.

I have just had some experience so utterly contradictory to this statement, that I think that this article should not go unchallenged. In November, 1895, I had a bull calf sent here from Massachusetts. He grew and flourished admirably, showing every indication of a strong constitution. As soon as the cattle ticks appeared in the spring, every precaution was taken to keep him free from them. Up to about July 25, he had never had more than three or four ticks on him. At about that date, I found about a half dozen ticks, which I at once removed. On the morning of August 4, I noticed that he seemed languid and weak in his hind legs. I suspected Texas fever, and drenched him with salts. By night, his temperature was at 106 degrees F., and his pulse was 96. He was given large doses of quinine that day and the next. On August 6, his temperature dropped to 102 degrees F., at 5 A. M. and at 9 A. M. he died. A post-mortem examination showed every indication of Texas fever.

The writer of the article referred to would, no doubt, do others besides myself a service by backing up his statements with some specific examples of northern cattle surviving the attacks of small numbers of cattle ticks.

Alabama. F. G. HENDERSON.

I cannot recall a single statement that would justify Mr. Henderson in the inference "that a few cattle ticks on northern animals should cause no anxiety to the owner of the cattle." I do not assert it as a fact, but, as far as I know. I was the first to assert and demonstrate, in the columns of THE R. N.-Y., that ticks are the "cause" of Texas fever. The Government officials had, thus far, considered them simply as the "means." Later, however, the Kansas Experiment Station proved them to be the cause, as a Jersey heifer, on which a "few" were placed, was soon taken with the fever and died from its effects. To this. I subsequently called attention in THE R. N.-Y. for the sake of convincing the doubting Thomases. On page 327, in 1893, I warned a man against the wholesale introduction of Simmenthal cattle into the South on account of the ticks, and in support, quoted from the Special Report on Diseases of Cattle and Cattle Feeding, page 429, as follows:

> Adult animals, particularly milch cows or fat cattle, nearly all die. Calves are much more likely to survive.

Calves stand a better chance, but this is far from saying that their importation into the South" should cause no anxiety."

In July and August, 1893, I gave a pretty full account of the disease and circumstances connected therewith, and on page 538, called particular attention to the fact that cattle from the North, or non-tick-infested regions, seemed to be the choice of the ticks, and then showed why the natives stood a better show by being gradually inoculated from calfhood up. But neither I nor any one else would pretend to assert that the "natives" enjoy perfect immunity.

The editors of THE R. N.-Y. may remember the hubbub this article created.

(Continued on next page).

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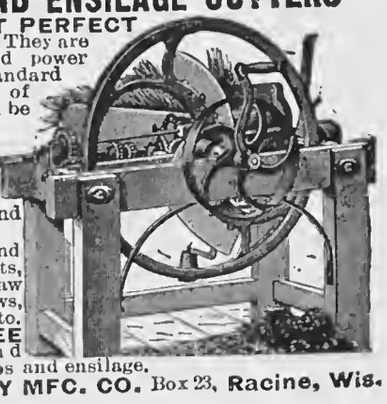

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LIVE STOCK MATTERS.

(CONTINUED.)

Many did not believe that any amount of ticks could cause the trouble. The number required to cause the animal "to die or not to die" is still the question. Mr. Henderson may have kept careful, even microscopic, watch over that calf, but without his assertion to that effect, I must assume that he is mistaken in the number of ticks that worried it. It is the young tick that mostly plays the mischief, but while in its infantile stage, it is a mere speck, barely visible to the naked eye and no more. Sometimes I mistake a speck of dust for one, and then again, vice versa. Imagine the task of the man who must examine every speck on each hair of a calf before he can assert the actual number of these parasites present! Possibly Mr. Henderson does not recognize, in the baby tick, the ugly thing that evolves in the course of time. I reiterate what I have said in one or two articles before. Cathartics are good, but insufficient. Manual removal of the fecal matter is an essential adjunct. J. C. SENGER.

SCRUB OR THOROUGHBRED.

WHICH IS MORE EXPENSIVE?

The statement, "It costs no more to raise a well-bred animal than it does to raise a scrub," is true in my experience. In fact, as my experience teaches with thoroughbred poultry, it costs less to raise and put on the market, than it does the ordinary scrub, from the fact, that in thoroughbreds, there is a much more uniform growth, and they attain a marketable size quicker. The quicker the growth, the more profitable, as it takes a certain quantity of food to maintain life, and the shorter the life of an animal to a marketable size, or to maturity, the less the cost of food simply to maintain life. Right here is where a great many make a mistake in thinking that they are saving by stinting the amount of food for growing animals, when really they are using more feed than it actually requires to get the growth or weight, simply because they are sustaining life so much longer than is necessary. J. E. STEVENSON.

New Jersey.

"Thoroughbred" Means Care.

Several years ago, when we commenced raising purebred Poland-China swine for breeding purposes, we had occasion to put two of them in a pen with some scrubs to fatten; there were six in the pen, all of about the same age and size, and all had the same feed and care. About two weeks after, we noticed that the two purebreds were gaining in size and flesh faster than the rest, and from then until they were killed, the well-bred animals made a steady gain on the others. This proved, to our satisfaction, that we could make more and cheaper pork with purebreds than with scrubs.

The first cost of a well-bred animal is more than a scrub, but once started, the difference is in favor of the former, just the same as with farm machinery, a first-class engine will cost more on the start than a cheap concern, but the former will more than make up the difference in durability and consumption of fuel.

People under various conditions, and using improper food, will, of course, have different results; for example, a party saw our exhibit at the State Fair, fall of 1895, and in November, he came to our farm and selected two sows and a boar of the spring farrow. Last spring, we received a letter from him saying that the boar was stiffened. Soon after, he visited our farm again, selected another breeding sow, and inquired her breeding. When told that she was from the same pen as the ones he selected in the fall, he was astonished, and could not believe her to be of the same age, until shown a peculiar mark in her ear that he had seen when here before. After looking her over carefully, he said that his sows were only about half as large as this one. This showed plainly the result of improper food. No matter how good the stock may be, if the right kind of food is not given at the proper age in a pig's life, the best results cannot be obtained. Well-bred stock and intelligent feeding must go together.

New York. F. H. GATES & SONS.

Improvement in Feeders.

A farmer and breeder of blooded stock said that he once had a neighbor whose hog pen was near his own, and contained one big sow. Every time this neighbor went out to feed her, she would rear up on the fence, poke her nose over and squeal, while the farmer's hogs were quiet. It was not a matter of feed, as he fed her well. He asked the farmer why she was always noisy and crazy for food, yet never fat. The farmer, finally, got him to sell her, and buy two well-bred hogs. Then, to his surprise, he had to use his cane to poke the fat, lazy things to get them up to eat. He finally said that he had thought that breeding all depended on the crib, but he had learned a lesson which he had never received before.

My father once owned a mare that was always fat. If she was not fed carefully and regularly, she would remain fat. A fleshy person is seldom a great eater. The question of advantage of breed seems to be one of assimilation.

Prof. Henry says that "Darwin states that the nature of the food supplied during many generations has, apparently, affected the length of the intestines. In the wild boar, their length, to that of the body, is as 9 to 1; in the common boar, as 13.5 to 1. At the station, the average ratio for 39 hogs is as 21.5 to 1. This wonderfully increased length of the intestines, may, very properly, be supposed to show that the power of the digestive apparatus of the modern hog has been greatly increased."

One of my neighbors had his clover seed hulled by a scrub machine, and afterwards an improved machine re-hulled the chaff and got more seed than the first man got from the crop. The improved animal is a better machine, and extracts more nearly all of the nutriment of the food. As to the comparative cost, at the same age, of a scrub or high-bred animal, I think it is in favor of the good blood, especially if raised under modern improvements; if left to root or die, the scrub is the better forager.

If the question were asked, Which cost more, 100 pounds of pork in a scrub, or in a high-bred hog? it would be easily answered; but as to the comparative cost of the animals at the same mature age, one can estimate that the improved hog will weigh about twice as much, and will have cost about the same as the scrub. E. H. COLLINS.

Indiana.

FOWL TIPS.

We have fed milk to grown fowls, and also to young chicks, and always with excellent results. For chicks one to four weeks old, we prefer to feed it in the form of curd. To all others, either sweet or sour, though it seems to be better food and to promote laying best when fed sweet. For laying hens in winter, we think it quite as good as cut bone, or meat scraps. To keep it from freezing, the method employed by a friend is the best I have seen. He knocked the bottom out of an old peck measure, cut three V-shaped notches in the lower edge, bought a pan that fitted down in the top about an inch, and under this set a little night lamp. The outfit is placed in one corner of the poultryhouse, where it is held fast by a strip of board tacked across in front of it. The lamp burns about a dessert-spoonful of oil a day, and is used only in freezing weather.

We are receiving seven cents per dozen for best fresh eggs. This has been the market price for about two months, and many a housewife is feeling rather blue in consequence, while the farmer looks savage when a hen enters the corn crib. It is a good time to get the poultry flock down to a plain business basis by disposing of all males, both old and young, that are marketable, and every hen that is not needed. It is easy to calculate how many fowls will be needed for the table, and pullets are better for this purpose than cockerels. Keep pullets for the table instead of cockerels. Get rid of all hens over one year old, and unproductive stock of all kinds, and thus cut down the feed bill to the lowest notch. I have found it good policy to keep no stock of any kind that is not increasing in value, or producing something of value. FRED GRUNDY.

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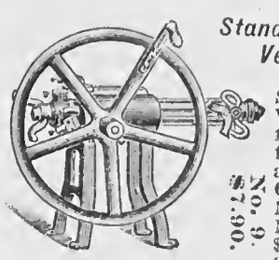

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"You are a farmer, I take it?" queried the sharp-nosed man as he sat down beside the man with the trousers tucked into his boots. "Waal, yaas, I farm," was the reply. "Then I want to talk to you. I've got a patent hay fork which I am going to travel with this summer, and I should like to get a few pointers from you to start on." "P'inters, eh? Waal, what sort?" "How shall I approach the average farmer?" "Waal, you'll ginerally find him in the field." "Yes." "Just tell him what you've got." "Yes." "He'll ask you to the barn to talk." "I see." "But don't you go. Instead of that, make a bee-line fur your buggy, climb in, and scoot as fast as you can go fur the next six miles." "But, why?" "Oh, nuthin' much. I only killed six myself last week; but you know it rained purty steady for two days, and travel was light."—*Harper's Magazine.*

She took a fearful header, still
It did not seem to shock 'er,
Nor scratch her face nor scar her wheel,
Nor even knickerbocker.
—*Chicago Inter-Ocean.*

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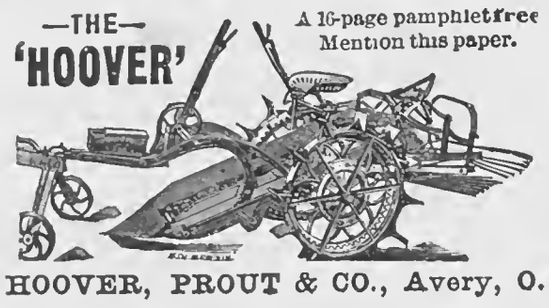
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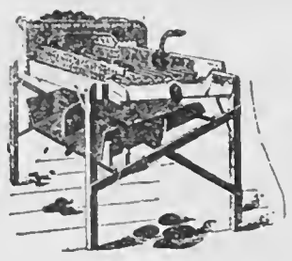
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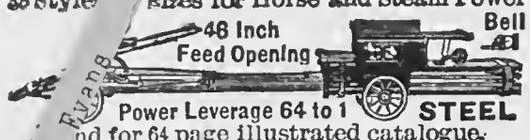
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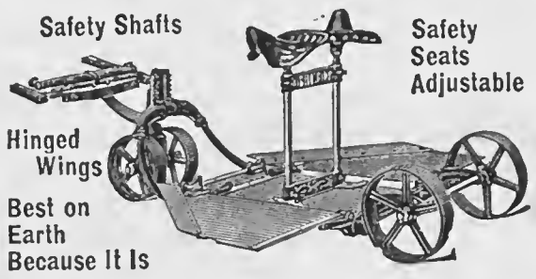
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG CO. N.Y.

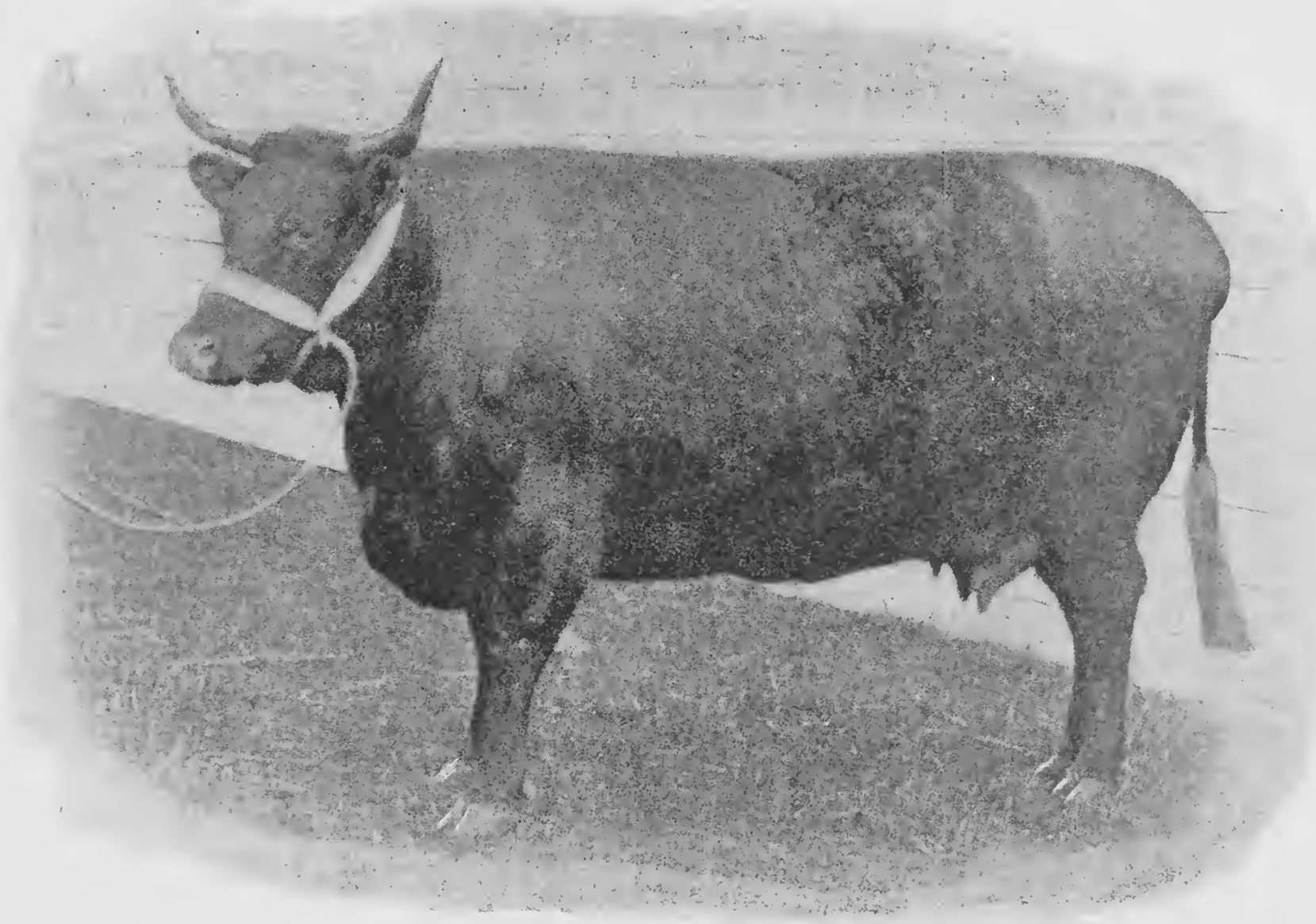
VOL. LV. No. 2434. NEW YORK, SEPTEMBER 19, 1896. $1.00 PER YEAR.

"THE BEST DAIRY COW."

WHERE DOES SHE COME FROM?

How Can We Pick Her Out?

"The best dairy cow" is the cow which will produce the greatest quantity of butter fat from a given quantity of food. Broadly taken, this is all; but strictly speaking, the amount of food she will consume, hence the time taken for performing a given work, must enter into the question. The difficulty comes in deciding what cow most nearly conforms to this definition. It is certain that an approach to this ideal cow can be found in every breed, and among the "natives", although the old style "native" has almost disappeared during the last 10 years, on account of so much pure blood being scattered through the country; it is now rarely that one meets an animal which cannot plainly be seen to show a predominance of some distinct breed. Here in this cow-keeping section of New York State, at least, the real nondescript "scrub" cow is passing away, just as is the North American Indian; and it would be well if some one will preserve for us by photographs and descriptions, some knowledge of what, perhaps, centuries later, we shall refer to as the "primitive cow." I have in mind now, an old white cow with brown ears, which, certainly, looks innocent of any improved blood. The interesting fact about this cow is that white with brown ears is the most usual color of the wild cow of Europe, from which all our American cattle have sprung. Is it possible that we have here an example of reversion to the original type of 1,000 years ago? It would not be more remarkable than the manner in which the "Galloway alloy" in certain strains of Short-horns, after so many years, still crops out occasionally in a calf with a black muzzle, instead of the regulation flesh-colored one.



A TYPICAL ENGLISH DEVON COW. A FIRST PRIZE WINNER. FIG. 193.

Much of our so-called "native stock" really traces back to the early Short-horn importations of 100 years ago, and among the mongrel descendants of these same Short-horns, which at that time, were not yet bred away from the milking type, we find, now and then, a big, rough-boned, red or spotted cow which is the wonder and the pride of the farmer who is fortunate enough to own her. Undoubtedly, the black and white cow of Holland came to the Hudson River Valley before the palmy days of the Dutch governors, and we can never calculate the influence that they may have had upon the dairy cow of this State. Then, in the days when transportation was more limited than now, local strains were developed, and among old Dutch farmers only a few years ago and perhaps yet, were what might fairly be called "one man breeds". Let us remember, then, that "thoroughbred" is only a relative term—that a breed is not originated by some mysterious interposition of Providence; but that, whenever, either by circumstances or design, any animals are coupled with uncertain lines of blood until they reproduce themselves as to color, form, or any general characteristic, with tolerable uniformity, just to the extent to which this is true, they become "thoroughbred."

The Short-horn is the oldest exactly preserved herd record; yet a little more than 100 years ago, their pedigrees begin in John Brown's bull, and Hubback and Favorite, and a few other animals of Darlington. It was the circumstance of being situated upon an island in the sea, which, for hundreds of years, has kept the Channel Island breeds free from intermixture of foreign blood, and made a race of great distinctness and prepotency. Design has, in the lifetime of one man, produced the American Holderness, which, however, have not been bred long enough to acquire great uniformity or prepotency. We have developed and pretty firmly fixed the characteristics of several American breeds of hogs in 30 years, and poultry fanciers produce a so-called breed in hardly more than half a dozen generations. How does this enable us to answer the inquiry as to the ideal cow after which we are striving? Simply this, that we should see for what purposes and under what conditions the various breeds have been developed, and then find how our own requirements and conditions agree with those.

In all breeding, there are three chief factors—selection, heredity and environment. Selection means the choosing of animals, approaching, as nearly as may be, to the type we wish to produce. Heredity is the tendency which all organic things have to resemble ancestors. Broadly considered, it includes reversion or striking back to remote ancestors, atavism or going back to more recent ancestors, and prepotency or the ability to transmit any characteristics to offspring. This last is especially the power of some individual and is, probably, greatly strengthened by inbreeding and by long breeding within certain lines. The great foundation Short-horn bull, Favorite, is said to have possessed this power to a remarkable degree.

Men have long recognized the influence of selection and heredity; but it is more especially since Darwin pointed out the power which animals and plants have of adapting themselves to the conditions which surround them, that we have come to realize the part that environment plays. Environment says that a calf is not made when it is born, but that its future career depends very much upon the treatment it receives for the first two years of its life, and that, perhaps, in fully as great measure, the environment of a calf or cow determines the capabilities which will be born into its offspring. Environment means surroundings, kind and quantity of food, climate, and in fact, the daily life of that cow. After all, in Nature's breeding, environment has done almost everything. The primitive horse went down into the low, marshy country of the lower Rhine, and because he never lacked for food, because in this respect, at least, there was no "struggle for existence", after many centuries, he became the immense, big-footed, open-boned Flanders horse. The primitive horse went down into Western Asia, where the climate was dry, where food was not too plentiful, and where everything demanded a different type of animal, and, lo! the little, lithe, small-hoofed, running, hot-blooded Arabian horse was the result of another environment.

The Holland cow, since the time of Ceasar's conquest, at least, has dwelt in the Friesland marshes, in the most luxuriant pastures of the world. She has been developed where water was always close at hand, where to get her food, she need hardly move a rod, where when she took a bite of grass, she got a whole mouthful, and so she fitted herself to her environment. Food was abundant, so she grew big, with a great stomach to work over the lush, watery grass; she grew light of bone because she had no hills to

climb and she never was a "rustler". So she is to this day, a big, ease-loving, sleepy cow, capable, under right conditions, of wonderful results. In a scanty pasture, she lies down in despair, while the Devon roams the hills and grubs among the rocks, just as her ancestors have done for so many generations in English Devonshire. So the Holstein has no place climbing the mountain sides of that great dairy county of Delaware, and the Delaware County people have found it out, and there the more agile, rustling Jersey has possessed the field. Yet I am not certain but, for the prairie farmer in the corn belt—where he can, to some extent, give Zuyder Zee conditions—the Holstein cow may approach nearest to our definition.

It is hard for any one entirely to avoid partisanship in breeds. Perhaps it is best for a man to choose the breed which he fancies, but it is folly to expect success with any breed unless we are able to give it, to some extent, the same conditions under which it has been developed. So we are to seek after the cow which will give us the greatest amount of butter for a given amount of food. Perhaps, for most of us, at present, we shall retain any cow that, with good care, will give 300 pounds of butter per year. We find many of these among the so-called "native stock" of our own township, and we find some among all the breeds. We do not wish, however, to go into the beef breeds. This is a day of specialization in every line, and there is something incompatible between a thick loin and thigh, together with the ability to lay on fat freely at an early age, and the capability of milking largely and persistently. To combine them is as fallacious as to try to combine the American trotter and the Clydesdale. The dairy cow is a wonderful production in her way, and her breeding and care and the manufacture of her product, represent one of the highest phases of agriculture.

JARED VAN WAGENEN JR.

A GREAT ORCHARD OF KEIFFER PEARS.

WHY AND HOW IT WAS STARTED.

Two years ago last spring, upon realizing that we owned some exceptionally good fruit lands, and seeing the fruit interests developing all around us, I decided to plant a commercial orchard. Just what kind of fruit to select, I hardly knew; but finally concluded to follow my life-long penchant for pears. Of all varieties, the Keiffer was preferred, and I planted it exclusively. The planting of 85 acres in a solid block of Keiffers was looked upon by older fruit growers as a very risky enterprise. The selection has been very severely criticised by many, and heartily commended by a few. The criticisms have been that the Keiffer was not good to eat; in fact, was not fit for anything but to look at and sell; that we should have a variety—a succession of pears from earliest to latest—that with such an orchard I would glut the market; that there should have been, at least, one tree in ten of some other variety as a fertilizer, and many other objections of like nature.

To the first criticism, I answer that the Keiffer, when properly handled, and in its season, is a most desirable pear to eat out of hand, is unexcelled as a canner, and it is to sell that we are growing it, and so long as it will sell, I am all right. In regard to planting a variety, it is not my intention to go into the retail fruit trade, hence a succession of fruit is just what I do *not* want. My aim is to sell the entire crop in a lump, or pack and ship, and by having a quantity to dispose of all at one time, I hope to reach markets and get prices that smaller orchardists cannot reach or supply. As to glutting the market, I have no fear that fine, well-grown, perfectly-handled Keiffers will ever beg for buyers. When the subject of cross-fertilization is brought up, I can only say that, if it does become necessary, I shall top-work with the most desirable cross-fertilizer. In fact, when I planted the orchard, I aimed to replant with some other variety, not dreaming that all the first planting would grow. In March, 1895, I planted 11,360 trees and the following fall 11,357 were alive, only three having died.

In September, 1894, I visited the nursery from which I had decided to buy trees, and saw that the stock was strong, vigorous and first-class in every respect. The order was placed, and the trees were to be two-year-old whips, ranging in height from four to six feet, dug in the fall, carefully root-pruned and wintered in a frost-proof storage house, to be delivered in spring on order. Our orchard site is located on ridge land; the soil is a clay loam, underlaid with cavernous limestone which gives it almost perfect drainage. The original forest was very dense, consisting of walnut, hickory, oak and sugar tree growth. It was nearly all new land, being two and three years from the stump. This land was all fall plowed, and put in good condition. The holes were mostly dug in the fall, 18 inches square and deep. They were marked off 16 feet north and south and 20 feet east and west, by means of wire cables properly spaced. This gave us straight rows with much less labor than by the old plan of sighting and staking off the ground.

The trees are carefully packed in moss, shipped about the middle of March, and immediately upon their arrival, were nicely heeled in at different and convenient points in the orchard. When the ground was in good condition to work, the planting was pushed. A few trees were taken up at a time and packed in wet straw in a spring wagon, which followed right along with the planters, who were handed the trees as wanted; the roots were thus kept moist all the while. Even the small, white rootlets that had started while the trees were in storage during winter, were kept alive and fresh. In planting, the holes were half filled with surface soil, carefully tamped with the feet. The rest of the soil was thrown in loose, and a slight depression was left around the trees, to act as a sort of basin to catch the rain. The trees were all cut back to two feet, and the land was cultivated with corn. Twice during the summer, the trees were hand hoed, suckers kept pruned off, and they made a strong, luxuriant growth, some of the limbs being four feet in length. My remarkable success in getting a perfect stand, I think, was due to having good trees and then handling them so that the roots were kept moist all the while.

W. W. STEVENS.

Washington County, Ind.

THE McPIKE GRAPE. IMPERFECT CLUSTER. FIG. 194.

(SEE RURALISMS, PAGE 627.)

CAULIFLOWERS IN THE STRAWBERRY BED

For several years, I have been experimenting in growing different kinds of vegetables between the rows of strawberry plants, the first year after setting. I set all strawberry plants in the spring, and when I first began to grow them, got no returns for the use of the land the first year. My land is in the village, worth $500 per acre, and too valuable, I thought, to lose the use of, besides getting no compensation for my labor the first year. My first experiments were with early peas and potatoes; these were planted between the rows of strawberry plants early in the spring. I found them quite profitable, but they prevented all cultivation with a horse, until late in the summer, and they required too much room. I next tried cabbages, and succeeded in growing good crops of Early Winnigstadt cabbage, both early and late, with but little injury to the strawberry plants. I prefer to grow late cabbage, for I can cultivate the strawberries until about July 1, and then transplant them.

Last year, I set a few cauliflower plants between the rows of strawberries, and found that they required less room than the cabbages, and were much more profitable. This year, I have cauliflowers set in nearly my whole bed of new strawberry plants of about one acre. They are growing finely, and promise to head well. I have been doing some figuring on them, and find that they pay the whole cost of growing my strawberry plants, including fertilizers and labor, if I choose to hire the work done, and still leave a considerable surplus. Some people tell me that I am taking too much plant food from the soil, therefore injuring my strawberry plants and lessening the crop next year. This I will admit, with ordinary culture; but by making the land very rich, and using plenty of water, I can see but little difference in the yield of strawberries where the cabbages or cauliflowers have been grown. About 90 per cent of most vegetables is water; if by supplying extra water, I get a larger growth, I can afford to feed the plants more nitrogen, potash, etc.

When the cauliflowers are taken up, I clean the strawberry plants from weeds and early in the winter, give them a liberal dressing of manure for a mulch and to supply the food they may need. The wet weather we usually have here late in the fall, causes the roots to make a good growth, and I have not failed to have the plants winter well and produce large crops of fine berries. Cauliflowers require about the same treatment as cabbages, but to grow large and marketable they must have a rich soil, and plenty of moisture. I try to have only a portion of them mature at one time. I grow mostly the Early Snowball. The first sowing is in the hotbed, and I continue to sow at different dates in the open ground, until the last of May. I plow in a very heavy dressing of stable manure before setting the strawberry plants, which are set very early in the spring. A few cauliflower plants are set from the hotbed early in May, but for the main crop, I transplanted from plants grown in open ground, early in June. These will head in September or later, when there is a demand for cauliflowers for pickling.

Before setting the plants, I run the cultivator between the rows of strawberry plants, and then with a light plow, open a furrow three or four inches deep. Unless I am satisfied that the soil is rich enough, I scatter some good commercial fertilizer in the furrow. The ground has been made so mellow by the frequent cultivation of the strawberry plants, that they are transplanted very easily. If there is not sufficient rain to wet the ground when ready to plant them, the hose leading from the water tank is turned on the rows. I do some cultivation after this with a wheel hoe, but as the strawberry runners grow close to the cauliflowers, I am obliged to do most of the work with the hoe.

I remove a part of the outside leaves when the cauliflowers are nearly grown, and feed them to my horse. The plants are kept growing by giving them plenty of water, and I have but little trouble from club root, or other parasites of the cabbage family. The greater part of them are sold from the market wagon; the remainder are shipped to commission dealers in the cities. I can usually average from 8 to 10 cents per head, and from 8,000 to 10,000 can be grown on an acre. Deducting culls, the sales from an acre should be $700 or $800; or, if fertilizers, labor, and expense of irrigating is deducted from this, the net profit ought to be about $600. In some seasons, cauliflowers can be retailed at 15 and 20 cents; this about doubles the profit. My irrigation plant cost me less than $100. The water is elevated from a brook near by into a large tank, and pipes are laid from this in different directions over the farm. I find that one great essential in gardening is water, and the more that is used, the greater the profit.

Delaware County, N. Y. W. H. JENKINS.

PLUM AND APPLE NOTES BY S. D. WILLARD.

The Field plum had its origin, I think, in Schoharie County, N. Y. It is a seedling of Bradshaw, which it resembles in size and, in a measure, in color, except that it is darker and, ripening as it does from a week to 10 days in advance of its parent, has a value as a market sort. It is a good producer, and the tree is one of the most hardy grown, ripening to the tip the wood, which is of a hard, bony character. It is an excellent orchard variety, but not much known as yet. I think that Messrs. T. C. Maxwell & Bros., and myself have, perhaps, fruited it more than any one else.

This has been an off year for the plum growers of western New York. With a few exceptions in some favored localities, the crop has been a failure. The heaviest setting of fruit here has been upon some of the Damsons, notably the Farleigh and French Dam-

sons, two varieties that should be more generally grown, as Damsons are ever in demand, and it is in evidence that the fruit buds of these sorts are well calculated to withstand cold of a greater degree than many of our old standard varieties. In this, the Farleigh, an English sort imported a few years since, is, certainly, in the lead, and is destined, sooner or later, to be in demand by the orchardists. The display of this sort at the New York State Fair just held, made by T. C. Maxwell & Bros. of this place, was a sufficient testimonial in its favor.

The fruit buds of the plum and peach were killed by the cold of the winter past; yet, in my opinion, the extreme drought that prevailed here throughout the autumn and into the early winter, was an important factor in this matter, as moisture is an essential that can hardly be dispensed with safely by the orchardist. Another such long period of intense drought at that season of the year, I can scarcely call to mind. The cherry crop also came in for its share of loss; sweet cherries were nearly an entire failure in this section, while the more hardy sorts such as Montmorenci, Early Morello, and Richmond made but a partial crop. The season, however, of 1896 has been especially favorable for the development of a perfect foliage on nearly everything in the shape of fruit-producing plants, all of which points to a crop for the coming year, of great promise, except it may be the apple, of which there is such an overproduction at the present time, that it would seem that the orchards must rest in 1897 to recuperate from the exhaustion incident to the production of the largest and most perfect crop of fruit grown in western New York in many years. Many apples, however, will be small because of neglect at the proper time to thin or take off the surplus, and the usual complaint of "no profit in apple growing," will be heard from many quarters. Notwithstanding this, I undertake to say that the expense is trifling, and the investment a good one. While engaged in this work, I selected one greatly overloaded Baldwin from which, during the last week in June, were picked off three bushels of small apples. Again in the first week in August, we took off six bushels, while to-day (September 7) the tree is loaded with a crop running about 2¾ to 3 inches in diameter, which, I am sure, will fill more barrels, all of which will be marketable, than others that were subjected only to the one thinning done in June. This was an experiment, and one that has afforded me great satisfaction as well as profitable returns for the labor.

Ontario County, N. Y.

AN AMERICAN SHETLAND PONY.

A WORTHY RIVAL OF THE BICYCLE.

A Popular Piece of Horse Flesh.

PART II.

Last week, we gave some of the reasons why Shetland ponies have a right to stay on the American farm. They are trained and cared for much the same as larger horses, except that they may, if need be, run in herds like sheep or goats. On Mr. Nash's farm, the ponies run in pasture until they are taken up and fitted for sale. When asked how he found them on their native island, Mr. Nash said:

"Back in the country, the ponies get little or no care, scarcely ever any grain, unless in some few cases where they are kept up; they run wild on the moor, and eat the leaves of a bush that grows two to four feet high. Vegetation on the Shetland Islands is very short, and I don't think that I saw, while there, a shrub or tree more than four feet high. In the winter, the ponies live largely on seaweed that washes up along the beach. The ground is seldom covered with snow for more than a day or two at a time, as the salt air soon takes the snow away. I was told that, when they had heavy snow storms, if the snow did not disappear in the course of a day, they would draw out some coarse fodder and throw it on the ground for the ponies to eat. They were sheltered mainly in crevices, under ledges, and in holes where people had taken out peat to burn. Of late years, however, and in the vicinity of villages, and especially among large breeders, the ponies get much better care, and great care is used in breeding and fixing certain peculiarities. They are bred mainly for use in the coal mines in England and Wales, and the aim is to keep the size down to about 42 inches, and to breed for blocky ponies. Good, blocky Shetlands cost more on the Shetland Islands to-day than they do here, so that it is simply out of the question to import, excepting, of course, for breeding purposes."

Of course, as was said last week, such treatment is sure to produce a hardy dwarf. In fact, all the inhabitants of these islands, from humans to plants, are tough and hardy with great vigor and force. One great characteristic of the Shetland is that it will eat anything, and is seldom "off its feed". It will thrive and grow on sea weed and coarse pasture, and step off the Atlantic steamer and go to eating oats and hay with good relish.

I asked Mr. Nash if he advised parties to keep the ponies tied in stalls, or to let them run in roomy boxes. He said:

"The more care they get, the better off they are, and as they will soon become great pets in a family, they will generally get a good deal of attention, and a good deal more feed than they ought to have. It certainly is better to keep ponies, as well as all other horses, in box stalls when it can be done; but as a rule, I think that you will find that they are kept

A HERD OF SHETLANDS. FIG. 195.

tied. A box stall 6x6 feet is large enough for the ordinary sized pony."

"How much do you feed a mature pony?"

"Of course, it depends upon circumstances; ordinarily, when the pony is in use much, one quart of oats a day; if used considerably, two quarts a day; sometimes, when the pony is quite large, three quarts, but never more than one quart a day unless the pony is used continuously. If the pony is not used for any length of time, he is a great deal better off with no grain at all. Pony colts, in my judgment, should have no grain at all until they are three years

THE SHETLAND STALLION, DUNCAN. FIG. 196.

old, unless it may be just after weaning, especially if weaned in the fall."

"What do you estimate will be the cost of keeping a fair-sized pony one year?"

"I can hardly give you a fair estimate; but if fed one quart of oats per day 365 days in the year, at one cent a quart, we get $3.65; seven pounds of hay 365 days in the year, would make one ton and a quarter, and if we estimate the farm value at $10 a ton, we get, say, $12 50, or $17 a year. Much more, of course, can be fed, but the above is about the proper ration for the average pony."

"How much driving will they stand—how many miles—and what weight will they carry?"

"If worked steadily right along, they can do a

READY FOR A DRIVE. FIG. 197.

great deal of work; but I am not able to say how many miles a day. Ponies measuring 40 to 46 inches high will carry, on good roads, two grown people, and they don't seem to tire under it."

"What age would you suggest as the best for the average purchaser?"

"It depends upon circumstances; if to be used by boys, the older the better, because, you know, a boy is the cruelest animal on earth. However, a well-developed Shetland pony is ready to go to work at three years; it would be better, however, not to put him to full work until he is four. With proper care, he will last from 20 to 25 years. I recommend for very young children, buying weanling or yearling colts, so that they can grow up with the child, but, of course, that won't do where the purchaser wants to have his child have the immediate use of the pony."

"What will your ponies average in weight?

"Ponies, when fully matured, measuring 42 to 46 inches high, will, probably, average 470 to 500 pounds."

"Is the demand generally for broken, or solid color?"

"The majority seem to want broken or mixed colors, and such bring from $15 to $25 more. I think, however, that there seems to be a change now, and I believe that, ultimately, solid color will be the fashion."

A herd of ponies at pasture is an interesting sight. Mr. Nash is also breeding large horses—pure blood or high-grade Percherons. He now has a fine French Coach stallion that he is breeding to thoroughbred Percheron mares of good breeding. This cross ought to make big carriage horses with good style and action, and even temper. That is what the finest market now demands. At Figs. 195, 196 and 197 are shown some of the ponies on Mr. Nash's farm. The stallion, Duncan, shown at Fig. 196, is at the head of the herd. He is a beauty in color and shape, and has been remarkably successful in the stud. H. W. C.

IS THE TUBERCULIN TEST DANGEROUS?

I am a firm believer in the value of the tuberculin test; it is the best and most accurate aid to a correct diagnosis of tuberculosis, we have yet had. If carefully used on proper subjects, at a suitable time and place, I believe it to be free from harmful results to the animal, and nearly infallible as a diagnostic agent. I admit that, in some instances, an animal will not react on the first test, as in the case reported from the New York Farmer (page 608), and will, if tested later, give a reaction; but I fail to see that this is an argument against the test. It is simply an argument in favor of testing a cow a second time, if she comes from a herd where a purchaser knows, or suspects, tuberculosis to exist, before keeping her in contact with a healthy herd for any length of time.

It is very doubtful whether "tuberculin injected into such an animal converts the latent and harmless tubercle into an active, dangerous and contagious case." Tuberculin was first introduced into human practice as a remedial agent, and there are still many scientists who believe in its having a curative effect. Certain it is that it produces an area of inflammation around a tuberculous process soon after injection, and that this inflammatory area has a tendency to organize into connective tissue, and still further encyst the tuberculous deposit, rather than to hasten a chronic case into an acute one. I do not think, from what experience I have had, that the tuberculin test renders healthy cows any more liable to the disease after being tested than they were before. It is quite as likely that it acts as a protective inoculation, as that it predisposes the animal to the disease, with the chances in favor of its being protective.

In one herd I have in mind, that I have tested a number of times, there are cows that did not react in June, 1894, neither did they react in January, 1895 (with a single exception), and those that were healthy in 1894 and 1895, were still healthy in August, 1896. This is in an old barn that could not be disinfected thoroughly, so tuberculosis has existed there right along; yet while new cows have from time to time developed cases of tuberculosis, the old guard has stood right up and laughed at the enemy. This simply shows that some animals have constitutions that render them comparatively immune from tuberculous infection, while others may be naturally predisposed to it. Tuberculin injections certainly do not predispose animals to become tuberculous, and it is not unfair to assume that they may, to a slight degree, exert a protective influence. DR AUSTIN PETERS.

Massachusetts.

DRIED GRASS OR HAY?

It seems to me as though the experiment station officials, page 574, must have been so deeply absorbed by their pet, "carbohydrates," as completely to forget all about the prime essential of securing a tiptop article of hay. This, as well illustrated by Mr. Clark in the same issue, consists in rapid curing. Cut a prime piece of beef in two, put one piece in cold water, and the other in boiling water, cook both over the same fire, and if you do not prefer to eat the latter, you will never have occasion to say that your wife's mother-in-law was the better cook. Evaporate one-half of a lot of apples, sun-dry the rest, and how many of the latter will it take to enable you to realize as much as you do for one pound of the former? Why? In like manner, to make good hay, we must dry up or close the outer pores of the grass as quickly as possible, in order to retain and preserve the palatable juices within instead of allowing them to escape. This is the difference between "drying" grass and making hay. Rain, particularly successive showers, not only retards the closing of these pores, but also

assists the palatable juices to escape, and with them go a portion of our muscle-makers and fat-formers. Possibly, they do not go as such, though they might as well; but after the chemical composition is broken up, they are something else, and not likely to make muscle or to form fat, and, probably, only add to the manure pile. But it is poor economy to have one's stock grind away their teeth without allowing them some "toll" for the trouble.

Rain, then, causes loss of muscle-makers and fat-formers in the manner indicated. But, as "misfortunes never come singly, this is not the end of our trouble, and the succeeding fair weather may be nearly, sometimes quite, as detrimental. How did our grandmothers bleach their linen? In the case of hay, Nature does the wetting, and the ozone, always present during fair weather in rural districts, which chemically absorbs certain elements from the linen, likewise exerts its influence on the hay, and, like the linen, this is bleached, to the detriment of the food value, however. If caught in another shower, the same destructive process is renewed. Should wet weather continue, destruction will proceed still further. Then comes rot, another word for oxidation or slow combustion, and the black carbon becomes visible. Farewell, then, ye valuable muscle-makers and fat-formers. Not even if we fondly call you "carbohydrates" and "proteids," will ye return.

No matter how good the weather, I never cut any more hay than can be put together in cocks before the dew is deposited. In this way only, a minimum of surface is exposed, and, just as soon as the dew is evaporated, the cocks are opened out. During the night, the hay will slightly heat and feel moist in the morning. But with the now dry air, the heat of the sun, and the internal heat, this moisture rapidly disappears, just as dishes washed in hot water are more quickly dried than dishes washed in cold water. The pores are thus rapidly closed, and we have our muscle-makers and fat-formers secure. How sweet the smell! How green the color! How relished by all stock! Yes, making hay is something different from drying grass. I do not wish to drive out the nutritious juices, but I wish to condense them into a solid form. It is conceded that the English make prime hay. But the English farmer puts in his hay soon enough for it to undergo the sweating process. This it could not do if stored perfectly dry, in the sense of having all the moisture expelled instead of condensed. Artificial evaporation would, no doubt, give us a still more nutritious article. The method being impracticable, let us "make hay while the sun shines," remembering that we cannot do it any too quickly.

Virginia. J. C. SENGER.

FRUIT NOTES FROM THE EASTERN SHORE OF MARYLAND.

Different localities, different methods and different men furnish very different estimates as to the value of different varieties of different fruits; but the greatest of all these differences, is that of the men. The familiar couplet of Scotland's great poet, applies here with as much force as in many other things:

> The rank is but the guinea's stamp,
> The man's the gold for a' that.

Beginning with strawberries, the sum total of the experience of this year can be packed into one sentence: A more profitable market variety than Bubach No. 5 is unknown to a large majority of growers. Unfortunately, though, for this profitable kind, like the Wilson and Crescent, the plants are no longer characterized by that vigorous healthiness, that so materially aided in popularizing it when first introduced. What have we to take its place?

With raspberries, the Miller Red is much superior to any other red variety grown on this peninsula. Its strong points are—vigorous, healthy, hardy plants; early; large, bright-red color; firm, not inclined to crumble; and last, but not least, productiveness.

Among the blackcap varieties, I met with a great surprise this season. Early last spring, my good friend, David Miller, of Camp Hill, Pa., sent me three strong plants, for testing, of a variety originated by him, and which he has since named Cumberland. The plants were set with care, hoping to see some fruit on them the present season. They started growth in a manner that was quite gratifying; at blooming time, every new shoot was crowned with an umbel of blossoms. And my! such berries as those spring-set plants ripened, and such a quantity of them, too, decidedly the largest berries and finest clusters I ever saw. Mammoth Cluster and Gregg have both produced well with me, but Cumberland steps right up to the head of the class. It takes a large raspberry to measure 15 16 of an inch in diameter, but quite a number of Cumberlands that were measured by myself and others, were that size. When introduced, the Cumberland will take high rank in public favor among raspberry growers.

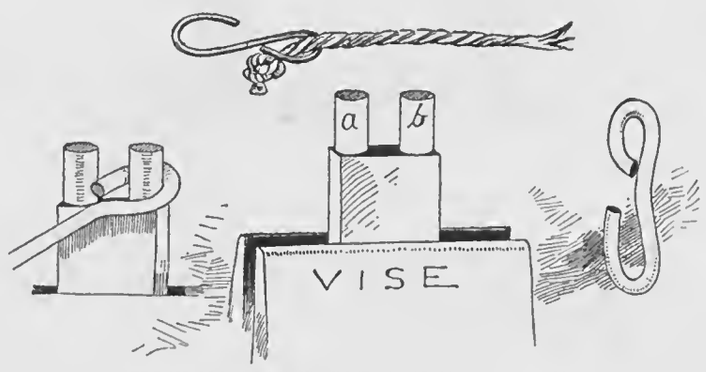
Quite a number of the newer kinds of plums fruited with me this season, and some of them are very promising, indeed; but as new plums are so numerous, details must be omitted, and names only given of the most promising varieties: Hanson, of the Miner type, early and fine. Then of the Americana species, Heaton, Bixby, Rebecca, Marion, Miller, Old Gold, The Cook's Choice, Smith, Kieth, Meyer, Gold and Stoddard, are all large, handsome plums. In the Hortulana group, Jas. Vick, Col Wilder and Milton, are fine; Clifford, one of the newer ones of this type, is, also, a fine variety. Strange, that plums like Wild Goose will sell for more money, per 10-pound basket, than Abundance and other larger and better plums. It does it, though. Color and season are both in its favor. J. W. KERR.

WHAT THEY SAY.

More About Columbian Raspberries.—After reading Chas. A. Green's comments, on page 581, I went out to the Columbian raspberries, picked a handful, and sat down to think. I cannot see but they are just as delicious on this September day as they were on the Fourth of July. I think that it is decidedly nice to have fresh berries every day for two months. It seems to me that they deserve more praise for their good qualities, so I measured one stalk or cane; its circumference at the ground was 4 15-16 inches, its height 11½ feet. It had 15 branches which measure an average of over eight feet each. I have not stimulated its growth in any way, for fear of its being injured by our severe winters. My notes say that the Loudon has winterkilled worse than the Marlboro, and the seven berries produced in the last two seasons have not been so large or of as good quality. Instead of being rich and juicy, they were so dry and hard as to "handle almost like marbles." Loudon winterkilled to the ground last winter, while the Columbians were not injured; perhaps, it was because the Loudons were planted some six rods further to the South. We have been enjoying some home-grown Champion peaches for two weeks, and they are most truly a very delicious luxury. S. E. H.

Cherry Valley, Ill.

Some Peach Notes.—Had it not been for interest shown outside of the State, the exhibit of peaches at the New York State Fair would have been the poorest



HOW TO MAKE CORN TIES. Fig. 198.

of which we have any record. But Canada and Michigan favored us with small exhibits that aided in filling the allotted space with fruit of such excellent quality as to deserve mention, and due credit to those sections, for their spirit of enterprise and ambition in competing for premiums in our fruit department, while illustrating the fact that they can and do grow this fruit in the greatest perfection. A few years since, while in attendance at one of their annual horticultural meetings in the Province of Ontario, a very favorable report was made regarding a new peach of great hardiness, known as the Fitzgerald. This variety seems to have found its way into the State of Michigan, and was one that attracted considerable attention in the Michigan collection. It was shown by Rollin Morrill, of Benton Harbor, who claims for it unusual hardiness in the fruit bud. It is of great beauty, fine size, yellow flesh, very solid, deep meat, very small pit, and would seem to have much to commend it to New York State fruit growers, if it will maintain its good character when transplanted upon our soil.

S. D. WILLARD.

Some Homemade Corn Ties.

Corn ties are "just what they are cracked up to be," and are very handy articles for tying corn shocks or bundles whenever one has any need for such a thing. They are needed whenever the work cannot be done as well and cheaper with something else. Sometimes it can be, and then again it cannot. I have some ties that work perfectly, cost me nothing but a few minutes' labor, and there is no patent on them. I made the first ones out of an old clothes line and the chain from an old chain pump that had gone out of use. I separated the links of the chain by opening an end of each link enough so that they would come apart easily. Each link was then a hook ready to attach to the end of a piece of cord. The clothes line was cut into suitable lengths. I tied a knot in one end of a piece of the cord, and then slipped a hook into it. Then I tied a knot in the other end of the cord and the tie was done.

In tying the shock, the hook at one end of the cord catches and holds the knot at the other end. One can tie more knots in one end of the cord if necessary, or fasten it with a half hitch if he like that better. The cord and the hook must be proportioned to each other in size, so that there will be no danger of the knot slipping through the hook. I had not enough of these ties, so I made some more of smaller dimensions. I used No. 11 galvanized fence wire for the hooks. I had in my kit a little tool made for me by a blacksmith for a similar purpose. It is only a flat piece of steel to put in a vise with one end made as shown in Fig. 198, to turn the wire around. The wire was cut into pieces of suitable length, and then one end of a piece of the wire inserted between the jaws *a* and *b* of the tool, and a loop formed by winding the wire around it. It is then slipped off the tool and the loop closed up and straightened with a hammer if need be. Then the other end of the wire is bent around to form the hook. It is a handy way to have the wire cut into lengths long enough for two hooks. Turn a loop on each end of the piece before cutting them apart. About 60 such hooks can be made from a pound of No. 11 wire, and they can be made very rapidly when a person "gets the hang of it". Such ties cost but a trifle, and they are very handy to use. All these hooks are shown at Fig. 198. F. HODGMAN.

Michigan.

A Heavy Grass Seeding.

Your account of Mr. Clark's farming was of much interest and value, for it is a proof that thorough culture pays. I was astonished at the amount of seed that he sowed per acre on his meadow. I am a seedsman, and have some knowledge of the amount usually sown, and, also, of what should be sown. As a general thing, I believe that farmers in this section sow too little. They generally sow only one bushel of Timothy seed to six acres. Some will sow, in addition, a half bushel of clover seed. It is to my interest to advise heavy seeding, and I do recommend more than is commonly used here; but I am astonished at the amount, as I have said, used by Mr. Clark. I have taken pains to ascertain the number of seeds in a bushel of Timothy, and find that it is the vast number of over 48,000,000. He uses, it is stated, 14 quarts to the acre in addition to 14 quarts of Red-top, and four of clover. He, therefore, sows 493 grains of Timothy to the square foot and, including the clover and Red-top, probably 800 grains in all. This would put nearly six grains to each square inch—six times or, may be, 20 times as many as should grow or could grow there.

With the exceeding care he takes in the preparation of his ground, a less amount of seed should do than when put on in a rough way as many farmers do; for so done, a good deal will lie on the surface and not sprout, or if it do, be quickly killed, while that covered deep will fail also to grow. A test just made by myself should be of value here. I sowed equal amounts of Timothy in three little adjoining rows, in one one-quarter inch deep, in the next one-half inch, and in the third a whole inch. The result was that that one-quarter inch deep came up first, making 150 plants; that one-half inch deep came one day later, with 80 plants, and that one inch deep, three days later, making only 27 plants. This shows plainly that shallow covering is the best, and it can be done only by putting the ground in fine tilth before sowing, and burying the seed lightly by brushing or extremely light harrowing. J. A FOOTE.

Indiana.

R. N.-Y.—As stated in the first article on Mr. Clark's grass crop, we counted the plants on one square foot of the field. There were 341, and we are sure that many more could have grown there.

The Russian Plums Fruited.

Since my recent brief notes upon this class of fruits, my trees have ripened a very good crop of about a dozen varieties, and I am better prepared than at my last writing to give a reliable account of their qualities as good market fruit. I find them, as to fruit, in size, running from small to large; and in quality, from fair culinary to very good dessert. In season, my collection covers about three weeks, the later being, as might be expected, larger than the early sorts; and all very handsome market fruit. For me, however, their prime value lies in the fact that they are, like the other Russian tree fruits, thoroughly ironclad against the severe winters of northeastern Vermont.

In appearance, both of tree and fruit, I observe nothing characteristic to distinguish these from the old stock, such as is found in the fruit markets of more southern localities. This I regard as a good point—saving all trouble in introducing and selling them in any market. How the stories of their unfruitfulness—some of them absurd on the face of them—have got into the newspapers, I cannot tell. I

see that Mr. John Craig, of the Canadian Horticultural Bureau, rather sides with those who decry these plums; but I feel sure that further experience will greatly modify his judgment on this point. My Russian plum trees are set in what would generally be called a very poor place; being a sandy knoll; but this surface soil is underlaid by a tough clay, extending to an unknown depth—giving, I think, better conditions than if it were all clay.

I send herewith a small box of a late variety (the early sorts being past their time), having been desirous of testing the whole list, so far as they have yet fruited. My experience has determined me to go largely into the culture of these plums, for which I have a good market. I am desirous to set the exact truth on this subject before that portion of THE R. N.-Y.'s readers whose home is, like my own, in the cold North. To those more favorably located, the matter is of less interest, except, perhaps, as indicating a future lessening demand. The difference of season will, however, reduce this considerably.

T. H. HOSKINS.

[The plums were of medium size—two inches long by 1½ in width—dark purple in color, partially free stone, firm flesh, tough skin, and in quality, a combination of more acid and sugar than we find in any of the Japan plums. The acidity predominates.—EDS.]

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Preserving Figs.

F. C. Z., Brooklyn, N. Y.—How can I treat figs? I have a fig tree which bears considerable fruit every year, but I don't know how to dry or preserve it.

ANS.—It would be useless to try to dry figs in the vicinity of Brooklyn, N. Y., or for several hundred miles south of there; because the few that may be grown in well-protected places, or by laying down the little trees in winter, are worth more to eat fresh or to preserve. When preserved, they are most delicious, and the process is not difficult. A syrup should be made of sugar, and well boiled until it is thick. Then put in the figs and continue the boiling until they become translucent and well done. Put into cans or jars, sealed or unsealed. Some persons take out the fruit after it is cooked and partially dry it in the sun in dishes before canning, in which case the syrup and fruit may be again heated before being put away finally, to destroy any lurking germs of ferment.

H. E. VAN DEMAN.

Growing Lettuce at the South.

J. S., Blackshear, Ga.—I wish to grow a quantity of lettuce for the winter market. What is a good method of culture in the South? Is it necessary to protect the crop from frost? We seldom have more than 10 degrees of frost here? What is the best variety for the purpose? New York will be the principal market. Is there any particular way of packing for shipment?

ANSWERED BY PROF. W. F. MASSEY.

Glass pays as well in the South as it does in the North. Our southern gardeners, as soon as they begin to think about winter protection or forwarding plants, take to the miserable substitute for glass called plant cloth, which is merely a shelter from a little cold, but really retards plants by its shade, and is, in the long run, more expensive than glass. We grow lettuce here under sashes in a simple cold frame, just as perfectly as it is grown in fire-heated houses in the North. It is true that a great part of the time, we need no glass at all, but when we do need it, we need it bad, as you will sometimes.

We sow for the Christmas crop the first of September (have just sown the first seeds). These are sown on the open border, and transplanted to the frames about the middle of October. The seeds are sown thinly, so as to get stout plants. For this crop, we use the Boston Market lettuce, as it can be planted about seven inches each way in the frames. As soon as the plants are set in the frames, we put the glass on and shade them for a few days, keeping the glass rather close till they recover. Then the glass is stripped off, and is not put on any more till the nights get frosty. The sashes are stripped off every sunny day, and during every warm rain, putting them on only in cold weather when cloudy, and during cold nights. The idea is to keep up a regular growth at all times, but not to have the lettuce grow flabby by being kept too warm. This crop should be ready to cut by the Christmas holidays, and the frames should be again manured and replanted from plants outside sown the last of September and middle of October.

The soil should be light and sandy, and if somewhat gravelly, so much the better, as lettuce seems to delight in a gravelly soil, and will not thrive in a clay. Bear in mind that the soil in the frames cannot be made too rich, if you want good lettuce. The chief care must be to keep it from getting badly frosted, and at the same time to keep it from growing so tender that a slight freeze will scorch the leaves.

In cutting for shipment, trim off the dead and yellow leaves under the heads, dip each in cold water, and pack in close boxes or layers, stems upwards. Always cut before the sun gets warm in the morning, but never when frosted. Tuck the outer leaves in neatly under each head, and pack rather closely. Ship in tight cars. The second crop will come on in February, and the same treatment must be observed. For the second crop, I prefer to plant the Big Boston, as it will sell better at that time. It must have a foot room each way. If one put up good frames, and use the 3x6-foot hotbed sashes, he will never fail to use glass thereafter. We get these sashes here made with grooves to slip the glass in end to end, and do not lap or putty them. The sashes cost about $1.25 each, and will last a lifetime if kept painted.

Asparagus and Rhubarb Culture.

S. B. S., Chepachet, R. I.—What soils are required for rhubarb and asparagus? What are the most profitable varieties? When would you advise setting the roots? What do you know of Eaton rhubarb? An agent gave it a great recommendation, but I fail to find it mentioned in any of the leading catalogues. He also talked very boastingly of the Donald Almira asparagus, and I also fail to see this variety mentioned in any catalogue which I have.

ANS.—As to asparagus, it doesn't matter materially whether the roots be planted in the spring or fall, if the land or plot be thoroughly prepared. One can hardly prepare the plot too well. Manure and cultivation are the secret of successful asparagus culture. The trenches should be, at least, four feet apart and 10 inches deep, the plants set not less than two feet apart in the trenches. Previously, the plot should have received at the rate of not less than 30 tons of rotted manure per acre. After the plants are set, a dressing of raw bone flour and unleached ashes will help to give the plants a vigorous growth, and give, the third year, large, tender stalks. As to varieties, it matters little. THE R. N.-Y. has tried all of the assumed kinds, such as Colossal, Barr's Mammoth, Palmetto, Red Dutch, Argenteuil, Moore's Crossbred, and finds so little difference between them under the same cultivation, that we would lay little stress upon selection. We know nothing of the kinds our friend mentions, and would advise him not to pay an extra price for them. For 100 roots, he should not pay more than $1. As to rhubarb, as with asparagus, set either spring or fall as one may find more convenient. Prepare the land as for asparagus, using plenty of manure. Set the plants, at least, four feet apart each way. Linnæus and Victoria are the best. We know nothing of the "Eaton."

Value of Northern-Grown Seed.

S. D. B., Macon, Va.—1. Do northern-grown seeds do better than those acclimated in this locality? 2. Do seeds grown in the same locality for a number of years lose in vitality or yielding qualities? 3. What varieties of potatoes are best for Virginia? 4. Will some of THE R. N.-Y. readers give their experience in raising oats? 5. From what varieties of corn did THE R. N.-Y. get its large yield?

ANS.—1. This question has never been settled, in so far as THE R. N.-Y. is aware. Our opinion—an opinion only—is that if any kind of grain or any other plant is hardy in a certain locality, it will not be rendered less hardy by being cultivated in a more southerly climate. In other words, we do not believe that the hardiness of a given variety of seeds will be rendered less or more hardy by being cultivated north or south. 2. No, we should say not, provided due care be taken in selection. For example, we *know* of a case where the Early Ohio potato has been raised every year for the past 23 years, and it yields as well to-day as when it was first introduced. The reason is that due care has been exercised in the selection of the seed potatoes. 3. We may not say. It is a question for Virginia farmers to settle for themselves. 4. Our readers will kindly answer. 5. Blount's Prolific, a white dent corn bearing many small ears to a stalk, and Chester County Mammoth, which bears one or two very large ears of yellow dent. Both kinds are late in maturing.

Small Farms On the Pacific Coast.

J. K., Vernon, British Columbia.—I own 20 acres of level land in western Washington; the soil is a dark clay loam, about four feet thick. It is located about five miles from a railroad station and midway between two large cities, or 20 miles from each. The land is, at present, in grass. I purpose cultivating and giving my attention principally to fruit and poultry, also a truck garden, having had some experience in this line. 1. From such a small place, could I expect to make a living for myself and family? 2. How could such a place best be managed? 3 What kinds of fruit are best adapted for that section?

ANS.—1. With favorable conditions other than those mentioned, I believe that a very comfortable living can be made from 20 acres of land. This is only possible, however, when industry and thrift mark every step. 2. Plant 10 acres to orchard and small fruits; the rest should furnish hay and forage for two small horses and two good cows. The grain should be purchased, for it is cheaper to buy than to try to raise grain on a small place. Two or three good pigs should be fattened each year for home use. Clover and vetches are good forage plants for western Washington. Corn is also good for soiling purposes. Very nearly enough rough material can be grown on 10 acres to feed two horses and two cows the year 'round. 3. Five acres to apples, of the standard varieties, and only two or three varieties for the most part. Many times, a serious mistake is made by setting too many novelties One acre to cherries and pears, and three acres to small fruits, such as strawberries, raspberries, currants and blackberries. All of these find a good market in the interior towns of the Northwest. Some vegetables might be grown among the fruit trees for the first two years. H. T. F.

Notes On a Plank Frame Barn.

W. H. B., Bucksport, Me.—1. Can a plank barn be built with a curb roof instead of a gable roof? 2. How large a stick is the purlin plate? 3. How are the different bents connected at the bottom? 4. In a barn with 18-foot posts, with a hay bay extending from the ground up, would not the inside pressure, when filled with hay, make the barn bulge out on the sides and ends? 5. Is a barn built in this way, strong enough to admit of a silo being put in one corner?

ANS.—1. I receive letters inquiring whether the plank system permits of certain shapes, sizes and styles. In answer to all such, I will state that the system admits of any width up to 60 feet, and any length or height desired. It admits of square, rectangular, T or L-shape, hexagon or octagon, but not absolutely round. It admits of gable roof, gambrel, curb, mansard, French or Italian roof, hip roof, or gothic roof. 2. The purlin plate is made of two 2x8 planks, but so constructed as to be equal to a 6x8 set edgewise. 3. The bents are connected by plank plates, nailers and sills, as well as by braces. 4. No, not if properly constructed, as we so insert braces as to counteract the tendency to bulge out. 5. Yes, but the silo should be built separately from the barn, just as in any other frame, to admit of repairs when the silo walls decay. The system will save you about $300 on a barn 40x60 feet, and on other dimensions, in about the same proportion. JOHN L. SHAWVER.

What is Oleomargarine?

M. R., New York.—How can I tell the difference between butter and oleomargarine? Is oleomargarine sometimes mixed in with butter?

ANS.—As was stated in a recent issue of THE R. N.-Y., 100 pounds of "oleo" contain about the following proportions, viz.: 34 pounds lard, 27 pounds oleo oil, 12 pounds cotton-seed oil, 18 pounds of milk, and nine pounds of salt. This mixture is churned together and colored to imitate butter. It is so cunningly done that only a careful chemical analysis by a skilled chemist, can show the difference. There is no doubt that "oleo" is sometimes mixed and sold with butter.

How to Use Wood Ashes.

W. H. C., Amoskeag, N. H.—I have about six cords of hard-wood ashes which I wish to use in fitting ground for grass. My land is "pine plains", rather light soil, but in fine condition. When, how and in what quantity should they be applied? I have thought some of plowing in manure, and then sowing the ashes to be harrowed in on top with a smoothing harrow. About what is the average market value of ashes as a fertilizer for grass ground?

ANS.—Your plan of harrowing in the ashes after plowing, is the right one. We would use them this fall if the seed is to be sown in the fall, and would use one ton or more per acre. The value of wood ashes depends chiefly on the amounts of potash and phosphoric acid they contain. Probably $9 per ton is a fair value for an average sample. In addition to the potash and phosphoric acid, the ton of ashes will contain from 1,000 to 1,200 pounds of lime. On some soils—those inclined to be acid—this lime may be worth more than the actual plant food, not for feeding the plants, but for improving the chemical character of the soil.

Water for Constipation.

F. O. C., Washington, Kan.—I am troubled with constipation. A Country Doctor, page 543, says, "A liberal use of water serves a good purpose here." Will he give minute directions for its use to overcome chronic constipation?

ANS.—You may have noticed that the evacuations of the lower orders of the animal creation are affected by the kind of food they eat. If it be concentrated, containing little water, the evacuations are scanty and dry; vice versa if bulky and holding much water in their composition, the evacuations are more copious and relaxed. Apply these observations to your own case. You may not have a stomach that will suffer you to adopt a diet of bulky, succulent vegetable food; but you can, at any rate, make a practice of drinking plentifully of water, hot or cold, plain or flavored with some harmless addition, an hour before each meal. Taken in at this time, it will soon disappear from the stomach, and will not interfere with digestion. In this way, you may obtain a measure, at least, of the benefit that others derive from the expensive sojourns at celebrated mineral springs. W. O. E.

Save the Coal.

W., BLAIR COUNTY, PA.—Cents make dollars; pennies make pounds; and there are innumerable ways in which little economies that fools despise, prove life-savers when it becomes a question of how to keep the head above water. Even when all is smooth sailing, they help to keep supplies of all sorts full, and to swell deposits at a savings bank. One example, quite seasonable now, is that of saving all unburnt bits of coal, and getting the benefit of the heat they contain. Our ash heap is against a low wall—cone-shaped. After sifting the ashes, a little hand broom—merely three or four stalks of broom corn tied together and trimmed to use about the stove—is used to sweep the bits of coal that roll down the cone, into a shovel, and this is used to cover a fire in the evening when there are some plants to be protected from danger from severe cold. The ash heap looks trim and tidy, and will be of A 1 quality for mulching around gooseberry bushes and the like. We have followed this practice for years.

The Melrose Sweet Corn.

A. C. W., SCHRAALENBURG, N. J.—I value Ruralisms very highly, and acting on your good opinion of Melrose corn, procured a seed ear. I planted it May 8, alongside of Vaughan's Early Champion, which had given me great results in 1895. I have eight children old enough to eat sweet corn three times a day; they are all fond of it, and they all agree that the Champion is better than the Melrose. I can say from personal knowledge, that it is several days earlier.

How My Carman Grape Acted.

S. W. J., WAYNESVILLE, IND.—My Carman grape has not been hurt by the cold during any winter yet, and the thermometer has been down to 12 and 14 degrees below zero several times each winter. Last year, I had nine clusters on the vine, and they weighed four pounds; this year, there are 150 clusters, and some of them will weigh nearly a pound. The vine is the strongest grower I have except one, and I have 14 kinds, all set three years ago.

Potato Bugs on Tomato Vines.

F. H., CLIMAX, MICH.—It is a common thing for potato bugs to attack tomato vines, especially when the vines are small. They will destroy the vines as quickly as they would potato vines if allowed the opportunity. I have had no difficulty in controlling or destroying the bugs by the use of Paris-green, using it just the same as I would if they were on potato vines. The poison does its work quickly, and if applied dry with lime or plaster, will be blown off the vines in a few days, or the first rain will wash it off. I have never discovered any ill effects from it. I have used the same remedy for tomato worms with complete success. It is but little trouble to use it, and it is much more thorough and effective than hand picking. For the worms, I have applied it in water with the spraying pump, and never had to make the second application. If there is any suspicion of any of the poison being left on the tomatoes, it is an easy matter to wash them before using.

Grafting Prune on Plum.

H. O. M., LUNENBURG, MASS.—Last January, H. E. V. D, in replying to E. A. G., Lyons, N. Y., advises not to graft German prune upon American varieties of plum. Although I have had little experience, I will give it for what it is worth. About 10 or 12 years ago, I grafted five Wild Goose, quite large trees, to Kingston, and was never more successful in any kind of grafting, in making scions grow or unite with the stock. The trees paid not less than $5 each the third season, have done well since, and give promise of more fruit to come. They have had good culture.

But in a locality where plums hardly pay for picking, why set Japans? My own experience is that a blue plum like Quackenboss, Smith's Orleans, or a plum like Bradshaw, will far outsell varieties like Burbank or Abundance. Although it may be easier to raise, no Japan I have sold, unless it be Satsuma, will equal our best European varieties in our eastern markets. Simply because a variety has the word Japan hitched to it, is no reason why it is profitable or fit to set. Although I am testing quite a number of varieties, I hardly think that all will pay for raising, and if raised and sold in our markets, would be an injury to the plum business. Better plums, and not more of them, are most of our markets' demand.

Believes in the Weather Bureau.

PHILIPSBURG, PA.—On page 584 of THE R. N.-Y. you ask, "Do you find the bulletins of the Weather Bureau of any value in your work?" Yes, in this way: I may have ground plowed for cabbage or strawberry plants, and wish to harrow immediately before planting in order to kill all weeds. When I see by the bulletin, that it is going to rain in a few days, I drop all other work and get the ground ready to plant; then I plant while the ground is too wet to go on with a team. In this respect alone, the reports would be worth dollars to me if some reliable agricultural papers like THE R. N.-Y. would publish them, so that we could get them promptly as we do THE R. N.-Y. If, at mailing time, you could stamp on the outside of the paper what the weather is going to be for the next seven or eight days, I would willingly pay $1 extra each year. The local papers do not publish the bulletins regularly. I have compared the bulletins with the weather for several years, and find them, practically, correct. I would much regret to have the service discontinued, but hope to see it extended so as to reach the country people along with the free delivery of the mail.

I mixed my fertilizer myself this year, used acid phosphate, potash and nitrate of soda, and am well pleased with the result. Farm produce has very poor sale here, and business is almost dead. The storekeepers are selling potatoes at 30 cents a bushel, but I think that they will rise in price as soon as the village people have used what they grow in their gardens. I don't think that the late crop will be as large here as last year. I have not done anything to kill potato bugs this year; Nature seems to have them under control. I shall not plant Carman No. 1 again, as it blights too quickly, but shall plant Early Puritan. Rural New-Yorker No. 2 is all right.

R. N.-Y.—It would be impossible for a weekly paper to give any reliable forecasts of the weather.

Cow Dung for Paint.

A. A. K., MALVERN, PA.—Your statement that "mineral oil is not a paint oil," is absolutely correct. To draw the point real fine, you might add that "residue oil" isn't even an oil, and has less value for painting purposes than even buttermilk or skim-milk. For the matter of that, one might mix cow manure and Venetian red, and make a "daub" paint (vide E. H. A.) that would last three years, and, possibly, look quite as well as that of another man's compounding from ocher and linseed oil and a finish of mixed paint. But where *paint* is desired, a "daub," obviously, wouldn't answer.

By mineral oil, residue oil or summer black oil, I suppose that our Ithaca friend means petroleum oil, and we know that this, as with all other hydro-carbons, sooner or later, entirely evaporates, leaving nothing except a mass of non-adhesive and non-drying mineral matter. The fact that a barn painted with such an oil, mixed with Venetian red, looks "well" after three years' exposure, proves nothing as establishing the value of such oil in paint, because with water and lime we can make a wash that will stand as long and, possibly, look as well; yet nobody will claim that water is a good paint vehicle.

Comparisons are not proofs; thus, it is quite possible that E. H. A.'s building looks better than his neighbor's, but how does his neighbor's look? That's the question. Ocher makes a very bad priming coat, as any up-to-date painter will tell you. It is one of the very best pigments for finishing, but it is too hard for a priming coat, and the subsequent coats are likely to peel or perish from it in consequence. It is generally allowed, by practical painters, that white lead and raw linseed oil, with a suitable tinting color, make the best priming coat. Now, if our friend's neighbor put on top of this ocher priming a poor, ready-mixed paint, I can readily understand why his building looks the worse of the two. I can beat such a finish with my cow dung and Venetian red mixture, every time.

If I were the agent insuring E. H. A.'s barn, the rates would be advanced. Indeed, I wouldn't want two barrels of mineral oil saturating any buildings of mine, no matter how cheap such painting might be.

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35,000 APPLE TREES, 8 CENTS EACH. You cannot buy better fruit and ornamental trees than are retailing at wholesale prices at G. C Stone's Wholesale Nurseries, Dansville, N.Y. Established 25 years. Specimen orchards, 3,000 trees. SEND POSTAL CARD FOR 80-PAGE CATALOGUE

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PLANT Currants, the most valuable of all small fruits.
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PLANT IN THE FALL, WHICH IS THE BEST SEASON.
WRITE to the subscriber for prices and description of plants.
S. D. WILLARD, GENEVA, N. Y.

HARD TIMES VALUE

BELMONT COUNTY, OHIO, 9/7/1896.
ISAAC C. ROGERS, Dansville, N. Y.:
The trees received from you last spring were the cheapest lot that have been shipped to this station at any time. Dwarf pears at 7 cents, good as sold here by agents for 50 cents; Cherry trees, at 6 cents, equal to agents' $1 trees, and enough extras to make a good, big order. Yours truly, JAMES A. WILEY.
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WHY NOT PLANT IN THE FALL and gain nearly a year? With well ripened stock fall planting is safer than spring.
THEN WHY DELAY?
Send for new illustrated catalogue mailed free on application. Estab. 1869. 150 acres.
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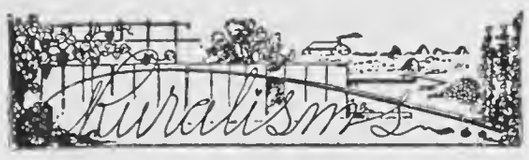
Best and most valuable. Highest commendation from highest authorities. Hardy, healthy, vigorous, very productive. **Early or late.** Largest clusters, finest quality, not foxy. **Seeds need not be swallowed.** Sold by many reputable Nurserymen. None genuine without our seals. We guarantee safe arrival by mail. Largest stock of grape vines in the world. Small fruits. Introducer of unrivalled Red Jacket Gooseberry and Fay Currant. Catalogue free **CEO. S. JOSSELYN, Fredonia, New York.**
From E. S. CARMAN, *Rural New Yorker*:—
"I am really glad that I was the first to tell in print of this grand grape, which in quality and appearance is the best native black grape we have ever seen. There is no acidity about the seed as there is in the Concord. As there is a growing and not ill founded objection to swallowing grape seeds, this is a strong point in its favor, &c."

TRIUMPH The only Yellow Freestone **PEACH** Ripening with Amsden.
The Latest and Largest Yellow Freestone **PEACH,** **EMPEROR**
MERCER { The only Sure-Bearing, Non-Rotting **CHERRY.**
For full descriptions send for Catalogue (10c.) We will send our *Beautifully Illus. Catalogue* with the **Col'd Plates** of the **3 Wonderful** New Fruits, and 1 **Emperor** Peach June Bud by mail, postpaid, for **10c.** **JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.**



THE new quince, Fuller, several trees of which were received from J. T. Lovett, in March, of 1891, is, this season for the first, bearing a few quinces. They are, at this date, (September 1,) so small that there can be little chance of their ripening. We would not recommend the variety even for trial.....

DURING March, of 1891, we received several trees of the new Alaska quince, from Chas. A. Green. It bears this season for the first. The quinces are twice the size of those of the Fuller. The special claims made for the Alaska are early bearing, productiveness, earliness and hardiness.....

PLANTS of the Earliest in the World tomato were received, about June 1, from the introducers, J. and J. L. Leonard. The tomatoes average from small to medium in size, and they are uniformly smooth. The color is a shade of red between the yellowish red of the Ignotum and the crimson of the Acme. The vines are very productive, but it is not the "earliest tomato in the world," by a long shot. If we may judge it by a single trial, we should not regard it as an early variety.....

THE Swamp Rose Mallow (Hibiscus Moscheutos) is now, and has been for two weeks, our showiest flower. We have a seedling that bears white flowers with a crimson eye. There is nothing unusual about that. But the flowers measure, when the petals are spread out, eight and nine inches in diameter, and that *is* unusual. The plant is now five feet high and, both in plant and in flower, it is a far more showy shrub than the Great Panicled hydrangea that every one praises. It grows readily from seeds, and the plants grow more vigorously upon high, dry land than in their native low-land brackish marshes. Seeds started in the winter will produce plants that will bloom the next summer.....

MEXICAN JUNE CORN. Here is a curiosity. Our seed was sent to us by J. J. H. Gregory & Son. They write it up as "a giant among corn, growing from 16 to 18 feet in height." They regard it as a grand variety for grain in the South, and for the silo in the North, and a grand curiosity for every section. On the Massachusetts sea coast, it reached a height of 16½ feet, and a 10-foot pole but reached the lowest ear. It is especially leafy in its upper sections.

The writer of these notes thought that he had tried all sorts of corn, but this is, indeed, a curiosity quite startlingly new. The seed was planted in poor soil, enriched with Mapes's potato fertilizers at the rate of 1,000 pounds to the acre, May 23, or within a week of June 1. We are writing August 31, and our notes were taken to-day. This variety is quite distinct from all others we have tried. It bears the *longest* and *broadest* leaves and the lowest leaves are just about as green as those above. The stalks average three inches in diameter. The leaves are from *four to five feet long* and about five inches wide in the widest part. The joints are, as compared with other field or silo kinds, close together, so that the amount of leaves, it will be conjectured, per given area, is something beyond the amount borne by any other forage plant whatever. There is no chance of its maturing grain in the climate of the Rural Grounds, since, at this date, there isn't a sign of either set, silk or tassel. The plants do not sucker.....

THE Ohio Experiment Station (Wooster), for 11 seasons, has tried 16 different varieties of wheat. Valley heads the list as to average yield and weight of grain. The average for the 11 years is 30.36 bushels per acre; the weight 60.13 pounds per bushel.....

AT the Kansas station (Manhattan), of 35 kinds tried the past season, Turkey, a bearded variety, gave the highest yield, 42 bushels per acre; the bushel weighed the highest, 61⅛ pounds and the plant proved this season and last to be the hardiest.....

AUGUST 30, we received a large heavily-shouldered bunch of Campbell's Early grape from the originator. The berries were perfectly ripe, as large as Concords and of the same quality as those we described last year, sweet and vinous without any acidity about the seeds, and without a trace of foxiness that the writer could detect.....

PRES. GEO. W. CAMPBELL, of Delaware, Ohio, writes us as follows:

Campbell's Early grape is doing well this year again. The berries were fully colored August 15, and they now (August 21) seem quite ripe. My confidence in it is unimpaired, and I believe that all the good and pleasant things you have said of it will be fully confirmed.

The berries of the single bunch which our vine bears were fully colored August 25. The bunch was picked August 28, when Concord grapes were just beginning to color. The berries, however, did not seem to be quite ripe. We fancy that this may be owing to the fact that the vine is densely shaded on the south by a plum tree, and on the west by a Saghalin plant eight feet high.

THE McPike grape originated with H. G. McPike, Mount Lookout, Alton, Ill. He has been working, as we are told, for 30 years to produce a better grape than the Concord, and he thinks that the McPike is a full reward for his labor. It is a seedling of Worden; the vine is said to be perfectly hardy—its splendid leaf certainly so indicates—earlier than the Concord. Its bunches, it is claimed, are "large, even and compact. The berries even in size, covered with a blue-black bloom, ripening uniformly. The berries are of mammoth size, being three inches in circumference and of superb quality. It is, by far, the best grape grown."

The above is the estimate put upon it by our esteemed old friend, Colman's Rural World. Several bunches of the McPike were sent to us, August 29, by the Silas Wilson Co., of Atlantic, Iowa.

The berry holds more juice than any other we have ever eaten. The skin is very thin, yet it seems, by no means, tender. The pulp, so called, so readily dissolves that the seeds drop out of their own accord. Our friends often say that, if the danger of appendicitis is such that one should not swallow the seeds, they do not care to eat grapes at all, because of the acidity of the flesh about the seeds, and because of the trouble one experiences in separating the seeds from the flesh. The seeds are small and few—about three. There is no more acidity in the flesh about the seeds than in the flesh just beneath the skin.

The McPike grape is much like the Eaton—so like it, indeed, that, if a bunch were handed to us with the request that we should name it, we would say, "It is the Eaton." Yet it is superior. The berries, if we may judge by those sent us, are even larger, and, again, even juicier, and a juicier berry than the Eaton no one ever hoped to raise, if, indeed, it were desirable so to strive. The flesh seems more dissolving—dissolving is the word unless "soluble" be preferred—and it is a shade sweeter—less watery—than the Eaton. We can conceive of the Eaton being grown in soil and location so favorable as to be quite equal to the McPike. As we judge it, we must say that the McPike is an improved Eaton. The leaves and petioles are closely alike. The illustration, Fig. 194, shows a portion of a bunch only. The bunches were all injured en route.....

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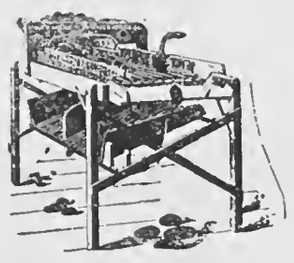

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For Potatoes, Apples, Onions, Etc.

Adjustable for sorting any size. Every machine warranted durable and rapid. Will pay for itself in one week. CAPACITY, 100 BUSHELS PER HOUR. We manufacture a fine line of

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A DIGGER THAT DIGS.

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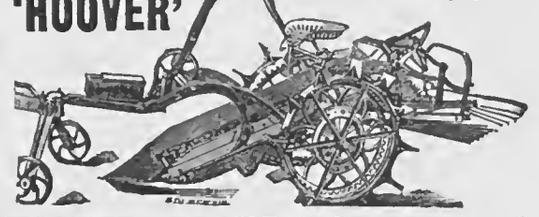
A 16-page pamphlet free. Mention this paper.



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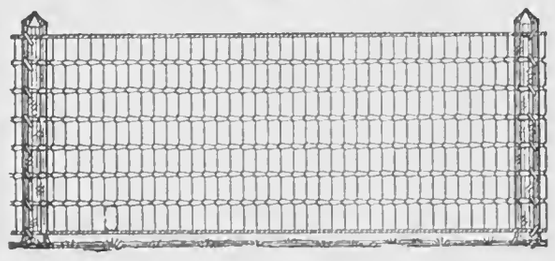

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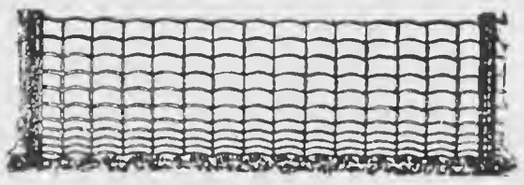

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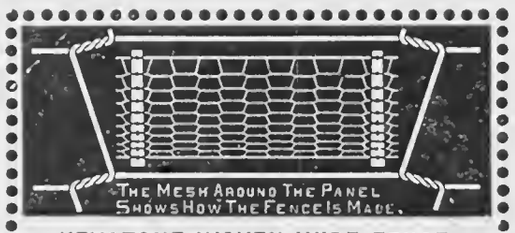
Our wonderful success with the leading railroads, has led some people to think our farm trade had taken second place. This is a mistake, as our books show that for every 1000 miles sold railroads, 4000 miles have gone to the farmers. Railroad men buy Page fence because it suits adjoining farmers.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



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Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.

WRITE FOR CATALOGUE.

KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.

WOVEN WIRE FENCE

Over 50 Styles

Best on earth. Horse-high, Bull-strong, Pig and Chicken tight. You can make 40 to 60 rods a day for

12 to 20c. a Rod.

Illustrated Catalogue Free.
KITSELMAN BROS.,
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FARM FOR SALE.—One of the best farms in Westchester County, containing 110 acres, 100 tillable. Two good houses, two barns and outbuildings. Location high; running water to house. Fine orchards. Very desirable every way.
Address K., North Castle, N. Y.

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A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper, 20 cents.

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By Prof. L. H. Bailey. It contains, in handy and concise form, a great number of rules and receipes required by gardeners, fruit growers, truckers, florists, farmers, etc. Discusses injurious insects, fungicides, and gives tables for planting, etc. Cloth, 75 cents.
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THE RURAL NEW-YORKER NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
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Corner Chambers and Pearl Streets, New York.

SATURDAY, SEPTEMBER 19, 1896.

IN Bergen County, N. J., the army worm has attacked a piece of late Hungarian grass within the past week. It is not usual, we think, for this worm to operate so late in the season. The worm seems to be particularly fond of Hungarian grass, and it is well enough for farmers to keep an eye out for the pest up to the time of frost.

⊙

THERE were a good many fakirs and Cheap John shows at the New York State Fair this year, but this part of the exhibition was much cleaner than last year. One wicked performance was permitted to open up, probably, without the knowledge of the managers. A representative of THE R. N.-Y. visited this show, and reported its immoral character at the managers' office. In a short time, the place was closed. We still believe that it is a mistake to permit even the so-called "harmless" fakirs to ply their trade on the fair grounds; but we are told that the managers need the money these people pay in order to make both ends meet.

⊙

A GOOD many corn harvesters will be used this year, and the question as to what is a fair rate to charge for them when hired by the day, is coming up. As with thrashers, sawing machines or ensilage cutters, a fair price for their service must be agreed upon. Along the Hudson River, $6 a day is considered a fair price for cutting corn—the owner of the corn to furnish the twine. One man with a good team on the harvester, will cut eight acres a day, thus making the cost of cutting and binding 75 cents an acre. In addition to this, it will require from two to three pounds of twine per acre—depending upon the size of the bundles and the yield of corn.

⊙

ONE of the presents given Li Hung Chang during his visit to New York, was a collection of ginseng roots. It is doubtful whether anything he received pleased him more than this. One of the most singular things about modern trade is the Chinaman's desire to buy ginseng. Tons of the root are sent from this country to China every year, but no one seems to know what the Chinese do with it. They are eager to buy it, but will give no information as to what becomes of it. During past years, the price has averaged about $3 75 per pound, while, but for the Chinese demand, it would be slow of sale at five cents. The roots of commerce are mostly dug in the woods from wild plants. It is now claimed that the plants can be cultivated and grown as a garden crop. If that is true, there is a fortune awaiting the man who can do it.

⊙

THE picture of the prize-winning Devon cow on our first page, will serve to illustrate one singular thing in stock breeding. There are larger beef breeds than the Devon. The chances are that a Galloway or an Angus will make more beef from a given amount of food than the Devon, while the hide will be worth more. For the dairy, an Ayrshire or a Jersey or Guernsey grade will "hustle" just as well, and make more butter in a rough pasture than will a Devon cow. If these things are true, why, then, is the Devon bred? Why does not the breed pass out of existence if other breeds are able to surpass it on its own ground? One reason is that its breed characteristics are more strongly marked than those of any other breed. For years and years, the Devon has been bred in one line until its bright red color, beautifully-shaped horns and carcass, and its energetic, "hustling" qualities have become fixed. You may know with certainty just about what the offspring of a Devon bull will look like, and how it will act. It is not likely that the Devon will ever be very widely scattered throughout the country. The Devon steers make the best working cattle, but for milk and beef, except in the English home counties, other breeds will crowd the Devon out. Still, in its marked prepotency, the Devon is a striking object lesson of what may be done in preserving and strengthening desired qualities in a breed of animals by proper selection and care.

⊙

IT seems that there is quite a business in the preparation of fancy mixtures of cheese. Full cream cheese of high quality is broken into small pieces, and mixed with olive oil, butter fat, whey syrup or even a little brandy or wine. The mixture is then packed in small packages of paper, wood or porcelain, and sold at high prices. There is no attempt to defraud the public, and the substances used are pure and wholesome. The Treasury Department has decided that this mixture is "filled cheese," and that it must be taxed and branded as such. As generally understood, the "filled" article is a cheese made from skimmed milk with some cheap fat like lard or tallow added to take the place of the butter fat removed in skimming. Those who framed the law, probably, did not have in mind this fancy mixture in which a more expensive fat is used. Doubtless the decision is just, but it seems unfortunate that a superior article must carry a brand which people have been taught to believe is a badge of inferiority.

⊙

LAST MONDAY, at Dunkirk, N. Y., was held a conference of the representative grape shippers of Ohio and the Chautauqua, N. Y., district. This was due to the extremely bad condition of the grape market, it being stated that shipments of Ohio grapes the previous week had not netted the growers over six cents per nine-pound basket. This is a ruinous price, and the Ohio shippers asked that the Chautauqua people shut down on shipments until the markets are relieved. This was not agreed to, although it is probable that shipments will be much lighter; but the New York growers were to be asked t delay harvesting Concords until the market is in better condition. The Ohio crop, at the time of this meeting, was about one-third marketed. While these low prices are disastrous to growers, they increase the consumption of grapes many fold, and if the cost of transportation and marketing could be correspondingly decreased, the low prices might not be such a bad thing. But the railroads must pay the usual dividends on stock that is half water, no matter who suffer.

⊙

THE retail price of coal in this vicinity, is just $1 per ton more than it was one year ago. There is no shortage; on the contrary, the production has been large, and the storage capacity of many of the coal-carrying roads is said to be tested to the uttermost. The cost of mining coal has not been increased; the operatives, as a general thing are paid a miserable pittance. It costs no more for transportation and handling. The country at large is in the midst of a financial depression, where the poor and the great middle classes are having a desperate struggle to make a bare living. Winter is coming on, when coal is a necessity, and the man of family finds that, out of his hard-earned, carefully-expended wages, he is forced, in times of generally depressed prices, to pay a higher rate for the coal he must have. Why? Simply because a few millionaire mine owners who, by some accident, have secured control of the deposit of coal that the allwise Creator intended for all who need it, met and "agreed" that the price should be raised. This has not been done all at once, but it has been shoved up a little at a time, and it is rumored that it will be advanced still more. This is a shameful business, and is the sort of thing that makes anarchists and socialists. It is the sort of thing that makes advocates for the Government ownership of all corporate interests. It is no better than highway robbery, and if this sort of thing were done by a private individual, he would be called in plain English a thief. What makes the difference? It is needless to argue that no one is forced to buy coal. They must, or freeze!

⊙

IT will be noticed that Mr. Moss, on page 635, speaks very highly of dried blood as a food for ducks. We have received excellent reports from a number of poultry men who have substituted blood for dried meat in the hen's ration. The blood is more uniform in its composition; it is more digestible, and gives a greater feeding value for a dollar than the ordinary dried meat. Experiments in the West have, also, shown that dried blood fed with corn, has given great results in hog feeding. A well-known dairyman recently told us that dried blood increased the milk flow from his cows as no other food would do. He said that he would feed it regularly to the cows, but for the fact that the public would be prejudiced against such "bloody" milk, though it would be as sweet and clean as any. Some of the fertilizer dealers are preparing special samples of bone and blood which are designed for stock feeding. The bone, as Mr. Moss says, is prepared from selected samples, while the blood is clean of hair and dirt. It was a good many years before the public came to understand that cotton-seed meal can be used for feeding both plants and animals. Great quantities of cotton-seed oil are used for human food. Dried blood has long been used as a fertilizer, but now it is evident that we are soon to begin to use it for feeding stock. There ought to be lots of "muscle-makers" in it!

⊙

SOME of the western agricultural colleges have been greatly improved during the past 10 years. Those in charge of them have made an earnest effort to keep up with the times, so that a boy can be graduated from such a school prepared to take hold of something connected with farming at which he can make a living There was a time when, unless the agricultural graduate had a farm of his own, or a partnership in his father's farm, it was necessary for him to teach school, or go into business, to make money enough for support. Since the experiment stations were established, this has gradually been changing, and scientific agriculture is being lifted to the dignity of a profession. For example, the students at the Wisconsin College are fully capable of judging live stock, fruit or vegetables at any fair in the State. They are sent out for this purpose, or they can go to herds or farms for advice or suggestion. This sort of thing has proved a strong feature in Wisconsin. It brings the farmers closer to the college, and gives them a respect for it that they would not otherwise feel. It also gives the boys confidence, and teaches them to associate actual business with their school training.

BREVITIES.

Rain! Rain! Rain! Over the lonely farm!
Rain! Rain! Rain! Can't do a bit of harm!
Cattle are all inside, eating their grain and hay;
Children and wife are safe here at the close of day.
Rain! Rain! Rain! Dropping along the eaves!
Rain! Rain! Rain! Hark how the old tree grieves!
Supper is smoking hot—here in the firelight bright,
Dearer than all beside is the old home to-night.
Rain! Rain! Rain! Darkness and gloom outside!
Rain! Rain! Rain! Trouble and terror hide!
Under the shadows black, grimly they brood and frown,
Keep them away to-night, pull all the curtains down!
Rain! Rain! Rain! Fall of the year has come!
Rain! Rain! Rain! Let us sing, "Home, Sweet Home"!
Mother, put down your work! Open the organ, Joe!
Right from a thankful heart, let the old chorus flow!
Rain! Rain! Rain! Over the lonely farm!
Rain! Rain! Rain! Can't do a bit of harm!
Nature may cry outside, weeping her tears of rain,
But at our door to-night, misery knocks in vain!

DON'T do business by *wait!*

DON'T be afraid of feeding smutty corn.

MONEY that is "salted down" must be corned money.

DOES a calf with all the skim-milk it wants, need water?

WE understand that the hired man is boss at your place.

SHED the reaper. It will be slower to shed its coat of paint.

NOW, then, Mr. Hired Man, are you counted as a hand or a head?

THE surplus roosters are nothing but loafers—get rid of them!

READ what S. D. Willard says about thinning apples, page 622.

MR. STEVENS, page 622, certainly has confidence in the Keiffer pear.

NOW, then, how about the muscle-makers in that hen's winter ration?

A GOOD 16 to 1 policy for the dairyman—16 ounces of butter to 1 of salt.

THE cow is the best cider press you can find. Get the apples inside her.

A QUART of bran weighs less than a quart of corn meal. Feed by weight.

ARE there fewer song birds in your neighborhood than there used to be? Why?

THE man who spends good money on a "fake", can scarce be said to take what's called "the cake".

WHEN the lame farmer chased the boys out of his orchard, they gave him a dose of apple "sauce" as they went.

DOES the moulting hen realize that her personal appearance isn't what it should be? She sometimes acts that way.

MORE cow pea reports—page 632. These men sowed the peas alone and obtained a heavy growth. That's the way to use them

ON August 27, there were 317,170,384 pounds of sugar in sight throughout the world. We are not likely to go unsweetened, for some time.

THE cow that is plump needs help from the pump to help out her work at the pail. With fat on her ribs she'll have to tell fibs or confess that she lives but to fail.

DRIED blood contains a higher per cent of muscle-makers than ground meat. If you change to blood in your poultry ration, don't use the same *weight* that you did of meat, for the ration will then be too narrow.

THE law in Connecticut prohibits bakers or food venders from selling or exposing for sale any article of food in which imitation butter was used unless in the store, or on the wagon, a sign is displayed informing the public that the bogus article is used.

THE SHORT COURSE IN AGRICULTURE.

AN INDIANA STUDENT TALKS.

For several years past, Purdue University has been offering a special midwinter course in agriculture for the benefit of young farmers, who are not so situated as to be able to take a regular course. It was my good fortune to be able to attend during the 11 weeks' term of last winter. The short course at Purdue consists of several distinct lines of work, and each student is given an opportunity to choose those lines in which he is most interested. The instruction is given chiefly by means of lectures and such experiments as are practical at that season of the year. One important series of lectures is that on live stock husbandry and veterinary hygiene. The several classes and breeds of live stock are discussed. Diseases of stock, how to prevent and how to cure them, is a leading feature in this part of the work. The students are given an opportunity to judge stock, both with and without the use of the score card. Besides making use of the stock kept at the experiment station farm for this purpose, excursions are made to neighboring stock farms, where the finest specimens of stock are kept, so that the students have very good facilities for this kind of work. They are also required to do a certain amount of work in the veterinary hospital where they may acquire a practical knowledge of diseases, blemishes and wounds, and are taught how to treat them.

Horticulture is taught by means of lectures, laboratory practice, and such experiments as can be carried on in the winter season. Occasionally, when the weather is pleasant enough for it, the students are given an opportunity of doing some experimental work in the orchards, under the direction of the horticulturist of the experiment station. The lectures on horticulture embrace the topics of orcharding, small fruit growing, propagation of plants, nursery culture, transplanting, grafting, budding, market gardening and landscape gardening.

The dairy is well represented, both as to instruction and practice. On the station farm, there is a dairy building, supplied with testers, separators, churns and butterworkers, and here the dairy students are required to spend three afternoons each week. They "learn to do by doing"—a method of instruction which is advocated by many of our most advanced educators, and which some of them style the "new education". This work of testing, churning, separating, and preparing butter for market, is a very valuable part of the young dairyman's education. On the other two afternoons of the week, they listen to lectures, and note the results of experiments made in the dairy room. So that here, as in the other lines, practice and science are taught together.

"Soils and crops" is another subject that is taught by the combined methods of lectures and experiments. The character, quality and texture of many different kinds of soil are discussed, and the methods suggested for handling each one to the best advantage. Drainage, tillage, fertilizers and rotation of crops are discussed at some length, also agricultural chemistry comes in for a share of attention, about 20 lectures being devoted to the subject. The chief topics handled under this head are the chemistry of manures and fertilizers, feeding rations and how to compound them, and the relation of feeding stuffs to fertility.

About 20 lectures are given on rural law, or, rather, legal topics of interest to farmers. These lectures embrace such topics as highways, line fences, trespassing stock, landlord and tenant, contracts, promissory notes, deeds, and many others of equal or greater importance. This series of lectures alone is really worth the cost of the whole short course. With the exception of those on law, all of these lectures are given by the agricultural faculty of the University. Besides these, there is a series of practical lectures, one each day throughout the term, by practical farmers, stock breeders and horticulturists, who have been exceptionally successful in their respective lines of work. These lectures embrace all of the subjects mentioned above. Besides, particular attention is paid to the details of farm management, and the economic side of agriculture.

No doubt, many young men who have thought of taking a course like this, will ask, What can be learned in so short a term as 11 weeks? or, Will it pay to spend the time and money that will be required to take this course? My answer, based on my own experience and observation, is that it will pay. In fact, I believe that no young man can afford to miss such an opportunity, unless he can do what is better still, take a more extended course. It may not always pay at once, directly in dollars and cents; yet, in many cases, it will. It will help many a young farmer who is about to begin farming on his own account, to better understand the principles which underlie the science of agriculture, and to make that knowledge contribute to his own profit. Having spent the greater part of his life on the farm, he has already acquired a somewhat extended experience, and the opportunity to study and think and observe will make his experience more valuable to him than it could be made otherwise. Besides, there are, in many localities, farmers who would be glad to retire from active farm labor, if they could secure the services of intelligent and competent young men to take charge of their farms and live stock. By applying himself diligently to the work that is set before him in this short course, almost any bright young farmer can prepare himself to accept such responsibilities and to render services that will command good wages.

One point that should not be omitted in connection with this course is, that it brings together a number of intelligent young farmers from all sections of the State, thus giving them an opportunity for an interchange of views and experiences. Each one learns something of the agriculture of different sections from his own, and this has a tendency to enlarge his views and to do away with that petty narrowness which, too often, is characteristic of the agricultural class. The students who were in last winter's class, almost without exception, were well satisfied with their work. Many of them expressed a desire to return at some future time and take up some other lines than those which they pursued then. I should be glad to do so myself. The same sentiment prevailed in previous classes, and we had, in our class, several former short-course students. It seems to me that this testimony of appreciation on the part of students of the past, should go far toward convincing those who are doubtful as to the value of the short course, that it is fully as good as its projectors claim it to be.

What has been said of the short course at Purdue University, will, probably, apply, substantially, to similar courses offered by the agricultural colleges of other States. Wherever this kind of a course is offered, it should be liberally patronized by the young farmers of the State. THE R. N.-Y. can do a good service by calling attention, from time to time, to this feature of agricultural college work, and urging its young readers to avail themselves of the opportunities thus offered better to equip themselves for their vocation.

H. S. K. BARTHOLOMEW.

Indiana.

A REPORT FROM A FARMER'S FAIR.

WHAT THE EXHIBITS SHOW.

Notes on Live Stock and Tools.

The Hornellsville (N. Y.) Fair was a great success this year. While exhibits of manufactured articles and those for luxury or pleasure were fewer in number than formerly, the classes of purely farm exhibits were larger than in previous years. Think of 10 to 20 entries in each class of sheep, when people are saying, "You cannot give sheep away." Dr. Smead, the veteran judge, said, "Ordinary sheep are so cheap, and competition in show sheep is so keen, that only the best are now retained for breeding." A shipper who stood looking at a pen of young sheep, said, "I will give $3 each for them." A farmer standing by, said, "I can get only $2 for mine." The exhibitor made both stare by saying, "I refused $10 for them this morning."

I notice a falling off of interest in horses, and, outside of breeding establishments, there is scarcely a young colt in the country. Hogs were exhibited in great numbers of all kinds. Owing to the increased number of judges who believe that a breeding animal should not be fat enough to be slaughtered to win a premium, stock can be exhibited now without being ruined by feeding. Overfeeding has been carried to its greatest excess among breeders of swine, and I am pleased to note the change.

The butter breeds seem to take the lead in numbers and interest among cattle. One imported bull seemed about perfect, and F. S. Peer remarked, "We should use more imported bulls and retain the true Jersey type." I conclude, from his remarks and the appearance of some remarkably poor specimens I have seen, that we are not particular enough in our selections for breeding, and that our climate, care and the character of our foods produce variations from the true type, not always to be desired.

The poultry department gives evidence of the increasing popularity of the "business hen", and the tendency among farmers to study the former side issues. The judge said, "I have met more well-developed chicks this year than ever." The average farmer is learning that a pullet should lay enough eggs the first winter to pay the cost of raising. There is a fight between the breeders and farmers over the Black Minorcas. The professionals want an overgrown, long-legged, black-skinned bird. They lay eggs too big for profit, and some hens are injured in their efforts to drop them. Great skill and care are required to grow them up to the standard size. The farmers are building up flocks of smaller, compact birds, that lay a beautiful white egg larger than the Leghorn. These flocks are proving good layers, good feeders, and the eggs are in demand; but they might as well stay at home from the fair as far as premiums are concerned. The judge spoke very highly of the Andalusians, and thinks that they are remarkably good eating, in addition to their laying quality.

The Planet Jr. people seem to read the papers. The teachings of the agricultural press have been, "Shallow, frequent, level cultivation." How to keep the cultivator from going too deep and cutting off the roots, has been the problem. Dropping the wheel in front causes the hind end to run deeper. The two levers now on all up-to-date cultivators were liable to catch and bend if the machine was turned down on the side and dragged to the field. The problem is solved by an arm which is attached to the lever which operates the wheel, so that the cultivator can be made to ride on it, and dig any depth. This arm is under the center, and follows the center tooth when marking out or on a sidehill, and prevents sliding. A straighter mark and greater ease in holding are claimed in addition to the solution of the other problem. With the different sizes and shapes of teeth, all of which fit one frame, any kind of a crop can be cared for and soil put in any shape. I have used one for 13 years, and find that I have only just begun to learn its possibilities. The sweeps proved a blessing last season in a field infested with Canada thistles.

A spring-tooth harrow on wheels has been one of my ideas for several years. One with two on the rear bar and one in front made to turn in any direction for each half, was shown. With handles attached, a half would be a good thing to cultivate berries, as one could turn it around on the wheels at the end. The only objection I have to the "sled-runner" frames is the wear. It seems to me that the wheels must sink into the soft earth and draw hard. Who has used them? We cannot tell by looking at a machine on the fair ground what it will do. The potato planter and corn husker and shredder are the only new machines noticed.

C. E. CHAPMAN.

THE NEW YORK STATE FAIR.

The New York State Agricultural Society held its annual exhibition at the permanent grounds of the society, Syracuse, N. Y., during the first week of September. As a whole, the fair was a creditable success; the exhibits in some departments, however, were not so large as in former years, but the quality made up, in some measure, for the size. This is especially true of the fruit exhibit which, though not up to the average in size, was very fine in quality, and well represented in the matter of variety. The exhibit of apples from the Geneva Experiment Station was most creditable. As we remember it, there were something over 150 varieties, and it was a difficult matter to find a single imperfect apple. In the stock department, the exhibit of cattle and horses was unusually light, but that of sheep and hogs was, apparently, larger than ever before, and it is doubtful whether a finer lot were ever exhibited at the New York State Fair.

The manufacturers of farm machinery were well represented, including several manufacturers from the middle and western States. While this exhibit was, probably, up to the average, it was smaller than at other times. The attendance, for the most part, was light. Thursday, however, promised to be a large day in the morning, but along in the middle of the forenoon rain set in, and kept up an incessant downpour for the remainder of the day, rendering the grounds in very bad shape and keeping thousands of people away. Aside from the weather, however, there seems to be a general falling off in the attendance at fairs this year, which, no doubt, is caused by the unusual business depression at this time.

In their very commendable zeal to make the fair a success, and amuse, as well as instruct, visitors, the management allowed some side shows on the grounds, which, for the most part, might be classed as harmless, if not a means of edification. One of this sort was a so-called Parisian theater, which, for a time, attracted some attention and considerable criticism. The attention of the management, however, having been called to the objectionable features of this so-called show, it was soon found that the contract restricted them from any exhibit of an objectionable nature, and their place was promptly closed. This exhibit was of such a disgusting character that we should gladly refrain from any reference to it whatever; but, inasmuch as it drew out a great deal of criticism during the first day of the exhibit, the attention of the authorities not having been called to it, it is only right to say that it was promptly suppressed as soon as it had come to their attention. It might be well to emphasize the point right here that public sentiment can usually suppress a nuisance of this kind very promptly, if the right means are taken to do it, and it is always better to make protests against such public nuisances to the authorities that have the means of suppressing them, than to complain about them in quarters where it is not likely to come to the ears of the proper authorities.

D.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

THE FALL O' THE YEAR.

When the leaves er a-colorin' and fallin' to the groun',
An' the hick'rynuts an' walnuts er droppin' all aroun',
When the mornings er frosty, an' a chill's in the atmosphere,
An' the trees er gittin' bare, an' the fields brown an' sear;
It's Nature's way o' doin' in the fall o' the year.

When the corn's in the shock, an' the wheat's all sowed,
An' they're pickin' the winter apples by the wagon-load;
When the wind's blowin' hard an' the weather's sort o'drear,
An' the old fireplace gives out a warm, invitin' cheer,
Nature's carryin' out her programme fer the fall o' the year.

When the cider's on the dinner-table, an' yer feelin' pretty dry,
An' yer swaller down the cider with a piece o' pumpkin pie;
When they're makin' apple butter, an' hog-killin' time is near,
An' the weather gittin' brisk' tells yer winter's nearly here,
Then Nature's in her glory, fer the fall o' the year.

When the cellar's packed with fruit, an' the barn's filled with grain,
An' all the crops er under cover from the winter's snow an' rain;
When they're choppin' the wood, 'nough fer the whole year,
An' yer feel that the winter's cold won't give yer any fear,
Then Nature's windin' up her programme fer the fall o' the year.

A. P. H.

When scouring knives, use a cork instead of a cloth to do the rubbing. It is much easier and polishes quicker. This is not a new idea, but, like all good advice, ought to be repeated.

*

Cool weather will soon bestir us to take an inventory of winter dresses, and making over will be the order of the day. Pressing cloth properly is one of the necessary accomplishments if one would have a well-finished garment. Bear in mind that pressing is not ironing. The iron must be held on the cloth for a little to "set" the smoothness, or after the cloth has cooled, the creases will appear again. The swift movement given in ironing will spoil some materials, as it gives a shiny look or makes shiny creases.

*

Why will they teach the children about the bogie man? Why not teach them to fear to do evil instead of setting them to look for some indescribable terror? The children are not benefited by the good intentions of the person who means to warn them against doing wrong by scaring them into doing right. They lose sight of that part of it, as, indeed, too often the parent does, and both are carried away in the endeavor to exert the imagination.

A LITTLE AT A TIME.

For women who do everything on a large scale, and who have no time to "fuss" with small things, these suggestions will have no interest. Those who have to do things on a small scale, may be glad of them. Every one is glad to feel that she has something in the way of sweetmeats tucked safely away for winter consumption, and not all feel able to preserve or pickle on a large scale. It takes a good deal of money to purchase sugar, glasses and all necessary things for preserving fruit. One woman whose purse always seemed to have a "hole at both ends" after the necessary things were bought, but who felt that she wanted a little jelly, and a few preserves on her storeroom shelves to bring out for extra occasions, manages this way: She preserves just a little at a time, or, perhaps, makes just two or three glasses of jelly at a time. In that way one does not feel the expense of the sugar, and can attend to it easily while doing the regular morning work, without being tired. You will be surprised to see your shelf at the end of the season, with its jars and glasses of different things. This woman had no scales to weigh, so she used a cup. If, for instance, she had made a pie of raspberries and had a cupful left, she would put them into a saucepan and make a cupful of jam, using, of course, a cupful of sugar. She did the same with currants, making either clear jelly, or jelly excellent for meat, leaving the currants in. The extra strawberries are delicious that way. And the peach parings boiled in water enough to cover, till they are like pulp, make a delicate pink jelly. Strain, add as many cupfuls of sugar as there are of juice, and boil 20 minutes. Quince parings she boiled the same way, with the addition of the cores, and of them made a delicious jelly.

She used grapes in much the same way, making some jelly, but the greater part were seeded the old-fashioned way; they have a much better flavor, and it is not so tiresome as one would think to seed them. Do them in the afternoon, then cover them closely till morning; they will not spoil. When doing the work, she puts them in a saucepan with just enough water to cover them, no sugar. Let them boil thoroughly, and can quickly; they retain all their flavor and can be used all winter for pies or as sweetmeats by adding sugar to taste, boiling quickly and setting away to cool. This woman makes her pickles in this same small way—without fuss or fatigue. She cans all the pie plant she needs for winter pies, and it retains its flavor perfectly, by being cut in small pieces stewed quickly without a particle of sugar and canned; putting in sugar before cooking makes it flat and tasteless. When ready to make your pie, use a cup of sugar to each pie. SARAH ISHAM COIT.

WOMEN AS ECONOMISTS AND FINANCIERS.

It had been market day. A number of small coins were spread out upon the table, and Bess and Tommie were busily engaged in piling them up, halves, quarters, dimes and pennies each by themselves. Mr. Fifield, clad in his gray business suit, had just closed the last account book and wiped his pen.

"I don't suppose that there is another route in the city for which you would exchange yours, Horace," remarked his wife.

"There are plenty of cleaner streets than those through which I go," he replied. "My customers are all plain sort of folks, but they are honest and good pay. I never call twice where there is any cheating or disposition to do other than the right thing. I often give where there seems need, but I have little patience with lying and fraud. There must be more than a dozen families that I have supplied with my line of farm products ever since I was a boy, and first began peddling."

"You have a chance to know which women are the best managers, don't you?" remarked his sister, Sarah Fifield, who chanced to be on a visit to the farm.

"Yes, I do; and I tell you, the women outdo the men in that line, nearly every time. According to my opinion, the average woman is a better economist than the average man. A woman will think how much she has in her purse, and what it must buy. She will select the things she most needs, and make her money spread over all it can be made to cover. She will get up a 50-cent or a five-dollar dinner, and have her money's worth."

"Why, I did not know, Horace, that you thought women such good calculators," laughed Sarah Fifield.

Taking the interruptions as an orator does applause from his audience, Mr. Fifield continued: "Men might be divided into two classes; those who 'pinch their pennies till they squeal,' and those who don't pinch them half hard enough. A man will be either so open-handed that he is foolish, or so saving that he is stingy. Take a man who prides himself upon being liberal, and he will say, 'Now what's the use of bothering Mr. Fifield for a peck of apples? Let him bring in a bushel'; or, 'What makes you ask for a half dozen eggs? Take the whole basketful, and have some on hand.' Likely as not, they are fall apples not likely to keep, and the woman knows just how many eggs she can manage with, and what she needs more than she does the eggs."

"I should say," and Mrs. Fifield broke off a fresh needleful of cotton with a snap, "that it was a poor housekeeper who didn't know what she needed, and as for her knowing how to scrimp, she generally has to practice that from the moment when the man she is marrying stands up and says that he endows her with all his worldly goods."

"That is so, Janet," returned Mr. Fifield, with one of his sly winks. "A woman would never discover half the virtues she is capable of developing without a husband to help her out."

"Possibly, women are, as you say, good economists, but I confess to not having so much confidence in their business abilities that I would care to risk much money in an enterprise managed wholly by women." Sarah Fifield spoke apologetically, conscious that she distrusted the sex it was the fashion to applaud.

"No, nor I," quickly rejoined Mrs. Fifield. "Every little while, the newspapers make a fuss over some great thing women are going to do. Later, comes a small paragraph down in one corner, giving some polite reason why the thing slumped through. The last time she was home, Mary was telling how the young woman whose charities and schemes the papers are always praising, is bankrupt after every concert she gets up, and goes about getting her friends to make up the deficit. I say that a woman's place is in her home, and not splurging about seeking notoriety—*Fame* they call it! There is not room for more than 20 famous women in any nation at once. The rest get themselves talked about by clever advertising mostly, I reckon."

Fannie, coming into the room with a handful of books and school exercises in time to hear her mother's outburst, went over and patted her on the cheek, saying, "There, there, Momsie! The world will move. Why not laugh at its follies, and try to like what is best so as to have the pleasure of sympathizing and feeling in touch with progress?"

"Undoubtedly, there is an unlovely zest for notoriety noticeable among women nowadays," admitted Sarah Fifield. "But, of course, a good deal of successful business is conducted by women. I suspect that most such enterprises have grown out of small beginnings; starting in a small way, women gradually acquire the necessary business education. How is it, Horace," she broke off to inquire, "is Lizzie Mead going to make a success of farming? I remember that you said, at the time you appraised her husband's estate, that there were few men in the township who had better ideas of values and farm possibilities."

"She had a hard season for her first one." Mr. Fifield pursed up his lips thoughtfully, and then added with conviction, "I'll tell you, Sarah, nine times out of ten, where women make a business venture and fail, it is where they depend upon hiring men to do the work."

"It isn't the women who are good managers who want to spell their sex with a capital W," remarked Mrs. Fifield, ignoring the question of Mrs. Mead's success. "If a woman wants a man to help carry out her projects, she has the wrong sort of halter on the horse when she makes much of herself and little of him. He won't be led, and he won't follow half as well as he will be head horse. 'Use the silken rein, the silken rein,' our good old minister's wife used to say."

"I suspect that is so," assented Mr. Fifield. "The best thing for a woman about to undertake farming would be to get herself a good, industrious husband. But I would as soon expect to see a widow running a farm at a profit as to see a widower making much headway, provided he hadn't daughters to look after things indoors. I could mention several instances where mortgages would, probably, never have been lifted but for the wife's planning. A woman will look out for two cents here and five there, and merchants say that it is in the little retail trade, the five and ten-cent sales, that they realize largest profits. A bright woman will run a poultry house or a little store, and make a living, where a man would starve."

"Undoubtedly, a woman is a better hand than a man to look after details," nodded the sister. "And as to failures, they tell us that it is only a very small proportion of the ventures made by men that succeed. A good deal depends upon the wife's management everywhere, but I suppose that nowhere else does the responsibility rest more equally upon both pair of shoulders, than on a farm."

"Yes, a man might about as well expect to win a walking match by hopping on one foot, as at farming without a good wife; and a woman is about as badly off on a farm without a man working for love and his board and clothes. Janet, here, is running a farm at a fair profit"

As Mr. Fifield's three companions looked smilingly up, he added, "Yes, to run a business successfully, a woman needs a husband; and when she has him, she wants to keep him just like that!" and Horace Fifield placed his thumb squarely upon a gold piece which lay before him on the table. P. T. PRIMROSE.

CURE FOR HICCOUGHS.

In the last year, a number of cases of prolonged and frequently fatal hiccoughs have been reported in the newspapers. Frequently without warning persons in good health have started to hiccough, and have kept it up for weeks without cessation until the exhaustion proved fatal. The physicians in charge have tried many things as remedies, but as a rule, failed to accomplish anything toward controlling the disease, says the New York Journal. Professor Lepine, of Lyons, France, has, at last, discovered a cure. A young soldier had contracted the disease and was rapidly losing strength. The new remedy consisted in pulling the tongue several times a minute, keeping it outside the mouth, and then letting it slip back again. This faithfully kept up, produced a cure inside of 20 minutes.

Hiccough, when continued, is a serious disease of the respiratory center in the brain. These rhythmical tractions on the tongue seem to affect the respiratory center in a peculiar way. There is a bunch of nerves at the base

of the tongue which communicates directly with the nerve centers of the brain. When the brain center is inactive, it may be stimulated by pulling the tongue. It is inactive in cases of suffocation.

If a baby does not breathe properly when born, if the tongue is systematically pulled a few minutes, the baby will begin, of its own accord, to attempt to breathe. Pulling the tongue also helps by clearing the throat. In cases of drowning, it has been discovered that pulling on the tongue 10 or 15 times a minute acts as a more certain and powerful stimulus than any of the old methods, such as rolling the subject on a barrel, hanging him upside down from the meat-hook, or "pumping" him with his arms, or blowing into his lungs.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

6851. Ladies' Jacket Basque.

The right front extends on the left in double-breasted style, the upper portion being reversed in a single broad rever that is decorated with rows of braid and buttons. A standing collar finishes the neck trimmed with braid in military style. The one-seamed sleeves are of fashionable size, the fulness being

6851—Ladies' Jacket Basque.

gathered at the top, and the wrists neatly trimmed to simulate cuffs. Pattern No. 6851 is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

HICKORY-NUT MACAROONS.

IN response to our request for a recipe for hickory-nut macaroons, we have received a number of replies, from which we select the following as differing from others, and also recommended as having been tried and found successful:

Two cupfuls of finely-chopped hickory-nut meats, two eggs, four tablespoonfuls of sifted flour, one cupful of sifted, pulverized sugar; flavor with almond extract. Beat the eggs very light, beating in the flour slowly, then the sugar by spoonfuls. Add the meats last. Bake on buttered paper in a slow oven.

MRS. CHAS. STRICKLAND.

One cupful of chopped nuts, one cupful of pulverized sugar, one egg (yolk and white beaten separately), one tablespoonful of flour. Mix the nuts and sugar, then the yolk, then the white, and lastly the flour. Accuracy is very essential in measuring these ingredients.

MRS. G. T. ANDREWS.

Beat the whites of five eggs to a stiff froth; then add one pound of pulverized sugar, one pound of kernels chopped, and two tablespoonfuls of flour. Drop half tablespoonfuls of the batter on a sheetiron pan, and bake in a quick oven.

MRS. J. B. MOSTELLER.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PRINTED PATCHWORK.

Remember thou a debtor art
To every man by want distressed,
And he may claim the rightful part
In every good with which thou'rt blessed.
And if to-day a golden stream
Of comforts through thy life is flowing,
Should hungry eyes unheeded gleam
In on thy board with plenty glowing?
Scare not from thee the frightened dove;
Think of the gleaner in thy mowing,
And the last vineyard clusters why remove?
—*Raymond H. Stearns.*

....PHILLIPS BROOKS: "It is in its contact with the healthy relations of human life that religion keeps its own true healthiness."

....DR. FRANK H. HAMILTON: "Girls need health as much—nay, more than boys. They can only obtain it as boys do, by running, tumbling—by all sorts of innocent vagrancy. At least once a day, girls should have their halters taken off, the bars let down, and be turned loose like young colts."

....NEW YORK LEDGER: "Every young life has a right to an intellectual environment. What fresh air is to the plant, the domestic atmosphere is to the child, and in proportion to its overwhelming importance is the emphasis of the obligation. The home must be not alone the shelter of the body, but the cradle of the mind."

....MME. LOUKMANOFF: "Children are always indifferent to suffering, because they lack imagination and sympathy. They do not hesitate to tell a cripple that he is deformed, a shabbily dressed person that he is poor. This is truthfulness, but not of the virtuous kind. So, when men tell the truth, they do so out of cruelty and recklessness, not stopping to reflect on the pain caused thereby."

ODDS AND ENDS.

TOMATO SOUP.—We use tomato soup, in hot weather, in the place of the more heating potato soup. Boil a pint of peeled and sliced tomatoes until tender, salt, and add a tablespoonful of flour rubbed smooth in a pint of water. Boil until it thickens, add a lump of butter, and serve. Sometimes we use more flour, and in place of the butter, add a pint of rich, sweet milk. A small onion is sometimes cooked with the tomatoes, making a little change in the flavor. Serve with crackers or biscuits split and browned in the oven, or thin slices of toasted bread. R.

DON'T BE OPINIONATED.—There is nothing in this world I dread more than becoming opinionated, says the Housekeeper, and living to hear my friends say: "Oh, don't dispute with her! Of course, she is wrong, but you could never convince her of that fact. Remember, she is old, and we must make allowances for her." That is what is said, by kind-hearted relatives and friends, of more than two-thirds of the aged people now living. Is it an indication of a necessary characteristic of old age? I don't believe it. It seems to me that, if young women would watch themselves, with a view to fighting against it, they might be open to conviction on all matters of importance, as long as their thinking faculties are spared. To have your statements doubted, to be obliged to prove them, and to learn that you are mistaken and must begin to look at the matter from an entirely different point of view, is the best sort of discipline for the mind that is to be kept active as long as life lasts. Think of it in this light the next time you are inclined to become angry when a statement you have made is disputed. The time to be really angry is when you discover that a statement of yours has been accepted in silence, simply because you happen to make it.

I know women who congratulate themselves that whatever they say is never disputed by any member of their families. To me such a condition of affairs would be almost an insult. I am older than they, but not yet old enough to have my statements accepted in silence on account of my age, and I should feel that I was considered either too ill-tempered to discuss the question pleasantly or profitably, or so weak-brained that it would not be possible for me to see the matter in any other light than that in which it had first presented itself.

Miscellaneous Advertising.

IN writing to advertisers, please always mentio THE RURAL NEW-YORKER.

Holes in Your Health.

What does that mean? Suppose you are taking in money all day, and drop it into a pocket with holes; you will find yourself a loser instead of a gainer by the day's business. Same with your health. You eat and drink and sleep, yet lose instead of gain strength. There's a hole in your health. Some blood disease, probably, sapping your vitality. You can't begin, too soon, to take the great blood purifier,

Ayer's Sarsaparilla.

SAVE ½ YOUR FUEL

By using our (stove pipe) RADIATOR. With its 120 Cross Tubes, ONE stove or furnace does the work of TWO. Drop postal for proofs from prominent men.

TO INTRODUCE OUR RADIATOR, the first order from each neighborhood filled at WHOLESALE price, and secures an agency. Write at once.

ROCHESTER RADIATOR COMPANY, 27 Furnace St., ROCHESTER, N. Y.

SOLD! UNDER A **POSITIVE GUARANTEE**

75,000 in use. to wash as clean as can be done on the washboard and with much more ease. This applies to Terriff's Perfect Washing Machine which will be sent on trial at wholesale price; if not satisfactory money refunded. Agents Wanted. For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

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"THE GRANGER."—For family use. *Cheapest in the market.* $3, $5 & $8. Cir. EASTERN MFG. CO., 257 South 5th St., Phila., Pa.

FRUIT EVAPORATOR

THE ZIMMERMAN
The Standard Machine
Different sizes and prices. Illustrated Catalogue free.
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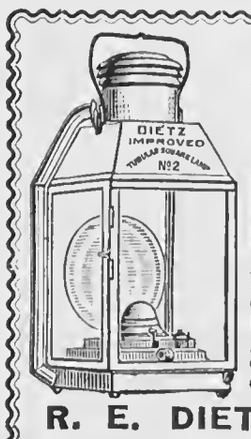

A Great Light.

Brilliant and safe for porches, sheds, barns or any outside stationary use is

DIETZ TUBULAR SQUARE LAMP

It has an outside wick regulator. Needs no chimney, never blows out. Made of finest materials and is up to the standard of DIETZ LANTERNS. Made in 3 sizes. If it cannot be had of your dealer we will send to any address, one of the medium size, carriage prepaid, for the regular price, $6.00. Write for free catalogue.

R. E. DIETZ COMPANY, 60 Laight St., New York.
Established 1840.

WALL PAPER SAMPLES FREE

Cheaper than ever before. Over half million rolls to be sold at less than cost. It will pay you to send for samples and Guide how to hang, etc. Describe rooms you wish to paper. Paper Hanger's full set of Sample Books, price, $1.00.

CHAS. M. N. KILLEN, 1231-1233 Filbert Street, PHILADELPHIA, PA.

THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

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Finest Tone, Best Work and Materials. **EMERSON** Sold and Rented, Moderate Prices, Easy Terms.

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YOUR REWARD

FOR GETTING US

NEW SUBSCRIPTIONS.

For one new subscription we will send you, postpaid, your choice of any one of the books in this list.

The Nursery Book.
L. H. Bailey. It tells, plainly and briefly, what every one who sows a seed, makes a cutting, sets a graft or crosses a flower wants to know. Paper 50

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James Morton. An excellent and thorough book, especially adapted to the culture of Chrysanthemums in America. Paper, 60

The Business Hen.
H. W. Collingwood. Breeding and Feeding Poultry for Profit. The egg and the dollar are what it chiefly considers. Cloth 75

First Lessons in Agriculture.
F. A. Gulley, M. S. It is just what the practical farmer, without a knowledge of chemistry or botany, needs. Cloth $1

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L. H. Bailey. Illustrated by photographic engravings of the actual growing vines, and represents all the practical systems of training in detail. Indispensable to every grape grower. Flexible cloth 75

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L. H. Bailey. It contains, in handy and concise form, information required by gardeners, fruit growers, truckers, florists, farmers, etc. Cloth 75

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Elbert S. Carman. Grower of over 1,000 bushels of potatoes per acre. This book gives the result of 15 years' experiment work on the Rural Grounds. Cloth 75

Asparagus Culture. Barnes & Robinson 50
Cabbages. Gregory. 88 pp 30
Cabbage and Cauliflower, How to Grow. Burpee 30
Carrots and Mangold Wurtzels. Gregory 30
Fertilizers. Gregory. 116 pp 40
Melons, How to Grow for Market. Burpee 30
Onion Culture, New. Greiner. Paper 50
Onion Raising. Gregory 30
Onions, How to Grow. Burpee 30
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The Scarlet Letter. Nathaniel Hawthorne 30
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Mosses from an Old Manse. Nath'l Hawthorne 30
The Snow-Image. Nathaniel Hawthorne 30
A Wonder-Book for Boys and Girls. Nathaniel Hawthorne 30
Uncle Tom's Cabin. Stowe 30

Every book is fit for any library. Bear in mind these books are not given to the subscriber as an inducement to take the paper; they are given as reward or pay for work and trouble in introducing the paper to new subscribers. If the new subscriber is not satisfied with his bargain he can have his dollar back.

THE RURAL NEW-YORKER, New York.

The Agent's Share.

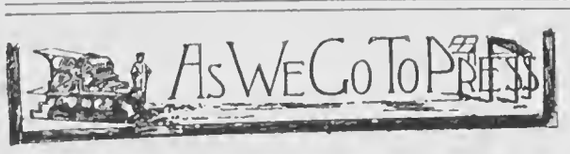
It would seem that our club-raisers have forgotten, or entirely overlooked, our cash-premium rewards for subscriptions. The winners, last week, were:

$3—J. O. LOFTON	North Carolina	41 Trial Subscriptions.
$2—RONSON GERMAN	Michigan	41 Trial Subscriptions.
$1—R. R. GAGE	Ontario	22 Trial Subscriptions.

The three new agents to come in for prizes, last week, were:

$3—M. S. WEBBER	Pennsylvania	15 Trial Subscriptions.
$2—W. S. BOWMAN	New York	14 Trial Subscriptions.
$1—H. W. BRIDGER	Georgia	10 Trial Subscriptions.

Two weeks are left in this contest, consequently, two more sets of weekly premiums. Then $50, $30, $20, $10 and $5 will go out September 30, to the five agents who have sent the largest five clubs since August 15. We get lots of small clubs; but no one is making much of a push for the premiums; consequently they go to easy winners, and the five large cash prizes are going to be windfalls for some one. THE RURAL NEW-YORKER, NEW YORK.



"CHERRY STONES."

When I was a young man, I didn't always have roast beef and plum pudding for dinner, I can assure you. I don't now, for that matter; but, in my younger days, baked beans or brown bread or crackers and cheese made a better "nick" into my cash than any more expensive diet. Some time after I was old enough to vote, I made up my mind that I would try to work my way through college, and I went at it with mighty little cash and less credit. Those were good old days, and those of us who had light hearts and sound digestions had a heap of fun, even though we had to live on coarse food, and cut expenses down to a fine point.

Of course, there were times when the outlook was as blue as Bordeaux Mixture, and it seemed as though it wasn't any use to try any more. My experience is that, at such times, a fellow needs a mental brace more than anything else. Yes, sir; it is nerve and courage that he needs. About half way down the road from college to town, was a big rock that always spoke words of encouragement to us whenever we got near it. You will say that you never heard a rock talk! Well, this was no new breed—a tough old piece of granite—but it did talk like an orator, and if you will give me your attention for a moment, I will tell you what it said.

Years before, a wayfarer passed by with a bunch of cherries in his hand. As he ate them, he threw the stones or pits carelessly away. One of these stones fell into a little crack in the rock into which a handful of soil had been washed. Strange to say, that cherry stone sprouted and grew. Its roots dug into the handful of soil, and its little trunk reached up for the sunshine and air. Nurtured and strengthened by that wise and wonderful force we call life, the little tree grew out of the crack while its roots, that seemed so tender and soft, actually forced the rock back so that, in our day, the trunk of the tree was, at least, nine inches in diameter, while the rock was fairly cleft in two by a great two-inch root. There it stood silently teaching, by day and night, a great lesson of patience and moral power. I hope that it is standing there to-day with its roots still deeper in that rock, so that young men may still take courage from its sermon!

And when you come to think of it, what a sermon that was! Here was a little cherry stone carelessly thrown away—worthless in itself—yet containing a germ which needed only protection and food to develop into a lever on which the great forces of Nature could work to split open that solid rock. We boys used to look at that tree and say to ourselves: "See here, now the force that will work such wonders with the germ in a cherry stone, will do even greater things with the germ of a true idea in a human mind." The germ in our minds was the desire to obtain an education. That wasn't a chance cherry stone; it had been put into our heads by a powerful set of circumstances. Some time I will tell how it got into my head—but that is quite another story. Our *motive* for wanting an education was true and honorable. It was a sound cherry stone. There was a rock of adverse conditions around it, but every time we saw how the cherry root had mastered the block of granite, we felt encouraged to hold on a little longer, and make another effort to pull through.

That old rock always said as plainly as though it had shouted out the words—"*Stick to it! Hang on when you know you are right!*" I don't know how many hundreds of boys have had their nerves screwed tighter, and their courage ground to a cutting edge, by the object-lesson of the old rock. And another lesson that came out of it was this: "*Mind where you throw your cherry stones!*" There is power in a cherry stone, whether it be a mere fruit stone or a mental germ. Start a right and true idea in the mind of that boy or young man! His head is forming! There may be cracks in it. They may close up and leave him a narrow-minded bigot. Look out for that! Throw in the stone of some true and noble idea that you have tried and tested! Watch it! Stay right by it! Help it along, and the first you know, it will send its roots down and its branches up and your young man will have a new head on him, with new hopes and ambitions and desires—a better citizen in all respects.

*

Now while this is all very nice, it isn't business, and it is business, you know, that gives force to every day affairs. The cherry-stone idea is a good one, and we would like to have you think in all the stones you can. Of course, it's a little late in the season for cherries now, but we suggest THE R. N.-Y. as a good substitute. Take a sample copy of an issue that you have studied up pretty well! There's your cherry stone! Go and throw it right into the crack in the head of your friend or neighbor! It is safe to assume that any farmer who does not take THE R. N.-Y., is just a little "cracked." Get an idea out of that sample copy right into that crack, and then stay by it! If the first one doesn't start, put in another! Keep at it and, first you know, the root from that stone has grown so large that your friend wants to subscribe for 10 years at one shot! Why, here's the way they talk:

I would rather be without all the papers I take, than THE RURAL NEW-YORKER. T. C. P.
Pavilion, N. Y.

I take several other agricultural papers, but like THE R. N.-Y. the best of them all. It is good and clean, and brings everything out to the point. So long as it is kept that way, you may count on me as a subscriber. J. R. T.
Harford County, Md.

Wife and I are alone on a good farm, one mile from neighbors, and three miles from the post office, and I do not have much time to spare for anything. We like THE R. N.-Y. the best of any paper of which I know, and shall continue to sing its praises, and hope to get more names both for trial and yearly subscriptions. You can count on me as a subscriber as long as I can get the money to pay for it. D. F. D.
Londonderry, Vt.

I took the name to-day of a man who said that he stopped the paper last year. But he said to me, "I must have THE R. N.-Y. again; it seems as though one of the family was away when THE RURAL is not in the house." You will hear from me again. B. G.
Scipioville, N. Y.

Now these men have just let that R. N.-Y. cherry-stone grow in their heads until the value of the paper is just as clear as a bell. That's the way your friends and neighbors will talk next year, if you get the stone started right!

Here's another side of it. Every subscription you secure is a cherry stone. If you put force and energy back of it, and secure others, it will grow into a great club, and its roots will split off one of those big cash premiums on October 1. Time is getting short now, and this is the season for a lively "move", if you expect to finger some of that cash.

COW PEAS AT THE NORTH.

After I gathered my rye, I plowed the stubble, and sowed cow peas on July 8. The next day, there came a rain, and they came up nicely. From that time till yesterday (September 7), there had been no rain on them, but they have grown right along ever since. They stand from 1½ to 2 feet all over the piece, some with beans and blossoms on, so I can say that they stood the dry weather well. As there has come a nice rain, I shall cut them up with a Cutaway harrow, and sow grass seed. I. C.
New Egypt, N. Y.

This is my first experience with cow peas. I sowed, on or about June 1, about 1¼ bushel per acre, with a grain drill, on corn stubble which was not very rich, without any fertilizer. On August 24, I began plowing them under for fall seeding to Timothy. They made an excellent growth, all over the field; the vines ranged from 18 inches to almost three feet long, in different parts of the field, depending on the soil, being larger on the loamy and sandy soil, while on a ridge of some gravel, they were small. They had matured until they had pods with green peas in them. I think that, if planted on May 1, they would mature the seed by October 1, provided they were not caught by frost. Regarding the

Miscellaneous Advertising.

The happiness of married life depends on the wife's health oftener than on any other one consideration. An ailing woman is a source of discontent to herself and a burden and drag upon her husband. Women by taking more interest in their own physical condition would lay the best foundation for married happiness and every other happiness. More than half the suffering which saps the energies and sours the disposition of women is directly traceable to some disorder of the organs distinctly feminine. There is no real need of such troubles; they are invariably cured by Dr. Pierce's Favorite Prescription, which reaches and strengthens the internal generative organs as no other treatment can possibly do. By restoring health and strength to this most important part of the feminine constitution, the "Favorite Prescription" gives new tone and energy to all the rest of the body.

One of the most deeply interesting and truly educative books ever written is the "People's Common Sense Medical Adviser," by Dr. R. V. Pierce, Chief Consulting Physician of the Invalids' Hotel and Surgical Institute, Buffalo, N. Y. This splendid volume of 1008 pages, includes ninety pages on the subject of diseases peculiar to women, with directions for home treatment, rendering unnecessary the embarrassing "examinations," and generally useless "local treatment," so dreaded by modest women. The book contains the most comprehensive explanation of human physiology and the rational principles of hygiene ever published. Illustrated with over 300 engravings—a complete medical library in one volume. No other medical book in the English language ever had such an enormous sale. 680,000 copies were sold at $1.50 each. Dr. Pierce is now distributing a new free edition of half a million copies. A copy will be sent *absolutely free* to anyone who will send to the World's Dispensary Medical Association, Buffalo, N. Y., 21 one-cent stamps to pay cost of mailing *only*. The present edition is in all respects the same as that sold at $1.50 except only that it is bound in strong manilla paper covers instead of cloth.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

HIGH CLASS SEEDS.

We are now mailing, free on application, our AUTUMN CATALOGUE of

DUTCH AND FRENCH BULBOUS ROOTS,

Hyacinths, Tulips, Daffodils, Lilies, Etc., Etc.,

All of which have arrived in splendid condition.

J. M. THORBURN & Co. 15 JOHN ST. NEW YORK

Presidential Campaign News.

The Presidential Election next November promises to be one of the most exciting and important since 1860. We can't print all the news about it in THE R. N.-Y.; but we have made special arrangements with the leading National papers of both parties in the following list, so that we can send your choice of them for the rest of the year at a trifling cost. This will give you all the political news during the campaign, and the results of the election in November. Every regular issue of any paper in this list will be sent from the date your order is received, until January 1, 1897, together with THE R. N.-Y. for one year for the price opposite the name of paper. Agents and club raisers may take these orders, and retain their regular commissions on THE R. N.-Y., but no discount can be allowed on the other papers.

THRICE-A-WEEK WORLD, New York	$1.45
THE BALTIMORE SUN. (Weekly)	1.30
THE DEMOCRAT AND CHRONICLE, Rochester. (Weekly)	1.30
THE CINCINNATI ENQUIRER. (Weekly)	1.20
THE CINCINNATI GAZETTE. (Weekly)	1.20
LOUISVILLE COURIER-JOURNAL. (Weekly)	1.40
ATLANTA CONSTITUTION. (Weekly)	1.30
THE INTER-OCEAN, Chicago. (Weekly)	1.30

Remember, these prices are for the papers mentioned until January 1, 1897, and THE R. N.-Y. one year, or we will send any paper in the list free to any subscriber who will send $1 for a new subscription (not his own) to THE R. N.-Y.

THE RURAL NEW-YORKER, NEW YORK

value of the plant, I am unable to speak at present, any further than that it produces a large crop of green stuff, which cannot help but benefit the soil in this section, by adding humus. Regarding its manurial value, I cannot speak before next season. I expect to use some more of them next season. J. R. G.

Bell Bend, Pa.

I sowed some cow peas May 6, in a peach orchard and vineyard, for turning under; but I got them so thin that they do not amount to much. Those in the vineyard, I plowed under about August 1, as they were so thin that I did not think it would pay to leave them. But those in the peach orchard are about 14 to 18 inches high (September 7), and have some pods from 9 to 12 inches long. I have nothing to say, as yet, in regard to them. I have about 25 acres of Crimson clover sowed in vineyards and orchards. F. C.

Crosby, N. Y.

I sowed about 1¼ bushel of Black cow peas, at about the rate of one bushel to the acre, broadcast, after first plowing the orchard, which was an old Timothy sod. Then I thoroughly harrowed and pulverized the soil with the Acme harrow, and covered the seed with the same. The land is yellow sand, with a clay subsoil. The orchard is 20 years old, the trees quite large, and shade most of the ground. I sowed the peas May 26, and on June 23, sowed Crimson clover among them. At this time (September 5), the peas are getting ripe, just about ready to cut for hay, and enough ripe to furnish seed for another year. I shall cut them next week, and cure the same as clover hay, only longer, as the vines are heavier and longer, some being 8 to 10 feet long and very thick on the ground. In Missouri and Arkansas, where I learned their value, not only as hay but fertilizer, we used them very extensively for both horses and cattle; but there, Crab grass grew spontaneously with them. And I sowed the Crimson clover to take the place of Crab grass; but owing to the rapid growth of the peas and, perhaps, to the ravages of some 200 fowls which had access to the orchard, the clover was of no value. We sowed it just before a hard rain, and it came up in little bunches where the water had washed it, but never seemed to do anything more. The peas made a very rank growth, and I shall cure them for hay. My object was to fertilize the ground, by turning under a portion, at least, of the crop. I think that they will be a success here, and shall plant again next spring. But I am afraid that Crimson clover is a failure here. J. A. B.

Melrose, O.

CONDENSED CORRESPONDENCE.

Evaporators in Scriba, N. Y.—The evaporators, there are about a dozen, are beginning work in this township. They are paying 15 cents per 100 pounds for fall apples. M. H. S.

Potato Prospects.—The potato crop in this locality is very light, not over 25 per cent of last year, and after careful inquiry, I think that the same will apply to the whole State of Wisconsin. Farmers would like to sell this fall as fast as dug, but at present, the price is not over 10 cents per bushel for good stock and such a price with a 50-bushel crop, is as bad as seven-cent oats and 12-cent corn. Potatoes are not rotting, and the quality is fair, but dry weather at setting time and ever since, has left them small and few in a hill. E. H. CURRIER.

Pierce County, Wis.

Strawberries and Raspberries.—Among about 20 varieties, Timbrell and Van Deman have done the poorest with me this year; I consider them worthless. The Parker Earle has done the best in my experience of four years with it. The berries look nice when first picked, but lose much of their gloss if they have to be kept until the next day before they are marketed. As they are very late, they are not good enough for a fancy table berry after the Jessie and Sharpless are gone; these varieties have taken the lead here this season for table berries. Enhance did well, but with the seeds all on the outside, the berries look so much as though they are sandy or muddy, that they don't sell well. Gandy is far ahead for a late berry. My experience with the Royal Church and Loudon raspberries is that they are coarser seeded than the Cuthbert, and enough later to make them not a profitable berry to grow, as the market is supplied before they come, and is ready for something else. I am of the opinion that there ought to be a law prohibiting the sale of fruit trees and plants until our experiment stations have thoroughly tested their merits and hardiness before the propagators are allowed to swindle the public with their glowing advertisements. T. M. RYAN.

Pennsylvania.

The offices of the Colliery Engineer Company, proprietors of The Colliery Engineer and Metal Miner, Home Study and the International Correspondence Schools, Scranton, Pa., were partially destroyed by fire August 30. The printing plant was in another building, and reserves of all instruction and question papers, drawing plates and other supplies and stationery used in the schools were in still another building, so that the business of the school will not be seriously interfered with. The Colliery Engineer and Metal Miner and Home Study will be out within a few days of the usual time, and the instruction in the schools is being conducted as usual. New and commodious quarters have been secured, and these will be occupied until the completion of the new building now being erected, so that they are prepared to enter new subscriptions to their publications, and to enroll new students and commence instructions as promptly as before the fire.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 20@1 25
Medium, 1895, choice	1 00@1 05
Pea, 1895, choice	1 00@1 05
Medium or pea, common to good	90@1 00
White Kidney, 1895, choice	1 25@1 30
Red Kidney, 1895, choice	1 25@ —
Red Kidney, common to good	95@1 20
Black Turtle soup, 1895	1 45@1 50
Yellow Eye 1895, choice	1 17@1 20
Lima, Cal., 1895 (60 lbs)	1 50@1 55
Green peas, 1895, bbl., per bushel	75@ —
Barrels, per bushel	65@ 70
Bags	65@ —

BUTTER—NEW.

Creamery, Western, extras	16⅛@—
Western, firsts	14½@15½
Western, seconds	12½@13½
Western, thirds	11½@12
State, fancy	16 @16½
Common to prime	11½@15½
State dairy, half-firkin tubs, fancy	14 @15
Firsts	13 @14
Seconds	11 @12
Welsh tubs, fancy	14 @14½
Welsh tubs, firsts	13 @13½
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @10½
Western imitation creamery, firsts	12 @12½
Seconds	10 @11
Western dairy, firsts	11 @12
Seconds	9½@10
Thirds	8½@ 9
Factory, fancy	11 @11¼
Factory, firsts	10 @10½
Factory, seconds	9 @ 9½
Factory, thirds	7½@ 8½
Old butter	6 @ 9

CHEESE—NEW.

State full cream, large, colored, fancy	8⅛@ 8⅝
Colored, good to choice	8¼@ 8⅜
Fair to good	7¼@ 8
Fancy white	8⅛@ 8⅝
White, choice	8¼@ 8⅜
Small, colored, fancy	8⅛@ 8⅝
Small, white, fancy	8⅜@ 8½
Small, good to choice	7½@ 8¼
Small, common to fair	6½@ 7¼
Light skims, choice	6¾@ 7
Part skims, good to prime	4½@ 5½
Part skims, common to fair	2 @ 3½
Full skims	1 @ 1½

EGGS.

Near-by, new laid, fancy, selected, per doz	18 @ —
State, fresh gathered, average best	16½@ 17
Penn., country marks, average best	16½@ 17
State and Penn., fair to good	15½@ 16
Western, northerly sections, fancy	16 @ —
Western, fair to good	15 @ 15½
Western, fair to good, per case	3 25 @4 00
Western dirties, per 30-doz case	2 25 @2 75
Western checks, per 30-doz case	1 80 @2 40

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	5½@ 5¾
Choice, 1896, per lb	5 @ 5¼
Prime, 1896, per lb	4¼@ 4¾
Common, per lb	3½@ 4
N. C., sundried, 1895, sliced, fancy	— @—
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	— @—
Western, sundried, quarters, bbls	— @—
South-West'n, sundried, quarters, bbls	— @—
Southern, sundried, qnarters, bbls	— @—
Southern, sundried, coarse cut bags	2 @ 2½
Chopped, 1896, per lb	1½@ 1⅝
Cores and skins, 1896, per lb	1 @ 1¼
Peaches, Snndried, 1895, peeled, per lb	5 @ 6
Cherries, 1895, per lo	8½@ 9
Cherries, 1896, per lb	9 @ 9½
Blackberries, 1896, per lb	4 @ 4½
Raspberries, evaporated, 1896, per lb	14 @14½
Huckleberries, 1896, per lb	7 @ 8
Plums, Southern Damson, 1895, per lb	— @—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25@1 50
Alexander, per bbl	1 25@2 00
Codling, per bbl	1 00@1 25
Culvert, per bbl	75@1 00
Gravenstein, per bbl	1 25@2 00
Fall Pippin, per bbl	1 00@1 25
Holland Pippin, per bbl	1 00@1 25
Ruston Pippin, per bbl	75@1 00
Oldenburg, per bbl	1 25@2 00
King, per bbl	1 25@1 50
Detroit Red per bbl	1 25@1 50
Nearby, open heads and common, per bbl	50@1 00
Crab, per bbl	1 50@2 50
Cranberries, Cape Cod, dark, per bbl	5 00@ —
Good color, per bbl	5 25@ —
Light to medium, per bbl	4 00@5 00
Per crate	1 50@1 75
Grapes, Up-River, Concord, per 25-lb carrier	50@ 60
Up-River, Wyoming, per 25-lb carrier	50@ 60
Up-River, Moore's Early, per 25-lb carrier	50@ 60
Up-River, Worden, per 25-lb carrier	50@ 60
Up-River, Niagara, per 25-lb carrier	50@ 85
Up-River, Delaware, per 25-lb carrier	75@1 00
West'n N. Y., Concord, per large basket	14@ 16
West'n N. Y., Delaware, per small bkt	11@ 14
West'n N. Y., Niagara, per small basket	11@ 14
Peaches, Western Maryland, per carrier	1 50@2 50
Western Maryland, per crate	1 00@2 00
Western Maryland, per basket	60@1 00
Western Delaware, per basket	25@ 45
Jersey, per basket	75@1 00
Muskmelons, Anne Arundel, per bbl	50@ 75
Jersey, Jenny L & Gem, per bbl	1 00@3 00
Hackensack, per bbl	1 50@2 50
Jersey, Hackensack seed, per bbl	50@ 75
Jersey, Christina, per bbl	1 00@2 50
Plums, Green, per 10-lb basket	30@ 50
Ordinary Blue, per basket	30@ 50
Pears, Bartlett, per bbl	3 00@4 50
Bartlett, per keg	1 50@2 25
Clairgeau, per bbl	2 50@3 00
Duchess, per bbl	2 25@2 75
Anjou, per bbl	2 50@3 00
Seckel, per bbl	3 00@4 50
Seckel, per keg	1 75@2 25
Flemish Beauty, per bbl	2 00@2 75
Flemish Beauty, per keg	1 00@1 25
Swan's Orange, per bbl	2 25@2 75
Nearby cooking, per bbl	1 75@2 25
Watermelons, choice, large, per 100	16 00@20 00
Small to medium, per 100	5 00@15 00
Per car-load	75 00@125 00

GAME.

Woodcock, average, per pair	75@1 00
Partridges, nearby, per pair	75@1 00
Western, per pair	50@ 70
Grouse Western, per pair	65@ 80
English snipe, choice, per doz	2 00@2 25
Plover, golden, choice, per doz	2 00@2 25
Grass, average, per doz	1 00@1 50
Reedbirds, per doz	25@ 40
Blackbirds, per doz	13@ 20
Rabbits, per pair	25@ 40

GRAIN.

Wheat	60 @70
Rye	54 @39
Barley	25½@40
Buckwheat, silver	— @—
Buckwheat, Japan	— @—
Corn	25½@30
Oats	17 @29½

Our Readers who are in want of a Thresher, Horse-power, Engine, Dog power, Ensilage-cutter, Saw machine, Feed mill, Fanning-mill or Land-roller, will, we believe, be **sure to get the best,** and at the **lowest price** consistent with quality and value of goods, if they deal with the old and reliable manufacturer, MAYNARD HARDER, Cohleskill, New York, who sends free his beautifully illustrated and plainly and clearly descriptive catalogues to all applicants mentioning this paper.

GRASS SEED.

Clover, per 100 lb	6 50@ 8 25
Timothy	3 40@ 4 00

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75 @80
No. 2	65 @70
No. 1	82½@87½
No. 2	75 @80
No. 3	65 @70
Shipping	60 @65
Clover, mixed	65 @70
Clover	55 @65
Salt	40 @45
Straw, No. 1, long rye	75 @80
No. 2	65 @70
Short rye	50 @60
Tangled rye	40 @50
Oat	30 @40
Wheat	30 @35

HONEY.

State, white clover, comb, fancy, per lb	12½@13
Buckwheat, comb, per lb	8 @ 9
White clover, extracted, per lb	5 @ 5½
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	—@—
Extracted, per lb	5½@ 6
Southern, in bulk, per gallon	45 @50

HOPS.

N. Y. State, crop of 1896, seedlings	8½@10
Crop of 1895, choice	7 @—
Medium to prime	5½@ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	5½@—
Medium	4½@—
Crop of 1894, common	2 @ 2½
German	14 @20

MEATS—DRESSED.

Veals, country dressed, prime, per lb	10 @ 10½
Fair to good, per lb	9 @ 9½
Com. to med., per lb	7 @ 8½
Small, per lb	4½@ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 40 to 60 lbs., per lb	6½@—
60 to 80 lbs., per lb	5¾@ 6¼
80 to 120 lbs, per lb	5¼@ 5¾
125 lbs and up, per lb	4 @ 5

NUTS.

Peanuts, Va., h. p., fancy, per lb	4 @ —
H. p., extra, per lb	3 @ 3½
Shelled, No. 1, per lb	4½@ 4¾
No. 2, per lb	3¾@ —
Spanish, shelled, No. 1, per lb	6½@ —
No. 2, per lb	4¾@ —
Pecans, ungraded, per lb	4 @ 4½

POTATOES.

Long Island, in bulk, per bbl	87@1 00
Jersey, per sack	90@ 95
Jersey, per bbl	75@1 00
Sweets, Va., yellow, per bbl	1 00@1 25
Jersey, yellow, per d. h. bbl	1 75@ —
Vineland, per bbl	1 75@2 00

POULTRY—LIVE.

Spring chickens, per lb	9 @ 9½
Fowls, local, per lb	9 @ 9½
Western, per lb	9 @ 9½
Southwestern, per lb	9 @ —
Southern, per lb	9 @ —
Roosters, old, per lb	5½@ —
Turkeys, mixed, per lb	10 @ —
Ducks, local, per pair	70 @ 85
Western, per pair	60 @ 70
Southern, per pair	40 @ 50
Geese, local, per pair	1 25 @1 50
Western, per pair	1 12 @1 37
Southern, per pair	75 @1 00
Pigeons, old, per pair	25 @ —
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	12 @ 13
Young, dry-picked, per lb	15 @ 18
Young, scalded, per lb	12 @ 15
Young, inferior, per lb	10 @ 12
Spring chickens, Phil., selected, per lb	15 @ —
Philadelphia, poor to good, per lb	11 @ 14
Pennsylvania, per lb	11 @ 14
Western, dry-picked, good to choice	10 @ 11
Western, dry-picked, inferior	8½@ 9
Western, scalded, choice, large	9½@ 10
Western, ordinary, per lb	8½@ 9
Fowls, Western, dry-picked, choice	9½@ 10
Scalded, choice, per lb	9 @ 9½
Old cocks, per lb	5½@ 6
Spring ducks, Eastern, per lb	12 @ 13
Spring ducks, L. I., per lb	12½@ 13½
Spring ducks, Penn. and Va., per lb	9 @ 12
Spring ducks, Western, per lb	10 @ —
Old ducks, Western, per lb	7 @ 9
Spring geese, Eastern, per lb	14 @ 15
Squabs, tame, white, per doz	1 75 @ —
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00@3 00
Red, per 100	3 00@4 00
Carrots, per bbl	1 00@ —
Cauliflower, L. I. and Jersey, per bbl	1 25@3 50
Celery, fancy, large, per doz	40@ 50
Average, prime, per doz	20@ 30
Small, per doz	6@ 15
Cucumbers, Long Island, per 100	75@1 00
Pickles, State and L. I., per 1,000	1 00@3 00
Pickles, Jersey, per 1,000	1 00@2 25
Egg plant, Jersey, per bbl	60@ 75
Green corn, large, per 100	75@ 85
Small to medium, per 100	40@ 75
Lettuce, Boston, per doz	25@ 30
Local, per bbl	1 00@ —
Lima beans, Hackensack potato, per bag	1 50@1 75
Jersey flat, per bag	75@1 25
Onions, State yellow, per bbl	1 25@1 40
Eastern white, per bbl	2 00@2 50
Eastern red, per bbl	1 50@1 75
Eastern yellow, per bbl	1 50@1 62
Orange County white, per bag	1 00@2 00
Orange County yellow, per bag	75@1 37
Orange County, red, per bbl	75@1 50
Jersey and Long Island yellow, per bbl	1 25@1 50
Jersey and Long Island red, per bbl	1 25@1 62
Jersey and Long Island white, per bbl	1 50@2 25
Western yellow, per bbl	1 25@1 40
Pumpkins, per bbl	50@ 60
Red peppers, per bbl	75@1 25
Green peppers, Jersey, per bbl	50@ 75
Spinach, per bbl	—@—
Squash, marrow, per bbl	75@1 00
Jersey white, per bbl	2 00@2 25
String beans, Baltimore, per basket	1 50@1 75
Western N. Y., per bag	2 50@3 00
Long Island, per bag	2 00@2 25
Tomatoes, Jersey, fancy, per crate	30@ 40
Common, per crate	20@ 25
Turnips, Jersey and L. I. Russia, per bbl	75@ 85
Canada, per bbl	1 00@ —

WOOL.

XX and above, Ohio	18 @19
X, Ohio	15 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

MILK AND CREAM.

The total daily supply has been 20,131 cans of milk 167 cans of condensed milk and 467 cans of cream The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

The Potash Question.

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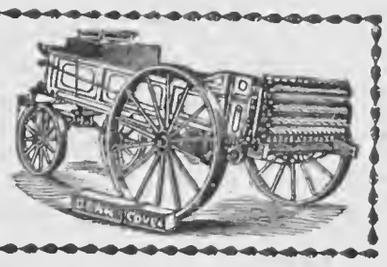

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WHAT GRAIN TO FEED WITH APPLES?

Several readers wish to know, in feeding apples to dairy cows, how many can safely be fed, and what grain goes best with them.

Sweet, Ripe Ones Are Best.

Eleven years ago, I fed 300 barrels of apples to a dairy of 16 cows, during a period of over two months in the fall. The resulting flow of milk and cream was marked. Beginning slowly, the amount was increased to a large ration, the cows being on short pasture, and the apples thrown from the wagon twice daily. For best results, apples should be sweet, or ripe, but not decayed and fermented. Ensiloed apple pomace was not so satisfactory. It would be well, this season, when apples are over-abundant with many, to ship only large, fine fruit, and keep the second grade till mellow, for feeding dairy cattle and other stock. The sweetest apples should be kept for the horses, and may be substituted for part of the grain ration when at light work with marked advantage. Cotton-seed meal is always better when fed with pasture, ensilage or any laxative food such as apples, rather than with dry fodder. For giving most body to milk, cotton-seed meal, corn meal and bran should form a proper ration, with rather more corn meal fed with apples than with ensilage. W. H. HART.

Cooked Apples Are Best.

My experience with feeding apples to milch cows has been limited to the fall, when we were sorting apples, and when the fall feed in the mowings began to fail. I do not feed much grain at that season. There is a heavy growth of rowen, usually, yet not quite heavy enough to mow, so we let the cows in a little while. When the frosts come, I do not like to turn cows out to eat frozen grass, and a little later I do not turn them out till noon or later. They do not take kindly to hay at that time; they will eat the corn, but there is a place which apples just seem to fill; so all the poor apples are picked up for the cows. About 12 to 14 quarts are fed at a time. There is always some danger of the apples choking them, though in many years' experience, I never have had a case. My father used to smash them with a sort of maul, but we do not do this. I should not want to put cows upon a very heavy diet of apples—one-half bushel a day fed morning and night, a peck at each time, would be a good ration. But it would be best to experiment with apples and cotton-seed meal, and larger quantities of apples. I fattened several cattle on cooked apples, giving them all they would eat, with a little hay, and they made very fine beef. I think that, if the apples for cows could be cooked, they would be much better. J. W. NEWTON.

Store Small Apples for Feeding.

Apples have value as food for live stock; all kinds relish them and thrive upon them. But I do not know of experiments to determine their relative food value, or the best combination in which to feed them. We know, from experience, that hogs will fatten upon apples and grass. The most rapid gains I was ever able to make on pigs, were when they were fed apples and corn, ad libitum, and given skim-milk as their nitrogenous food. Cows will increase in flow of milk when given the run of orchards in the fall. After becoming accustomed to eating apples, there is no danger, except the constant one of their choking, from giving them access to apples if they have other food. But they have such a relish for them, I doubt not they eat more than is best or profitable, for apples do not afford a complete ration. Their food elements are largely carbonaceous, being fruit sugar and the woody fiber. Hence, when used, they should substitute some carbonaceous factor in the ration and be supplemented by a nitrogenous one.

The excess of acids in fruits must also be counterbalanced for best results. Dry feeds, as mixed hay, and the by-products of flouring mills, are satisfactory. To the direct question, What grain should be fed with apples to increase both quality and quantity of milk? I would say that, if by "quality" is meant the proportion of butter fat, I do not know, as it is generally recognized that this cannot be controlled by feeding. There is no other one feed that can be used in connection with apples to increase the flow of milk to so good advantage as wheat bran. But I should not confine cows to such a diet. Were I to store apples for winter feeding to cows, I should not allow each over a peck a day, given in two feeds. I should not feed them at all until they were thoroughly ripened, and the time for picking is not the test of this.

I believe that it will pay to store the small, unmarketable apples for the stock. We once wintered two colts on Harrison apples and hay; for some reason, they would not learn to eat grain. I remember that we then believed that we could not have got them through the winter without the apples. They were allowed all they would eat, and they consumed about 40 bushels during the winter. They may be fed whole to horses without danger, but cows are much less liable to choke if the apples are cut in halves for them. I believe that a safe rule in regulating the amount, is to allow a pound a day for each 100 pounds of animal; this for all kinds of stock except hogs. For them, the quantity may be doubled or trebled, as they are the largest feeders among domestic animals. I have had no experience with cotton-seed meal. H. P. MILLER.

"MURRAIN" IN SOUTHERN CATTLE.

Ticks have been uncommonly plentiful this past hot season, and I am, therefore, not at all surprised that reports are coming in from all directions, of cattle dying with the "murrain." In the hope of being able to benefit some of the readers of THE R. N.-Y., I inclose the following clipping from the Practical Farmer:

BLOODY MURRAIN.—We lost two heifers last week. They were well until the day of death, then got weak, strained to evacuate bowels, but with little effect and feees hard. A post-mortem revealed that the bowels were clogged, and bladder full of bloody urine. The pasture is upland and swamp, and the grass is muddy on the lowland. Since the heifers died, three others have been sick. I gave a pound of salts each, and had the hard, fecal matter removed from the rectum. They recovered. E. P. MATTHEWS.

Fairfield Co., S. C.

I want to call particular attention to the treatment received by the three heifers that recovered. The older readers of THE R. N.-Y. may remember my account, some years ago, of the success met by this treatment. There may have been cases where the animal so treated has died, but I have never heard of a single one. On the other hand, thousands simply drenched with all sorts of stuff, have fallen victims to this scourge. The truth of the matter is that the partly digested food becomes so hard and dry as to be practicably impermeable to any amount of physic that a sane man would think of administering. Removal by hand is the only way of accomplishing the object. Give the animal a well diluted dose of linseed oil, epsom salts or sulphate of soda. Then quickly roll up your sleeves, grease the hand and arm well with lard, vaseline, or the like, and carefully remove by degrees all the fecal matter within reach. Repeat every half hour, if necessary, until a natural condition is apparent. I have never known this treatment to fail. If it does in your case, you may rest pretty well assured that you began treatment too late, and that nothing else would have availed. Nothing but easily digested food should be given for some days after a natural passage is secured. This is an ideal "murrain" year; so watch your cattle closely until after heavy frosts.

J. C. SENGER.

DANGER IN MILK "PRESERVATIVES"

THE R. N.-Y. made a vigorous warfare against "Preservaline" when that stuff was advertised so extensively. It contained boracic acid, and was both a humbug and a dangerous article for use in milk. We now read in Hoard's Dairyman of a case in England where seven persons in a boarding house were attacked by a mysterious disease:

Suspicion was attached to the milk supplied to the household, which had been taken alone, blended with tea, and in the form of blanc mange. To the morning and afternoon supply, the cook had added a preservative which was found to contain, as its basis, boracic acid. A sample as delivered by the dairyman, was analyzed and found also to contain a similar substance. Thus, for the same purpose, a preservative had been added both before and after its arrival at the house, by which treatment an overdose had been administered. Permission was obtained to give the portion of unconsumed blanc mange to nine fowls. Five devoured the food with avidity, and thus secured a larger portion than the remaining four, and, though vigorous pullets, they all died. The remaining four suffered badly, but ultimately recovered.

That reminds one of the kettle of mush which was salted by every member of the family. It was bad enough for the milkman to use the drug, but when the cook used it after him, few stomachs could stand the dose.

The State of Connecticut prohibits the use of such drugs. It declares that milk is illegal when, among other things, it contains poisonous ingredients which may render such article injurious to the health of a party consuming it, or if it contain any antiseptic or preservative not evident and not known to the purchaser or consumer. This clearly prohibits the use of all preservatives like "Preservaline", and it would be a good thing if all the States would drive this nasty stuff out of the milk dairies.

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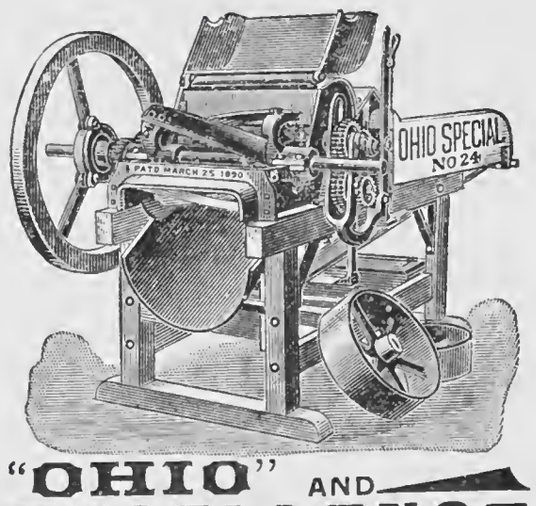

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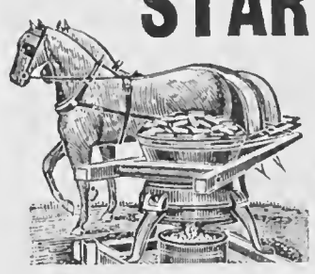

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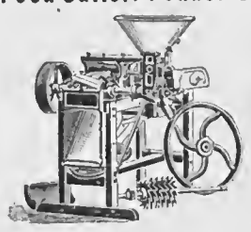

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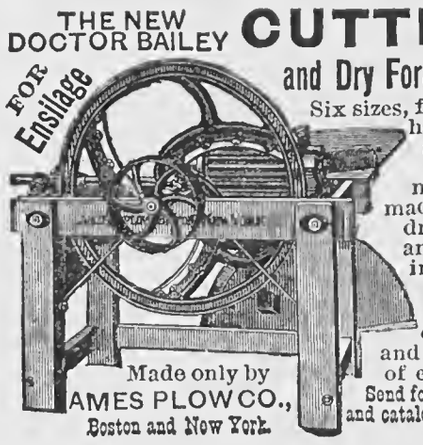

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Kansas. F. O. C.

ANSWERED BY H. E. MOSS.

1. In order to start Pekins laying, say, January 1, which is as early as necessary, begin three weeks previous, to feed them the following mash in these proportions: three measures of boiled potatoes, beets or turnips, mashed; three each of corn meal and bran, one each of dried blood, poultry bone, pulverized charcoal and sharp sand. To this, add cut green food which may consist of cabbage, steamed clover or any available green stuff; use half as much green stuff as the above mixture would make, so that when complete, one-third of the mash will be greens. Ducks need fodder of some kind every day in the year, and to insure vigor and fertility, it is very essential during the laying season.

2. I consider dried blood superior to beef scrap which is fed by the eastern duck raisers almost exclusively. I have never used green bone for ducks. My reasons are, first, that the albumen of the egg is largely composed of nitrogen, and the yolk partly. Blood is very rich in this element, and in a much more concentrated form than in scrap. It contains no waste tissue or any matter that is liable to sour, as the scrap would do under certain conditions. Second, being more concentrated, it is more economical. Third, being as fine as meal, it is more easily mixed and fed, requiring no soaking or chopping. In feeding bone meal, be particular to use the best quality of poultry bone. I have seen one of our large packing houses here who make a special feature of blood and bone for poultry, select very carefully for this purpose, the very best sound bone which is rich in hypophosphites and lime. In buying bone meal, be careful not to get such as is made from gathered bones—sound, diseased and decayed, and fit only for fertilizing purposes. This would be fatal to ducks. Use the bone in the above formula only three days in a week, and the blood every day. Sand may be fed in the mash or placed where they can help themselves. Once or twice a week is sufficient for the charcoal. As soon as laying begins, increase the corn meal and decrease the bran, taking care that they do not get too fat. Feed the above morning and night.

3. The young hatched in April and May and properly cared for, will begin laying in three weeks after you begin feeding the above, as will also the old ones. Egg production is wholly a question of feed. They lay about 100 to 110 eggs each, on an average, the first year, and do better the second and third; but after that, should be discarded.

4. Questions and conditions will arise in which one must use his best judgment, and act quickly. An ailing duck may be a dead duck in an hour; act quickly, or his companions may speedily follow him. I have had excellent results in feeding as follows: No food whatever for the first 24 hours; then, every two hours for the first four days, this mixture: One measure of hard-boiled egg, chopped fine, and one of stale bread or fine bran, one-fourth measure of dried blood, one-eighth of poultry bone, and a little charcoal and sand. Wet the bread with sweet milk.

When from four to eight days old, feed every three hours the following mixture: Four measures of cut green stuff, three each of boiled vegetables, fine bran, and corn meal, one each of dried blood and bone, with charcoal and sand. From the ninth day, until six weeks old, feed four times a day the same, but gradually decrease the bran and increase the corn meal a little, so that, at the end of six weeks, you will be using only one measure of bran and four of corn meal. A week before marketing, cut down on the green food, and add a little more blood. It will make the flesh firmer and add to its appearance when dressed. After the first week, feed charcoal and bone on alternate days. All feed must be wet, or what is called, dry wet; if too dry, it will clog in the roof of the mouth, while if too wet or sloppy, it will stick to the down, especially about the head and eyes, and stop up the nostrils.

When nine weeks old, they should weigh 4½ to 5 pounds each, and should be marketed. Keep ducklings out of the water. They are best kept in the brooder house yards, and always when possible, feed them in the yards. If fed in the pens, they distribute the water you give them all over the pen, which necessitates a change of litter almost daily, as ducks must have a dry floor on which to roost, or they will contract rheumatism and die. Give plenty of water at feeding time, but market ducks should not have water at all times between meals, as they will drink too much. Cut weeds and grass for them to peck at between meals. Ducklings, until two weeks old, should not be given cold water; warm it to about 80 degrees F. After that, cold water will not injure them. House them during a rain storm, as carefully as you would young turkeys. If they get wet before they are feathered, they sicken and die.

Hardly any two pens of ducklings can be fed alike. Where one is unfortunate enough to have to worry through a season or more of brain-racking experimenting with a lot of incubators that were made to sell but never to hatch except by accident, he will have a lot of weak, sickly things with constitutions ruined by variable heat during incubation, and in which the best of care and feed will not avert a great mortality.

Kansas City.

FORKFULS OF FACTS.

A GOOD RECORD.—We showed three Jersey cattle at the New York State Fair this week, and took first, second and third prizes. Our Duroc Jersey swine took 20 prizes—10 first, 6 second, and 4 third. Our Mammoth White winter rye took first. EDWARD L. CLARKSON.

DON'T NEED ENSILAGE.—"I don't need any silo," said Mr. Garret D. Voorhes of Sullivan County, N. Y., than whom there is no neater or more careful farmer anywhere. "My corn is all cured and stacked outdoors. If it gets a little too dry, a little water is sprinkled on as the courses are being laid on. Then with a little salt sprinkled over each half load, as the stack increases, we have corn stalks and corn fodder that the cows eat clean, excepting three or four inches of the heavy butts that become dry and weatherbeaten." Mr. Voorhes says that he plants his fodder corn far enough apart so that it ears nicely, and it always keeps green and sweet in the stack; even when put in unusually dry, with the water and salt, it becomes green and succulent in the stack.

TUBERCULIN AND CATTLE.—In regard to the possibility of tuberculin having a deleterious effect upon cattle, I would say that the opinions of investigators upon this point are somewhat at variance with each other. Personally, in my own experience, where we have inoculated cattle with tuberculin repeatedly, I have seen no ill effects from its continued use. I believe that this opinion is also held by Dr. Salmon, of Washington, as a result of very much more extensive investigations on this same subject. Prof. Nocard, of France, believes, however, that, in the more generalized cases of tuberculosis, there is a possibility of a harmful effect being produced by the continued use of tuberculin. As I understand his views, this danger is not so great in cases where the disease has not thoroughly fastened its hold on the animal. From the above, I would say that, in the case mentioned on page 608, there is very little probability of the disease being redistributed where only a light infection is found, as in the instance given. H. L. RUSSELL.

Wisconsin Experiment Station.

FIGHTING FLIES.—From all over the country, come reports of the damage done to stock by flies and mosquitoes. These pests are unusually abundant this year. The Indiana Farmer thus describes a fly trap invented by a Kentucky man:

In a convenient place in his pasture near the watering place, he erected a small tower inclosed in the wire gauze usually used for window and door screens. An ordinary chute leads to the tower, and beyond it is a dark room, in which large brushes are arranged to sweep all flies from the animals as they pass through it. On being swept from the animal, the flies make a beeline for the daylight of the tower, and are thus entrapped and gradually beat themselves to death against the wire screen of the dome, while the animal walks out the other way. The door admitting the animal to the base of the tower opens inward and immediately springs shut when the animal passes it. It is a screen door, protected by an outside lining of stiff wire netting, and the cattle readily push it open. The inventor claims that, after being driven through a few times, the cattle learn to run to this trap and go through by themselves when tormented by flies, as readily as they learn to run to a thicket of brush to scrape off the flies, or as readily as horses learn to run to a barn to escape flies.

WHAT HEREDITY REPRESENTS.—Hoard's Dairyman makes the following forcible illustration of the importance of good breeding:

"Investigations made by the officials at Boon, Germany, regarding the descendants of a notorious drunkard, vagabond and thief, Ada Jurke, have yielded some startling results. This woman was born in 1740 and died at an early age. Her descendants numbered 834, of whom 709 have been accounted for. The results of the inquiry are thus shown: 106 illegitimate, 142 beggars, 64 inmates of poorhouses, 181 of the demimonde and 76 criminals, among whom were seven murderers. The family has cost the State in the past 75 years, in various ways, no less than 5,000,000 marks."—*Exchange.*

The above is a very convincing argument and illustration to bring before those dairy farmers who do not believe in the power of heredity. There are thousands of such farmers in these United States. Ride past their farms and see the scrub bull, like John Randolph's mule, "without pride of ancestry," and certainly without any hope of decent posterity. Note well the quality of cows they have bred and raised, and you can see that they have no intelligent abiding faith in the virtue of good blood. So they deal in scrub blood all the while. Heredity is a tremendous power in men. It is equally a power with farm animals, and no man is fit to be a dairy farmer, in the true sense of the word, until he has made some study and practice in the principles of breeding a good animal. Bad heredity taxes the community to support paupers and criminals. Bad heredity in cows taxes the farmer to support the result of his own folly in the shape of a poor cow.

I consider Jayne's Expectorant the best Cough Medicine I know of. In cases of Croup, IT HAS SAVED BOTH MY OWN AND CHILDREN'S LIVES. —N. N. CAZEN, Sparrow Bush, N. Y., Oct. 29, 1895.

For Headache, take Jayne's Painless Sanative Pills.—*Adv.*

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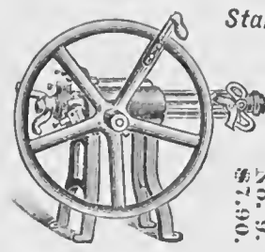

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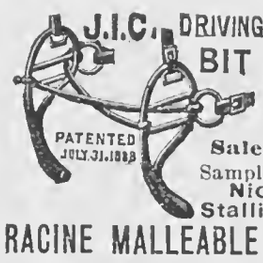

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SHE: "Now, George, wherever we go. don't pick out a route on which we shall meet another horrid cow like the one that stood and looked at us the other day." He (with a superior air): "That wasn't a cow; that was a bull." She (decidedly): "Well, it had horns like a cow, anyway."—*Brooklyn Life.*

A GENTLEMAN traveling in England some years ago, while walking near a railway, encountered a number of in sane people in charge of a keeper. Nodding to one of the lunaties, he said: "Where does this railway go to?" With a seornful look the lunatic replied: "It doesn't go anywhere; we keep it here to run trains on."—*Philadelphia American.*

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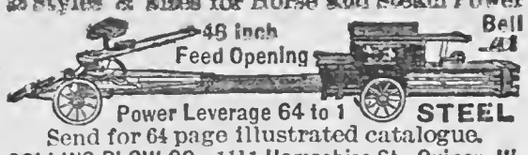

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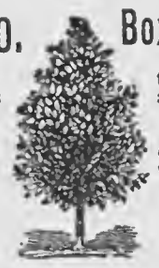
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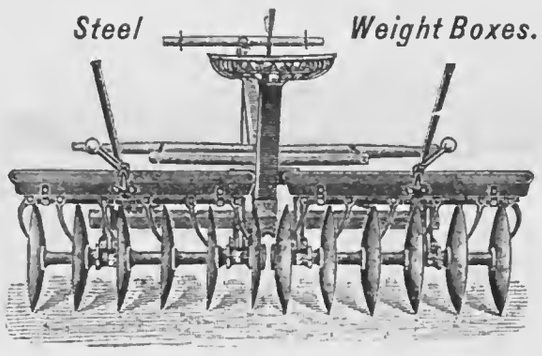

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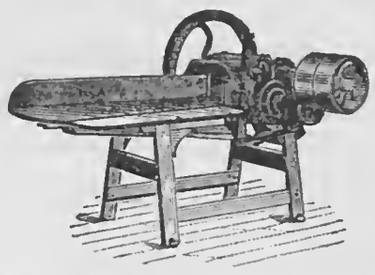
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What Shall Its Feeding Be?

"Mother, how can I best manage my husband to keep him always good natured, and always in love with me?"

Thus asks the young bride, of the mother and wife of long experience. The answer is terse and emphatic: "Feed the brute." That woman knew. So, when the somewhat oldish bride, Mrs. Producer, comes to me for advice as to how to treat her somewhat fickle and perverse husband, the Mr. Market, I answer: "Feed the brute." Give him what he wants and all he wants of it, but don't load his plate with things for which he has no relish, or with which he has been already surfeited; that is, if you care to have his smiles, and keep him so good natured and happy that he will now and then allow you to slip your slender hand into his pocket-book.

To-day, the Market says continually, "Too many common sheep on sale, prices very low for all such grades, and a good many carried over unsold. Good lambs in strong demand, and not enough to go around. A bunch of fancy Ohio lambs topped the market at a price more than double that quoted for the common sheep."

For several years, the demand for choice winter lambs, misnamed hothouse lambs, has been a growing one, and although the number of men embarking in the production of these lambs has been steadily on the increase, yet it is certain that the prices for choice, fat lambs early in the season, have kept up, and neither free wool, overproduction nor the gold standard has affected them. Fat winter lambs are wanted on the tables of the wealthy of the cities. There is no other such delicious or healthful meat. The wealthy will have them, and they will not mind the price, so the quality suits.

There is small danger of the business being overdone. First, it is not often that the man can be found who will succeed if he tries it. I am by no means writing this to induce men who are all untried in the sheep business, to embark in the rearing of winter lambs. It takes a good shepherd to care for the ewes during pregnancy, to bring them safely to the large feeding of grain necessary to the great production of milk for the lamb fattening, and to look after the little baby lambs, avert, not cure, their little ills and see that they never suffer, either the discomforts of hunger or the death pangs of over-feeding. Next, it is a habit that must be acquired like other habits. The ewe must get into the habit of dropping her lambs early. The man must get into the habit of providing suitable food, of attending to the little charges with the regularity and care that he would expend in a human nursery.

Fig. 199 shows, perhaps, an ideal type of fat lamb, ripe for the butcher, perhaps a trifle too old to bring the top price. I will briefly give her history. Her mother was born among the hills of Dorsetshire, of a race that, for centuries, have been accustomed to dropping their lambs at the earliest season. When she was a yearling, she was bred, and her first lamb, a single, was dropped in the fall of 1894. She suckled him through the winter, and was well but carefully fed to develop her milking qualities. This first ram proved a show animal, so was not butchered, although of perfection in quality.

When the next lambing time came, the ewe dropped twins, one of which was accidentally killed. She was strong and well nourished, so gave plenty of milk. As soon as the lamb was taking all of her milk, she was given more and richer food until soon she was eating all that she wanted of this mixture: Corn meal, 100 pounds; wheat bran, 100 pounds; oil meal, 25 pounds, with all the clover hay that she wanted. The ewes and lambs were not confined at all after the lambs were strong enough to stand the cold, but ran in and out of an open shed as they pleased. It is probable that quicker fattening might have been secured had the ewes and lambs been kept in, however, at the expense of ultimate strength and vigor which it was my wish to have as great as possible, as many of the lambs were of good blood and designed for the flock.

A FIRST-CLASS "HOTHOUSE LAMB." FIG. 199.

I have thought this lamb near the ideal of perfection for the winter lamb market. It is probable that she might have been better had the Dorset mother been crossed with a vigorous South Down ram. That is the experiment that I shall try some day when I have more Dorsets.

Is the Dorset ewe the best for raising winter lambs? That question is rarely asked now. I think that sheep men are agreed that she is the best. Why should she not be? Is there nothing in heredity, in breeding for a special purpose through long periods of time? To deny it, is to deny the principle of breeding and selection that has made every breed of English sheep what it is. And the proof of the pudding is in the eating. The Dorset lambs are the plums in the winter-lamb pudding all the time.

Somewhat of a different question is, "Is the Dorset the best sire for winter lambs?" I would not blame one who disputed this, from a theoretical standpoint. To-day, there are plenty of data to show that the Dorset is the best sire. See the bulletins of the New York Experiment Station. See the Stockman lamb test last year, where Shropshires, Rambouillets and Dorsets were compared, the Dorsets winning at a walk. Yesterday, at our Ohio State Fair, I had a talk with that veteran and world-known sheepman, S. H. Todd. Knowing that he had been trying the Dorsets, I asked him as to the results. He is not a breeder of Dorsets, and talked to me from a pen of beautiful Shropshire lambs, ideally perfect; lambs that he declares will take all the prizes at Madison Square Garden next winter, so he can hardly be accused of partiality to the Dorsets.

"Yes, Mr. Wing, I will have to admit that the Dorset rams crossed on my ewes, got me better lambs than my Shropshire rams. Not that the Dorset lambs were larger or heavier, they were not always so heavy; but they ripened nicer and younger. They brought no more money. I gave them a fair test. I don't think that they got any earlier lambs than the Shropshires. I don't believe that there is much in the claim that they will tease the ewes to breeding early in the season. Your Dorsets are all right for winter lambs. I am convinced that there is no other sheep so good. But when it comes to keeping the lamb past the winter-lamb period, why, look at this Shropshire, now! Did you ever see a Dorset that would like to look her in the face?"

"But, Mr. Todd, what did your early lambs bring you on the market?"

"At first, the best ones sold up to $8 each. They afterward dropped down to about $5, and late in the season, to much less when the rush of late-dropped came in."

"Well, and what would the yearling lambs, even as good as these, be worth, on the mutton market?"

"This lamb ought to weigh about 130 pounds to-day. She would bring 5¼ cents per pound in Buffalo."

"So, after all, it is the early lamb that brings the greater profit?"

"Yes, beyond a question. The early lamb eats less than one-quarter the food of the yearling. He escapes the many dangers that beset the lamb after he is weaned. As you know, half the lambs in Ohio to-day are diseased with tapeworms and other dangerous parasites. It is really easier to give two or three months of real good care and food to the lamb and its mother, than to give about half care for a year."

Further details of how really to succeed in the production of these winter lambs will be given later. I have stolen some ideas from Mr. Todd; I have, also, stumbled on to a few facts in my own experience. I am not in fear of leading to overproduction, for reasons that I have stated. J. E. WING.

R. N.-Y.—While it is true that prices for choice hothouse lambs have been good, still, in this market, they have not been so high during the past two or three years as previously. Only a very small number of customers can pay the high prices at which these lambs formerly sold. Receipts have yearly been increasing, and prices have been decreasing. Still the prices of the best have not yet declined below the profit point

APPLES IN COLD STORAGE.

THE QUESTIONS.

1. When apples are stored in barrels in a good, cool cellar or storage room, should the barrels be headed, or will they keep equally well if the barrels are not headed? 2. Does it make any difference about the keeping of fruit, whether the barrels are laid down or stand on end?

THE ANSWERS.

1. If the barrels be headed, the apples will keep better, because this prevents evaporation, and makes them less subject to changes of temperature. 2. The position of the barrels will make no difference; I have tried both ways. H. E. VAN DEMAN.

1. I think that apples, stored in a cellar, should be headed to keep them away from the light as much as possible; but I have my barrels made a little open between the staves around the head, so that air can circulate freely. 2. In regard to setting barrels on end, I cannot see any difference, if the bottom course of barrels be set on strips of boards so that the air can circulate under the barrels. We usually lay them down and put boards under the barrels near the ends of the barrels. T. B. WILSON.

1. My experience is entirely in favor of heading up barrels of apples, as stored away in the cellar, and thus, as far as possible, excluding the air from them. Some varieties are inclined to shrivel more or less, and will be found to retain their crisp, fresh condition far better when thus handled, while all varieties, in my experience, will suffer less shrinkage and be found in better condition if thus cared for up to the time of their maturity. 2. Barrels should in all cases where circumstances will permit, be stored upon the side, rather than to stand on end. S. D. WILLARD.

1. My practice in keeping apples in a cellar, is to leave the barrels without heading, for the pressure necessary to fit them to send to market, will bruise some of the apples. The fruit will also shrink so that they will need filling up a little, even though they do not require resorting. So I set the lower tier without heading, and the second tier on top in place of a head, with loose heads laid on the upper tier. 2. It makes no difference when headed, whether the barrels are laid down or stand on end, in regard to keeping. The apples should be covered in some way to secure an even temperature and to prevent shriveling. T. S. GOLD.

1. My experience in keeping apples is that they will keep quite as well in a cool cellar or storage room, if the barrels are not headed, provided they are not disturbed. If, however, the doors or windows are left open at times, causing sudden changes in the atmosphere, then the barrels should be headed up tight, so that the apples will not feel the change. The evener and lower the temperature can be kept, the better it is for the apples, always keeping it above the freezing point, however. If apples are to be kept in a warm atmosphere, or shipped during warm weather, I should prefer to slit the barrels to prevent heating, in the same way that peaches, pears and vegetables are shipped. 2. I can see no advantage in laying the barrels down, unless it be for convenience. My opinion is that more is to be gained by careful picking and handling, than by the shape of the package in which they are kept. One rotten apple in a barrel will give all the others the influenza, if it has half a chance. C. W. SCARFF.

TWO STRAWBERRIES FOR KANSAS.

THE QUESTIONS.

A reader in northern Kansas asks the following questions: Will you be kind enough to answer them from your own experience? "I wish to grow two strawberries. One must be of good size, attractive and productive for home use and near market. The other must be productive, and sweet enough to eat in the field without sugar. What would you plant with them to furnish pollen?"

THE ANSWERS.

Haverland or Marshall, Greenville or Haverland, Enhance or Parker Earle. T. T. LYON.

Michigan.

For the first berry I would recommend Warfield No. 2, fertilized with Beder Wood. For the second berry, Parker Earle, a self-fertilizer. Mount Vernon or Enhance might be used for a late fertilizer.

Nebraska. J. W. STEVENSON.

So much depends upon the soil and location, slope and exposure, that it is hard to give an answer just as the person wants it given. On very rich soil, it would be best to plant a slow grower, or one that does not make too many plants, for a plant-producer will often cover the ground so thickly that the berries will be small. Of course, this will be obviated if the runners be kept down; but here in the West, we usually grow by the matted row system. In answer to the questions, therefore, I should say, Bubach and Parker Earle. L. A. GOODMAN.

Missouri.

The two strawberries I would unhesitatingly plant are Parker Earle and Timbrell. The former will pollenize the latter; they are grand in every respect, and sweet enough for any one. Out of 100 varieties, these two are my choice. SAMUEL MILLER.

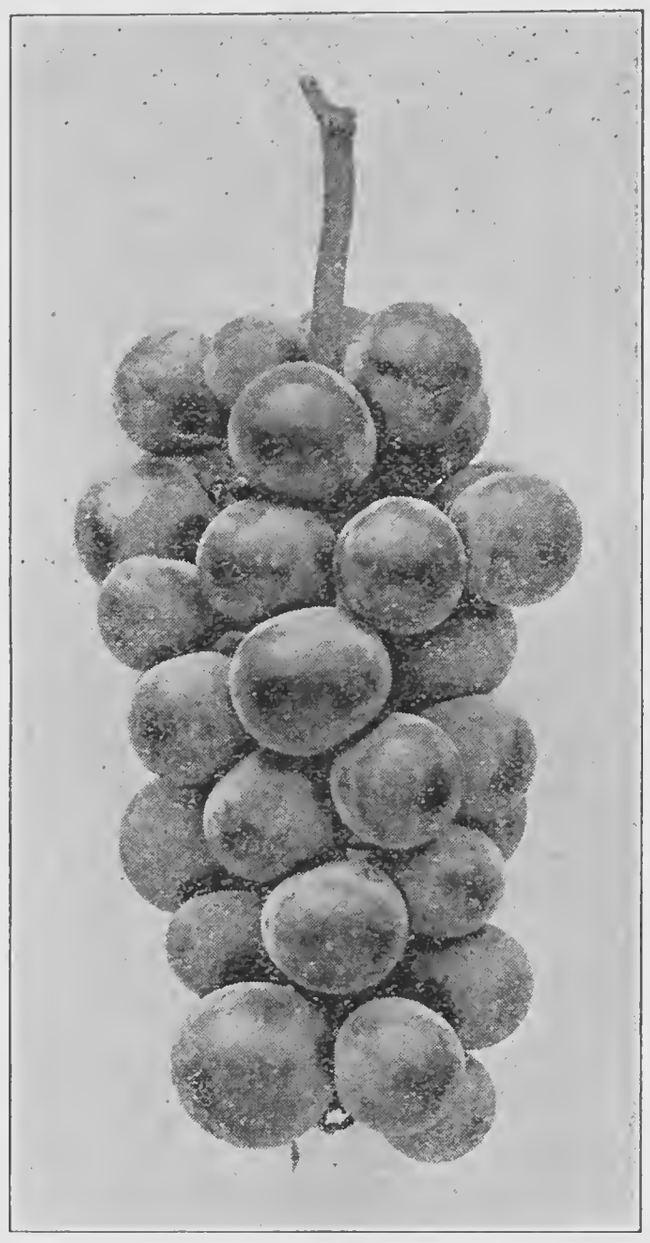
Missouri.

The Warfield has been the standard berry over this part of the Northwest. Size, firmness and good shipping qualities, make it a favorite for sending to distant markets; but the Crescent is rather more reliable as a cropper, and this past season, equally as popular for home use and near market. For a berry sweet enough to eat in the field without sugar, many people like the Princess; but in wet seasons, it is very soft and lacking in flavor. I prefer the Timbrell, after the short trial I have given it, but the Bubach is quite popular here. For pollenizers, the Michel, Lovett, Beder Wood and Enhance are used. My choice is Beder Wood, where it does not rust too badly, and the Enhance. These varieties are not only good pollenizers, but the first is productive, and one of the best early berries. The Lovett may take the place of the Beder Wood, where the latter rusts badly, and is less liable to injury from late frosts.

Minnesota. J. S. HARRIS.

WHAT THEY SAY.

SOME FRUIT EXPERIMENTS.—I set out an orchard in the spring of 1892, mostly of peaches, pears and plums,



THE SHELBY GRAPE. FIG. 200. SEE RURALISMS, PAGE 642.

about 25 varieties of each, to test their quality and hardiness. I have plowed each year since, in June, applied 300 to 500 pounds of bone and muriate of potash per acre, and planted to potatoes. After the potatoes were off, I sowed it to rye and plowed it under the following June. I have had good crops of potatoes, and the trees have made a good growth, but have borne only a very little fruit. On 40 Abundance plum trees, I have not, as yet, seen a blossom, and over 50 Crosby peach trees have borne only about one-half dozen peaches; not even a blossom appeared on them this year, and the wood killed the worst of any in the orchard. Only one night during the winter did the cold get to 18 degrees below zero. T. M. R.

Erie, Pa.

HOW TO DESCRIBE THE SEX OF STRAWBERRIES.—There is one thing I would like to call to the attention of the editors of rural papers, and those who make up the experiment station reports and nursery catalogues; it is with regard to the description of the flowers of the strawberries. The words, pistillate, staminate, hermaphrodite, and bisexual and their abbreviations, are still used by some of them. While these are, in a measure, correct, they are not altogether so. Many varieties that are called pistillate are not strictly so, and those which are designated as staminate are also as truly pistillate. Hermaphrodite is physiologically correct, but it is a clumsy word, and not understood by many farmers, and others, too. Bisexual is all right in point of fact, but it is also a "big word" to some readers.

There is an easy way out of the trouble; it is to call them perfect and imperfect. These terms express the facts exactly, and are in strict accordance with technical botany. The abbreviations, Per. and Imp., may be used, if desired. These terms will be understood by all reading people, as well as by the scientists and experts. They are simple, plain, and descriptive. The perfect varieties will be understood as having the ability to pollenize the imperfect ones, and the latter will be known as needing the other kinds. Already, many of the nurseries and experiment stations, and editors are using these terms, and it is hoped that others will do so.

H. E. VAN DEMAN.

SOME FAIR NOTES.—There is much ignorance, or downright dishonesty, shown by exhibitors of fruit, grain and potatoes in naming varieties, one kind of showy apple often appearing under a half dozen names. Judging from the exhibit at the Hornellsville Fair, apples and potatoes must be unusually good in that locality. A special premium brought out a fine lot of Vick's Early potatoes, and its quality and size make it one of the best early potatoes. One exhibit of "Rural" potatoes was marked: No. 1, five hills for a peck. No. 2, seven hills for a peck. No. 3, four hills for a peck. I make that 976, 697, 1,220 bushels per acre. The No. 2 were the smallest. All very smooth. That yield ought to satisfy the most exacting. The general opinion seemed to be, a "half crop." The growers say, "Few tubers in the hill, small size, White grubs, rot, and reduced area are our reasons for looking for a small yield." The Spitzenburg apple was shown by a dozen exhibitors; some specimens were very large. What a pity it is that this apple of rare quality has not the other quality of "doing well," so all could have them. Our people prefer them canned to peaches. C. E. CHAPMAN.

LATEST ABOUT "CERTIFIED MILK."

We have had, in years past, so much about the methods employed at the Fairfield Dairy in producing "Certified Milk," that it seems unnecessary to go over the process again. On a visit to the dairy last week, we found 350 cows in milk. This milk is bottled and sold in Newark, Montclair, Orange and other places in New Jersey. This is, probably, the largest single dairy in the world, and the milk is absolutely clean and pure.

But little effort is now made to breed milking cows. A few heifers from the best cows are raised, but most of the cattle are bought in Sullivan County, N. Y., and shipped by rail to the dairy. As a rule, they are big, strong, Jersey grades, usually, with Short-horn or Ayrshire blood showing in color or shape. They are picked out by an agent, and sent subject to personal inspection and the tuberculin test. As a rule, few, if any, are rejected, because of bad shape or poor milking qualities. Possibly, an average of two out of a car-load will respond to the tuberculin test And they are never so far gone with the disease as to be dangerous. Mr. Francisco claims that a first-class dairyman should be enough of a student of cows to detect the disease by outward appearance before it becomes dangerous. The cows most desired are heavy milkers with their second calf. Such cows average in price about $37.50. When they fail at the pail, they are fattened and sold for beef—bringing an average of $30. This business is, evidently, more profitable than it would be to try to raise all the young stock required to keep up a herd of 350 milkers.

For some years, Mr. F. was undecided whether to use the silo or not. The matter has now worked out to the point where he says that, without the silo, it would not be possible to run the business successfully. There are three big silos on the place, holding 1,600 tons of ensilage all told, and they will be filled this year from 100 acres of corn—besides a large amount of green fodder fed directly to the cows. Mr. F. says that he would like to feed ensilage every day in the year, and that is what he expects to do. The cows have only a mouthful of hay for their daily ration—just a few pounds "to keep their teeth in order."

One of the most remarkable results of the introduction of the silo is the effect it has had upon the hay mow. A few years ago, many big dairy barns were built and great pains were taken to secure ample room in the mows for hay. In some cases, the expense of building was greatly increased in order to provide for this hay storage. Since then, these dairymen have learned more about the value of ensilage, and have put in large silos. The result is that the mows are nearly empty and quite useless, unless hay is to be raised for sale. The 1,000-ton silo may be

built with the grain bin off in a small two-story L, and the cows kept in a one-story building. The saving in the cost of building a big hay mow will be immense.

Mr. Francisco has not changed his feeding ration of grain, or his manner of feeding it since our last report. The grain mixture is still 200 pounds best corn meal, 100 pounds malt sprouts, and 100 pounds of bran. This is wet up 12 hours before feeding, so that it forms a soft mush. This mixture has always given a milk of good quality and very satisfactory flavor. Mr. F. says that he does not care to experiment with cheaper grain combinations. This one is satisfactory, and produces milk of standard composition. When asked if he tried to produce a very rich milk; Mr. F. said that he does not care for over four per cent of fat, and 13½ to 14 per cent total solids. Such milk is more satisfactory for his trade than if it contained more fat.

One thing we noticed about the dairy house was the great use that is being made of live steam in cleaning utensils. After washing and rinsing, the glass bottles are put into a stout chest and steamed for 15 minutes. Before each milking, the cans and pails are all steamed, and the milk cooler is thoroughly scalded in every part by forcing a jet of live steam all over it. There is nothing more cleansing than steam, because it is driven into every crack and crevice—places that could hardly be reached by water and cloth.

MARKET GARDENING IN ARKANSAS

ADVANTAGES OF GOOD CLIMATE AND CHEAP FERTILIZERS.

Most of our readers have, doubtless, heard about the market garden business as it is conducted at the South. With an early spring, and a long, pleasant autumn, the southern gardener is able to obtain large crops and to keep his land covered with growing plants for nine months of the year. The trouble with most of the southern growers is that they are so far away from the northern markets, that the cost of transportation eats up nearly all the profit. Their vegetables and fruits being so long on the journey, must be ranked as second-class when they reach the North, as it was necessary to pick them before they were fully ripe, so that they might ripen on the way.

While, of course, the South does not offer the attractions in nearby markets that are found in the large manufacturing towns of the North, here and there you will find men in the southern States who have developed a nice business right at home in supplying fruits and vegetables to the people in their home town. Mr. W. T. Simpson is located near Pine Bluff, Ark., and as he has been trying this plan of developing the home market, perhaps a bit of his experience will be useful to some of our southern readers. When asked how he started, Mr. S. said:

"I started about 10 years ago with three special crops—Potatoes, melons, turnips—as I could grow all three of these crops on the same ground the same year."

"How did you manage to do that?"

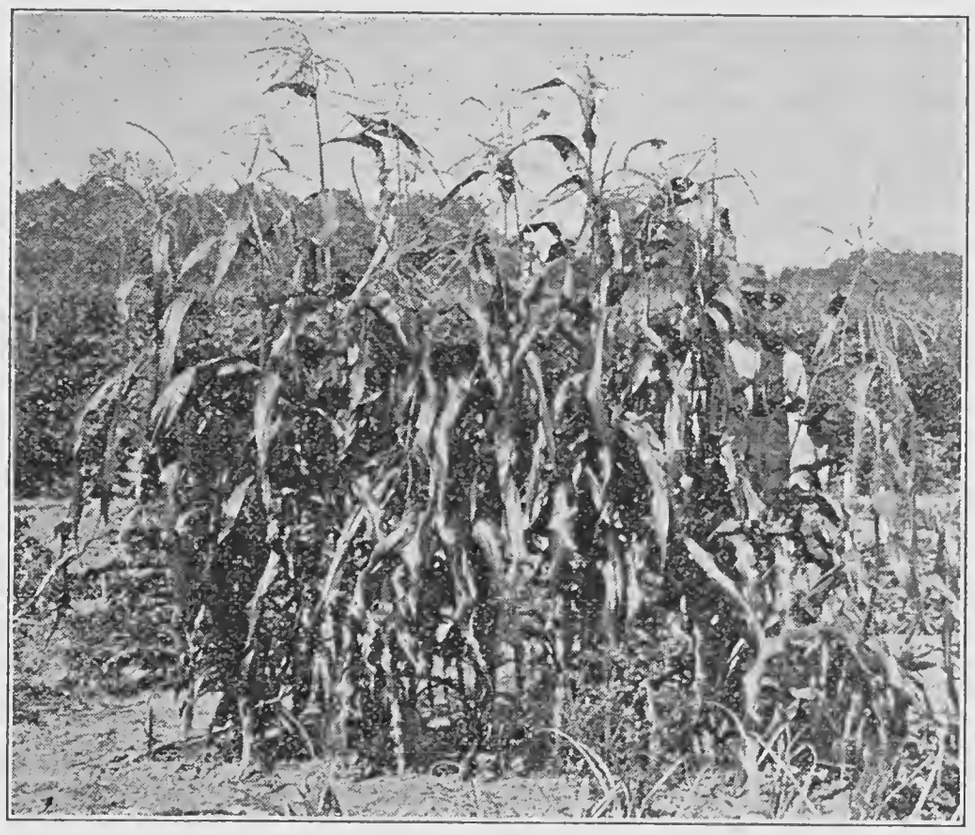
"I began by planting an early potato, heavily fertilized with cotton-seed meal and cotton-hull ashes. As soon as the potatoes were large enough to sell in the local market, every third row of potatoes was dug and sold. Watermelons were planted in this row at once, every six feet, and one plant left to the hill. The melons were cultivated until the other two rows of potatoes were matured, when they were dug and the middles thoroughly cultivated. When planted so late, melons came into market in September after the glut was over, and invariably brought a good price. After the melons were sold, the soil was at once broken and harrowed, and turnips sown in 18-inch drills, fertilized with cotton-hull ashes, at the rate of 800 pounds to the acre."

"Did this pay?"

"Yes, very well until so many others went into it that competition in melons and turnips became so close that other crops were necessary. The way to avoid competition is to get out of the rush into new methods or crops. The competition is all in the rear rank. I can now frequently substitute sweet potatoes and fall cabbage for melons and turnips, with excellent success. All this time, I kept one or two wagons running daily, selling at retail all the smaller vegetables found in a first-class garden."

"Do you not grow small fruits, too?"

"Yes, a few years ago, I started growing strawberries, and afterwards, raspberries. I have now several acres of each, besides 5,000 vines of the latest introductions in grapes. I set out strawberries in August when sufficient rain comes, or as soon after as possible. Set at that season on highly-fertilized soil, very nearly a full crop is gathered the following spring. After bearing another year, they are plowed under. Most of the crop is sold in Pine Bluff. I take great pride in the berries, and give them perfect cultivation. The berry pickers have orders to leave all soft and faulty berries in the field, and the top and bottom of the packages are all the same."



CORN FROM 18-YEAR-OLD SEED. Fig. 201. See Ruralisms, Page 642.

"What can you say about varieties?"

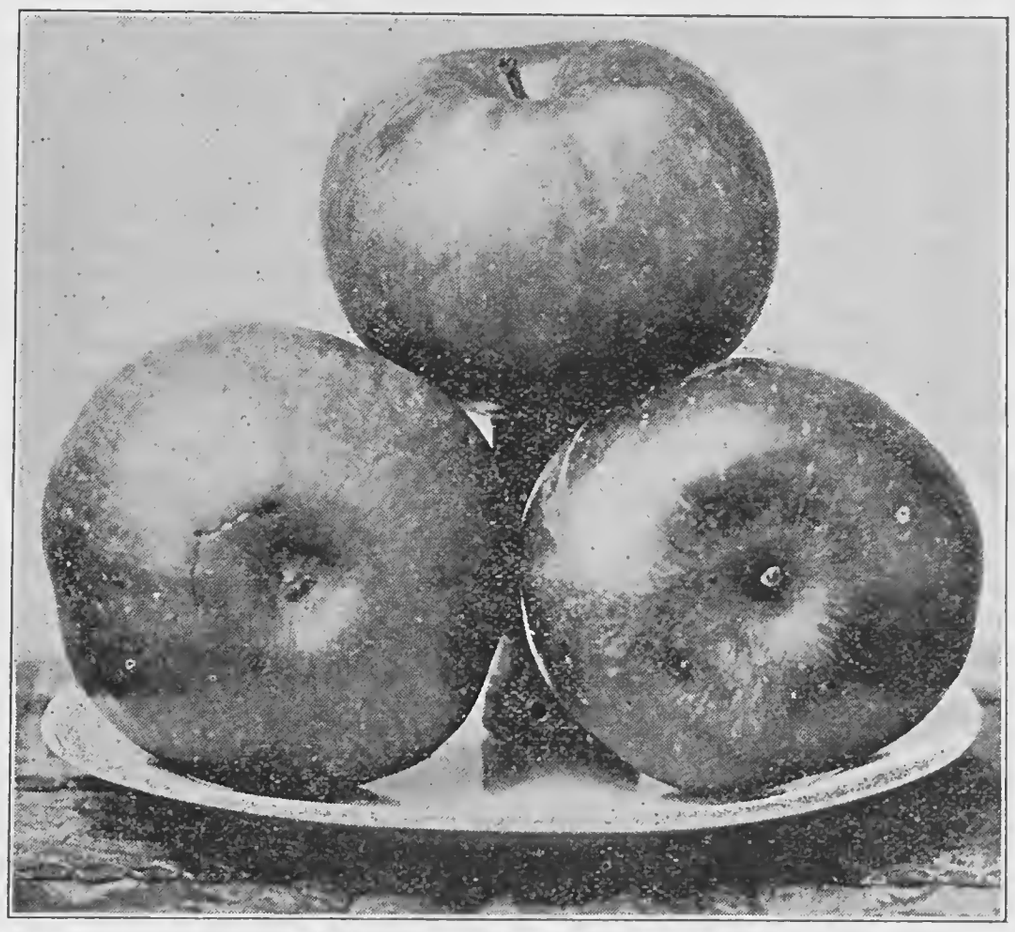
"Michel's Early, Bubach, Haverland, Beder Wood and Gandy are used for the main crop of strawberries, but I have all the new varieties in a plot with the old ones, so that the characteristics of each can be carefully noted. The Tubbs, Wm. Belt, and Brandywine are three that are very promising here. In raspberries, I have Kansas, Palmer and Mammoth Cluster for blackcaps, and Cuthbert, Miller, Loudon and Royal Church for red, Shaffer and Columbian for purple. The Columbian is not in bearing yet, except one plant which yielded, this spring, one year from the tip, 15 pint boxes of berries, and I regard it as an acquisition for this climate, as the canes seem to be exempt from the destructive sunscald during hot summer."

"What other crops have paid best?"

"I have done well with onions. Through previous experiments, I learned that the Barletta onion would go through the winters in the open ground. I prepared an acre of my best land in September, and after fertilizing with a ton each of cotton seed meal and cotton-hull ashes, and 20 two-horse loads of stable manure all broadcast, I drilled in 10 pounds of Barletta onion seed in 18-inch hills. The venture proved an entire success, as the planting of onions here in the fall had never been attempted before. On April 9, I had onions from that planting that were from three to four inches in diameter. Having no competition, they sold like hot cakes, at a fancy price. All were sold in the green state, and over $500 were realized from the onions alone. A crop of the vineless sweet potatoes followed this crop, which made a yield of nearly 400 bushels. Taken together, it was the most satisfactory venture I ever made on one acre."

Mr. Simpson makes use of hotbeds, having 400 x 10 feet under glass heated by steam. After the winter season is over, he often beds from 500 to 600 bushels of sweet potatoes for plants, both for his own use and for sale. His own crop of sweet potatoes will average 3,000 bushels each year, and these are about the only products of the farm that are sent to distant markets. Mr. Simpson's place is four miles from town, but he is in touch with all parts of the city by telephone. Frequently, during the busy berry season, orders accumulate after the departure of the regular wagons, that an extra wagon is sent in to supply some customer that is running short on berries or other article that he supplies.

We expect to have more to say later about glass gardening at the South, as Mr. Simpson manages it. It seems to us that there are points in his experience that may well be studied by gardeners everywhere.



THE FANNY APPLE. Half Size. Fig. 202. See Ruralisms, Page 642.

BUTTERMAKING ON THE FARM.

RATIONS AND THEIR EFFECT.

The question of rations and nutritive ratios has been written and talked about for a dozen years, until it seems as though there was nothing more to be said. Just how much truth there may be in the idea of working out a ration to an exact standard, no one knows. The Germans, who lead the world in this, as they do in all exact agricultural science, have settled upon a standard of 1:5.4 as the proper ration for a cow giving milk. But in this country of big corn crops, protein is relatively dearer as compared with carbohydrates and fat, than in Germany. The work of the Wisconsin Experiment Station makes it seem pretty sure that our most practical American ration is one much wider than this.

One thing is certain—that we find men achieving very good, if not excellent, results on very widely different rations. For example, some Southern cow keepers have fed a ration in which there was so much cotton-seed meal, with cotton-seed hulls for roughage, as to make a nutritive ratio of only 1:3, while enthusiastic silo men have fed a ration containing very little else, making a ratio as wide as 1:11. We have, perhaps, no careful experiments along this line, but we know that the above rations have been fed for some time without any very apparent effects upon the health and production of the cows. Evidently, it won't do to be too sure where we stand in this matter.

At the Michigan Station, last winter, they turned a cow loose in a pen, where were boxes containing various kinds of foods, from which she could help herself at will. The amount she ate of each was determined, and it was found that she ate almost a theoretically correct ration. This may have been the wonderful result of instinct on the part of the cow, or quite as likely, it may have been purely accidental.

Everything considered as to the relative proportion of protein, carbohydrates and fat, in the present state of our knowledge, it will not be best to depart too far from a ratio of 1:6, although our personal convenience, especial cheapness of some kinds of food, and like reasons, may make advisable pretty wide departures from this; whichever direction we go, we shall find ourselves in pretty good company. The phenomenal butter yields have, generally, been obtained on rather narrow rations, while, on the other hand, there are good physiological reasons for thinking that the narrow rations may be a greater tax upon the assimilative system of the cow.

The effect of certain articles of food (not nutritive ratios) upon the quality of the butter is better understood. Of a few things here, we are certain. The flavors due to the volatile oils of cabbage, garlic, and turnips have long been recognized by every farmer's wife, and since the making of fancy butter has come to be a study, we are sure of some other facts. Corn and wheat products are an excellent grain basis, and their effect upon the quality of the butter is favorable. Corn gives good texture and flavor Cottonseed meal, in too large quantities, makes butter hard, so that, when one tries to cut a small piece with a knife in cold weather, it will "dodge," consequently, it is almost unspreadable and the flavor "tallowy." Linseed meal gives almost exactly the opposite effects. The same is true of buckwheat middlings—quite probably the cheapest source of protein in the market to-day. We have fed a good deal of it, and when five or six pounds a day were fed, it would begin to show in a sticky, oily, butter, which lacked body and flavor. Malt sprouts are said, when largely fed to make a distinctly bad butter. As a general rule, these effects of various grain foods, are shown more in the texture than in the flavor.

Such are a few of the facts about which we may feel pretty sure. They are all subject, however, to modifications and degrees. JARED VAN WAGENEN JR.

AN OPEN LETTER TO FARM HELPERS.

TRAINING NEEDED FOR FARM WORK.

The getting of satisfactory help on the farm is the most perplexing problem of farm owners. After long study of the problem, I am convinced that the chief cause of the trouble lies in the failure of both parties to recognize that farming is a profession to be learned; that to be efficient in it, one must spend years as an apprentice in training hand and head. There is an all too common sentiment that any one with muscle and a will can farm; that farming is only hard, routine work of planting and harvesting crops and feeding stock. Farm laborers, in recommending themselves, generally say that they can cut as much corn or pitch as much hay as any one, such accomplishments being, in their minds, the principal ones desired. This discloses the entirely erroneous notion of what constitutes farming. A quarter or a half century ago such a conception was much more accurate. Now our farms are, in the main, cleared and ditched, and the labor is largely performed by horsepower through the aid of machinery. Even though farming has become specialized, the farm laborer must have wider accomplishments and greater skill.

I speak considerately, when I say that farming combined with stock breeding and management, calls for the best trained hands, intellect and will. Boys speak of *learning* the trade of carpenter, mason or blacksmith, and expect to serve an apprenticeship during which they get little pay. During their apprenticeship, they expect to acquire skill and speed. A man would never think of offering his services in one of the trades until he had thus fitted himself. But the boy who has not pluck and patience enough to learn a trade, expects to go to work on a farm at full wages as soon as he has acquired a man's stature. And the discouraging feature of his engagement is that he does not make it with any thought that he has anything to learn, or that skill and speed are to be acquired. The truth is, that there is no other manual labor, except that requiring special genius, in which there is room for so great improvement. None of the trades offer such constantly varying work where an active mind and a prompt decision will figure so largely in results accomplished. It is the doing of the little detail work about the farm that is the highest test of a farm hand. It is the ability to do minor things with alacrity and accuracy; the ability to see what ought to be done, and promptness in doing it. It is speed in beginning and quitting a task quite as much as in performing it; it is judgment in performance, kindness and thoughtfulness toward animals, diligence and devotion to duty, and honesty toward the employer, that are needed.

Your time and energy are your employers, unless you have contracted only a certain number of hours. No farmer is successful who quits work every evening at some regular hour without regard to the demands of his business, and rushes away to spend hours of the night in some amusement. Employees usually think that, if they cut their sleep short, or even miss a night's sleep entirely, it is no concern of their employers. But no man can thus treat himself without greatly reducing his energy and usefulness, even though he may be able to put in the usual hours the following day. He is a dull, stupid workman, until he has regained the hours of sleep lost, and is treating his employer as unfairly as though he were to shirk willfully his work during the absence of his employer. Your employer might as justly reduce your wages as you your energy expended for him below his reasonable expectation.

Farm hands generally think that, if they do the work they are told to do, they have met all expectations. But farm work is not like shop work, or that of the trades. In these, the work has a definite limit; not so in farming. There are continually little needs arising which, if promptly met, save larger expenditures of labor later. Many of these arise in the course of the day's work, and become known first to the farm hand, if he has an eye that sees. The trained eye is now, with the large amount of expensive farm machinery, an important qualification in a farm hand. Loose nuts and joints, and lack of oil, occasion an enormous expense on the farm.

Another common incapacity in farm hands is their lack of skill in handling a team. The fundamental fault lies in the belief that a team is controlled through fear of punishment. This belief is radically wrong. Fear should never be engendered in the common farm team. Again, farm hands are in fault in not cultivating accuracy in the use of the terms of command used with the team. I have had more trouble to teach men to use the terms, "gee" and "haw," than I have to teach horses the meaning of them.

Not least among the qualifications desired in a farm hand, are a good moral character, a pure mind and a clean mouth. Even a profane and immoral employer respects a man unsullied by his own faults, and where there are children to be thrown in contact with you, your character is of supreme importance in the estimation of the mother. Farm laborers should recognize these opportunities for improving themselves, then insist that their accomplishments receive recognition and deserved compensation. You can help to educate farm owners to a recognition of the value of skilled labor on the farm. The deserving will get their reward. H. P. MILLER.

THE BOY THAT STAYS ON THE FARM.

WHAT SHALL HE DO?

If the man who owns his farm and is out of debt, has a hard time, what chance has the young man who has no farm, to be a farmer? There are four things he can do—rent a farm, buy a farm, hire out as a hired man, or get a position as a farm manager. The tenant of to-day has a hard time, unless he has a kind-hearted landlord. Just think of it! A man hires a farm, agrees to pay so much for the use of it, and goes to work. He has to support his family and pay the rent with prices where they are. He has a hard lot. He may strike something, if he reads THE R. N.-Y., which will enable him to make a good living and pay his rent. The way it ought to be, is this: If a well-to-do man owns a farm which he wants some one to carry on, he should hire a man to do it. Pay him enough so that he can support his family. "But," says the owner, "I cannot get the interest on my investment." What right have you to squeeze it out of a poor tenant? "But the tenant will not do well, if I hire him." Then either get one who will do well, or do something with your farm besides use it to fleece poor men, women and children.

Except under certain favorable circumstances, renting farms is the poorest way to farm. If the renter move annually, he becomes a sort of tramp with his wife and children. Five-year leases, when the tenant has an opportunity of making a living besides paying the rent, and, perhaps, being able to lay up something, is the only right way of renting. A farm owner ought to be satisfied with half interest, or none at all, these times. If he isn't let him carry on the farm himself

Buying a farm at present, unless you can pay down for it, is very risky business. Even the German, with his 14 children all (?) at work, finds it hard to meet his payments. I should hate to be in the clutches of a hard-hearted mortgage holder now, and I would not advise any young man to venture it until prices rise, unless he has the knack and enterprise and skill to take up a paying line and push it to the end. But, all the same, it is risky putting all your capital into a farm, paying taxes on what you owe as well as on what you own, and keeping up interest and payments.

The great trouble about being a hired man is the lack of cottages on farms. Most farmers want a single man, and want him to live in the family. It is vastly better to have a married man live in a neat cottage and board at home. It saves the farmer's wife lots of trouble, and it enables her to get help oftentimes from the hired man's wife. How much better it is to hire a good, steady, industrious, married man to work on the farm, than to engage some half-tramp character who happens to come along. Think of taking such men into a family where there are women and children, the farmer going away on business, etc., and leaving them with such a person, perhaps a day or two.

A nice little house, not too far off, or too near the farm house, is a fine trap to catch a good hired man. When a farmer's boy becomes old enough to get married and leave home, what could be more attractive than such a cottage with steady work for himself, and occasional work for his wife? If the farm needs more men, there should be more cottages. This is the best solution of the hired-man question, and the "What shall the farmer boy do?" question. If he can get steady work, a good home, and fair wages, even if he cannot lay up much, he is well off as things now are.

Of course, the best place for the farmer boy, if he cannot own a farm, is to manage a farm or estate. But this requires brains, knowledge, education; these should command a good salary. Farm superintendents and managers are wanted to take charge of large farms, and it is well for enterprising boys to fit themselves for such places. J. W. NEWTON.

STRAWBERRIES AT CHATTANOOGA, TENN.

It was estimated last spring, by the Chattanooga Fruit Growers' Association, that, within a radius of 30 miles of the city, over 1,000 acres were planted to strawberries; and these are all, or nearly all, grown for the northern market. Until the season of 1896, Cincinnati had, probably, received nine-tenths of all the berries grown at this point, and all had been shipped by express. Owing to the prospect of an unusually large crop this year, the association introduced the refrigerator freight car, and correspondence was had with fruit dealers and commission houses in other cities, resulting in our having buyers from Pittsburgh, Buffalo, Columbus and Indianapolis, as well as from Cincinnati, and in our shipping several car-loads of berries to each of these points. The demand for Chattanooga berries has opened the eyes of our growers to the fact that the market for their fine berries is almost unlimited, and that there is still room to enlarge the business.

Of the 1,000 acres devoted to berry culture in this immediate section, it is probable that, at least, one-half of the whole output are Michel's Early. Although the new early berries are tested and tried alongside the Michel's, up to this time, our best growers have found no variety that can take its place, or is equal to it, all things considered. For our market, earliness is the first requisite, then we would like firmness, productiveness and size. The Michel's is a wonderful grower and plant-maker. It requires constant labor and watchfulness to keep its runners in subjection, but it is perfectly hardy here, both in heat and cold, wet or dry It does not produce half the berries of the Crescent or Haverland, but it brings double the money. If any of the readers of THE R. N.-Y. can furnish a better early berry than the Michel's he will find a ready market for plants at Chattanooga

Our berries are mostly grown on the hillsides with a southern or eastern exposure. Many of these hills have a deep, rich soil, well suited to the growth of the strawberry. Black, gravelly soil on the surface, with red clay subsoil, is the best for early berries, while the red mulatto land holds moisture best, produces better crops of large berries, and suits the Haverland, Bubach, Tennessee Prolific and like varieties. Fifty to seventy-five 24-quart crates to the acre are an average yield for Michel's without fertilizer. Our best growers, however, are not satisfied with less than 100 crates per acre. This yield would look small to our northern and eastern growers, who put large expense on small areas, and then expect from 200 to 400 bushels to the acre. High culture cannot be carried to such an extent on these hills and among growers who cultivate from 50 to 100 acres each, and with a berry like the Michel's, that has a tendency to run all to vine, even with ordinary treatment.

The first shipments of Michel's are usually made the last week in April, and if put up in first-class order, bring the grower $5 or $6 a crate; but these prices do not last long, and a week later, when Crescent and Bubach come in, $2.50 to $3 is a fair price. At the close of the season, the grower is fortunate who makes his last few shipments pay more than expenses.

All of Chattanooga's berries are packed in gift crates holding 24 quart baskets, and it is the order of the association that all packages be bought of the same manufacturer, that there be uniformity of size and appearance of all that are loaded in the association cars.

I tested the following this season in my trial bed: Arrow, Beder Wood, Barton's Eclipse, Beverly, Brandywine, Bubach, Columbian, Crescent, Cyclone, Enormous, Enhance, Epping, Gandy, Greenville, Haverland, Iowa, Jessie, Louise, Lovett, Mary, Rio, Princess, Saunders, Smith's Seedling, Splendid, Tenn. Prolific, Warfield, Woolverton, Michel's Early, Marshall and Downing. The following were most productive of the best berries, and most satisfactory in their season. Three best early varieties: Michel's Early, Columbian and Jessie. Six best medium varieties: Haverland, Greenville, Princess, Louise, Bubach, and Tenn. Prolific. Best late varieties: Enormous, Gandy, and Haverland. O. N. G.

Jersey, Tenn.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

A GRIST OF FRUIT QUESTIONS.

ANSWERS BY H. E. VAN DEMAN.

Plums, Peaches, Grapes and Strawberries.

C., Andersontown, Md.—1. I have 25 Wild Goose plum trees, about four years old, which have not borne any fruit. When the plums get about the size of a pigeon's egg, they drop off and seem to be imperfect. What can I plant with the trees to fertilize the blossoms? 2. Can peach trees be so pruned and cultivated that they will bear successfully every year? 3. How long can peaches be kept in cold storage? 4. Name the four best grapes for family use, and give a brief description of each. 5. At what time should strawberry beds be mulched? 6. Can strawberry plants be raised from seed?

1. Top-graft Moreman plum scions in the tops of the trees. It will pollenize the Wild Goose. One or two good Moreman branches in each tree are plenty. Moreman trees planted in any space where the old trees have died, will do good service. 2. No. Heading back in winter and good cultivation, with abundant supplies of potash and phosphoric acid, and thoroughly thinning the fruit, will put them in as good condition to bear as can be done by the orchardist, but that will not prevent climatic or other troubles that may prevent bearing. 3. I have seen Heath Cling peaches kept in cold storage until Christmas, with profit, 30 years ago, but soft or delicate varieties are seldom worth much after being kept a month. Moreover, very few can be sold when out of season. 4. Delaware: A small, red grape of the very highest quality. The vine is a moderate grower, but hardy in almost any grape section. Worden: Large, black, medium quality, early. The vine is very robust and productive. Brilliant: Medium size, red, choicest quality. It is thrifty, hardy and productive. Being one of the newer varieties, it is not so well known as some others, but it stands almost unrivaled for family use as a red grape, all points considered. The skin is so thin as almost to unfit it for a distant market. Niagara: Large, green, medium quality. The thrifty and productive character of the vine places it high in public favor. While several more lists of the same size might be made that are quite as good, this will not fail to please C., and any others who may wish to try it. 5. Mulch strawberries when freezing weather has fairly set in. About December 1 is the time in Maryland. 6. Strawberry plants are often raised from seed, but only for the purpose of getting new varieties. This seldom pays except in pleasure to those who like to experiment.

What Ails the Plum Trees?

E. S. B., Harwinton, Conn.—I have an Abundance plum tree three years old, which has seemed to be healthy until this summer, when a part of the branches had withered leaves, which soon fell off. I could find no cause for the trouble, but those branches seem to be dead. Now, there is a gum-like substance on the outside of the bark, in places, and the bark is cracked. This is on the remainder of the tree on which there are three to six feet of new growth. What is the trouble and the remedy, if any? Another tree, of the same variety, set near it at the same time, died two or three years ago.

It is impossible for me to tell what is the matter with these plum trees, and I can offer no remedy other than to plant new trees. If this fatality continue among E. S. B.'s trees, I would suggest sending specimens of the diseased parts to Mr. B. T. Galloway, United States Department of Agriculture at Washington, D. C., who may be able to give some information and assistance.

Pruning Dwarf Pears.

J. A. McP., Carrollton, Ill.—In the spring of 1894, I set out 40 Duchess dwarf pear trees. The next spring, they bloomed profusely, and bore a pear or two. Last spring, while they bloomed all right, they set no fruit, but have made an enormous growth—some of them as much as 10 feet. How much and when shall I cut them back?

These trees are, evidently, growing very rapidly, and all their force is going to wood. If cut back severely, and the stimulation in the soil continued, they will not bear soon. If the orchard is sown to grass (Orchard grass is preferable), and not pruned much, the trees will stop growing so rapidly, and bear. But the trees must be fed abundantly with potash and phosphoric acid, and the grass not allowed to choke them, but be plowed under and the land cultivated when bearing begins.

Cooling Milk Without Ice.

Several Subscribers.—We notice, in the southern agricultural papers, an advertisement of a device for cooling milk without the use of ice. The picture represents milk cans standing on a frame, one below the other, with water dripping down over them. Is this device practicable, and will this method really cool the milk?

ANS.—Prof. H. H. Harrington of the Texas Experment Station, gives the following facts about this device: Porter's Automatic Chemical Cooler and Creamer does not seem to be a success as tried at this station by Prof. Soule. The principle upon which it works, as used here, is that of evaporation merely. The cans are covered with a closely woven cloth, something like filter cloth; a can of water at the top drops water on cloth around the first can to saturation. The water then drips off the cloth to that around the second can, and, finally, to the third. Of course, in a strong wind in a dry climate, the evaporation will considerably reduce the temperature, but not below 70 degrees in this climate; usually about 75 to 78 degrees. It was used here without any chemical whatever. If one has been added since, it must be used to dissolve in the water before it leaves the drip pan at the top, in order to lower the temperature of the water by solution—a power which many chemicals possess. But if the chemical be used, it would increase both expense and trouble in handling. I might add that the owner of the apparatus was notified of its unsatisfactory work here, and was invited to come and superintend the test, but he did not respond. The Mexicans have, for many years, perhaps centuries, used the same thing to cool their drinking water, which they have in porous earthen urns covered with this cloth kept saturated with water, while the wind is given free access to the suspended vessel.

Tomato Skins as Manure.

J. R. T., Shiloh, N. J.—What is the analysis of tomato skins and cannery slops? Would it pay to haul them one-half mile to spread on the land as a fertilizer?

ANS.—An analysis of tomato pomace made at this station gave the following composition:

	Per cent.
Total nitrogen	0.42
Phosphoric acid	0.11
Potash	0.18

I presume that this analysis fairly represents the product of the various canning establishments. It contains nearly as much nitrogen as good yard manure, though very much less phosphoric acid and potash; it is my judgment that it would pay to cart this material one-half mile for use as manure.

E. B. VOORHEES.

Substitutes for Glass in the Greenhouse.

W. B., Fort Riley, Kan.—1. What is the trade name of the material commonly known as "plant cloth", and used as a substitute for glass in covering hotbeds and cold frames? 2. Is cheese cloth prepared with linseed oil a sufficient protection against the freezing of young plants at about 25 degrees above zero? 3. Would a medium grade of burlap do under the same condition? 4. I think of making a trial of using one of the above materials in pieces of 50 feet, more or less, and 40 inches wide, as a covering on cold nights for early radishes, cauliflowers, etc., by simply drawing it over a frame of similar dimensions. Tacking plant cloth on sashes and handling these would thus be avoided. Do you think this scheme practical and superior to the common methods under circumstances as above indicated? What objections could be made against it?

ANSWERED BY E. G. LODEMAN.

1. We have had no experience with any "plant cloth" now on the market, so I cannot tell what the merits of that article may be. 2. I should hesitate very much to expose plants which are injured by frost, to a temperature of 25 degrees above zero, with no other protection than oiled cheese cloth. If such cold be continued for only a few hours, no injury would result; but a long continued frost or freeze of that severity, would do mischief. The depth of the frames to be protected, also, has considerable influence in keeping out cold; the deeper a frame, the warmer it is. Cabbages, cauliflowers, and such plants would do well with no further covering than cloth; but tomatoes and other tender plants might be injured, even though they are not frosted. 3. A medium grade of burlap would, probably, prove warmer under the same conditions.

4. One serious objection to handling cloth that has been made tight with oil is the danger of cracking. The Californians have had much trouble in making preparations which would render cloth air-tight, and still leave it sufficiently pliable for repeated handling. The following recipe is successfully used in making canvas air-tight without stiffening it. It is taken from the report of the California State Board of Agriculture for 1894. The chief essential ingredient is a supply of common prickly-pear cactus (Opuntia Engelmanni) that grows in abundance in the southern counties of the State. It is a flat-leafed species, and parties living in sections to which it is not indigenous, could have it sent in boxes. To make the cactus extract, chop up enough cactus to fill a barrel two-thirds full, then fill the barrel with cold water. It should stand for 24 hours, when it will be ready for use. Do not prepare more than is required for immediate use, otherwise it will sour and become worthless. Stir well, then strain 10 gallons of the liquid into another tub or barrel; dissolve two pounds of common glue and add to the cactus extract, with sufficient yellow ocher or Venetian red to give it a good body. After thoroughly mixing the ingredients, it is ready for use. Both sides of the canvas should be painted, and the dressing well rubbed into the fiber with a flat paint brush. If oil be used, the canvas should be spread out and thoroughly dried before it is rolled up, or it is liable to be destroyed by spontaneous combustion. When dry, there is no danger of this." The above preparation is applied to canvas when fumigation for the San José scale is to be done. I see no objection to using it for the purpose of making cloth more impenetrable to cold air. Our experience at the Cornell Station is not very encouraging for substitutes for glass on frames or greenhouses. We covered one house with strong muslin, giving it two coats of raw linseed oil. One cover of the cloth was applied in the fall; it lasted until the following summer. Another attempt was made during the summer and fall, but the cloth proved short-lived. We have also tried paper, using a grade of stiff, white paper known as "Economy." This was good, as it allowed much light to enter the house, for the oil used rendered the paper quite transparent, and it was also warm. But a cat punched holes into the paper, and the wind was given a chance to blow off the roof, which was done. Since then, we have used glass. If the cloth be fastened to frames and oiled, it will, probably, last longer than if rolled repeatedly; but it soon stretches and becomes loose. Whether glass or cloth is the most economical in the end, is a question which depends largely upon local conditions. As a rule, the glass is to be preferred.

Tar and Cement for a Silo.

E. B. S., Connecticut.—My silo, built and used several years, was covered on the sides with tar and resin. We had to add kerosene in order to spread it. It looks as though it needed coating again. One authority recommends petroleum and roofing pitch, but gives no proportions. Is that the best preparation to use? What is next best, if that cannot be procured? How large a quantity for 100 square feet? Is one coat sufficient? The bottom of the silo was cemented, but the rats got through. That coat was taken out, broken glass put around the outside, and another coat of cement, about a foot wide, put around the outside; but they tunneled under that and got into the corn. What can I do?

ANS.—There is nothing better with which to paint the interior of the silo, than coal tar. If it be too thick to spread well with a brush, heat it in some old kettle until it is thin enough to spread well. Coal tar is always better put on hot than when thinned by kerosene, or anything else. When hot, it will penetrate to every crack and crevice. If it be put on thoroughly and with care, one coat is sufficient. If there is any of the old tar that is loose and scaly, it should be scraped or brushed off before applying the new coat of tar. Two and one half gallons should cover 100 square feet if it has had tar before.

The only thing E. B. S. can do to keep the rats out, is to make a concrete bottom. A band of cement near the outside will not answer the purpose. The bottom might be paved with small field stones, or with crushed rock. Pack them well into the ground, and then with Portland cement, make a covering over the stone pavement. Rock may be crushed and mixed with the Portland cement, and this mixture spread over the bottom of the silo. When it has well hardened, no rat will be able to force an entrance. This cement bottom should not be less than three inches in thickness.

L. A. C.

Fertilizing an Apple Orchard.

C. L. M., Northern Michigan.—I am requested to advise how to fertilize an old bearing orchard. The trees are planted two rods apart, and completely shade the land. The orchard is cultivated, but has never been seeded to clover nor, until two years ago, been fertilized, but an annual crop of rye has been plowed under. Last year, on the 11 acres, one-half ton of a prepared potato fertilizer, and one-half ton of bone meal, were applied, and the year before, one ton of bone meal. The owner notices such an improvement in the crop, due to the fertilizing, that he is interested, and asked me to advise him. I shall do so as follows, but I wish your opinion: The land has been cropped for over 30 years and, I think, is in need of nitrogen, potash and phosphoric acid. I advised discontinuing the rye, because I see no especial advantage in the winter mulch, and they are left too long in the spring. I advised Red clover or peas instead, to be plowed under early in the spring. Commercial fertilizers would be expensive in this location, but unleached, hardwood ashes can be had for hauling six miles. Good, dry tankage can be had for about $12 or $13 a ton, the latter containing about 6.7 nitrogen and 11 to 12 per cent of phosphoric acid. I should like to recommend an application of two tons of ashes, 200 pounds of tankage, and 100 pounds of superphosphate per acre. If there were no danger from an excess of nitrogen, I would like to increase the amount of tankage, as it is cheaper than the same elements in superphosphate. For an immediate result, I have no faith in the bone in tankage, which is not fine enough, and, therefore, recommend the superphosphate. For a young cherry and plum orchard, I recommend 400 pounds of ashes and 200 of tankage, with 75 pounds of superphosphate. How much ashes would be safe or reasonable to apply in a good, sandy loam that is not particularly rich in potash?

ANS.—Our own choice would be woo ashes and bone, if the latter can be obtained. As a rule, bone can be bought wherever tankage is sold, and if you could buy a good quality of fine ground bone at a price that corresponds with that of the tankage, you can hardly do better than use two parts by weight of the ashes to one part of bone. We should not use the superphosphate. The chances are that such a soil needs potash rather than phosphoric acid. The two tons of ashes and 200 pounds of tankage will, probably, answer. We should experiment with the superphosphate before using it heavily. We should not fear to use five tons of wood ashes per acre on such soil; but the chances are that two tons will give you the desired results.

THE LONGEVITY OF SEED CORN.

It is rarely that we make a request of our readers to answer questions regarding their experience as to any ordinary matter, that we do not receive a liberal response. Our inquiry as to "How long seed corn may be kept and yet germinate," has not brought us one response. We conclude, therefore, that but little is known regarding the longevity of the corn kernel. We are glad to be able to throw some light upon the question from our own positive evidence.

It is, at least, 18 years ago that Dr. W. J. Beal of the Michigan Agricultural College sent us ears of (1) field corn, (2) pop corn and (3) sweet corn, some of the ears consisting of all three. How long Prof. Beal had kept these ears before he sent them to us, or in what year they were raised, we may not say. We are positive that he sent us the ears, at least, 18 years ago. They were placed on a shelf in the writer's office, a dry room in the second story of his dwelling. It occurred to us last spring to test the viability of this corn.

A short row of the several kinds was planted in the garden June 10, another in the field July 1, another in the garden August 15. In the second and third trials, the several kinds were planted separately. Of the sweet corn, 75 per cent of the kernels germinated; of the pop, 60 per cent; of the field, 30 per cent. Of the mixed lot shown at Fig. 201, the highest plants were eight feet high September 6; the lowest six feet. The man behind the corn is nearly six feet tall. The pop, field and sweet corn glazed at nearly the same time, viz., September 5. One kind of field corn, a yellow dent, bore ears 13 inches long, eight rows, imperfectly filled out as isolated plants are likely to be because of insufficient pollen, or rather, we should say, because the wind is liable to blow the pollen away from the silks. Another not infrequent cause is that the tassels do not always mature with the silks.

One of the pop corn ears was eight inches long, the kernels of various colors, 16 rows. Another plant bore ears eight inches long, with the kernels so irregular that there were no rows, so to say. We estimated them to be 24. Both the kernels and their position on the cob reminded one of the Zig-zag or Country Gentleman or Ne Plus Ultra varieties. The quality was very good, better than that of the "First early" sweets.....

A MOST PROMISING LATE CHERRY.—On September 5, we received from Dr. A. W. Thornton (West Ferndale, Whatcom County, Wash.,) special agent of the United States Department of Agriculture, a few Bigarreau cherries. This is the second year the seedling tree has borne. Last year, the cherries remained on the tree until the middle of September. The Doctor says that the habit of the tree is different from that of any other. While the leaves of others are fading and falling, those of this seedling are still green, remaining so until late in the fall. Though making no pretense as a judge of cherries, we would regard this, judged by what little information we do possess, as by far the best late cherry we have ever seen. The cherries measured fully one inch in diameter. The color was a deep crimson, gradually shading to a lighter color on one side. The pit was small, flesh firm, meaty, half juicy and fine. The cherry clings firmly to a slender stem two inches long. It strikes us that this variety must prove a valuable acquisition.....

WE go further than Mr. Meehan in the matter of summer transplanting. We transplant at any time, both deciduous and evergreen shrubs and trees as the desire or necessity prompts, and we recall few instances of failure. During the past August, a lake bank was extended and, without plants, the added bank gave a new and unfinished appearance to that part of the grounds. We transplanted three Yuccas, a Euonymus, a clump of the Akebia vine, a Crimson Rambler and a Wichuraiana rose, and finally a seedling Norway spruce nearly seven feet high. A hole of sufficient circumference to accommodate the roots of the spruce without cramping them, was dug, and a pail or so of water was poured in. The tree was then set and soil thrown upon the roots until they were covered. Several additional pails of water were poured upon the soil, and the hole was then filled in to within about two inches of the surface. The next day, and the next, more water was given and the hole finally filled. The other plants were treated in much the same way. We can not say at this time whether all of the plants will live or not. But we have little or no solicitude about it.

With roses, it is well, if not necessary, to cut off the canes to within about a foot of the roots, and to shade the plants for a day or so. In this way, we successfully transplanted six Rosa rugosa hybrids, some of which were five feet high and as many in breadth. All, save one or two of the shorter canes were cut off a foot above the roots. The leaves of the preserved shoots scarcely wilted, though not shaded at all, and the plants have since made a healthy growth. So, too, in the hottest part of July, we transplanted a Crimson Rambler, this time shading it for a few days. The leaves wilted somewhat, but soon recovered.

Some years ago, as an experiment, we transplanted a young seedling grape vine, a foot high. Not a leaf was removed. It was watered every day for a week, and the vine afterwards made some little growth, living through winter and growing thriftily the next season..... .....

ON September 3, Mr. D. S. Marvin, of Watertown, N. Y., sent us a bunch of his white seedling grape, Shelby. He says that it again proves to be the earliest grape he has among many. He marketed a few baskets August 26, and they sold for eight cents. The color of the Shelby is a pea green with a delicate white bloom. The skin is very thin, yet moderately firm. The pulp is dissolving, readily liberating two or three small seeds. The grape is of high quality, vinous and rich—better, we think, than the Delaware.

Mr. Marvin alludes to a vine of the Shelby he sent to the Rural Grounds a year or so ago. We are sorry to say that we have no record of the grape, and the vine cannot be found. Possibly, we have it without the label. Many labels were lost as one of the results of the tornado. The illustration, Fig. 200, shows a photo-engraving of the bunch Mr. Marvin sent.

OUR friend, J. A. Foote, of Terre Haute, Ind., says that his experience with the Cupid sweet pea is similar to ours: "Only a little over one-half grew, and not one bloomed. It ought to be suppressed."..... .....

THE growth of the vines of the Wichuraiana rose is surprising. Many of them are from 12 to 25 feet long, carpeting the soil as would ivy with a dense mat of its rich, dark green little leaves, and seeming to thrive as well in dense shade as in sunlight. Its exceeding hardiness fits it admirably, therefore, to use in place of grass where grass will not thrive, such as rock work, steep banks, terraces, and the like. It is, too, as well adapted to arbors and trellises and lattice work as any vine we can think of, and is, for such places, particularly valuable on account of its rapid growth.....

THE FANNY APPLE.—A fully ripe Fanny apple was received from Chas. A. Green, September 3. It measured precisely 3⅛ inches in diameter, and precisely two inches from the *bottom* of the cavity to the *bottom* of the basin. The flesh was white. Mr. Green regards it as equal to the Fameuse in quality. We regard it as of somewhat higher quality. In color, the skin is a dark red with obscure streaks of lighter red. Fig. 202 is Fanny's portrait, for which we are indebted to Mr. Green, who writes as follows:

During the last years of Chas. Downing's life, I frequently corresponded with him, and received his opinion in regard to various fruits. He sent me scions of the Fanny apple, with a special request that I propagate it, since he considered it a variety of great excellence, and worthy of more attention than it had received. He also sent me a specimen of the Fanny apple, which pleased me by its handsome appearance and superior quality. This year, among 100 varieties we have fruited at our farm, is the Fanny apple, which has yielded a large crop of beautiful specimens. I am delighted with it. The Fanny begins to ripen the last of August, and is good for a month after that date. It is a red apple, splashed with dots; the flesh is nearly white. In quality, it reminds me of the Fameuse. While I have not a Fameuse at hand with which to compare its quality, my opinion is that Fanny is fully as good. If I were to eat a piece of Fanny in the dark, I should be tempted to pronounce it Fameuse. Fanny is a large apple, apparently two or three times as large as Fameuse. It seems to me to be the best apple of its season, as regards beauty, size, productiveness and quality.

No other rose in our collection gives so many blooms at this time (September 9), as Clothilde Soupert. And the flowers are as large and as perfect as those borne earlier. The plants were not hurt by the past winter, which was exceptionally severe.....

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Houses for Hens.

M. M. W., KANSAS.—I sometimes wonder that those who can build just as they please, do not study to learn what the hens like, for they have their likes and dislikes. For hens to eat their morning meal with a relish, they should have the privilege of running for it, and scratching for it in a clean place, in pure air. Let their food be given them on a clean floor among straw or forest leaves, anything to hide the grain to give them exercise. The nest boxes may be in the same building with the feeding floor; while part of the light may be shut out later in the day, to make the nests seem more secluded. You want your hens to lay eggs; you want them to be healthy; then give them the opportunity to acquire health in the same way that every creature must acquire it—by wholesome food, pure air and exercise.

Double Crop from Cow Peas.

J. C. SENGER, VA.—On page 613, I notice the experience and partial failure of parties who have tried cow peas for the first time, and this, in itself, largely accounts for the fact that they were not more successful. H. F. S., in particular, gives us the best "proof of the pudding;" in his garden, they did much better. In fact, the chances are even in favor of their ripening seed. But, in that garden, he had, doubtless, previously raised snaps and kindred legumes. Now, it is a fact, not generally understood and appreciated, that legumes positively will not, North or South, do their best on soil on which a closely-allied variety has not been previously grown. THE R. N.-Y. is again in the lead, and, on page 536, under the heading, "Nitragin," clearly sets forth the reason why such is the case, and I would advise a re-reading of the article by all interested in the subject. The long and short of it is that their fields are lacking in the bacterial micro-organisms peculiar to this or kindred legumes. Repeated trials on the "same" ground, will, by degrees, give them a much more exalted opinion of the cow pea. Have these growers examined the nodules? How many dollars' worth of nitrogen has even this meager growth added to their acres?

In this connection, here is a little of my experience. Possibly, it is an old story to some, but getting two crops—one hay and the other seed—from one sowing of cow peas, is something new to me, and to all whom I have questioned about the matter. One of my fields was sown early in June for hay. August 1, I noticed that the vines were quite long, well loaded with pods, very few showing signs of ripening; but some of the lowermost leaves, owing to the dense mass above, were beginning to turn yellow. This was on Saturday. On the following Monday, the weather was clear, and the day promised to be a scorcher. The cow peas were promptly cut, two hours later raked into windrows, and before dark, put into small cocks, which subsequently received proper care. The hay was housed toward the end of the week, and to-day looks as nice and green, or nearly so, as on the evening of the day on which it was cut.

The ground was so mellow from the mulch it had had, that I intended to raise a crop of turnips on it. Within a week of cutting the vines, I noticed, however, that the stubs were getting quite green, and I concluded to watch results. To-day (September 10), the vines are about a foot high, very stout and bushy, thickly set with bloom, and thousands of pods filling rapidly, all of which have more than ample time to mature before frost. I will, therefore, get some bushels of seed more than I had previously ever had any reason to hope for. Besides, it will be so much more agreeable to gather the pods from sturdy bushes than from vines run wild, tangled and unmanageable. This practical lesson teaches me that from the cow pea, I can make an exceedingly palatable hay, richer in muscle-makers than Red clover, and, without further effort or expense, raise a crop of seed; while, in addition, the stubble adds fertility to my soil in a manner not practicably measurable, but exceedingly palpable to the senses.

Decidedly the most economical way of introducing the particular bacteria into one's fields, is to sow the peas in the corn at the last working. The only expense will be the seed. Even though the first trial may result in small growth, the beneficial effect of this will more than balance the cost of seed, which, in itself, is rich in fertilizing elements.

Those "Scientific Terms" Again.

E. W. MORSE, MASS.—I was pleased to notice that Mr. Senger, on page 549, states that the reason for writing the article there signed by him is because of his polemical spirit. It seems that Mr. Senger had no difficulty in understanding what is meant by the term, carbohydrates; why should he think that other farmers are less capable of understanding the term than he? Suppose that the term were not a well-chosen one; is the difficulty removed by introducing a word still more ambiguous? The word, carbohydrates, has been in use some years, and is understood by all students of chemistry. If it is not as good a word as we would wish, why not wait till we can get a better one, and not add one more to the already large number of vague words in the English language? When we undertake the study of a science, we accept the terminology of that science, whether we like it or not, in order that we may the better understand what is already known about the science. If we study chemistry, we must accept the terminology used in chemistry, otherwise we could not read a work on chemistry understandingly.

In order to understand the science of feeding animals, we must know something of chemistry. THE R. N.-Y. cannot hope to do much more than to introduce the subject. I presume that another office of THE R. N.-Y. is to get its readers enough interested in the subject, so that they will wish to continue the study farther. To do that, they must be able to understand what carbohydrate means. It is as easy to learn at one stage of the study as another, and the sooner it is done the better. Any intelligent farmer is capable of understanding such books as Gulley's First Lessons in Agriculture, and Stewart's or Armsby's works on cattle feeding. The words, carbohydrates and protein, are used in those and similar works, and they present no difficulty to any intelligent farmer.

In answer to Mr. Senger, I will state that I think that the reason why THE R. N.-Y. does not advise farmers to use K Cl instead of muriate of potash, is because K Cl is too costly. Muriate of potash is the commercial name of an impure form of K Cl, but is almost as good as a fertilizer. K Cl is not enough better than muriate of potash to pay for the difference in price. I accord with Mr. Senger in approving the course of THE R. N.-Y. in using the terms muriate of potash, nitrate of soda, sulphate of ammonia, etc. These are terms in common use by chemists, and I see no reason why we should not adopt them when we use, or deal in, these chemicals. There is as much necessity for calling these chemicals by the names of stem-producers, leaf-formers and seed-makers, as there is for calling carbohydrates fat-formers.

I acknowledge that I am far from understanding the intricacies of the English language, but even a hasty perusal of Mr. Senger's article cannot fail to convince any one that there are others in a similar state of ignorance. Was my article hypercritical? THE R. N.-Y. called for opinions on the terminology used in the Primer Science column. We have had two, and I hope that there will be more to follow.

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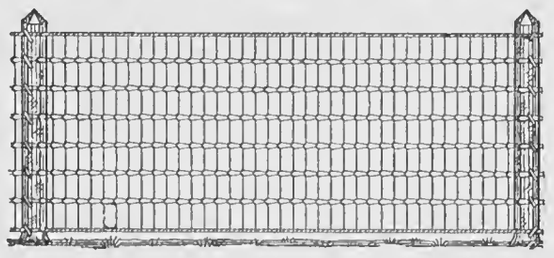

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SATURDAY, SEPTEMBER 26, 1896.

AGAIN we wish to impress upon our readers the fact that none but the very best apples should be exported. This week's shipments reach 120,000 barrels—about the limit of steamship accommodations—and the heaviest week's exports ever known. Don't ship poor fruit!

⊙

THE NURSERY BOOK, by Prof. L. H. Bailey, is a standard publication. There is nothing better of its class. We have a limited number in paper binding for sale at 50 cents each. It will not be sold hereafter in paper covers, and when the present stock is exhausted, the price for the cloth bound book will be one dollar. Order at once if you want it. We still give it as a reward for one new subscription.

⊙

SOME lumber dealer will make a good thing if he will manufacture suitable staves for a round "tub" silo, and offer them for sale at reasonable rates. There is sure to be a demand for such staves. We know several parties who would have built the silos this year if they could have bought the staves readily. It is evident that this form of silo is going to be very popular, and there will surely be a great demand for first-class staves all ready to put in place.

⊙

YOU will readily see how the telephone is of great service to Mr. Simpson in his Arkansas garden. On a moment's notice, he can talk to any of his customers in the town, and any one who has handled perishable products will see the value of such a service. We would like to see a telephone wire running out of every farmhouse in the land. The world would be better for it. Why can't it be done? A monopoly stands in the way, and prevents the extension of the service at a price which farmers can afford to pay.

⊙

Ex-United States pomologist Van Deman, points out clearly the objections to such words as hermaphrodite, bisexual, staminate, pistillate, to denote whether the flowers are "perfect"—having both stamens and pistils—or "imperfect," having pistils only. We have long contended against the use of the word "staminate", because staminate flowers have pistils, also, and have used the better word "bisexual", meaning two sexes in one flower, hermaphrodite, or perfect. But we think the words "perfect" and "imperfect" simpler and more appropriate, and we shall use those words hereafter.

⊙

THE effect of a well-balanced ration on the human animal is well marked. We have had an illustration of this during the past year in watching the development of a little boy. About a year ago, he came out of an almshouse, where his food had been chiefly potatoes, brown bread and a little butter and milk. That was a diet containing but little mineral matter, and a small proportion of muscle-makers. As a result of such food, the child was but little better than a dwarf. His flesh was soft and flabby, and of a dead, unwholesome color, while his bones were soft and his joints were weak. Gradually his diet was changed. Instead of potatoes and corn meal, he was fed largely on well-cooked oatmeal and crushed wheat, with an abundance of milk, fruit and fresh vegetables. He had plenty of fish, but little, if any, meat. It was really a change from a very wide ration to just about the theoretical ration for a young calf or colt. One would hardly recognize the boy to-day. He has begun to grow. His flesh is as hard as pork, and of good color, while his bones are strong and firm. The new food has simply created a new boy. There never was anything like good oatmeal to put growth and thrift into young stock, whether it be boy, pig, calf, colt or pullet. We doubt whether you can find any food combination that will start the young things growing as will good oats. The four-footed youths will do their own crushing. Grind and cook for the children if you want hard, pink flesh and bright eyes. Oats make growth. Corn means sloth.

⊙

THERE is a great opening in the South for the sale of pure milk. Near such cities as New Orleans, Mobile, Savannah, Charleston, Atlanta, Chattanooga and others, it is possible for a dairyman to start on the plan worked out by Mr. Francisco, and develop an excellent trade. It would be necessary to go through a period of education first, so that customers might understand the true difference between ordinary and first-class milk; but such education will pay well. With the cheap food and mild climate found at the South, and the lack of competition in producing a perfectly clean product, a dairyman who understands his business ought to make money near some southern city.

⊙

THE horse breeders who report to us this week are not hopeful for the future. The shrinkage in the values of farm horses in the past few years has been remarkable. Last week, we saw a pair of heavy Percherons from Kansas that were bought for $250. A team not quite so good, but of much the same breeding, cost, in 1892, $500. The trouble with horse breeders is that they must carry their stock four or five years before realizing on them. Six years ago, farmers invested in expensive stallions and fixtures expecting fair prices for their colts. While the colts have been developing, prices have been dropping, until now the price offered for the colt is scarcely half what the breeder calculated would be necessary to pay expenses, and give even a small profit. Hogs, cattle or sheep could have been sold when prices began to decline, but the colt had to be kept and fed all through these years in order to make him salable. It is sad to think that man's noblest brute friend should bring his master into such trouble. The last report of the United States Department of Agriculture gives some startling figures to show the loss in horse values. Here is one comparison:

	Number of Horses.	Total Values.
January 1, 1892.....	15,498,140	$1,007,593,636
January 1, 1896.....	15,124,057	500,140,186

To show how this loss has been distributed, we may compare a few of the western States where horse-breeding has been a recognized industry of great importance.

PAST AND PRESENT VALUES.

	1892.	1896.
Kansas.....	$55,344,187	$20,609,057
Nebraska.....	36,298,768	16,259,065
Missouri.....	54,892,332	23 039,549
Illinois.....	91,872,771	34,502,959
Iowa.....	86,921,929	34,032,583
Indiana.....	53,388,703	23,732,946
Ohio.....	66,658,761	29,218,761
Michigan.....	40,757,393	20,340,685
Pennsylvania.....	51,867,709	28,629 629
New York.....	58 926,968	31,246,088
Oregon.....	9,911,171	4,625,783
California.....	26,010,045	13,114,251

There is nothing sectional about this decline. Farmers in all parts of the country have suffered alike. The bicycle and the electric car have run over the horse, and squeezed out half his value.

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EVER since the silo has come into regular use in preserving the corn crop, dairymen have been studying to find the best muscle-making grain to feed with the ensilage. Cotton-seed meal is the cheapest form of "muscle-makers," and there is no safer way in which to feed it than with corn ensilage. Some farmers have always felt that they could grow muscle-making crops cheaper than they can buy cotton-seed meal, bran, or other grain. For example, we have told how Mr. Bancroft, of Delaware, uses hundreds of tons of Crimson clover and cow peas in the silo. These crops help "balance" the corn ensilage, and cut down the grain bill. There are farmers who feel that, with present low prices for dairy products, good clover hay and a few pounds of wheat bran will act like the meat in a sandwich to even up the ensilage. In Canada, a mixture of one part sunflower heads, two parts horse beans, and four parts corn, are put into the silo together in the hope of obtaining ensilage which is, of itself, a "balanced ration." This plan of growing muscle-making crops on the home farm, is not advocated as strongly as it was several years ago. The price of bran and cotton-seed meal has fallen so low that, in many cases, the old argument fails, and it is actually cheaper to buy grain than it is to grow clover or peas. In many cases, it actually pays best to raise a heavy crop of corn for the silo on the land nearest the barn, and put the other grass land into Timothy to be sold every year—the money obtained for it to be spent for grain rich in muscle-makers. That is just what some long-headed dairymen are doing, and they are making a success of it, too.

IT is an old saying that there are tricks in all trades but ours. We all like to feel honest ourselves, and to believe that all of our own class are in that commendable state. Still, sometimes, our confidence in human nature is sadly shaken. A reputable fruit firm in this city, last fall, purchased, at a leading grape shipping center in western New York, large quantities of Delaware grapes, for which they paid the packers $60 per ton. These buyers say that in the bottom of some of the crates containing these grapes, stones were found. Three cents a pound is a pretty high price to pay for rocks, unless it be for the purpose of throwing them at such dishonest packers. Such solid arguments are about the only ones likely to prove effective with people so thick-skinned and so destitute of honesty as to pack stones in fruit sold by weight. What should be done with such people?

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AN old Arab proverb says that where the honey is, there the flies will be gathered together. The same holds good in other directions. In the article on Strawberries at Chattanooga, Tenn., when the fact became known that an immense crop of berries was awaiting buyers, the buyers came from many different points. Such competition, of course, always results in more satisfactory sales and better prices. None of these buyers would have been attracted by a single acre, or, indeed, by several acres of berries. By shipping such large quantities, too, growers were able to secure great advantages in shipping facilities. Mr. Hoyt, in his recent articles on the new apple culture, enforced the same truth. It is easier to sell 1,000,000 barrels of apples in a single county than it is to sell 1,000. These facts are worth considering by planters of fruits of all kinds. Wayne County, N. Y., has gained a reputation for an immense production of evaporated raspberries, and there is no trouble about sales at good prices.

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BREVITIES.

THE SCRUB.

If I should die to-night—
Then would you look upon my quiet face
And wish me back again within my stall?
Would all the years of eating I have spent
Devouring all your hard-earned grain and hay
With scant return in butter, milk or meat,
With little save a pile of leached-out dung
And my society to leave behind!
Would such a life-work make you wish me back
If I should die to-night?

THE FARMER.

If you should die to-night—
I'd be ten dollars better off by spring.
That money represents the difference
Between the food that you will guzzle down
Before the snow melts and the milk and meat
That you can manufacture from that food.
If you should die to-night—I'd thank my stars.
And if you think of dying, let me take
My ax and turn you into beef, at least,
Before you die to-night!

HEN bane—lice.

"DOUBTS are devil-born."

HOW'S the Crimson clover?

DON'T take stock in a scrub.

YOU can't buy any stock food equal to good pasturage.

THE horse dealer talks himself hoarse without making a sale.

WORK the new thing slowly. Otherwise it may be a dear new idea.

IT'S truly alarming to see how some fellows lose faith in good farming.

POTATOES at three cents a bushel—with the aid of millet—page 649.

CATNIP tea for garget—page 651. There is a chance for a good experiment.

WHO can coin a new word that will describe the flavor of the Logan berry?

WE view with alarm—the scrub that you've harbored so long on your farm.

MR. MILLER is just right when he says that the farm team should not be ruled by fear.

ENGLISH farmers want the bicycle taxed because it has nearly ruined the horse trade.

A "NAGGER" is a hard nag to keep in the home. He or she is a "kicker," and likes to bicker.

WE have pumpkins growing in the garden that have a richer and more agreeable flavor than some of the California peaches sold in New York.

COTTON-SEED meal and cotton-hull ashes. There's a wonderful fertilizer for truck. With a little nitrate of soda added, it ought to give great results.

INTRODUCE good "blood" into your herd, and then starve and stunt your heifers. Then you will have dried-up blood—good for fertilizer or hen feeding.

EFFORTS are being made to stir up interest in the Angora goat. Every few years, this animal is "boomed," and each year seems to add a little to its popularity. It is slow growth, though.

YOU must have a liquor tax license in New York State in order to traffic in hard or fermented cider in quantities of less than five gallons. We suggest that, when you sell yourself a glass of such cider and drink it on the spot, that you pay the tax to your wife.

IN giving the usual methods of keeping hen lice or mites from the roosts, Mr. Cushman omits the scheme proposed by O. W. Mapes. This is to keep the roost well smeared with some cheap fat or grease. Mr. Mapes has used this method with success, and it is worth trying.

MARYLAND has a new law to guard against the sale or introduction of trees or plants. No package of nursery stock is to be sold without a certificate that such stock has been examined by the State Entomologist, and pronounced free from insects and fungi, and no stock is to be brought into the State without such certificate! That will keep the entomologist busy!

DARK DAYS FOR HORSE BREEDERS.

Prices Have Depreciated in Indiana.

Horse breeding, comparatively speaking, has ceased in Indiana. In this part of the State, at least, few colts can be seen on farms the past two years. Stallions have been sacrificed until there is really a scarcity. There are still more than enough for the demand as it exists, and since there is no visible prospect of a greater demand, the sacrifice goes on. There is nothing encouraging in sight to the farmer breeder, that I can see, in any line of live stock, and I believe that every domestic animal produced in this latitude, thrown upon the market as it now is, will bring less than cost. This statement is meant to apply, only in general terms. Individual success is in the man, as in all other branches of business. I fully realize the criticisms this will bring from breeders, for the wounded bird flutters, and breeders try to keep up the hope that a bright day is dawning, or "our boom is just now on," etc., etc.

I read in the sheep journals, "The breeders of cattle and hogs are selling out, and are investing in sheep." The same tale is in hog journals and other especial champions of certain kinds of live stock. Facts do not bear out these statements; they are delusions, are intended to and do deceive individuals to invest, and in a large majority of cases, such investment causes the investor a loss. I believe that the unfair and untrue statements of some breeders of fancy live stock of all kinds, that are breeding animals to sell the farmers at fancy prices to improve their stock, have caused the farmers of the country more loss than profit. They are thus induced sometimes to pay a fancy price for an animal whose merit, if it had any in nature, was lost in the changed conditions, and in the hands of the inexperienced new owner. These variations are as the numbers of the men engaged in it, and like other conditions of life, the successful are held up as examples. The 10 or 20 that fail in the attempt to follow their lead, lose all they have, and drop from sight. To all breeders of fancy animals, has come a depreciation ranging all the way from 50 to 90 per cent. Prices have fallen from 50 to 90 per cent. The common good animal produced and always sold at shipper's prices, has fallen about 50 per cent; the purebred registered stock that has been sold for years for breeders, have fallen in price 75 to 90 per cent. Is not the lesson plain? I realize what this will bring from those trying to keep up the seance; but these are stubborn facts susceptible of proof in every neighborhood in the land. There are thousands of exceptions, I know. I am writing in general terms, and of the majority. Horse breeders can only be hopeful that, when conditions change, so that other live stock pay for production, horses will also be profitable to raise. The tendency now to try to produce the large, active horse that can fill any place, is, certainly, the road to follow. Since, at least, 100 horses have left the State by sale or death, for every five colts born the past two years, it would seem as though there must soon be reaction in prices.

W. W. LATTA.

Horse Breeding in New Hampshire.

The almost general statement would be that, for this neighborhood, the business of horse breeding is dead. Ten, even six years ago, fairly good, and some very good stallions were to be had, and did a living business. Many farmers bred their mares to trotting-bred stallions, with varying results, depending, mainly, upon the quality of the mares and the skill shown by the owners in raising and training the colts. Some wise men took a little more trouble to find and patronize a first-class Percheron or French Coach stallion, getting colts that cost no more to raise, much less to train, and were far more salable at a fair price when four or five years of age. Now the stallion that earns, in fees, more than the cost of his feed is, I think, the exception. Farmers, when asked to bring their mares, will say, "What's the use when I can buy a young, sound, serviceable horse for from $35 to $75?"

I think that I am within bounds in the claim that, to breed and raise a colt which has size, style, good disposition, good bone, and is well developed, say one that will stand 15.2 to 16 hands, and weigh 1,050 to 1,100 pounds at four years of age, will have cost nearly, or quite, $50 a year here in New England. Count what the hay, grain, milk, etc., would cost if bought or sold. A colt may be kept alive for four years on pasture and poor hay; but buyers will not be running after it. For the past two or three years, very few farmers have been able to get $200 for a colt, or even half that sum; many well-bred colts have been sold for $25 or less.

Farmers, in this neighborhood, are not enthusiastic about horse-breeding. There is, however, another side to this question. Ordinary horses can hardly be given away—really good ones are, and always will be, in demand, at fair prices. One man from New York told me, this summer, that, hearing on all sides that horses could be bought for little or nothing, he put $300 into his pocket, and started out to buy a first-class road horse for his own use, but discovered, to his sorrow, that he must add $400 to the amount to get what suited him. A man from Boston was looking about here for a horse, and when asked why he came so far, when the city, according to reports, was full of horses having every desirable qualification, which he could buy for $100 or less, replied that he had been unable to find such. These men did not demand extreme speed or great style, but wanted animals of good size and color, prompt, cheerful drivers, sound, well-broken, of good disposition, and for such were willing to pay a good price.

While breeders are not, as a rule, hopeful for the future, there are some who believe that this is a good time to begin. Good mares and stallions may now be bought at reasonable prices. When any industry is depressed, there are always men in it bound to get out at any sacrifice—and four or five years later, when these colts are old enough to sell, they will be in demand. Breed nothing but the best, and let feed, care and training equal the breeding.

W. D.

POTATO OUTLOOK IN NIAGARA CO., N. Y.

After a thorough personal investigation of the present state of the potato crop in various parts of this county, I have come to the conclusion that potatoes will be a scarce article hereabouts. The planting, in some places, was as large as it was last year, in others considerably smaller. On a 70 mile drive through the county, I saw none of the large fields, then so thrifty at this time of the year, and those that I did see, were mostly dried up, burnt up, eaten up. I have seldom seen two seasons of very large planting in succession, and never two successive seasons of very large general yield. Evidently, the seasons of 1895 and 1896 will be no exception to the rule. Between drought, early blight and potato bugs, there is now very little left of the vines all around here, and the yield is very light, indeed. I ask about every farmer I meet concerning the outcome of his potato crop, and nearly every one estimates his yield at less than one-third of that of last year. My own impression is that there will be only one-fourth the amount of potatoes here available for market that there was last fall.

I lost nearly my whole planting of Carman No. 1 and No. 3, about an acre. The seed pieces were cut large, but being put into rather warm and dust-dry soil (soil well prepared, too), they dried up, or dry rotted, and only a portion of them sent up weakly sprouts that never amounted to much. This is the first experience of the kind I have had. Many other fields around here were handled and came out in the same way.

Potato beetles have never before appeared in such vast numbers, so late in the fall, in western New York, so far as I can remember. The nearest approach to it, in my experience, was nine or ten years ago while I lived in New Jersey. After most of the potato vines had matured, or were burnt up with the early blight, the adult beetles came in large numbers, and fell upon egg plants, tomato plants, and the few very late potatoes that had yet a green leaf on them, and stripped many of these plants to the ground. The beetles are doing that here now, and have been doing a vast amount of damage. As it seems impracticable to poison them, there is a good prospect of a large crop of potato bugs again next year.

The only man that told me of a large yield of potatoes, is Mr. Jacques, of Woodward & Jacques. His "Money Makers" go about 300 bushels to the acre. Both Mr. Woodward and Mr. Jacques tell me that Carman No. 3, grown on their sandy soil, is the best potato in quality they have ever grown; and of course, like the rest of us, they find it one of the heaviest yielders.

T. GREINER

TWO NEW NOTES.

Mr. H. M. Stringfellow, of Texas, tells, in his book, "The New Horticulture," how he came to realize the value and importance of potash in fertilizers. He was growing cabbage and melons, and using vast quantities of manure, bone, cotton-seed meal and other fertilizers rich in nitrogen and phosphoric acid. After a year or two, the crops failed for some reason for which the local soil doctors could not account. Near Mr. Stringfellow's home was a powder house in which were about five tons of gunpowder which had been damaged by wet. It was proposed to throw this powder into the bay. Mr. Stringfellow remembered that gunpowder contains a large percentage of nitrate of potash. He also realized that his manuring, thus far, had been one-sided in the fact that he had used a large excess of nitrogen and phosphoric acid. He got the gunpowder for the hauling, and at once spread the five tons on four acres of land, harrowed it in, and set out cabbage. The result was the biggest crop of cabbage ever known in that part of the country. That was, probably, the most *forcible* manuring ever known in the history of horticulture. When those five tons of powder exploded into cabbage heads weighing 15 pounds and more, the force blew Mr. Stringfellow into a potash crank, and he has been one ever since. He says that cabbage and melons obtain more benefit from potash than any other crop that he has grown.

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The English Mark Lane Express gives some remarkable facts about the condition of the English dairy farmers. About a year ago, a coöperative creamery was started in Australia for the purpose of making butter to send to the English market. Starting with a daily supply of 1,000 gallons, this creamery is now using 4,000 gallons of milk per day. The farmer averages 6¼ cents per gallon with the skimmed milk returned. In the English market, the butter has averaged a little over 20 cents a pound. This is about the same as the price obtained by the Irish dairymen who ship from Cork to London. It is a wonderful thing that Australian dairymen can ship butter half around the world and compete with dairymen only 500 miles away! Of course, you will say that the Australian dairyman has cheaper food, cheaper labor and a finer climate, besides the great advantage of coöperation! That is all true, but it does not cover the chief reason. A man only 100 miles from London may be charged three times as much to ship his butter over the railroad, as is charged to ship a pound from Australia to London. In fact, the great advantage in favor of the Australian is the heavy freight or express rate charged the Englishman. The foreigner sends a pound of butter half around the globe cheaper than the home farmer can send it on a half-hour's journey. Now that is very much the situation we have in this country. The cost of short hauls over our railroads is out of all proportion as compared with the rate for long hauls. It is the excessive cost of shipping and handling produce that gives the farmers such a small proportion of even the present low prices. There is another thing about this Australian butter trade which will put a yellow streak on the horizon of the American dairymen. The more England eats of Australian butter, the less can she take from this country. Our trade abroad has been hurt already by men who sent bogus butter and filled cheese, and now, right at the time when our dairy goods have a bad name, comes Australia with her tons of good creamery butter!

BUSINESS BITS.

Wills A. Seward, Budd's Lake, N. J., will sell at auction on Trenton Fair Grounds, October 2, 25 head of Berkshires. He is making room for breeding stock to supply the export trade.

There have been great improvements in green bone and vegetable cutters since they have come into such general use. The Roche cutter combines so many of these that it is a well nigh perfect machine. Full information will be given by the Standard Green Bone and Vegetable Cutter Co., Milford, Mass.

The manufacturers of the De Laval Baby separator have just issued a new catalogue of their different sized and priced machines. It illustrates the separators, and gives considerable useful information about them as well as their advantages. If you are at all interested, they will be glad to send the catalogue on your application for it. Address the De Laval Separator Co., 74 Cortlandt Street, N. Y.

An important thing to cousider on stumpy farms, is the work and cost of grubbing and clearing the land. This, however, can be accomplished so rapidly with a good, reliable stump puller that the cost is made very slight, and the work easy. In clearing timber land, the wood alone, in many cases, will pay for one of these machines, and you have the machine left, and the best land on which to grow abundant crops. In working stump land, the breakage to farm implements may cost a good part of the price of the stump puller. The Hawkeye Grub and Stump machine is thoroughly reliable, easily operated, and will clear two acres at one setting. The makers, Milne Mfg. Co., Monmouth, Ill., will send catalogue and prices of this and other appliances for clearing timber lands, if you ask for it.

The ever-returning wash day with its invariable rub, rub, is one of the banes of woman's life on the farm. The Horton Mfg. Co., Portland, Mich., are now making Terriff's Perfect washing machine, and say that it is giving such general satisfaction that, even in these times of depression in trade, they are meeting with the greatest success. Their success is directly attributed to the fact that their machines are sold under a positive guarantee to wash as clean as can be done on the wash board, and the unqualified offer to refund the money if found not to be as represented. This position makes easy work for their agents, as every one is anxious to lighten the labor of wash day. Agents ought to find this pleasant and profitable work.

□ The Chautauqua Reading Circle is widening the scope of its four-years' plan by the introduction, this year, of French history. What is called the French Greek year, opens up a most attractive field for the student. The books are all prepared by specialists who are not only fully acquainted with the subjects, but have skill in presenting them in an attractive manner. The readers of Chautauqua books are thoughtful men and women, so that the subjects are treated, not in the fashion of school books, but with the special needs of these Chautauqua students in mind, The growth of the French nation, and its influence upon modern life and thought, are subjects full of interest to the intelligent American, always a sympathetic observer of French attainments, and Chautauqua students are to be congratulated upon the enlargement of their opportunities

Women-make the-Homes

WOMAN AND THE HOME

Homes make the Nation

WHO has not seen a heedless person looking over a dish of fruit to select from it something to eat, press his thumb into every one to see whether it is mellow? Every such pressure leaves a bad spot in the fruit which damages it for future use.

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A WOMAN, while riding the bicycle, was killed in collision with another rider, recently. Investigation shows that she was on the wrong side of the street, not observing the rules of the road. It seems to be a characteristic of women untrained by business, to ignore those arbitrary rules of life which make it possible for things to go smoothly among conflicting interests. It may be ignorance, in many cases, which causes women to make the mistakes they do; but it is the kind of ignorance which brings bliss to no one, and usually is responsible for a great deal of discomfort, not to say danger.

*

SIR WALTER BESANT has written a serious letter to the London press asking women not to continue invading the employments of men. If a woman went out to work to please a whim of her own, she might, perhaps, stop working to please the whim of some one else. But it is necessity which knows no law, and shows no favoritism, which sends women to work, and it would be a hard fate, indeed, that would deny them what small freedom they have in choosing their work.

A SUNDAY WOMAN.

MRS. ANDREWS had gone to stay with a sick neighbor till the doctor came. After he had seen the patient, and had left directions and medicine, she followed him to the outer door and asked him anxiously, what was the matter with Mrs. Gay.

"She is tired out with hard work," answered the doctor. "And you will be in the same fix yourself," he added, giving her a searching glance, "if you work so hard and don't take any rest."

Mrs. Andrews stayed with her neighbor all the afternoon, till Mrs. Gay's cousin, who had been hastily sent for, came to take care of her. As she walked along the country road to her own home, Mrs. Andrews's mind was full of anxiety and apprehension. The doctor's words, "You will be in the same fix yourself, if you work so hard, and don't take any rest", kept ringing in her ears. How could she take any rest? How could she work less hard? And if she should be sick, who could come and take care of her? She had no relatives who were at liberty, and hired help was so expensive. What should she do? There was a dreadful sinking of her heart and a terror of the future, which was almost enough in itself to make her sick. She got supper mechanically, and the conversation at the table hardly reached her ears.

The family consisted of herself and husband and their three grown-up sons. The sons were good-looking young fellows, strong and brown. Mr. Andrews was a healthy, hearty man, a strong contrast to his pale, delicate-looking wife. He was what is sometimes sneeringly called a "Sunday man". He and his family always attended church, and he did no business of any kind on Sunday. If people wanted to see his live stock, or talk over any farm matters with him, they must come some week day, he would not see them Sunday. Some of his neighbors ridiculed him, but those whose opinion was worth having, respected him for the stand he had taken.

After the supper work was done, Mrs. Andrews went to her room. She sat in the dark and tried to think what she could do to avert the calamity which seemed to be coming upon her. She knew that something must be done. She realized, from her own feelings, and the dreadful weariness which had been upon her of late, that what the doctor had said was only too true. "I must not get sick," she kept repeating to herself. "But what can I do to keep well?"

Suddenly there came to her troubled mind these words: "Six days shalt thou labor and do all thy work." Ah! That was what she must do, what she had never done before, rest on Sunday. She thought of the way she usually spent Sunday. The family rose late, and she had to hurry to get the dishes done and the house in order. Then she had to hurry and dress for church. She never stopped after church to speak to friends, but came directly home, put on another dress, and cooked the dinner. After the dinner dishes were washed, there was, usually, an hour or two when she sat in the sitting room and read as long as she could keep awake. Then she had to get supper, do more dishes, strain the milk, and put the Monday's washing to soak. She sighed as she reviewed her Sunday's work. "No wonder I am tired out," she said to herself. "Yes, that is what I must do, it is *all* I can do—rest on Sunday."

All that week, Mrs. Andrews was planning for her Sunday. Saturday night came, and, as Mr. Andrews and the boys sat around the lamp reading, she came in and stood watching them. At length she spoke, and they looked up.

"Father," she said, "the neighbors call you a Sunday man. It is a principle with you not to do any unnecessary work on that day. You have lived up to your principles, and I have heard you say, more than once, that you are better off in every way for resting one day in the week. I am sorry to say that I have not taken the same stand that you have, and, as a consequence, I have, at last, become tired and worn out, like Mrs. Gay, only not quite so bad. Now I am going to turn over a new leaf, and become a Sunday woman, and not do any unnecessary work on the day of rest."

Four very astonished faces looked at her as she finished this little speech. Her listeners had no idea of the courage it took to make it.

"What!" exclaimed Mr. Andrews. Aren't you going to get the meals as usual? I should think that was necessary."

"I am going to get a good breakfast, and I will make the house tidy, but that is all the work I shall do."

There were exclamations of dismay, but she broke in upon them. "You won't starve," she said, smiling a little. "I've no idea of making you fast all day. I have made a quantity of sandwiches, there are pies and a sponge cake, and a great platter of baked apples. Then, if that is not enough, why, there is always plenty of milk and bread and butter. You all know where the pantry is, and when you are hungry, you can go there. Or, if it be pleasant, we can put the things in a basket, and go out in the woods to eat. But I am not going to cook a hot dinner, or get supper, either."

Mrs. Andrews was usually such a n[illegible], little body, that when she made th[illegible] last very decided statement, Mr. [illegible]drews and the boys were rather scared, and subsided into silence. All the rest of the summer and fall, Mrs. Andrews persisted in her revolutionary conduct. She enjoyed her ride to and from church. She stayed after the service and talked with her friends. She picnicked with the rest of the family in the woods or in the kitchen, according to the weather. Sunday afternoon she took a long nap, and spent some time reading. When it was fair, she went long walks with her husband and the boys, through shady lanes and cart paths. She began to feel less tired, and having once asserted herself, it came easier the second time. So she began to call on the boys to do little things to help her, and they began to realize that she was overworked, and grew more thoughtful of her. Neither they nor Mr. Andrews grew thin and feeble for the lack of a hot Sunday dinner and supper. The washing, being put to soak early Monday morning, came out as white as ever. And Mr. Andrews found that it did not hurt him to strain the milk and wash the pail, one night in the week.

After four months of the new order of things, Mrs. Andrews asked her husband one day if he wanted her to go back to the old kind of Sunday.

"No," he answered, emphatically, and he added, "I wish I hadn't been such a fool, Elizabeth; but I am glad that you had the sense to become a Sunday woman."

SUSAN B. ROBBINS.

DOES EDUCATION PAY?

THE summer vacation has brought thoughts of the many graduates who have finished school life and commenced manhood and womanhood. In these days of higher education, there seems no stopping place to an education; yet, to the farmer—girl or boy—with limited purse, there must be a dropping of learning in schools, and a beginning to the practicing of knowledge. Shall our children have a college course, or be satisfied with the high schools and academics? A practical farmer said, "I do not care so much that I could not take a college course, but I do wish that I could have had a season in a business school. Now, at 35, I have only just learned the business ways I ought to have known 10 years ago."

While talking with a young boy who is ready to enter the academic department, he made this remark, "I know enough now to work; I don't see any need of Latin, science, and such stuff!" He seemed to have no idea that the brain needed cultivation, and to be taught to think and plan, just as well as the rest of the body to be trained. When in school, years ago, we thought it almost silly for our teacher to say to us in the civil government class, "Young ladies, you must study well, so that you can understand, some future day, when your husbands read the newspaper to you, and talk politics." But we feel the truth of the saying when the gude mon sits down and chats with us on the political outlook, or the currency question, or some other national or State matter.

As one grows older, the need of just as thorough a preparation for life's work as can be obtained, is more plainly seen. Our sons and daughters are soon to occupy our places, the parent now in the prime of life will, before long, be the "old folks," and we know by experience, how pleasant it is to have traveled the same paths. That father or mother who has studied in youth what the children are now learning, has a close bond of sympathy with those children, and a hold upon their companionship which is very strong. Then, too, such parents do not get set upon the "back shelf," but keep young with the young.

True education does not make one conceited, or feel beyond his station. I know several young women who were graduated from the academy not long ago; one is a talented musician, both sings and plays often in public, but she is the mainstay of the house, and takes much care from her delicate mother, yet finding time for society. Another is a success, either in the school-room, kitchen, or parlor. Still another lives on a farm, keeps the house, and is a dutiful daughter to a paralytic mother. The education received, has made them better women than they could possibly have been without it.

Those farmers, to-day, who are the pride of our State, are especially noted for their intelligence which has been cultivated by education. Years ago, the expression, "only a farmer," meant the rough, uncultivated toiler who knew nothing of the world beyond his own boundaries. To-day, farming is almost a profession, and the successful farmer must be intelligent, educated, and alert to every progress in the busy world, and his wife and mate equal to him in every respect.

MOLLIE WIGGINS.

CANNING FRUITS; WASHING FOWLS.

I HAVE put up fruit ever since canning came about, have never broken a glass can, and have never set one, ready to be filled, on a wet cloth; much as I have read about people doing it, I should fear to try it. Just before filling a can, I put in a tablespoonful of the fruit,

AN ENTHUSIASTIC CLERGYMAN.

Rev. Thomas Dixon, Jr., Speaks, and His Opponents Create a Disturbance—Comments of the New York Papers.

On Sunday morning, September 6, Rev. Thomas Dixon, Jr., announced that he would preach on "The Political Crisis," and probably 4,000 people gathered at the Academy of Music—the "People's Church"—to hear this brilliant pulpit orator, who is not afraid to think for himself and tell his thoughts to the

public. During the sermon he was again and again interrupted, but as the *New York Herald* of the following day says, "The hisses that broke in on the preacher's vigorous sentences were drowned by cheers and applause." The unusually clear and penetrating voice of Mr. Dixon stood him in good stead in this clamor. In this connection the following letter, written only a week before, seems particularly to the point:

NEW YORK, August 26, 1896.

Dear Sir—I am very loath as a minister to give an indorsement to a patented article, but I feel it but just to you to say that I have used your Hyomei for Bronchitis with perfect success. I had a chronic cold last winter which stubbornly resisted every remedy for seven weeks. Your Hyomei gave me relief in one day, and enabled me to fill all my subsequent lecture dates with satisfaction.

Truly yours,
(Rev.) THOMAS DIXON, JR.,
Pastor People's Church

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R. T. BOOTH, 23 East 20th St., New York.

shake it around, and have never had any trouble. I am careful to work out of the wind, as cool air striking a can might easily crack it. I set it away when filled, out of any draught.

When I first read about washing fowls with soap, it made me smile. Although it might be a good thing, sometimes, I should as soon think of washing potatoes in soapsuds. I wash fowls in two or three waters; but never let them stand in water overnight. I think that, during the autumn, care should be taken not to cook chickens long before they are eaten, as they taint so quickly, and must then be unwholesome.

Who has not eaten pies whose flavor was ruined because they had been baked on plates soaked with grease, that had become rancid from long use, or from standing too long on a tin that had become corroded? Some housekeepers boil their earthen pie plates in lye every year to keep them sweet. It helps a pie, to be removed from its baking dish as soon as it has become cold after baking.

A neat housewife wears a clean apron while ironing or making beds. If an apron is not spotlessly clean, it is easy to soil bedclothes, or garments when ironing.

If bread is baking too rapidly, sprinkle some brown paper with water, and put over the top, and it will not take fire as it would, perhaps, without.

AUNT RACHEL.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for

6858—Ladies' Tailor-Made Basque.
6856—Ladies' Six Gored Skirt.

skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Tailor-Made Gown.

In this gown, fawn, green and black fancy French plaid is stylishly united with green velvet, and decorated with round gilt buttons in groups of three. The smooth plastron is included in the shoulder and neck seams, the right front extending with the collar to close at the left shoulder, and under its edges to the lower edge. The sleeves have all the fullness demanded by the latest modes, and that is arranged to stand out well at the top over close-fitted linings. The wrists are finished with double rows of stitching at cuff depth, buttons decorating the back. Front, plastron and collar edges are finished in regular tailor style with machine stitching. The skirt is shaped with six gores, and has the fashionable sweep at the lower edge, while moderately wide. The basque pattern, No. 6858, is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure. Skirt pattern, No. 6856, is cut in sizes for 22, 24, 26, 28 and 30 inches waist measure.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best.—*Adv.*

PEN POTPOURRI.

Such dupes are men to custom, and so prone
To reverence what is ancient and can plead
A course of long observance for its use,
That even servitude, the worst of ills,
Because deliver'd down from sire to son,
Is kept and guarded as a sacred thing.

—*Cowper.*

....REV. M. W. STRYKER: "Many men and women bear their burdens three times—before, in the present, and after. Once is a great deal."

....JANE G. AUSTIN: "Sympathy and advice are two commodities which, like musk, are only tolerable when so disguised as to lose their identity."

....HOME QUEEN: "The world would be a great deal happier and better, and humanity would be a long way further towards the millenium, if children could be taught to curb their curiosity, and mind their own business; but this they never can or will do as long as their families catechise and quiz them as to everything that happens when they go out."

....T. W. HIGGINSON IN HARPER'S BAZAR: "Taking the world as a whole, women do, and always have done, at least their half of its work. Travel where you please, you find women doing it. The only difference is that this work has been, till recently, the unpaid work or the work less well paid. The only change in these times is that the better work, and that better paid, is coming into woman's hands."

ODDS AND ENDS.

CALLIOPSIS FOR A WINTER BLOOMER.—It is time to be planning for our winter flowers, and I wish to tell of a plant that was a comfort and delight to me through long weeks of the past weary winter. It was nothing more pretentious than a common, yellow calliopsis, but it was a veritable sunbeam in the window. I selected a small, thrifty seedling from the calliopsis bed, and transplanted it carefully into a discarded paint can—everything that will hold soil is used at our house for plants—kept it in a shady place, and watered it with care. It was put in a south window with other plants, and about the middle of January, it began to unfold its gay gypsy blooms. And what a treasure it was! It would gild the gloomiest day with gold, and the mere sight of it was enough to drive away the blues. I shall be careful to have my calliopsis in winter hereafter.

LINDA WILTON MCNEIL.

THE SERVANT QUESTION.—As the question of help for the farmer's wife is a very important one, I am glad to read the suggestions given in THE R. N. Y. I read with interest Miss Jane Addams's article, page 390; but it is evident she had not in mind isolated farm houses, when she said, "Most of the cooking and serving and cleaning of a household could be done by women living outside." It is true that, when such help can be had, it is very pleasant and resting.

But another thought to which she gives expression, is well worth considering: the attitude of employer and employee. Why should not the kind, motherly heart of the mistress of the farm house have a care for a little maid who helps her, and treat her with the same deference that she would if she were there for only a day? I am aware of the objections. She would grow to think of herself too highly. She would get impudent, etc. I think better of young womanhood; she appreciates kindness, and if, when tired (for girls do get tired, sometimes), she should answer petulantly, she will be sorry enough; and if she have the courage, will say so.

I would really like to read in THE R. N.-Y. of the experiences of women who have been successful in keeping the relations harmonious between themselves and their maids of all work. There are, in our country, to-day, many women who are good housekeepers, good homekeepers, good wives and mothers, who took their first lessons in the glorious art, while serving as maid of all work, in humble farm houses.

MRS. M. M. W.

FINDING HER LEVEL.—I heard, the other day, that one of the neighbor's daughters, a sweet, beautiful girl, had eloped with a young man, who, to eyes not blind, was low, vulgar and ignorant. I rushed to John (who chanced to be pruning trees near the door), with the news, concluding my information with "Oh, John! the last time I came from town I met that girl, and I thought that she looked almost angelic." Quoth John, "Well, she won't look like an angel much longer; she'll soon look like the Bascoms." There, girls, "there's the rub;" she cannot even be herself for long (no matter how she idealized him, the man himself remains the same); and slowly, but surely, she must sink to somewhere near his level or, at least to be much less than she was capable of being.

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THE RURAL NEW-YORKER, New York.

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The Agent's Share.

We don't quite understand why our agents and friends have not taken more interest in our present Subscription Contest and Cash Premiums. The winners of these premiums hardly send money enough for subscriptions to pay for the weekly premiums, to say nothing of the larger premiums which are to go out September 30. Here are the winners for last week :

$3—RONSON GERMAN	Michigan	40 Trial Subscriptions.
$2—C. R. FARNUM	Massachusetts	28 Trial Subscriptions.
$1—B. P. SCHOOMAKER	New York	20 Trial Subscriptions.

The fortunate new agents last week were :

$3—F. N. LEWIS	New York	8 Trial Subscriptions.
$2—M. ISBELL	Michigan	6 Trial Subscriptions.
$1—T. BAILEY	New York	5 Trial Subscriptions.

Only one more week is left, and then $50, $30, $20, $10 and $5 will go out to the agents who have sent the largest number of trial subscriptions since August 15. There is yet time enough for any one to win the $50 premium. We have, heretofore, had any number of agents get names enough in one day, to come in ahead on this contest as it stands now. Would not one of these checks come handy to you? THE RURAL NEW-YORKER, NEW YORK.

"MUSCLE-MAKERS."

During the past two years, THE R. N.-Y. has given "quite some" attention to "balanced rations." We all understand that "muscle-makers" represent those parts of food that go to make muscle or lean meat. It is no more possible to make muscle out of fat or starch, than it is to make a nail out of brick. There is one side of this matter that we have never gone into very deeply, and that is the different forms of muscle-makers. It is evident that there must be different forms of these substances in different foods. When we speak of "board", or "plank", we don't speak intelligently until we state, also, the wood from which the board or plank is made. Naturally, an oak plank is worth more than one of hemlock; while all may be classed under the general name of wood, oak, pine, cedar, mahogany, and have their different proportions and values.

We were led to speak of this by hearing a man tell about the food needed in his family, and how different members had different tastes and "feeding habits", as you might say. I will give you what he said, in his own words, as nearly as possible.

"You talk about eating oatmeal! Now I can't eat it with any satisfaction. Let me eat a dish of oatmeal, and I would feel uncomfortable for 24 hours. On the other hand, my wife almost lives on it, and she is just as healthy as I am. One of the three children takes after her in most ways, and he craves oatmeal. The other two are like me, and won't touch it. If you figure up the different rations, you will find that the oatmeal eaters pick out, from choice, about the same proportion of muscle-makers to fat-formers that the two boys and myself do, with meat as the basis. The fact is that I need my share of muscle-makers in the form of meat. Give me a good slice of beefsteak, and I will do a big day's work; let me eat the same weight of muscle-makers in oatmeal, beans, eggs, or what not, and I am dull and 'tired.' On the other hand, as I have said, my wife and one of the boys, will eat oatmeal and such food and be as bright and vigorous as can be. It doesn't make so much difference with me what sort of meat it is—beef, ham, mutton or chicken—so long as it is *meat* or a concentrated form of food."

He went on to give some interesting facts to show how this same thing held true with animals. He once had a cow that did her best when fed on pure corn meal for a grain ration. Some cows will take, with safety, a great deal more cotton-seed or linseed meal than others. Western horses brought to the East, have to learn to eat oats or chopped feed before they can do their best work, and it often takes them a year to get into shape. The lesson he drew from all this was the necessity of learning the individual taste of each member of the family, or each cow in the barn, and then catering to that taste, if you want to make the best man, woman or cow that can be made. Food is the basis of the whole thing, and it is the form in which that food is given that keeps the animal keyed right up to its best work.

‡ ‡ ‡

Now we make two applications from this. Last week, six persons won premiums in our subscription contest. Why were these six selected from the rest of our readers? The muscle-makers in their ration pushed them on to extra work. Maybe one wants these muscle-makers in meat, another in oatmeal, another in beans, and so on. It wouldn't do to pick out any of these rations as a standard, because it's a case of "every man to his taste".

During the war, some one came to President Lincoln and complained that a famous general was drinking heavily. Lincoln said, "What brand of whisky does he use? I would like to give it to my other generals!" Whatever the form of muscle-makers that made energy for these six agents, they have honestly earned their money. They have had so little opposition that it looks as though the rest of them were eating food that doesn't agree with them.

There is still one week left. Our advice to you is to eat a big beefsteak—or whatever tastes good to you—and then go out and scour the neighborhood for subscribers. Turn your muscle-makers into money-makers this week. You can do it!

Another thing we want to say is that THE R. N.-Y. is a mental muscle-maker. We try to make it sharp, concentrated and soluble. After all is said and done, you will notice that most hard workers demand solid and soluble food. Meat is the basis for most meals, and we try to fill THE R. N.-Y. with meat—not sausage meat or hash—but good, sweet meat, the best cuts to be had. Some people may not like their mental food quite so strong, and others may want more red pepper. That is all right, but all we try to do is to furnish the meat. You may dilute it with doubt, or add the red pepper of over-enthusiasm to suit yourself.

One of our esteemed contemporaries recently bragged that it gave a feast of "fat things." We hope to try most of the fat out, and give you lean soluble thoughts and suggestions, for we think that you can fill in the fat right at home, with little cost. The "fat" we want from you is the starch needed to stiffen up our subscription list. Bring it along!

And here is the final shot. On page 600, it was stated that Mr. E. F. Babcock, of Washington, won a three-dollar premium. Of course, Mr. Babcock received his money in due time. This is what he says about it:

I gave it to my wife for a new bonnet at once; didn't put it in my pocket.

Hurrah for Mr. Babcock! All our women folks will want to know what he likes to eat! They will try the same sort of muscle-makers on the good man at home!

CONDENSED CORRESPONDENCE.

PIKE COUNTY, ILL.—Wheat was good, and corn the best in years. Potatoes are fair and scabby. Berries were good, peaches one-half crop and apples a failure. There is the usual number of hogs, and cholera is bad. A greater number of cattle are being fed. Land is in fine condition, and more wheat than usual is being sown.

M. M. L.

RICHLAND COUNTY, ILL.—In this section, the corn crop has become uncertain, owing to Chinch bugs. We have had a singular season—very wet in the fore part, and now extremely dry, with the mercury at present 100 degrees in the shade. Last week was almost cool enough for frost. Indeed, some claim that there was frost, but no damage resulted. Wheat and oats were a practical failure. Large areas of wheat were not cut at all. Oats had heavy straw, but did not fill, and were badly damaged with smut. B. F. K.

OGLE COUNTY, ILL.—We have had a remarkable season in some respects; not a great amount of rainfall, but so evenly distributed through the season as to make the most perfect growth. Some have cut three crops of clover for hay. Potatoes, both early and late, were injured by blight. Our 22 acres will, I think, yield 200 bushels per acre. Twenty acres were subsoiled 12 inches deep, in the fall of 1895. One acre was subsoiled in the spring of 1896, and one acre was not subsoiled. In the growth of vine, there has been no perceptible difference between the subsoiled and the unsubsoiled; there is a marked difference between the fall and spring subsoiling in favor of the fall.

Of the new varieties of potatoes, the Vigorosa, from L. L. Olds, and the Flegle, from M. Crawford, are the most promising. Everett's Early Thoroughbred is as late as Carman No. 3; at least, it is this year. Varieties, in some instances, seemed to have changed their characteristics. World's Fair, a medium early variety, is greener now than the R. N.-Y. No. 2. The latter have set an unusually large number of tubers; usually, from two to six has been the average per hill in past seasons; this year, they will average from 6 to 12, one hill had 16, 13 being marketable. If no blight had occurred, I believe that our field would have averaged 400 bushels per acre.

Crimson clover, sowed in corn (18 acres), the middle of July, has made a tremendous growth. If this does not survive the coming winter, it never will. A neighbor seeded 20 acres with oats; it made a good growth until July, when the hot weather was too much for it. It is now in bloom, but short and small. He is plowing it under. D. H.

Miscellaneous Advertising.

When two Chinamen meet, their way of saying "How do you do?" is "How are your bowels?" It amounts to the same thing. If the bowels are in good condition the rest of the system is pretty sure to be all right. But when they are constipated, it has a half-paralyzing effect on the rest of the body—and the mind too. Headaches, dyspepsia, biliousness, nervousness, poor sleep, weakness, heart palpitation and gloomy spirits, all come from constipation. And that isn't the worst of it: It lays your system open to all sorts of serious and dangerous illness.

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THE RURAL NEW-YORKER, NEW YORK.

FAREWELL TO THE HORSE.

WHAT HORSE BREEDERS SAY.

Horse breeding has fallen off here in the last few years. Farmers do not raise so many colts as formerly, and they have dropped the draft horse for trotting stock. The price has fallen nearly 30 per cent in the last four years. S. A. T.

Ohio.

In this locality, very few horses are being raised, not half so many as in former years. Prices are, also, just about one-half as high. There is no demand in cities except for heavy draft or light carriage horses. I have one good one, and that is all I want. A. M. C.

Illinois.

I don't suppose one colt is raised now where 10 were raised four years ago. A horse that is sound and all right, would be well sold for $50 now, that would have sold for $190 four years ago. There is no change as to breeds. Draft horses and trotters are mostly raised around here. Horse breeders, as a rule, are not hopeful.

Indiana. W. S.

In this part of Indiana, farmers do not raise as many colts as formerly. Prices have fallen one-half, and they are slow of sale at that. Changes are from draft horses to roadsters. At our county fair, we had the poorest show of horses we have had for years, showing that farmers take little interest in the horse business. Breeders are not hopeful for the future. G. L.

Indiana.

I have inquired of several of the leading horsemen of the county, and all report that they are breeding roadsters entirely; no draft horses, where a few years ago it was all draft. There are, one might say, no colts in the county. Prices have fallen 50 per cent. Breeders are not caring for and handling colts as they used to do; they pasture in summer, and run on the stalk fields in the winter. They are all hopeful, and more breeding was done this year than there has been for years before. M. M. L.

Illinois.

The business of horse breeding has, indeed, changed wonderfully during the past few years. Under the inspiration of a kite track and a few fast horses—notably the pacing stallion, John R. Geutry—everybody, farmers and all, went to raising race horses. Then came the financial panic, the drop in values, and a seeming total loss of interest in the races Neither farmers nor citizens would go to the so-called fair, the kite track went under, and the fast horse craze was dead. One, two and three-year-old colts, standard bred, sell for less than the service fee. Farmers do not raise as many colts as formerly. Prices have fallen, at least, 50 per cent on common horses, perhaps 25 per cent on good horses. Yet, when you want a good, kind, sound horse for family, dray or farm, it is hard to find. Under the prevailing low prices, even mules—a staple crop of our State—have been neglected. As to the outlook, I think that it is conceded that the bicycle will, to a great extent, take the place of the fancy roadster, and the electric car, that of the plug. But a good horse for the surrey, the transfer, or the farm, will always be in demand. We are now sadly lacking in the foundation stock for such animals. W. H. H. McVEY.

Missouri.

Horse breeding, in this State, has greatly decreased in the last few years. Hardly any breeding was done last spring, except for mules. I have four Percheron mares that are insured for $250 each, and would have sold for $200 each some time ago; at present, they are worth $60, or twice as much as a common horse. A No. 1 drivers are worth $50, but few of them are sold for more than $30. The changes have been made from good to bad. Only good horses will be bought, and the farmers have sold the best and retained the poorest. There is not now a registered Percheron stallion within 30 miles of me, and there used to be several in the county; the same can be said of other breeds of horses. The most intelligent breeders who have saved good mares, think that three or four years from now will see a good, fair price for a good horse, and also think that the time has gone by to breed anything but good ones. I have just returned from our county fair, and the showing of colts and stallions was very slim as compared with former fairs. A first-class Black Percheron stallion could do well here, as a dislike has been formed for all hairy-legged draft horses, on account of the native sand burrs and cockle burrs getting in the hair of the legs.

Kansas. CLARENCE J. NORTON.

The breeding of horses has very greatly decreased in our State during the last four years. Farmers are not raising nearly half as many colts as formerly. I should say that about two-fifths would be the proper ratio. A year ago, horses, except of the better class, were almost unsalable. A man on my farm last year, for example, had three horses with which he did most of the work on 200 acres of land, 160 acres of it in cultivation, that cost him $15, two of them $7 each and the third $1. They were plugs, but they did the work. It takes a good draft horse now to bring $75. Horses of the same class would have sold readily at from $125 to $150 some years ago. The average price of my sales on the farm for 10 years, was about $137.50. I have not averaged them the last four years, as I have sold but few, but they would not reach $75. These were high-grade Normans. There has been considerable demand for high-spirited, standard-bred horses for the London cab trade. These bring in the neighborhood of $75. There has been no practical change as to breeds, but farmers are, evidently, taking less care of their horses. Horse breeders, as a rule, are not hopeful as to the future; do not, in fact, take nearly as hopeful a view as the facts warrant. There has been, in the last year, I think, some increase in the number of mares bred. HENRY WALLACE.

Iowa.

A few years ago, when the price of horses went down, farmers in this section quit breeding; but last year, a few colts were raised, farmers thinking that, by the time they were ready for market, prices would be better, and this year more were raised than last year. There are those here that contend that the business of horse breeding will never be what it has been, and I don't see how it can be. I think that farmers are more careful about breeding for something that the market demands, than in former years, although there are those that breed draft horses or plug mares to fast (?) horses, intending to raise—I don't know what. Prices are, I think, one-third lower than five years ago; $50 will buy a good, sound, all-purpose young horse. I sold a fine looking black mare last spring for $57.50. Sometimes, the buyers pay as high as $100 for good, sound horses that just suit them for style and weight. The Norman and Belgium are the breeds most raised.

Iowa. H. E. T.

CROP AND MARKET NOTES.

Choice peaches sell well at high prices.

Choice cauliflowers are in good demand.

Honey is in large supply and slow of sale.

Receipts of sweet potatoes have been heavy.

The hop market was never duller at this season.

Watermelons are about finished for the season.

The market for dry beans is doing somewhat better.

Grapes are in large supply and drag at low prices.

Cranberries are accumulating, as there is little demand.

There is a scarcity of small cucumbers for pickling.

The demand is good for choice Bartlett and Seckel pears.

The apple-barrel market is booming in the apple districts.

There is a large supply of apples, and sales are slow at lower prices.

Dried and evaporated fruits are dull, and prices are largely nominal

Considerable quantities of Valencia onions are coming to this market.

The National Hay Association has been incorporated at Albany, N. Y.

Potatoes are coming in moderately, but the price doesn't show much improvement.

Butter dealers here don't look for much higher prices for butter in the immediate future.

Receipts of eggs are lighter, and refrigerator eggs are now finding their way into market.

As the weather grows cooler, the demand for pork increases. Light weights are wanted, and the fat should be mostly lean.

Most farmers within reach of the city are shipping their milk instead of making it into butter, because of the low price of the latter.

Western New York farmers are reported to be having trouble in securing sufficient help to harvest their immense crop of apples, even at wages higher than ordinary.

Most game birds are not plentiful, and sell readily at full prices. No fresh venison has been offered yet, but dealers say that it would command extreme prices. Some from refrigerators has been put on sale.

See public sale of 100 South Downs advertised by Hon. Cassius M. Clay for September 29, on page 652.—*Adv.*

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 30	@	—
Medium, 1895, choice	1 10	@	—
Pea, 1895, choice	1 05	@1	10
Medium or pea, common to good	95	@1	05
White Kidney, 1895, choice	1 25	@1	30
Red Kidney, 1895, choice	1 25	@	—
Red Kidney, common to good	1 00	@1	20
Black Turtle soup, 1895	1 45	@1	50
Yellow Eye 1895, choice	1 17	@1	20
Lima, Cal., 1895 (60 lbs)	1 40	@	—
Green peas, 1895, bbl., per bushel	75	@	—
Barrels, per bushel	65	@	70
Bags	65	@	—

CHEESE—NEW.

State full cream, large, colored, fancy	9¼	@	—
Colored, good to choice	8½	@	9
Fair to good	8	@	8½
Fancy white	9⅛	@	9¼
White, choice	9	@	—
Small, colored, fancy	9¼	@	—
Small, white, fancy	9¼	@	—
Small, good to choice	8¼	@	8¾
Small, common to fair	7	@	8
Light skims, choice	7	@	7½
Part skims, good to prime	5	@	6
Part skims, common to fair	3	@	4
Full skims	1½	@	2

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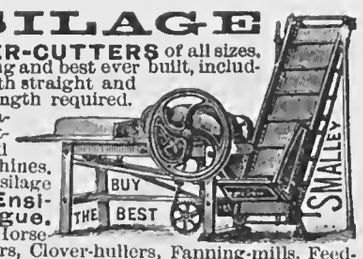

Address, **MINARD HARDER,** Cobleskill, N. Y.

BUTTER—NEW.

Creamery, Western, extras	15½	@	16
Western, firsts	14	@	15
Western, seconds	12	@	13
Western, thirds	11	@	11½
State, fancy	15½	@	—
Common to prime	11	@	15
State dairy, half-firkin tubs, fancy	14	@	15
Firsts	12½	@	13½
Seconds	11	@	12
Welsh tubs, fancy	14	@	14½
Welsh tubs, firsts	13	@	13½
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	10½
Western imitation creamery, firsts	11½	@	12
Seconds	9½	@	10½
Western dairy, firsts	10½	@	11½
Seconds	9	@	9½
Thirds	8	@	8½
Factory, fancy	10½	@	11
Factory, firsts	9½	@	10
Factory, seconds	8½	@	9
Factory, thirds	7	@	8
Old butter	6	@	8½

EGGS.

Near-by, new laid, fancy, selected, per doz	18	@	19
State, fresh gathered, average best	16½	@	17
Penn., country marks, average best	16½	@	17
State and Penn., fair to good	15½	@	16
Western, northerly sections, fancy	16	@	—
Western, fair to good	15	@	15½
Western, fair to good, per case	3 25	@4	00
Western dirties, per 30-doz case	2 40	@3	25
Western checks, per 30-doz case	2 10	@2	40

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	5¼	@	5¾
Choice, 1896, per lb	4¾	@	5
Prime, 1896, per lb	4	@	4½
Common, per lb	3	@	3¾
1895, prime to choice, per lb	3½	@	5
1895, common to good, per lb	2	@	3
N. C., sundried, 1895, sliced, fancy	—	@	—
Southern, sundried, common to choice	2	@	3
State, suudried, quarters, bbls	—	@	—
Western, sundried, quarters, bbls	—	@	—
South-West'n, sundried, quarters, bbls.	—	@	—
Southern, sundried, qnarters, bbls	—	@	—
Southern, sundried, coarse cut bags	2	@	2½
Chopped, 1896, per lb	1½	@	1¾
Cores and skins, 1896, per lb	1	@	1½
Peaches, Sundried, 1895, peeled, per lb	5	@	6
Cherries, 1895, per lo	8½	@	9
Cherries, 1896, per lb	9	@	9½
Blackberries, 1896, per lb	4	@	—
Raspberries, evaporated, 1896, per lb	14	@	14½
Huckleberries, 1896, per lb	7	@	8
Pinms Southern Damson, 1895, per lb	—	@	—

FRUITS—GREEN

Apples, 70-Ounce, per bbl	1	00@1	25
Maiden's Blush, per bbl	1	00@1	25
Alexander, per bbl	1	00@1	50
Codling, per bbl	75	@	90
Culvert, per bbl	60	@	75
Gravenstein, per bbl	1	25@1	50
Fall Pippin, per bbl	75	@1	00
Holland Pippin, per bbl	75	@1	00
Ribston Pippin, per bbl	60	@	75
Oldenburg, per bbl	1	25@1	50
King, per bbl	1	25@1	50
Detroit Red per bbl	1	00@1	25
Nearby, open heads and common, per bbl	50	@	60
Crab, large, per bbl	1	00@2	00
Crab, small, per bbl	3	00@5	00
Cranberries, Cape Cod, dark, per bbl	4	75@5	00
Good color, per bbl	4	25@4	50
Light to medium, per bbl	3	50@4	25
Per crate	1	25@1	75
Grapes, Up-River, Concord, per 25-lb carrier	50	@	60
Up-River, Pocklington, per 25-lb carrier	60	@	75
Up-River, Worden, per 25-lb carrier	50	@	65
Up-River, Niagara, per 25-lb carrier	50	@	80
Up-River, Delaware, per 25-lb carrier	75	@1	00
West'n N. Y., Concord, per large basket	10	@	12
West'n N. Y., Delaware, per small bkt	9	@	11
West'n N. Y., Niagara, per small basket	9	@	11
Wine grapes, black in bulk, per lb	1¼	@	1½
Peaches, Western Maryland, per carrier	1	00@2	00
Western Maryland, per crate	50	@1	50
Western Maryland, per basket	50	@1	25
Western Delaware, per basket	20	@	40
Jersey, per basket	50	@1	00
Michigan, per bushel basket	75	@2	00
Plums, Green, per 10-lb basket	40	@	60
Ordinary Blue, per basket	40	@	60
Prunes, per basket	50	@	65
Pears, Bartlett, per bbl	3	00@4	50
Bartlett, per keg	1	50@2	00
Clairgeau, per bbl	2	25@2	50
Du hess, per bbl	2	25@2	50
Anjou, per bbl	2	25@2	50
Seckel, per bbl	3	00@4	50
Seckel, per keg	1	25@2	00
Flemish Beauty, per bbl	2	00@2	50
Flemish Beauty, per keg	1	00@1	25
Sheldon per bbl	2	25@2	75
Swan's Orange, per bbl	2	25@2	50
Nearby cooking, per bbl	1	75@2	00
Watermelons, per 100	6	00@20	00

GAME.

Woodcock, average, per pair	75	@1	00
Partridges, nearby, per pair	75	@1	00
Western, per pair	40	@	70
Grouse Western, per pair	40	@	70
English snipe, choice, per doz	1	75@2	25
Plover, golden, choice, per doz	1	75@2	25
Grass, average, per doz	1	00@1	75
Reedbirds, per doz	25	@	40
Blackbirds, per doz	15	@	20
Rabbits, per pair	25	@	40
Venison, frozen, prime saddles, per lb	23	@	25

GRASS SEED.

Clover, per 100 lb	6 50	@	8 25
Timothy	3 40	@	4 00

GRAIN.

Wheat	60	@	69½
Rye	55	@	39½
Barley	29	@	45
Buckwheat, silver	—	@	—
Buckwheat, Japan	—	@	—
Corn	25	@	28
Oats	18	@	39

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75	@	80
No. 2	62	@	67
No. 3	57	@	60
Shipping	57	@	60
Clover, mixed	60	@	70
Clover	55	@	60
Salt	40	@	50
Straw, No. 1, long rye	85	@	90
No. 2	70	@	80
Short rye	55	@	65
Tangled rye	40	@	50
Oat	30	@	40
Wheat	30	@	35

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½	@	10
Fair to good, per lb	8½	@	9
Com. to med., per lb	7	@	8
Small, per lb	5	@	6½
Buttermilks	5	@	6
Grassers	4	@	5
Pork, country dressed, 10 to 25 lbs., per lb	8	@	10
40 to 60 lbs., per lb	6½	@	7
60 to 80 lbs., per lb	5¾	@	6¼
80 to 120 lbs, per lb	5¼	@	5¾
125 lbs and up, per lb	4	@	5

NUTS.

Peanuts, Va., h. p., fancy, per lb	3¾	@	4
H. p., extra, per lb	3	@	3½
Shelled, No. 1, per lb	4½	@	—
No. 2, per lb	3¾	@	—
Spanish, shelled, No. 1, per lb	6½	@	—
No. 2, per lb	4¾	@	—
Pecans ungraded, per lb	4	@	5
Chestnuts, per bushel of 60 lbs	8 00	@	—

POTATOES.

Long Island, in bulk, per bbl	1	00@1	12
Jersey, per sack		90@1	00
Jersey, per bbl		9 @1	12
Sweets Va., yellow, per bbl		75@1	00
Jersey, yellow, per d. h. bbl	1	50@	—
Vineland, per bbl	1	50@2	00

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	12	@	13
Young, dry-picked, per lb	14	@	16
Young, scalded, per lb	12	@	14
Young, inferior, per lb	8	@	12
Spring chickens, Phil., selected, per lb	14	@	15
Philadelphia, poor to good, per lb	11	@	13
Pennsylvania, per lb	11	@	14
Western, dry-picked, good to choice	9	@	—
Western, dry-picked, inferior	6	@	8
Western, scalded, choice, large	8½	@	—
Western, ordinary, per lb	6	@	8
Fowls, Western, dry-picked, choice	8½	@	—
Scalded, choice, per lb	8	@	8½
Old cocks, per lb	5	@	—
Spring ducks, Eastern, per lb	13	@	13½
Spring ducks, L. I., per lb	13	@	13½
Spring ducks, Penn. and Va., per lb	9	@	12
Spring ducks, Western, per lb	10	@	—
Old ducks, Western, per lb	7	@	9
Spring geese, Eastern, per lb	14	@	15
Squabs, tame, white, per doz	1 75	@	—
Mixed lots, per doz	1 25	@1	50
Dark and poor, per doz	1 00	@1	25

VEGETABLES.

Cabbage, L. I., per 100	2	00@3	00
Red, per 100	3	00@4	00
Carrots, per bbl	1	00@	—
Cauliflower, L. I. and Jersey, per bbl	2	00@3	50
Celery, fancy, large, per doz		40@	50
Average, prime, per doz		20@	30
Small, per doz		6@	15
Cucumbers, Long Island, per 100		75@1	00
Pickles, State and L. I., per 1,000	1	00@2	50
Pickles, Jersey, per 1,000	1	00@2	00
Egg plant, Jersey, per bbl		60@	75
Green corn, large, per 100		75@1	00
Small to medium, per 100		40@	60
Lettuce, Boston, per doz		20@	30
Local, per bbl		75@	—
Lima beans, Hackensack potato, per bag	1	50@2	00
Jersey flat, per bag		75@1	25
Onions, State yellow, per bbl	1	00@1	25
Eastern white, per bbl	1	75@2	25
Eastern red, per bbl	1	50@1	75
Eastern yellow, per bbl	1	25@1	50
Orange County white, per bag	1	00@1	75
Orange County yellow, per bag		75@1	25
Orange County, red, per bbl		50@1	50
Jersey and Long Island yellow, per bbl	1	25@1	37
Jersey and Long Island red, per bbl	1	25@1	50
Jersey and Long Island white, per bbl	1	50@2	25
Western yellow, per bbl	1	00@1	25
Pumpkins, per bbl		30@	50
Red peppers, per bbl	1	00@1	90
Green peppers, Jersey, per bbl		50@	80
Spinach, per bbl		—@	—
Squash, marrow, per bbl		75@1	00
White, per bbl	1	75@2	00
Hubbard, per bbl		75@1	00
String beans, Baltimore, per basket		50@	75
Western N. Y., per bag	1	00@1	25
Long Island, per bag	1	25@1	50
Tomatoes, Jersey, fancy, per crate		50@	—
Common, per crate		20@	25
Turnips, Jersey and L. I. Russia, per bbl		75@	—
Canada, per bbl		75@	80

MILK AND CREAM.

The total daily supply has been 20,472 cans of milk 161 cans of condensed milk and 554 cans of cream The average price paid for the surplus on the platforms has been $1.20 a can of 40 quarts.

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FIGHTING LICE AND MITES.

THE PESTS OF POULTRY.

I am told that sassafras oil, fed to hens, will keep them free from lice. How much and how often is it necessary to feed? Is there any substitute that is not so expensive? What is the best remedy for mites and lice? F. O. C.

Kansas.

ANSWERED BY SAMUEL CUSHMAN.

I have had no experience in feeding sassafras oil to hens to keep them free from lice; neither am I favorably impressed by such a scheme. It may be possible so to impregnate fowls with this oil that their skins, or the oily secretion with which they anoint and dress their plumage, would be very objectionable to lice. Sassafras poles are used as hen roosts by many because they repel lice. Possibly lice multiply less rapidly on wild birds on account of the spicy buds and other aromatic and strong-flavored foods which they eat. They may serve other purposes than appetizing dainties. However, their free habits and extreme nervous activity, make them less liable to become infested as well as more energetic and persistent in dislodging these enemies.

Raw onions are found to be a preventive against gape worms, if fed frequently to chickens. The volatile essential oil is supposed to reach and kill the embryos or young worms that pass into the trachea or windpipe. It is known that the oil of onions has a soothing or medicinal effect on the nervous system of persons, and if they also act as a germicide or vermifuge, they are especially desirable as green food for chickens. Onions, when fed to fowls, surely contribute to their health and thrift.

I am informed that some poultry keepers feed strychnine or nux vomica to their chickens to kill the hawks that trouble them. They claim that enough can be fed them to make their flesh death to hawks without injuring the chicken in the least. Possibly sassafras oil can be used in the same way without injuring the chicken. I should prefer to use less expensive and more certain means to conquer hen lice and mites.

Clear Hens and Chicks of Lice.

No one who will take the proper precautions, need ever have his fowls troubled or injured by lice, chicken mites, gapes or scaly legs. If poultry are active, lively and have a chance to wallow or take a bath in dust or dry earth as often as they choose, they rid themselves of most of the lice that infest them, and thus prevent their multiplication to any extent. If confined where they cannot dust themselves, or if they have, for some reason, become listless feeble or discouraged, they cannot keep the lice thinned out, and they breed so fast that the birds soon become overrun with them. When badly infested, they lose flesh, grow weak and often die. Many poultry keepers will not believe that lice are present, and doctor them for some disease when the birds are swarming with vermin. These inactive or feeble specimens that are covered with lice, come in contact with the well, active fowls, especially when large numbers are crowded together in a yard, and the latter are thus frequently reinfested.

The intelligent poultrykeeper who has sufficient energy to act promptly, may almost keep the lice and mites exterminated. One or two treatments of his fowls and buildings will do this, but lest the few that escape multiply and become numerous again, these treatments should be frequently repeated during the warm months, to keep them from again getting a start. The fowls and chickens should be periodically dusted with some powder that kills lice, and at the same time effective means should be taken to exterminate the lice and mites in the house.

For dusting them, tobacco dust (the sweepings of tobacco warehouses), powdered sulphur, and wood ashes are each effective, and they may be used in combination. Nothing is better, however, than fresh Dalmatian insect powder. Although expensive, it goes further. The cost of the powder, for even a large number, is very slight if the dusting be properly done. By holding the fowls and chicks inside of a box or over a tray, while dusting them, the powder that falls is caught and saved, and excessive waste is avoided. We place the powder in bulk in the bottom of the box, lay the fowl in it and with the hand sprinkle it among the feathers thoroughly from head to tail. Then as much as is possible is brushed off into the box and the fowl, before it is released, is allowed to struggle or shake itself while in the box, to dislodge more of the powder. When large numbers are to be dusted, they may be quickly and effectively treated by confining them in a cask in which the powder has been placed, and rolling or turning it rapidly a few times.

The large head lice of little chickens require something besides the dusting. A single large louse on the head of a little chicken will cause it to droop, and may be the means of its death. When they droop and look sick apparently without cause, look for large gray lice on their heads, necks and vents. Frequently examine their heads close to their bills and combs, and on the front and sides of their throats where they are found motionless, attached by their heads among the down or feathers. They very much resemble a sprouting feather, and are often mistaken for one. The application of a little grease will kill them. Never grease the chicks' bodies except very lightly, as it may kill them. A spoonful of kerosene mixed with a teacupful of lard, makes a good preparation for this purpose; a larger proportion of kerosene is too irritating. Rub a little in where you find the large lice. I prefer to use the carbolized vaseline. It is sold in pound cans by all druggists.

Every fowl in a house should be dusted once a month, or oftener, during the hot weather, and once in two or three months the rest of the year. If a few fowls are not dusted, they infest those that have been. If one dust the fowls and not treat the house at the same time, they become infested again when they go to roost. Make thorough work of it. If not done at stated intervals, even the experienced poultryman is liable to let it go too long, and his fowls become sufficiently infested to cause them discomfort, and affect the egg product, or cause loss of little chickens before he realizes their condition.

To Rid the Henhouse of Lice and Mites.

Although lice often crawl about the roosts, and are found in the straw of old nests, they live mostly upon the bodies of fowls, where they multiply. They lay their eggs among their feathers, to which they are attached or glued, and are incubated by the heat of the fowl's body. Red mites, however, inhabit the cracks and crevices of the henhouse during the day, and attack the fowls at night. They are the bedbugs of the henhouse. They lay their eggs in cracks and crevices, and breed with astonishing rapidity during the hot months. At night, they make their way to the fowls, and suck their blood, which gives them their red color. When not filled with blood, they are pale brown in color. If numerous, they deplete the fowls very rapidly, and are more to be feared than lice. The fowls confined to the house at night are helpless and cannot protect themselves, and soon look pale and bloodless.

Although deprived of a chance to suck the blood of fowls, the mites can, it is said, live for months. Rough perches, rough boards, and numerous cracks and crevices about a building to which they can retire, favor their development. To exterminate them, every deep crack and crevice must be reached, as well as the inside of the building.

Therefore, whitewashing as ordinarily done, does not exterminate them, but leaves many which retreat to the deepest recesses, and emerge after the whitewash is dry. If carbolic acid be added to the whitewash, it is more destructive, and its effects are more lasting, but when applied often enough to be effective, it accumulates in an undesirable way; neither does it penetrate the cracks as well as a thinner solution. I find nothing that gives better satisfaction than a solution of crude carbolic acid. It is the unrefined acid—a dark, tarry-looking liquid—and may be bought at a low price of any wholesale druggist. We buy it by the 5-gallon can. I prepare the solution as needed, by adding a half pint to a pail of water. It floats much like kerosene, and at first does not mix well. It combines with hot water better than with cold. It may be applied with any of the fountain pumps or sprayers used for washing carriages or spraying trees. Thoroughly saturate the roosts, nest boxes, and every board, crack, or crevice. It should be applied early in the day when the weather is pleasant, and every door and window should be opened to allow the house to dry out. After applying the carbolic mixture, the boards, when dry, will glisten for some time from the minute crystals of carbolic acid left on them.

An improvement might be made by preparing an emulsion of carbolic acid which will mix with water as readily as milk. The crude acid might be added to the regular kerosene emulsion as prepared by fruit growers. It is made by dissolving one-half pound of hard soap sliced fine, in one-half gallon of boiling water, then adding to it a gallon of kerosene, after which it is agitated rapidly with a force pump, if possible, for 10 minutes. If the emulsion be perfect, a creamy mass that becomes a jelly when cold, is the result. For use, this is diluted with 10 parts of water. A gallon or half gallon of the crude acid might be added, in addition to the kerosene. Washing roosts with kerosene or supporting them in receptacles containing kerosene or carbolic acid, acts as a partial barrier from the mites that roam the house. Their complete extermination should be aimed at. The frequent use of the carbolic solution is, also, a preventive of roup, scaly leg, chicken pox and other diseases which are a great hindrance to poultry raising.

PORK MAKING IN ARKANSAS.

Mr. Simpson tells us this week something about the chances for success at market gardening that are to be found in a State like Arkansas. Bulletin 41, of the Arkansas Station gives the details of an experiment which shows how the same advantages of soil and climate may be utilized in pork making. By using a rotation of clover, sorghum and peanuts—all harvested by the hogs—and feeding for a few weeks at the last on shelled corn, a fine quality of pork was produced at a cost of 1½ cent a pound. Most of us regard the peanut as a luxury rather than as an article of food. In the South, however, it will produce more actual stock food per acre than any other cultivated plant. The hogs do their own digging and harvesting. About all the care they need can be given by a strong fence.

In the experiment under consideration, the sow farrowed five pigs on March 3. She was fed slops until March 23, when sow and pigs were turned on

(Continued on next page).

See advertisement for a farmer, breeder and dairyman as Superintendent of Rosedale Plantation in S. W. Georgia.—*Adv.*

BELLE CITY
FEED AND ENSILAGE CUTTERS

Are the MOST PERFECT cutters made. They are both hand and power and in all standard sizes. Carriers of any length can be attached. For running these and other farm machinery we make a full line of Sweep and Tread Powers. Have also hand and barrel carts, Root cutters, Saw frames, Harrows, Cultivators, etc. Send for FREE catalogue and treatise on silos and ensilage.

BELLE CITY MFC. CO. Box 23, Racine, Wis.

IT'S RELIABLE
The Best and Cheapest Mill on Earth. Fully warranted. Will not choke. Write at once for prices and Agency. Prices lowest. Quality best.

PEERLESS FEED GRINDERS

It grinds more grain to any degree of fineness than any other mill. Corn, ear or shelled, Oats, Wheat, &c., fine enough for any purpose.

Made only by
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JOLIET, ILL.,
Jobbers and Manufacturers of Wagons, Farm Machinery, Windmills.

SUCCESS ONE HORSE
TREAD POWER

THE MOST
Successful and Satisfactory
power for running Cream Separators, Churns, Pumps, because it has a Governor which regulates the speed to a nicety. A successful power for running small Grinding Mill, Feed Cutter, or any machine, because the largest horse can work in it with ease. **SIMPLE, EFFECTUAL AND LASTING.** We make 2 and 3 horse Tread Powers, also Ensilage Cutters, **HERO AND AMERICAN FEED MILLS.** Sheliers, Wood Saws, Sweep Powers, **THE CELEBRATED GOODHUE WIND MILLS.** etc. Our 150 page illustrated Catalogue **SENT FREE.**

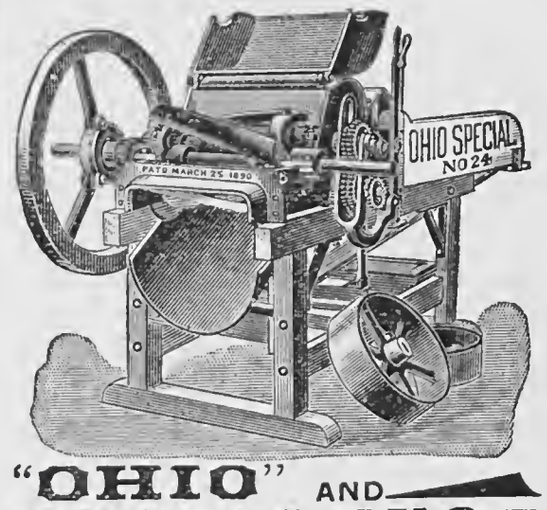
APPLETON MFG. CO. 27 FARGO ST., BATAVIA ILLS.

VICTORY Feed Mill

Grinds Corn and Cob and all kinds of Small Grain.

Made in four sizes, for 2, 4, 8 and 10 horse power. Send for catalogue and prices.

THOS. ROBERTS,
Springfield, Ohio.

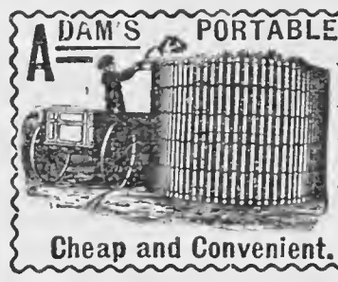


"OHIO" AND EXCELLENCE

are synonomous terms when applied to our **FEED AND ENSILAGE CUTTERS.** They are unsurpassed in rapidity, strength and durability. Straight and angle carriers, all lengths. Write for our book on Silos and Ensilage construction, with valuable hints to Dairymen. **ITS FREE.**

SILVER MFG. CO., SALEM, O.

ADAM'S PORTABLE CORN CRIBS.



Two styles. Four sizes each, Adam's No. 1 Crib, The best made. Adam's No. 2 Crib for One Cent per bushel. Ask your dealer for them or write

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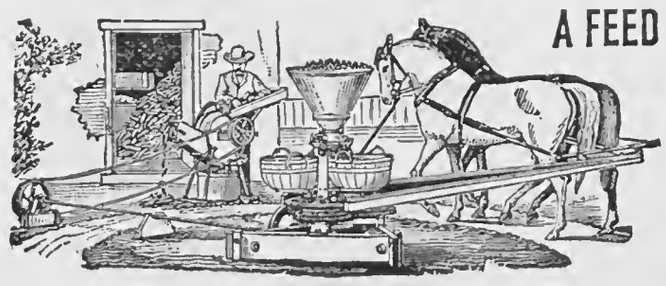

A FEED MILL better than a GOLD MINE:
The Scientific
The best on Earth. Grinds all grains, including ear corn. Numerous styles and sizes for all power. Send for catalog.

THE FOOS MFG. CO,
Springfield, Ohio.

Pork-Making in Arkansas.

(CONTINUED.

rye for pasture with four quarts of corn and two quarts of bran per day. On March 30, the sow and pigs were put in clover, and on May 13, the pigs were weaned. On July 13, a little sorghum was fed, and on July 26, the clover being eaten, the pigs were put into pens and fed whole sorghum stalks without grain. This kept them until September 21, when they were turned into the peanut field to dig their own nuts. They lived on peanuts until the ground froze on December 2, at which time the five pigs weighed 1,036 pounds. Then they were fed on shelled corn soaked in water until January 3, when they were slaughtered with a gross live weight of 1,215 pounds. The financial account of the grain feeding is figured as follows:

FED TO THE SOW.

66 4-5 pounds bran	$0.44
9¼ bushels corn	2.77
	$3.21

FED AFTER WEANING.

31 1-5 pounds bran	$0.20
5 bushels shelled corn	1.50
19 bushels corn (to harden)	5.70
	$7.40
Total	$10.61

The grazing area covered one-fourth acre of clover, one-fourth acre of sorghum, and three-fifths acre of peanuts. The value of the green crops is given as $4.50 and the rent of the land at $3. The pork sold at 3¼ cents per pound. These figures certainly demonstrate the fact that the South is able to provide cheap hog food. As to the sort of hog required for best results, the bulletin says:

The hog must be an improved breed and not scrub. The best pig is a three-quarter thoroughbred and one-quarter good scrub. The sow should be a large-bodied pig of a large, thoroughbred black breed and the scrub part should be from the best of its kind. She should then be bred to a thoroughbred boar of a breed smaller and finer boned than herself. This will give pigs with the hardy habits of the scrub, eating capacity of the large breed, and the refined bone and flesh-forming qualities of the refined thoroughbred boar. An Essex boar or a Berkshire boar of the smaller strains is best, and a half Poland-China sow will make the desired combination.

LARGE OR SMALL MEAT BREEDS?

A Mr. Ellis, an authority on English breeds of live stock, recently made a speech in which he claimed that the tendency of modern meat buyers is in favor of small joints, roasts, steaks or chops. From that, he argued that there is more money in the smaller breeds of sheep, cattle and hogs. For example, he claimed that South Down sheep are most profitable for mutton. They consume less food than bigger sheep, he said, and consequently, can be stocked a great many more to the acre, the argument undoubtedly being that a greater quantity of meat can be produced from a given amount of food by keeping South Down sheep, than from other kinds, and that the larger product, being of much higher quality, would net a far better return.

In commenting upon this statement, the Mark Lane Express says:

"The selfsame argument has been often employed by breeders of Devon cattle in their attempts to prove that the little Rubies eat less and can be kept far thicker than Shorthorns or Herefords; but somehow or other, tenant farmers in general have never been fond of very small animals, except in those districts best adapted for them, and where they have been always more or less naturalized.

"Rent-paying farmers, as a rule, give preference to the breeds which yield a fair amount of substance combined with good quality, hence the reason why, during the past 30 or 40 years, the breeds that have extended themselves most have been the Shropshire, Hampshire, and Oxfordshire Downs, while South Down sheep, except on their native Sussex hills, have been confined very much to the parks of the nobility and country gentry, or to the flocks of those who cater for the showyard.

"Breeders of these heavier Downs, and of long-wooled sheep likewise, tell us that they, too, have noticed that even the working classes prefer moderately lean to over-fat meat, and, certainly, give preference to the smaller joints if obtainable at figures within their resources. And how do they respond to these demands? By slaughtering their wether sheep young before they have overlaid their carcasses with too much fat, or made them very heavy. In reply to the indictment brought against them on the above score, they have, at least, a counter charge against the breeders of South Downs and Mountain sheep, which is that they cannot be brought to early maturity in the same time as the more wealthy Hampshires, Oxfordshires, and Lincolns."

WHEN IS A COW IN CALF?

HOW DO YOU TELL?

We know of no means of telling definitely whether a cow is in calf, until the fœtus is so fully developed as to be detected by a pressure of the hand on the right side of the abdomen. This means is quite satisfactory during the last three or four months of pregnancy.

SMITHS & POWELL CO.

Until a cow is a few months along, so that you can feel her calf on the right side of her belly, there is no sure way of deciding. But there are several indications. Not coming into heat is an indication; drying off in milk is another, as is growth of the belly, especially if it is more apparent on the right side. Also, usually, a cow in calf will have a string of dried mucus, etc., hanging to her vagina, which is rarely the case if she is not in calf. C. M. WINSLOW.

Some time after service, varying with the animal, the calf may be felt by placing the back of the hand against the cow's side, and pushing quite hard and quickly, just in front of the hind leg. When the cow's paunch is swinging, the head of the calf may be felt as it strikes the hand, through the skin; it feels like a hard, round ball. The position varies with the length of time from service. By trying on a cow soon due to calve, one can learn to distinguish the head. Sometimes a sudden push on the side will cause the calf to kick. A veterinarian can decide the question by making an examination. I should decide the matter by waiting a proper length of time. A failure to come in heat, is, generally, sufficient indication that the cow has been bred. C. E. CHAPMAN.

FORKFULS OF FACTS.

TUBERCULOUS MILK.—On page 543, "A Country Doctor" suggested that experiments should be made to determine whether milk from tuberculous cows is really dangerous. Hoard's Dairyman makes the following comment:

It is more than likely that some of the extremists will say in their hearts, that the experiments suggested by this doctor have already been tried and resulted in proving that milk from tuberculous cows with healthy udders is capable of causing tuberculosis. And they will cite the cases reported by Dr. Ernst in proof of this contention. Dr. Ernst fed 48 rabbits, 12 pigs and 25 calves, all of which were supposed to be free from tuberculosis, but were not tested, with milk from tuberculous cows with healthy udders, and subsequently, on post-mortem examination, two rabbits, five pigs and eight calves were found tuberculous. Out of 85 animals, 15 were affected, but it is worthy of note that in these 15 cases, the bacilli of tuberculosis were found exclusively in the lungs in four instances, in seven instances in the liver, once in the kidneys and once in the spleen. Of the other two cases, one was affected in liver, lung and gland, and the other in the gland.

Disclaiming any specific knowledge upon the subject, and without sufficient information from others upon which to found a belief, we wish some one who does know, or thinks he knows, would tell us whether it is not a pretty far cry to connect tuberculosis of the lungs, liver, kidneys and spleen with the injection of milk, and whether it is not, on the whole, more probable that the disease was communicated in some other way.

CATNIP TEA FOR GARGET.—I would like some one who has a cow troubled with garget, to try bathing the udder with catnip tea, and report results. Three years ago, I had a heifer three-quarters Jersey and one-quarter Swiss, with an inflamed udder after calving. After using almost everything, my wife suggested catnip tea hot; after using the tea twice, the inflammation all went away. A short time ago, one of the neighbors showed me a cow that had been into a wire fence; one-quarter of the udder and one teat were cut open. The cow had shrank from giving 15 quarts of milk, to about three. I can imagine the process they had to go through to get even that much. I told her to try catnip tea. Three days afterward, I asked her how the tea worked, and she said that she never saw anything like it; it was worth $10. The milk had commenced to come down, and they had let the cow go to pasture. V. E. H.

Lakeport, N. H.

OVERFEEDING YOUNG CALVES.—A correspondent of Hoard's Dairyman says that, in starting a delicate calf, the greatest care should be taken not to overfeed. He says that he knows of but one rule that can be relied on, which is to feed slowly, watch the sides of the little one, and as soon as they are flush with the shoulders and hips, or very little more, stop feeding. By this rule he can safely feed the most delicate Jersey calf without measuring the milk, and prefers this rule to measurement. It is now about 20 years since he lost a calf by sickness.

With the most insidious forms of disease—that of the Throat and Lungs—it is not wise to trifle. Dr. D. Jayne's Expectorant is the natural remedy.

For the Liver use Jayne's Painless Sanative Pills.—*Adv.*

Horse Owners Should Use
GOMBAULT'S
Caustic Balsam
The GREAT FRENCH VETERINARY REMEDY

A Safe, Speedy and POSITIVE CURE.

Prepared exclusively by J. E. Gombault ex-Veterinary Surgeon to the French Government Stud.

SUPERSEDES ALL CAUTERY OR FIRING

Impossible to produce any scar or blemish. The Safest best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, Etc., it is invaluable.

WE GUARANTEE that one tablespoonful of CAUSTIC BALSAM will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by Druggists, or sent by express, *charges paid*, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

TEN CENTS WORTH of that reliable, justly famous remedy—Bickmore's Gall Cure will cure a horse of galled shoulders or harness chafing WHILE HE WORKS. Equally good for Speed Cracks, Cuts, Scratches, Grease Heel or Sore and Chapped Teats in cows.

BE SURE AND WORK THE HORSE. BICKMORE GALL CURE CO. Box 709, OLD TOWN, ME.

A HORSE FOR $3.

MR. JAMES MOTT, of Willmer, Minn., one of the most prominent liverymen and horsemen in the Northwest, says: "I had one of my best driving mares get stiffened in the shoulders so badly, that she was worthless, but I bought a package of Dr. McKEE'S MAGIC SPAVIN CURE for $3, and applied it to her shoulders, and it has completely cured her, so that she is just as good as ever. It is a wonderful medicine, and any one having a lame horse should use it. Sold by
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Wanted in the South!
For Roseland Plantation in S. W. Georgia, about December 1. Business long established. Over 200 animals Sumatra and Cuba tobacco region. A small Winter Colony on the place. A paying business for an experienced man of moderate means. Address Owner, T. B. BROOKS, Newburgh, N. Y.

THREE YOUNG JERSEY BULLS
from dams that made 18 lbs. 8 ozs., 17 lbs. 12 ozs., 24 lbs. 3 ozs honest printed butter in 7 days
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GUERNSEYS.
Fifty head choice Cows, Heifers and Bulls for Sale.
ELLERSLIE STOCK FARM,
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WANTED—20 Jerseys or Guernseys; must be new milkers or due this fall, subject to the Tuberculin test, and cheap for cash. Address AVERILL & GREGORY, Syracuse, N. Y.

Willswood Farm, Budd's Lake, N. J.
To supply export trade, Berkshire and Essex Swine are required. To make room for breeding the Essex, 25 head of Berkshires, of all ages, will be sold by AUCTION during Inter-State Fair, Trenton, N. J., on Oct. 2, at Fair Grounds. A *chance* to get, at *your price*,
Willswood Herd
Recorded Berkshire Swine.
See exhibit Swine, Guernsey Cattle and South Down Sheep. For list and terms address
WILLS A. SEWARD, 207 Broadway, N. Y. City.

OLD HOGS, YOUNG HOGS, HOGS of any age, supplied from our herd of Poland Chinas. To reduce stock before enlarging our swine parlors. High prices, low prices; any kind of prices accepted. Write
F. H. GATES & SONS, Chittenango, N. Y.

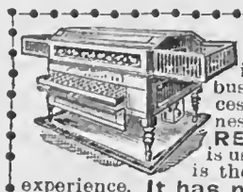
CHESHIRES
all ages. Pigs in pairs not akin. Every tenth order filled free. W. E. MANDEVILLE, Brookton, N. Y.

Cheshires—The hog for early maturity. Rapid growth, quality of flesh, Kind and prolific breeders. Selected stock of the best strains.
ED. S. HILL, Peruville, Tompkins County, N. Y.

BRONZE TURKEYS.
Black Minorcas, $1 per pair; Langshan Cockerels, $1 each. H. A. BUMPUS, De Ruyter, N. Y.

400 SELECTED PEKIN DUCKS; extra stock Brookside Poultry Farm, Columbus, N. J.

3000 FERRETS. Trained Ferrets, that are actually worked on Rabbits and Rats. Sold cheap. Book 10 cents. Send for free circular. S. & L. FARNSWORTH, New London, O



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LOTS OF EGGS
when hens are fed green cut bone, cut by the Improved '96
MANN'S
GREEN BONE CUTTER
the standard of the world. 12 sizes, $5 and up. C. O. D. or On Trial. Cat'l'g *free* if you name this paper.
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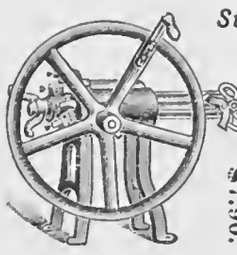

Standard Green Bone and Vegetable Cutter Co.,
MILFORD, MASS,
Suc. to The E. J. Roche Co.
Warranted the only Manufacturers of automatic feeding, easy running, durable Green Bone Cutters. 6 sizes for hand & power: No. 10, $6 75; No 9, $7 90; No. 8, $9.50; No. 3, $16; No. 4, $18; No 2 for power, $25. Sent on trial. Send for cat.

The Common Sense Milk Bottle.

No rusty metal covers or twisted wire fasteners, less breakage, and can be washed absolutely clean and much quicker than any other milk bottle, avoiding tainted or sour milk. It is the handsomest, cheapest and best milk bottle ever offered for sale in any market.

The Celebrated Thatcher's Orange Butter Color
Secured the only award of Medal and Diploma at the World's Columbian Exposition at Chicago, from the analysis of the Government Chemists and Experts, also *Thatcher's Cream Cheese Color.*
For circulars and Price Lists, send your address to Thatcher Mfg. Co., Potsdam, N. Y.

ELLIOT'S PARCHMENT BUTTER PAPER. HALF A REAM. FREE
To dairymen or others who will use it, we will send half a ream, 8x11, free, if they will forward 30 cents to pay postage. Why not try the Best Butter Wrapper?
A. G. ELLIOT & CO., Paper Manufacturers, Philadelphia, Pa.

Humorous.

And her escort had missed her;
The music was sweet, and I begged to assist her
Back through the dark to the man who had missed her!
She seemed to regard it an innocent lark—
The music was sweet and the corner was dark!

The corner was dark,
And I couldn't resist her;
The music was sweet, and I stealthily kissed her—
Great Scott! I then saw she was only my sister!
But she seemed to regard it still just as a lark,
And, therefore, I'm glad that the corner was dark!
—*Cleveland Leader.*

RIMPLE: "Does your wife obey you as she promised to do at the altar?" Simple: "Well, the fact is, I've never dared to test her."—*Sketch.*

THE rooster was flapping his wings and crowing, and Fred turned to grandma and asked: "What makes the rooster fan himself before he crows?"—*Youth's Companion.*

WILLIE: "Pop, wot's a gold-bug?" Pop: "He's a man who wants our money to be gold." Willie: "Well, pop, is a potato-bug a man that wants potatoes for money?"—*Harper's Bazar.*

TEDDY brought a green caterpillar in from the garden the other day, and showing it to his mother, he exclaimed, "I've got a big worm, mamma, but he ain't ripe yet!"—*Harper's Round Table.*

A MAN never realizes the superiority of woman so much as when he is sewing on a button without a thimble, pushing the needle against the wall to get it half way through, and pulling it through the other half by hanging on to it with his teeth.—*Modes and Fabrics.*

"JUST got a letter from Mildred. She's enjoying the country so much. She says: 'Every day at sunrise a neighboring rooster rouses us with his early morning lay.'" "'Early morning lay?' What's the matter with the hens—on a strike?"—*Cleveland Plain Dealer.*

"I'VE missed more fun this summer than you could shake your tail at," mused the brindle cow. "How?" asked the family horse. "To-day, for the seventh time, I let one of these new women get almost to the fence before I realized she wasn't a man."—*Indianapolis Journal.*

"BICYCLES or no bicycles," said Mrs. Corntossel, with great emphasis, "women's rights or no women's rights, I don't believe in women's wearing bloomers." "No more do I," replied her husband. "To my thinkin', it's downright lunacy. Mandy, it's wuss'n that. It's pantaloonacy."—*Bicycling World.*

"DOCTOR," said he, "I'm a victim of insomnia. I can't sleep, if there's the least noise, such as a cat on the back fence, for instance." "This powder will be effective," replied the physician after compounding a prescription. "When do I take it, doctor?" "You don't take it. You give it to the cat in a little milk."—*Odds and Ends.*

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MIXED PAINTS
At WHOLESALE PRICES, Delivered FREE For Houses Barns, Roofs, all colors, and SAVE Dealers profits. In use 54 years. Endorsed by Grange & Farmers' Alliance. Low prices will surprise you. Write for Samples. O. W. INGERSOLL. 240 Plymouth St., Brooklyn, N. Y.

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WANTED competent Club Agents (Women, Men, Girls or Boys) in every town in the U. S. to get orders for our celebrated goods. LIBERAL TERMS; GOOD INCOMES. BIG PRESENTS with every sale. Good Teas and Coffees, 25c. per pound. Send this ad. and 16c. in stamps, and we will mail you a ¼-pound Best Imported Tea, any kind, and full particulars. THE GREAT AMERICAN TEA CO., 31 & 33 Vesey Street, New York, P. O. Box 289. RURAL.

100 SOUTH DOWNS
FOR SALE! I will sell my whole flock of Breeding Ewes with Lamb by my famous Bucks, without reserve, at Public Outcry, at White Hall, Madison County, Ky., on TUESDAY, SEPTEMBER 29. Will sell the lot to one man, or to a syndicate, in the interval. Rams at private sale.
CASSIUS M. CLAY.

KEMP'S MANURE SPREADER

16 Years on the Market. Improved for 1896.
SPREADS any kind of manure in any quantity to the acre and does it better than hand work, even if a man spends ten hours on what the machine will do in two minutes. Sent to any responsible party subject to approval, who will furnish satisfactory references or rating of responsibility. Illustrated catalogue free. Largest and oldest manufacturers of manure spreaders in the world.
KEMP & BURPEE MANUFACTURING CO., Box 38, Syracuse, N. Y.

DON'T POT YOUR PLANTS!
but use RICHARDS' TRANSPLANTERS instead, as it is a much better and cheaper way. Send postal for circular telling all about it. Price of complete set of six Transplanters, one Excavator, and one Ejector, $2.50. Extra Transplanters, 20 cents each. Agents Wanted
F. RICHARDS, Freeport, N. Y.

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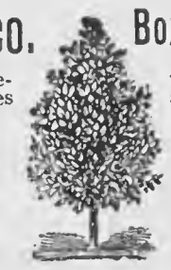
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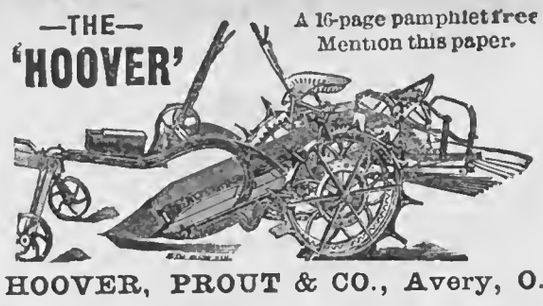
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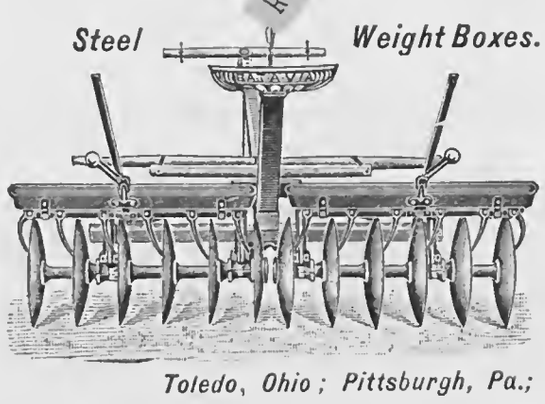

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO., N.Y.

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FARM NOTES FROM ELLERSLIE.

CHEAP EGG-LAYING MACHINES.

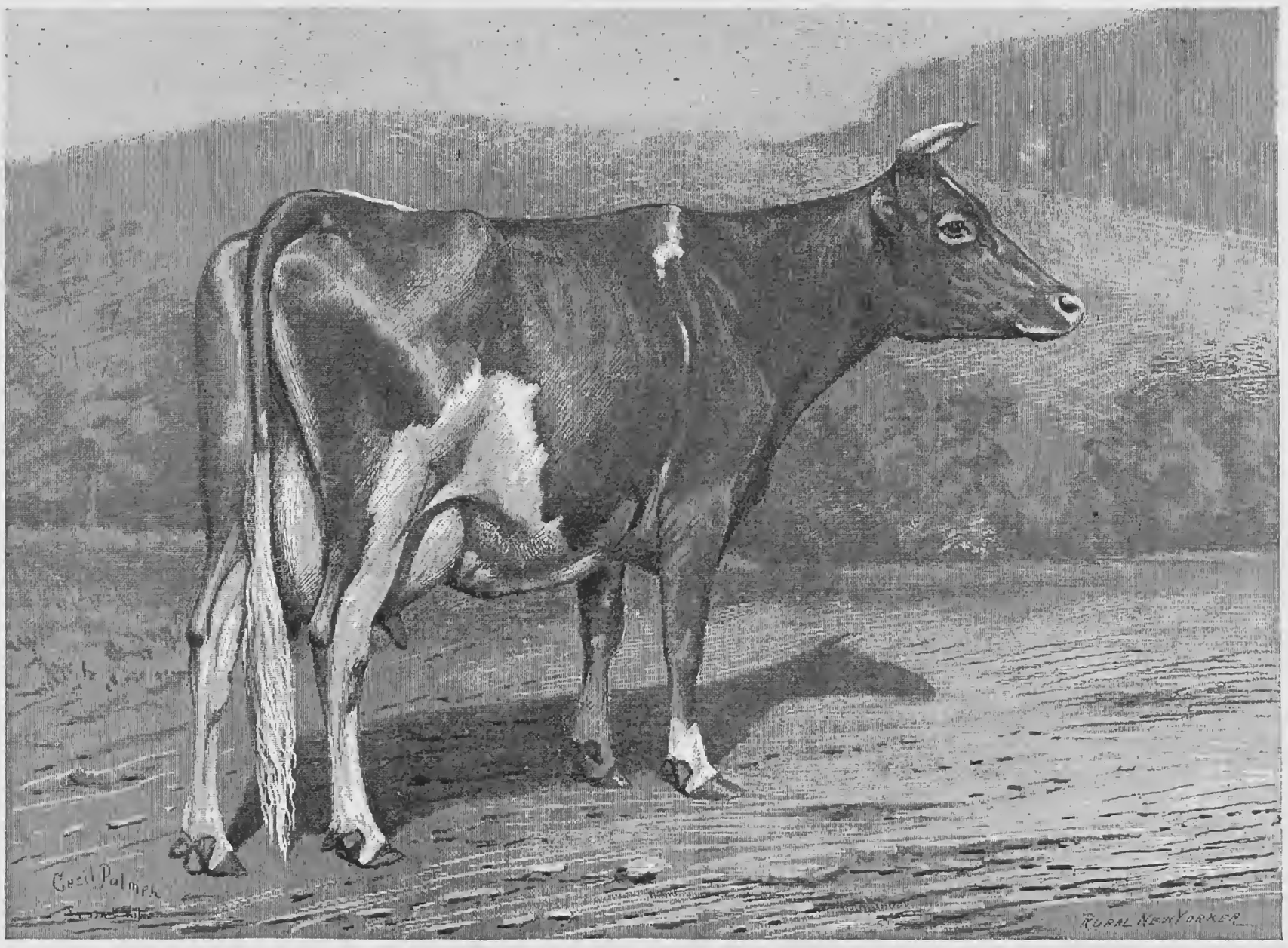
Some Striking Experiments With Corn.

[EDITORIAL CORRESPONDENCE.]

On page 426, I referred to the trouble experienced at Governor Morton's farm in obtaining strong chicks to feed for broilers. The eggs hatched well, but the little chicks were not strong enough to stand the heavy feeding required to push them into rapid growth. The parent stock lacked vigor. They had been weakened by inbreeding exclusively for comb, feathers and other exterior points demanded by fanciers. The eggs from this feeble stock produced feeble chicks, and the result was a large per cent of deaths before the chicks were 20 days old. All sorts of experiments with different breeds were tried, and the most successful results were obtained from crossing an ordinary scrub rooster on the pure-bred hens. The chicks from this cross were strong and thrifty, and a large proportion of them lived. The objection to this cross is that the chicks are of all shapes, sizes and colors. They develop at all ages, and result in a badly mixed lot of broilers. If the scrub blood is to be used at all, it seems desirable to have it on the side of the hen. That is the principle upon which they will breed this year.

Some weeks ago, Mr. Seely went to New York among the dealers in live poultry, and picked out 700 pullets for next year's layers. They were Kentucky-raised birds and will be ready for laying about the middle of November. The price was 14 cents a pound, live weight, which was one cent above the regular market price. This was paid for the privilege of rejecting all that did not come up to the required standard. As the crates were opened, Mr. Seely stood by and examined the pullets, one by one, taking only those that suited him. His ideal was a long, slim bird, with yellow legs and skin, and showing more or less of P. Rock markings. The P. Rock blood is widely scattered throughout Kentucky and Tennessee, and a large proportion of each crate showed the characteristic plumage or markings. The result of this selection is a remarkably even lot of pullets, so far as size and shape go. They are not so uniform in color of plumage, but skin and legs are uniform, and they are large and thrifty. These birds cost, delivered at Ellerslie, an average of 24 cents each. The thoroughbred birds that were used last year, cost $2, and it is difficult to see why these strong and active pullets, costing only one-eighth as much, will not produce just as serviceable chicks as the aristocratic hens that ruled the roost last year. A difference of $1.238 in the first cost of 700 hens is a remarkable showing.

It has been decided to use Silver Wyandotte roosters on these hens. Active young birds, selected for vigor and shape rather than for "standard" markings, will be used. Good results are expected from this cross; at least, it is reasonable to suppose that the eggs will produce strong chicks. This manner of buying poultry is another illustration of the way one farm supplies another. Mr. Francisco has found that the farmers in Delaware and Sullivan Counties, N. Y., can raise a good dairy cow cheaper than he can; therefore, he buys the New York State cow and crowds her hard for a season on his higher-priced land. You might say that he buys the vigor and health of the back-country hills, and sells it to his milk customers. The fruit grower does the same thing—buys his plants from some locality where trees and vines can secure their best start. So it is with these pullets; they are hatched early on the Kentucky farms, and grow so well that, when brought to the North and well cared for, they will start laying just when eggs are most needed. There is a chance for some one located near our large cities to buy these southern birds at a bargain, push them along for two months, then sell roosters for roasters and the hens for laying stock.



A TYPICAL GUERNSEY COW. "A BARN BUTTERMAKER." FIG. 203.

Lessons from a Corn Crop.

The 175 acres of ensilage corn at Ellerslie this fall, will average over 13 tons to the acre. This will fill the three great silos which hold 700 tons each, and leave a quantity for dry fodder. This corn is all grown with fertilizers alone—no manure is ever used on the corn, and one crop follows another on the same ground. The fertilizer contains four per cent of nitrogen, eight of phosphoric acid, and seven of potash. It is stipulated that one-third of the nitrogen must be from nitrate of soda, and one-third each from sulphate of ammonia and fish, bone and tankage. This year, the regular supply of fertilizer was used up before the planting was finished. A home mixture was substituted with just the same analysis, except that all the nitrogen was in the form of nitrate of soda. This was put on a hillside just exactly as the other fertilizer was applied. Not long after planting, there came a soaking and washing rain. The corn on this hillside where the nitrate was used, grew well until about knee-high, and then it stopped, turned yellow, and simply dwarfed along through the season. It will yield hardly two tons to the acre of sickly yellow stuff, with no substance to it. Right in the same field, are little patches where some of the regular fertilizer was shaken out of the bags. On every one of these patches, the corn stands up like a giant, green and thrifty with large and well-formed ears.

It is a wonderful object-lesson—but what does it show? The nitrate of soda is the most soluble form of nitrogen, where it was used alone on that hillside, the heavy rains washed it out, for it was all put in the upper three inches of soil. On level land, it would have been carried down into the soil, but on this hillside, it was simply leached out like the potash in a leach full of wood ashes. The corn stopped growing at two feet high, because there was no more soluble nitrogen left in the soil. There were ample supplies of potash and phosphoric acid right at hand, but they were of no use without nitrogen, any more than good food and pure water would nourish a man if he were deprived of air. The corn did not grow, because the rain was able to dissolve and wash away all the nitrate of soda.

The other fertilizer contained three forms of nitrogen—part of it in an organic form. This could not be dissolved and washed out until nitrification took place, which does not usually occur until the hot weather after June. So it happened that, in spite of the rain, there was a supply of nitrogen left wherever this organic form was used, and this gave the corn a good chance to grow into a big crop. For a

crop of oats or early millet, nitrate alone may answer; but for corn, which does its heaviest feeding late in the summer, some form of nitrogen must be used that will not easily dissolve and wash out. This is why the best corn fertilizers contain a portion of the nitrogen in the form of blood, fish, tankage, bone or cotton-seed meal. Before this form of nitrogen is available, it must be "broken up," or go through various changes. The same principle holds true in building a fire. There might be the same amount of heat in a barrel of kerosene, two cords of wood or a ton of coal. If you wanted a political bonfire, you would use the oil and some of the wood, because you want a great heat and blaze all at once. To heat your house, though, you would use a little wood for kindling, and a good deal of coal to continue the heat all through the night. The nitrate of soda is like the oil, while the coal is like the organic nitrogen. It will be cold comfort for members of a defeated political party to try to warm their fingers by the blaze of the torches that went out weeks beforehand. Such fingers will turn as yellow as the corn that tried to feed on nitrate that had all been washed out into the river.

Western Methods of Corn Culture.

Mr. Cottrell, the manager at Ellerslie, came from Kansas, where farmers have adopted some methods of corn culture that were necessary in their peculiar soil and condition; among others is the plan of "listing" corn. This really means planting it at the bottom of a deep furrow, and gradually filling in with earth as the plant grows—very much as some of our potato growers start their crops. The theory is that this successive covering of the young plant induces it to send out different sets or layers of feeding roots, thus giving it a deep root system which will enable it to withstand a drought. As drought is the terror of Hudson River farming, Mr. Cottrell has tried a modification of this "listing", on a small scale, with excellent results. The ground was furrowed late in the fall, and in the spring, corn was planted in the furrows. This was a piece of land naturally so cold and wet that crops are always late in starting. To judge from color and appearance this year, the crop on this land is, certainly, greener and heavier than that on nearby land treated in the ordinary way, viz., fall-plowed and spring-harrowed.

The success of this experiment has induced Mr. Cottrell to try an experiment in preparing his level fields for next year's corn crop. Instead of plowing as usual, the fields will be worked over with the Right Lap Cutaway, and well stirred up. They will then take a big plow with a double mold-board and run along each row, throwing the soil both ways and leaving a deep furrow. By thus running in each row, the corn roots will be torn out and the field will be left in steep ridges. In this situation, the frost will work all through the loose soil during winter, while the furrows will carry off the surplus water. In the spring the ridges can be leveled by working across them with disk, or Cutaway and Acme harrows. On this heavy clay soil, the action of the frost will be of especial value. While this would not answer for hilly land, there are level stretches on the farm where it can be tried, and I think that it is well worth an experiment on heavy clay soils that are cold and wet in spring.

I may say, in passing, that Mr. Cottrell has put in 40 acres of grass after Mr. Clark's "new method." The only change from Mr. Clark's rule is the fact that a thin seeding of wheat was used. This was done because the early cut wheat was needed for cow feed next spring. It will be cut off and used for a soiling crop, and then the grass will hold full sway.

Guernsey Cattle Are Barn Cows.

A picture of a typical Ellerslie Guernsey is shown at Fig. 203. This picture, drawn by Cecil Palmer, well illustrates the characteristic points of a good Guernsey. Such cows are large and built on more rugged lines than the average Jersey. We have often said that the Guernsey is a good "barn cow." She is not so nervous and highstrung as her cousin from Jersey. In the Ellerslie barn, one will often find 50 cows lying down—patiently chewing their cuds. A stranger may walk around them, but they will not move. Under similar circumstances, most Jerseys would jump like deer. Mr. Cottrell says that, one day this summer, there were 800 visitors in the barn at one time. He supposed, of course, that the herd would shrink considerably in their yield; but instead of that, they actually increased 50 pounds in the total mess.

A look at the Ellerslie hay mows is a striking object lesson of the way the silo economizes space. Not half the storage room for hay is filled. There is no need of so much hay with 2,000 tons of ensilage in the silo. You can crowd a ton of ensilage into 50 cubic feet of space, while a ton of hay requires nearly 500 feet. The need of the two-story cattle barn has been lost in the silo, and that means an immense saving in the cost of construction. Mr. Cottrell says that he would like to build a one-story cattle barn with a floor of concrete, and steam pipes so arranged that he could give the whole floor a thorough steaming every week or so. H. W. C.

APPLE GROWING ON THE PACIFIC COAST.

CHARACTERISTICS OF WESTERN APPLES.

One of our subscribers in the State of Washington asks the following question, which, we think, will be of considerable interest to many of our pomologists on the Pacific coast: "What is the first, second and third choice of large, dark-red, late-keeping winter apples for a permanent orchard in this part of the country?" Will you be kind enough to tell us what your choice in regard to winter apples would be? Also, in what way do our standard varieties of apples differ in growth, color and bearing habit when taken from the East to the West?

Shape Somewhat Determined by Soil.

Baldwin and Esopus Spitzenburg apples are the two best late-keeping, dark-red winter apples of which I know, for western Washington. It is difficult to increase the list to three. In some localities, on deep, rich upland, the Northern Spy would do well; on lowland, in western Washington, it is inclined to be a poor keeper. In eastern Washington, Baldwin is not a late keeper, but west, it is one of the very best. Our standard apples vary in shape from year to year. I have in mind a Gravenstein tree which, two years ago, bore a fine crop of apples of the ideal Gravenstein shape (perhaps a trifle elongated); last year, the fruit on the same tree was oblong, flattened and ribbed. This year, the same tree is again full of fruit. At this writing (September 3), the apples are roundish, slightly conical, and would approximate in shape an eastern-grown apple of the same variety. I believe that this variation will be found in all our apples. My opinion is that more depends on the soil and and season than on locality, in producing this change. The result of my observation, so far, would lead me to expect a greater divergence from the standard shape on very rich, moist soils than on drier soils of medium fertility. On soils of the latter class, I believe that the quality of the fruit grown in Washington would compare well with the best eastern-grown fruit. On the former class of soils, rich, wet river bottoms, etc., the quality is not so good. FRANK BINNS.

Mason County, Wash.

Fogs Make Light-Colored Fruit.

The Baldwin is the best winter apple grown in western Washington; my next choice is the Esopus Spitzenburg. Then Ben Davis. The Baldwin does better here than in Illinois; it bears better, larger fruit, and keeps longer, is equal in flavor, but not so high in color. I can see very little difference between the Rhode Island Greening as grown here and in the East. The same can be said of the Pippin. The Puget Sound country is not the best location in the world for red apples to attain a rich brilliancy of color. But this difficulty can be overcome largely by careful pruning and training, and adding to the soil some deficient element. Our soil lacks lime, and also, iron can be added with good results in aiding the color, and also solidifying the fruits. We do not enjoy the sun here so much as the eastern people, and this has some effect in lessening the high color of apples grown here. Eastern Washing produces apples very similar to the Eastern States, and, I think, fully equal in flavor and general appearance. Trees shipped from the East are not so desirable as home-grown trees, although there is no reason why a good, clean eastern tree should not do as well here as any other. East of the mountains, in Washington, is a different climate from ours on Puget Sound, and, I think that it produces finer fruit in greater variety. They have more sunny weather, and none of the heavy fogs we get at this season of the year. S. W. BAKER.

Washington.

Potash and Phosphoric Acid Needed.

Here on the western slope of the Coast Range, at present, my choice of winter apples would be, first, Rubicon; second, Baldwin; third, Esopus Spitzenburg; but the indication is that those, probably, will be superseded by some new varieties on trial. The climate in Oregon and Washington is not detrimental to raising first-class apples, although the physical situation, the sheltered location, and the different soils in different parts in those States, seem to affect the color, shape, size, flavor and keeping quality of the fruit more than they do east of the Rocky Mountains. Apples grown in an alluvial soil, on a northern mountain slope, on a northern base of a mountain, on an extended level country, or exposed to the sea breeze and constant winds, are somewhat elongated, lacking color, which appears somewhat russety, and are also deficient in flavor compared with eastern apples. Probably those raised under such circumstances, caused the prevailing opinion in the East that all Pacific coast apples lack perfection. I venture to say that Pacific coast apples grown in proper soil and in favorable physical situations, with which this coast is abundantly blessed, are perfect; they seem to me of larger size, and somewhat more juicy, on the average, than apples raised on the other side of the Rockies, and they can easily hold the candle to a comparison with them as far as the color and flavor are concerned.

In some parts of western Oregon and Washington, the fruit growers, probably, will have to resort to supplying the soil with mineral substances for obtaining the best results in raising first-class apples of good keeping qualities. Although the mild winters here, generally, are detrimental to the late keeping of apples, I have seen different kinds in good condition in the latter part of April. The trees growing thrifty, bearing very early, are inclined to overbearing, but do not attain, on an average, as large size as in the East. The branches, in some places, lack elasticity, and fail to regain the natural position after the fruit has been gathered, which is caused by insufficient mineral substances in the soil.

Oregon. A. WIRTH.

List of Desirable Varieties.

I know little of the habits of apple growth in the eastern States, but learn from those who do know, that there is some difference, especially in the keeping qualities. In order to understand the situation, I must explain, that Oregon is divided by the Cascade Range of mountains, into eastern and western Oregon, the climatic conditions of which are vastly different. For instance, eastern Oregon climate goes to extremes: hot and dry summers, and very cold winters, while western Oregon, has a mild, humid climate, both summer and winter, on account of the Japan current of the ocean. We seldom have snow. Under such conditions, fruits must be different in these two sections; in fact, varieties which do well in eastern Oregon, do not do well in western Oregon, and vice versa. For instance, the Yellow Newtown Pippin which does exceedingly well in eastern Oregon, does nothing with us. Then, again, our market demands a red apple, and green apples do not sell well at all, though the Rhode Island Greening and Swaar do very well.

As Horticultural Commissioner, I have given the growing of the best marketable varieties of fruits much thought, and have tabulated the following list for northern and western Oregon: Oldenburg, Gravenstein, Northern Spy, Spitzenburg, Baldwin and Ben Davis, or substitute Jonathan and King of Tompkins County. For eastern and southern Oregon: Gravenstein, Wealthy, Baldwin, King of Tompkins County, York Imperial, Yellow Newtown Pippin, Wagener and Ben Davis, or any four of them. All apples in western Oregon mature much earlier than the same varieties do east of the mountains, both eastern Oregon and eastern Washington, as well as with you on the Atlantic seaboard, and our apples do not keep very long unless put in cold storage. But eastern Oregon grown apples keep fully as long as those grown anywhere, and are, perhaps, finer flavored than with us. Our fruits are so juicy on account of our humid atmosphere. HENRY E. DOSCH.

Oregon.

Climate, Atmosphere and Soil Conditions.

Washington is a peculiar and wonderful State, and has a great variety of climate. Apples recommended for the warmer valleys of the Yakima, Walla Walla, Wenatchee, Columbia or Snake Rivers, would be almost useless for such localities as the Palouse Valley or the Big Bend country. And apples that are fairly successful west of the Cascades, are sometimes considered of no account on the east side. So, there is no list of three apples that would be adapted to every part of the State. The highest-colored, best-keeping apples grown in the State, are in orchards whose altitude is above 2,000 feet. But the most of our orchards are at a much lower altitude—600 to 1,200 feet.

The best late-keeping, winter apple is a yellow one—Yellow Newtown Pippin. This applies to any part of the State where it can be grown. The best three red winter apples in the warmer valleys of eastern Washington, are Rome Beauty, Esopus Spitzenburg, and Delaware Red Winter. The best red apple west of the Cascades, is Baldwin. In the higher altitudes, fall apples become winter apples, and the list would include King, Wealthy, and Wagener. In a country so preëminently adapted to apple growing as many parts of Washington truly are, three apples make too short a list to include the best.

An Eastern pomologist set down in a Washington orchard, would be surprised at the magnificent development of foliage and wood in young trees. He would stand in open-mouthed wonder before a six or seven-year-old apple tree carrying 1,500 pounds of fruit, and every specimen large and perfect. The color and bloom on the fruit would baffle and confuse his previous ideas of varieties and he would fail to recognize leading kinds. He would notice that trees carried their fruit on every part of the tree—low

down, at the top, and in the center, and that there are no off seasons with our apples. What brings about this changed condition? Climate, atmosphere and soil conditions, and cultivation. Without cultivation, we can grow nothing, so I may say that the changed conditions in Eastern fruit brought West, are brought about by cultivation. JOHN A. BALMER.

Horticulturist Washington Agricultural College.

WHAT THEY SAY.

How We Killed the Grasshoppers.

"We never had a finer crop of cabbages," said Mr. H., when he came in from surveying the upper farm. I had time to think that I was glad something promised well this hard year, when he added, "but there are 15 or 20 grasshoppers on every head." It is the habit of these pests to work on the edges of fields, and eat everything clean as far as they go. All through the season, a poison of Paris-green and bran had been spread around the edges of the crops—Alfalfa, potatoes and cabbage—and the hoppers had not damaged things very heavily. But now we had cut our Alfalfa, the neighbors had cut theirs, and reaped their grain, and that was why our cabbages were covered with grasshoppers. They had been obliged to seek new pastures, and unless something were done at once, the crop would be a total loss.

The cabbages, standing as thick as they could grow, covered 10 acres. It took patience and perseverance—a true Westerner would say, *sand*—to fight those insects, that, probably, numbered millions. We learned that grasshoppers were very fond of the oil of anise. A mixture was made consisting of 10 quarts of bran, two large spoonfuls of Paris-green (enough to make it look green), one-half pint of molasses or sugar, and enough oil of anise to give it a pleasant smell. This was scattered up and down the long rows, and did its work so thoroughly that the dead insects were seen all over the ground, and were found in raking hay half a mile from the cabbages.

We have never found any poisoned birds, and doubt whether the mixture attracts the birds. Had it been poisoned grain, the case might have been different. Now that the hoppers are vanquished, the worms have appeared. In the fall of 1893 and 1894, the blue crow—a bird new to this section—came among us in flocks, harvested the cabbage worms in good style, and spent the winter very sociably in town. In 1895, they failed to appear, much to the regret of bird lovers, who hoped that they would be regular visitors. S. E. H.

J. S. Woodward On Tub Silos.

I have taken considerable pains to see some of the silos put up by the American Seed Company. They put up a very good silo of the kind, but $72 for a stave silo 12 feet in diameter and 20 feet high, is an exorbitant price. I have been figuring a little, and to build such a silo, takes less than 1,700 feet of Norway pine, which can be bought almost anywhere for from $14 to $20 per M worked, say, $16 on an average, which would make the lumber cost $27.20. The company put on five hoops of five-eighth-inch round iron, which would take 160 pounds of iron; this at 2½ cents per pound, the retail price, is $4; 20 five-eighth-inch nuts weigh six pounds and are worth, at retail, 50 cents. The making of the hoops and lugs is worth $2 more. Two men would set this up and coat it with coal tar in two days, which, at $3 per day for the two, would be $6 The cost of the tar is $1, making the whole cost $40.30, which leaves a pretty big profit. The grooves in the staves do not amount to a "continental". In answer to the question, "Are tub silos really useful, and would you advise a farmer to put one up?" I believe they are useful, and would advise putting one up if the farmer can do no better. But I have watched them carefully—I have never had one myself—and I am convinced that, all things considered, it is better to spend a little more money and build a silo more substantial and enduring than any tub silo. The fact is that a tub silo is always shrinking and swelling. When it is emptied in spring, the air soon dries it out, the staves shrink, and I have seen those in which one could stick his fingers through the cracks. Unless the hoops are tightened and the staves brought together, the pieces of cut corn will fall into the cracks, and when the staves swell up, the lumber is dented and each year it gets open more and more. If the hoops are drawn up and the silo made tight and filled with corn, the moisture causes the lumber to swell, and unless carefully watched and the hoops slackened off, they are almost sure to burst.

Another trouble with the stave or "tub" silo, is that when made, the bottom is cemented to the staves, and when they shrink, there will be cracks between the staves near the bottom. As the lower ends are held by cement, it is impossible to close the staves tight at the bottom. I am not particularly taken with round silos; they look pretty, and in theory, are all right, but, if built as they should be, to stay, they cost much more for the same contents, and practically, are no better than a square silo with a few inches of each corner filled with a piece sawed diagonally. Any silo is better than no silo, but a good, substantial, well-made silo is a great deal better than, and, in the end, cheaper than a makeshift.

Two Ends of an Irrigating Pipe.

On page 510, Mr. S. S. Staley, of Ohio, told us about his irrigation plant. You will remember that he pumped water out of a pond which has a surface of about two acres. The pumping was done with a 10-horse power gasoline engine, and a 1½-inch centrifugal pump. The water was forced through 400 feet of two-inch pipe directly upon the strawberry field. Mr. Staley said that, after working three days and one night, he lowered the pond about four inches, and thoroughly soaked only a little over an acre of

THE POND-END OF AN IRRIGATION OUTFIT. FIG. 204.

the field. We are able to give, this week, at Figs. 204 and 205 pictures showing both ends of this irrigation system. At Fig. 204, we see the pond which is, evidently, like many a large "pond hole" to be found on many a farm. The water is drawn through the pipe as shown, and is forced up to the field and discharged as shown at Fig. 205. This is a simple form of irrigation that might be employed in many places. As Prof. Phelps tells us this week, such a stream of water run over some of the dried old pastures in New England, would mean many an extra pound of milk or butter without the addition of a single pound of fertilizer.

PACKING AND HANDLING GRAPES.

THE VALUE OF COLD STORAGE HOUSES.

THE R. N.-Y. of September 5, asked for discussion and comment on packing and packing-houses for fruit. The article referred to, made special mention

THE PIPE-END OF IRRIGATION. FIG. 205.

of grape packing, care and storage. The average grape grower is not in a position to hold over his crop for better prices, and if he did, it would hardly pay him for the time and labor expended in the care and storage; fully two-thirds of the grape crop in the Lake Belt is in the hands of the consumer within three weeks after picking. The profits in grape culture have been so small during the past few years, that growers are becoming discouraged. The matter of a packing house of special design and convenience is of small moment and interest to them under the present method of shipping and selling their crop, as they can utilize almost any building, barn or shed for the short time (about six weeks), they are harvesting. Some growers have been known to pack in the vineyards directly after picking, and haul directly to the cars for shipment.

Grapes handled properly, are not packed and covered until 12 hours after picking; this will give them time to cool or sweat, as it is termed, and the stems to wilt, thus permitting closer packing. The most serious questions before the grape grower are, To whom shall I sell my grapes? or, In what manner shall they be handled to net me the largest profit? Shall we haul them to glutted markets and receive six cents for them, per basket? (This was frequently the case this year). Or, shall we place them in the hands of an association which charges us one cent per basket, to sell or consign at their pleasure? Or shall we sell to or place them with some commission house? The latter method appears to me to be the safest of the three. One cannot sell grapes at a profit in a glutted market, and the average returns for the season are very uncertain from an association with unscrupulous business managers. Commissionmen will pay the grower cash for his crop, provided the grower can assure them a certain amount of protection from an overstocked or glutted market, also as to the quality and grade of the fruit packed. Some practicable plan should be devised for the combination of commissionmen in certain towns and cities and growers in certain districts, and arrangements made to place only No. 1 fruit on the market. Such a combination of several districts could easily control the market, and secure good prices with their guarantee to sell only No. 1 grapes.

There is not a vineyard but has No. 2 grades of grapes, and how many growers mark them as such? The bunch of grapes not full and with straggling berries, or with green berries, is, certainly, not graded No. 1 fruit; neither are the grapes spattered with mud by the rains, a No. 1 fruit. The growers cannot afford to continue the practice of shipping No. 2 as No. 1, and the association is, in a measure, responsible for it. Their system of inspection is not thorough enough. The opening of a basket or two at one end on a load, certainly is not a thorough inspection, and does not protect the association and careful packer against careless, indifferent or unscrupulous packers with whom he is asked to pool or ship his fruit.

There are various uses for a No. 2 grade of grapes without placing them upon the market as No. 1, or as No. 2 to compete with the No. 1 fruit. The average grape buyer is acquainted with this system of inspection, and knows that the fruit he examines at the door of a car containing the fruit of a dozen or more growers, is no reliable sample of what the car contains, and that he can expect to find both No. 1 and No. 2 grapes in a car graded No. 1; and on this knowledge, he bases his offer to purchase. A large packing house with two or more cars' packing capacity, built and used jointly by growers, would enable buyers to inspect the fruit as it comes from vineyards, and as it was packed. They would pay more for a car inspected in this manner, than under the present method. Grapes should be handled as little as possible before reaching the consumer. This object should be kept in view when building packing houses.

A floor space of 3,000 square feet is necessary properly to pack and ship one car a day. This will require from 50 to 60 hands (according to the management, and convenience of the packing house to the vineyards and depot), including pickers, packers, nailers, teamsters and car-loaders, 10 hours a day. The average crop shipped in baskets should be shipped at the rate of one car a day for every 100 acres.

Another matter for the consideration of every grower shipping in packages, is, shall he buy his baskets of the manufacturers, who can raise the price at their pleasure, as they have this year, from $18 per 1,000 to $25 per 1,000, or shall he make them himself individually or jointly, during the winter months, or other convenient times when not engaged with some more profitable labor? The basket manufacturers have to work all winter, spring and summer to supply the demand of a full crop. They are compelled to make up a stock worth thousands of dollars for six months or more before selling their stock. The manufacturer, in order to make a profit upon his investment, must add the interest for this time to the cost of the baskets. The problem to be solved by the grower, is, Which is the cheaper, to buy of the manufacturers in the winter or spring, or to purchase the stock cut to dimensions, and make the baskets himself?

The future of profitable grape culture is very uncertain. Unless some radical changes are made to correct the existing conditions, practices and system of management mentioned above, a full crop next year will, in all probability, compel many growers to pull up their vines and plant even wheat at 50 cents a bushel. It is only through a full understanding of the details of all questions arising, that we are enabled to discuss a subject intelligently. If THE R. N.-Y. will open its columns for the discussion of these questions, it will, in all probability, be the means of aiding a large class of people in arriving at some plans of action for the betterment of their industry.

Ohio. W. A.

SOME NURSERIES FOR TUBERCULOSIS.

KILLING THE COWS BUT NOT THE GERMS.

I have been interested in the bulletins sent out by the experiment stations, and by the Bureau of Animal Industry, on the subject of tuberculosis, and I have been especially interested in the preventive measures recommended. I notice that most authorities agree on the means of transmission, and the importance of disinfection to destroy the germs that float about in the dust of a house or building, where the disease is present. Powerful germicides are recommended that will destroy them. I have often wondered whether inspectors and appointed officials who condemn the cattle and kill them, usually attend to the disinfection, and I have taken pains to inquire. I have asked members of the State Board of Agriculture of Rhode Island, who do the inspecting, if they disinfect the quarters occupied by the diseased animals. They tell me that they do not. They sometimes tell the farmer to disinfect, but they do not do it themselves. They say that our State makes no provision for disinfection, and no money is appropriated for that purpose. I have inquired in certain parts of Massachusetts, where many cows have been killed, but could not learn of a single instance of an inspector having disinfected the stalls or the building, or even the floor soiled by pus during the post-mortem examination. They condemn cattle out of a large herd kept in one barn; they kill and open the condemned cattle, and in some cases, the diseased organs are laid on the barn floor. The organs are usually removed in a bag and buried near by, and the carcass carted to Brighton to be made into fertilizer. Will not the soiled floor contain infecting material? Is there no danger of the carcass, which is carted to Brighton, giving off infection before it is turned into fertilizer?

It seems to me that it is State money thrown away to condemn and kill cattle, and then neglect to kill or attempt to exterminate the seeds of the disease that remain. Should not disinfection go hand in hand with other measures? Should not every diseased cow not only be destroyed, but every germ that may be lurking in the dust or cracks and crevices in manger or stalls, be surely killed by the proper agent? Water troughs, tubs, and the pails with which diseased cattle have come in contact, should not escape thorough disinfection, if the theories and reasoning of the veterinarians are correct. If they are right, why are not ordinary, common-sense precautions generally taken by State officials, at the time the cattle are killed? You might as well leave the farmer to discover and kill his diseased cattle, as to expect him or trust him properly to disinfect his infected buildings. It seems to me that great blunders are being committed, and that the thing ought to be shown up, and the people educated in this matter.

Will prominent veterinarians express themselves on this matter of disinfection? Should it be done or not? I think that it might be worth while to look up cases where cattle have been killed, and find out whether disinfection of their quarters has been followed. The record of scores of such cases in various States would show what is the practice. If the scientific authorities agree that disinfection should not be neglected, should not farmers demand a law compelling State officials to disinfect premises as well as test, condemn and kill cattle?

We hear of cattle being condemned and killed on a certain farm, not once only, but year after year. If the inspector's work is a success, if his mission to stamp out and prevent the disease is not a failure, should case follow case, year after year, on the same farm? It would seem that, at present, the efforts made in many sections to stamp out the disease, are a failure. The ripest and most rotten specimens only, whose milk and flesh are dangerous, are killed, and the disease continues to propagate and flourish, even where the inspector has been. SAMUEL CUSHMAN.

Rhode Island.

NEW ENGLAND PASTURE LANDS.

WHAT CAN BE DONE FOR THEM?

The great acreage and low price of pasture lands in New England, make pasturage a very important part of the food of our dairy stock. The entire substitution of soiling for pasture feed, can only be economically practiced near cities and towns where land is too valuable to be used for grazing purposes. The use of fodder crops for summer feeding, as a supplement to pasturage, is almost a necessity, if we wish to keep the herd producing to its fullest capacity. But in urging the use of these crops, there is danger of encouraging a now too common neglect of the old pasture. It requires much energy to wage a successful warfare on the brush and weeds, but it will pay in the end. No feed is superior to good pasturage for the production of the best grade of dairy products.

From four to five acres per cow is now about the average stock-carrying capacity of the pastures of Connecticut. Good pasture lands, however, will carry a cow for every two acres. This shows the chance for improvement. In offering suggestions, one must not lose sight of the fact that pasture lands are cheap, and that the cost of improvement may easily exceed the value of the land, even after the improvements are made. There is little doubt that half of the pasture lands of Connecticut might be more profitably devoted to the growing of wood. Wood and pasture together, however, furnish little pasturage. Old-time farmers tell us that pastures have deteriorated, that they will not carry nearly the amount of stock they did 50 years ago. Where shall we look for the cause of this condition? Have the natural stores of fertility in the soil been so depleted that productiveness is greatly reduced? If we look to the old countries of the world, we find that the best grazing lands are those that have been pastured constantly for 50 or, perhaps, 100 years.

There are two conditions that have greatly injured our pastures, and will continue to do so unless met and, at least partially, overcome. These are brush and droughts. It is useless to attempt to grow two crops on the land at the same time. Every farmer knows that ridding land of brush is a serious problem. Cut the brush when you will, either "in the old of the moon in August," or "when the sap is all up in June," and still, the next year, you have brush. Either thorough plowing, or "grubbing" the brush out by the roots, is the only sure way of subjugation. While the first cost is large, yet if this task be well done, it is permanently done. Where the land is not too rough, mowing the pasture over with a machine, once or twice a year, rids the land of weeds and bushes for a time, and encourages a new growth of feed. I have known fields covered with a thick growth of small bushes to be cut over in this way at a very small cost.

One reason for the decline in the productiveness of our pastures, I believe to be the reduction in the number of sheep kept on our farms. There is no truer adage than the Scotchman's, that "the sheep is an animal with a golden hoof." The best grazing lands of England and Scotland are those that are pastured by sheep. Owing to the immense areas of cheap grazing lands in the West, the raising of sheep has afforded little profit in New England; but every farmer can well afford to keep a small number, if only to produce lamb and mutton for family use.

Droughts are very likely to kill out the better class of grasses, and unless new seed be added, a growth of poorer grasses and weeds will take their places. Small pasture streams might, in many cases, easily be turned from their regular courses, and be made to irrigate a considerable area. Wherever possible, it is well to turn the wash from the highways to the pastures alongside. I have known an acre or more of pasturage to be kept well watered and fertilized in this way.

Some of the cheaper forms of fertilizing materials may be economically used on pasture lands. Air-slaked lime has a chemical and physical effect not represented in its direct value as plant food. It will destroy an acid condition of the soil, check the growth of moss, and encourage the activity of bacteria which convert organic nitrogen into the available nitrates. Wood ashes, bone, and coarse manures may often be used to good advantage. After a season of droughts, which frequently kill out the better kinds of forage, grass seed and clover should be sown very early in the spring. If the land is smooth enough, the seed may be partly covered by harrowing. Even where this is not practicable, much of the seed will germinate, owing to the naturally moist condition of the ground at this season of the year. C. S. PHELPS.

Storrs (Conn.) Experiment Station.

"STRAIGHT GOODS" BY CROOKED MEN.

Can a crooked man make straight goods? Yes, I think that he can—if he has to. I would much sooner undertake to secure proper legislation, and then vigorously enforce it, than to attempt to reconstruct poor human nature by straightening out the crooks in some men's lives. I am so often reminded of the need of some defense against adulteration of food, that I think that public opinion should be aroused to cry out against it. And who has a better right to start the cry than the producers of honest food products, who suffer directly through this spurious competition, while the consumers all over the country suffer indirectly through paying for what they do not get?

In my article some weeks ago on, "The Fate of the Calf," I did not allude to the practice of selling bob veals, although I knew that quite a traffic exists in selling veals but a few days old. Last fall, I met a young man, on the road to town, whom I invited to ride with me. During the ride, I learned that he was a French Canadian going from Massachusetts back to Montreal. He had been working in a meat-canning establishment near Boston, for two years, but business was slack, and he was going home for a visit. Among other things, he told me about the trade in veals. He said that the factory in which he worked used a great many veals only a few days old, stewed up with a very few chickens, and sold the product as boneless chicken. He talked very frank and fair about it, and seemed to think that it was all right, for he said, "You can't tell it from chicken when it is cut up in small slices." A very small slice would satisfy me, I think. I have since confirmed his report by others who are in a position to know.

One year ago, I was in Providence, R. I., and found exposed for sale in the city markets, tubs of oleomargarine (or butterine, as it is called), that were marked, "Choice creamery butterine, manufactured by the Vermont Manufacturing Company." The words, choice creamery and Vermont Manufacturing Company, were in larger text than the rest of the allegation. This was, evidently, done to deceive the buyers, many of whom are foreigners, and but imperfectly understand our language. On the same trip, I interviewed several parties engaged in canning fruits and vegetables. At one factory, I was shown through the works, and the details of the business were explained by the proprietor. Seeing a barrel of gelatine with the head knocked out, I inquired its use, and was told that they used quantities of it in making jellies 20 to 30 per cent of fruit would absorb the 70 to 80 per cent of gelatine that they used in the mixture. In making jam, they used a larger per cent of berries, as I was told, for they could not disguise so much gelatine in jam, without adding a quantity of Timothy or millet seed to keep up appearances, which they did not often do. In looking at their canned goods, nicely labeled ready for market, I failed to notice any mention of gelatine or hay seed on the labels; but, perhaps, I am giving away trade secrets, without warrant, so I pass to another topic.

A recent issue of THE R. N.-Y. had a timely article on the use of Raupenleim and Dendrolene on fruit trees. It seems that neither substance really does what is claimed for it, and in some cases, positive injury has resulted. A few weeks ago, an agent called at my farm for the purpose of selling me some fruit trees. I wanted no more fruit trees, at present, so he next produced a sample of "Protectio," a gummy substance for applying to the trunks or branches of trees to prevent black knot, blight and other diseases from spreading, and for protecting the trees against borers, mice, rabbits, etc. The agent stated that "Protectio" had been discovered after 14 years of research, and was composed largely of gum found only in Asia Minor, whence it was carried on the backs of the natives across the burning sands to a seaport, and there bought by the Protectio Company exclusively. Well, I bought a quart can for 50 cents, although it was marked $1 on the can, and the agent, at first, asked $1 for it. I have applied it according to directions, and am hoping for good results. If it is a good thing, I shall want more of it; but if it is not, then I think that the poor, deluded Turks ought to be informed of the fact, and not have them wear their lives out crossing the burning sands to accommodate us. The circular accompanying the can contained some strong testimonials in its favor, and if any readers of THE R. N-Y. know anything about "Protectio," I should like to know what they think of it. Straight goods are what we want, even though we have to invoke the law to protect ourselves.

Vermont. C. W. SCARFF.

WHAT SAY?

FEEDING OIL MEAL.—How much oil meal should I feed at a time and how often? What is the best kind of oil meal to buy? I want any other information any readers can give me on feeding oil meal to pigs, calves, horses, etc. G. D.

OVERHEAD WATERING DEVICE.—A New York State subscriber wishes to get a watering device for his stables, that feeds from the top, believing that it will be less likely to become dirty. Do any of our readers know of any such, and what do they know about it?

WHAT GRASS WITH RYE.—I have a natural prairie pasture. The hollows are much washed, and overspread with soil washed in from the upland, during the unusually heavy rains this summer. I wish to sow rye on these washed spots late in the fall, for pasturing next spring. Is there any kind of grass that I could sow with the rye, or in the spring, that would give pasture after the rye during the summer?

Moonlight, Kan. A. M. E.

MCINTOSH RED APPLE.—Is not Mr. Van Deman mistaken in regard to the quality of McIntosh Red in reply to No Name in THE R. N.-Y., page 613? We have the variety on trial not fruited yet, and were under the impression that the quality was superior to Baldwin. We have no use for poor quality apples. The American Pomological Society rates it as "very good." May we not hear from growers who have fruited the variety, in regard to its quality?

Kentucky. REAM CO.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Ringbone and Fistulous Withers.

J. H. B., Afton, N. Y.—1.—My mare has been lame for over two months, and now a hard lump is growing around the top of her hoof. It is very sore when touched, and she is still lame. What is it, and a cure for it? 2. I have a horse with a swelling along his withers, and a running sore on both sides. What is it, and the cure?

1. The bony growth around the top of the hoof is a ringbone. Firing with the hot iron is the most satisfactory treatment, but the firing should be done only by a competent veterinary surgeon. 2. This is a case of fistulous withers, and can best be treated under the personal direction of a veterinarian.

A Case of Garget.

F. B. M., Andersontown, Md.—Last summer, two of my four cows, all fed alike, gave milk which left a thick, greenish-yellow settling in the pans, for which I could not account. I thought that, when they came fresh in the winter, the milk would be good; and it was until recently, when it again became unfit to use. The udders seem caked and hard, as if fevered. What is the cause and remedy?

Give each cow one pound of Epsom salts and one-half pound of common salt with three or four tablespoonfuls of ginger, dissolved in three pints of warm water. Follow night and morning with 30 drops tincture of aconite, one-half ounce nitrate of potash and one ounce hyposulphite of soda. Bathe the udder frequently with water as hot as the hand can bear, and follow by rubbing with spirits of camphor. Examine the drinking water, and if there is any suspicion that it is stagnant or foul, make a change. If the cows have access to stagnant water, it may be necessary to remove them to other quarters, or fence from such waters.

Lame Mare With Stocked Legs.

H. L. C., Winchendon, Mass.—1. What shall I do for my mare? Her hind legs swell from the hoof up to the hock joints, sometimes more and sometimes less. On working or driving her, the swelling will mostly go down. 2. Her right fore foot also seems to be very sore and lame after driving on a hard, frozen road or after stamping when the flies bite.

1. Such stocking of the hind legs is, usually, due largely to a lymphatic constitution. Disease of the liver or kidneys, and heavy feeding with idleness increase the tendency. A more laxative diet and daily exercise will correct slight cases. If medicinal treatment become desirable, give one teaspoonful iodide of potash twice daily in the drinking water before meals. Continue for a week or 10 days, then omit for a like period. 2. I suspect that the soreness is due to corns. Remove the shoes and examine the heels. If corns are present, cut out so as to avoid pressure of the shoe upon the corn. Dress two or three times a week with hot pine tar. If corns be not found, have the foot examined by a veterinary surgeon who can locate the soreness and then prescribe suitable treatment.

Tuberculous Lungs in Cattle.

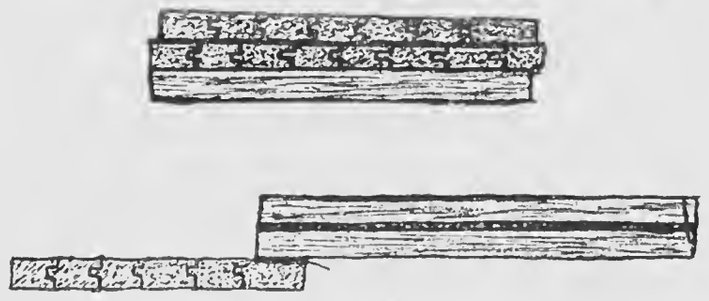
O. S., New York.—How do the lungs of a tubercuIous cow look? Are they larger than usual, dark or spotted? Do tuberculous cows have a cough? Will cows cough with any other disease? Does the State pay for tuberculous cows killed, and how much?

If the lung is but slightly affected with small, scattered, firm tubercles, there will be no noticeable increase in the size; but if extensively diseased, the diseased areas will stand out prominently, and are thus larger than on the healthy lung. In color, the tuberculous portions of the lung will be of a grayish shade, with yellowish spots or centers, especially noticeable on section. The smaller tubercles up to the size of a hen's egg or, sometimes, even larger, are usually solid, the cut surface on section showing the yellowish centers imbedded in the grayish mass. In the larger tubercles or diseased areas, the center is usually softened or entirely broken down into a liquid or semi-liquid pus-like mass. Between the diseased or healthy portions of the lung tissue, there is a well-marked line of demarcation, *i. e.*, the diseased and healthy areas do not blend. Similar lesions are, also, usually present in the chain of lymphatic glands lying between the upper or dorsal border of the lungs, and, less frequently, in the lymphatic glands of the throat, liver and mesentery, while, in advanced cases, the tubercles are found scattered throughout the chest and abdomen. In the early stages of tuberculosis, there is no cough; but the development of extensive lesions in the lungs or glands of the throat is, usually, accompanied by a dry, hacking cough. Any other disease of the lungs or of the throat may cause a cough. In the State of New York, there is no compensation for tuberculous cattle killed this year. There was a small appropriation for that purpose last year, but our legislature last winter failed to make the necessary appropriation for continuing the work.

A Water-tight Stable Floor.

R. S. D., Yorktown, N. Y.—How can I make a horse stable floor that shall be absolutely water-tight, so that the room underneath may be used for anything desired? Will thoroughly-seasoned chestnut or spruce plank, filled with hot coal tar, make such a floor, or must an expensive one of asphalt or some kind of cement be used?

ANS.—A stable floor can be made absolutely water-tight by the use of coal tar. It must be made of well-seasoned lumber; chestnut or spruce, as suggested, could be used. The walk behind the stalls may be made of single plank, matched, and hot coal tar be poured in the cracks. The floor of the stalls should be made of a double thickness of matched plank, with a good application of hot coal tar and tarred paper between the floors. The upper floor must not be nailed, or only at the end near the manger, and the cracks filled with coal tar. Fig. 206 shows how the



A WATER-TIGHT STABLE FLOOR. FIG. 206.

floor should be laid. The lower figure shows a cross section of the floor as we enter the passageway behind the horses, while the upper one shows a cross section as we stand facing the stall. T. A. C.

Pears for Western New York.

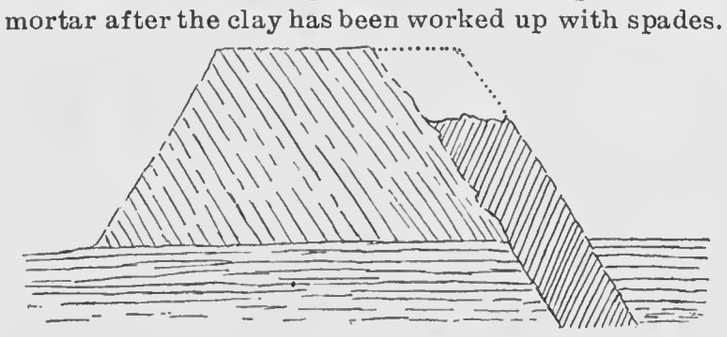
G. S., Niagara Falls, N. Y.—What varieties of pears and plums would be best to plant in the neighborhood of Niagara Falls? I intend to set about two acres of pears and one of plums. Is it best to plant dwarf and standard varieties alternately?

ANS.—Plums: Bradshaw, Lombard, Fellenberg, German Prune, Reine Claude, Grand Duke, Coe's Golden Drop, Yellow Egg, and Peter's Yellow Gage. Pears: Clapp's Favorite, Bartlett, Anjou, Duchess, Clairgeau, Sheldon, Seckel, Lawrence, Keiffer, and Bosc. We do not consider it advisable to plant dwarfs and standards alternately; the dwarfs should be planted by themselves, and the standards likewise.

To Make a Dam Water-tight.

F. C. D., Wapella, Assa., N. W. T.—Last fall, I built a dam across a ravine (about 60 yards wide) on my land. As soon as the thaw set in, last spring, the water commenced to soak through, and has continued to do so all summer, until now, there is very little left. This summer, I have raised it about three feet, which makes it 10 feet high, 30 feet wide at the base, and three feet on top. The dam is composed of ordinary black loam and clayey subsoil. I purpose covering the face side and top with good, tough sod to prevent soakage.

ANS.—Facing the dam with sod will not prevent leakage. If it could be faced with clay, properly puddled and tamped, the dam would be water-tight. Dig a trench along the face of the dam deep enough to reach solid soil, or below the vegetable matter which has accumulated near the surface. Secure good clay by removing the surface soil, and wheel it to the trench, and add enough water to form quite a stiff mortar after the clay has been worked up with spades.



HOW TO BUILD A DAM. FIG. 207.

Then pound thoroughly. Raise the clay facing about six inches at a time. If more clay be put on at one time than this, it will be difficult to work it up thoroughly with the spade. If the clay be made of the proper consistency, the various layers will unite, and the face will retain its shape. The clay facing should not be less than 18 inches deep. See Fig. 207. A large reservoir, 14 feet deep, was constructed not long since, by facing the inside of it with a four-foot layer of clay, and although the embankment which supported the walls was gravel, it holds water perfectly.

I. P. ROBERTS.

Making Apple Jelly.

C. W. C., Sac City, Ia.—On page 576, is an article on "How to Make Cider Jelly," by J. Bollinger. He says, "Shovel enough of it into a vat to make a good-sized cheese." How much is this in weight or bulk by measurement? He also says, "Add 125 gallons of water." It seems to us as though we should not be able to find that amount of pomace in so much water. We should be thankful if Mr. Bollinger would give us more definite directions.

ANS.—As I never weighed or measured the pomace, I cannot say. However, to make a large cheese for the press, it takes 75 bushels of apples; that is the amount of pomace we use in making up a cheese. On an average, one bushel of apples contains three gallons of cider; press that amount out of it, and you have 225 gallons out of one cheese. In order to liberate the jelly this amount of pomace contains, it requires, as I find, a little more than one-half the original amount of moisture extracted from it; hence, 1½ gallon of water to the pomace made from one bushel of apples, I find, is needed. However, C. W. C. may try, and use less. He will find, by experimenting, the amount of water that will give best results. The boiling down is not so much of a job. Steam from the boiler is turned into a coil of pipe in a copper tank; by the time the second cheese is pressed out, the cider from the first is ready to take off. J. BOLLINGER.

To Dry An Old Cellar.

R. S. D., Yorktown, N. Y.—Can an old house cellar, which is damp at times, be made drier by cementing the bottom and sides? The bottom is now laid with flat field stones. How much cement should be used, and can I do the work myself?

ANS.—The cellar could be made drier by making the bottom and sides of cement. If the cellar is so wet that the water runs in at the bottom or sides, then the first thing to do is to drain it with tile. But from the question, it is understood that it only becomes damp and the water does not run in. Portland cement should be used. If R. S. D. will send us the dimensions of his cellar, we will make an estimate of the amount of cement he will need for the work. There is no reason why he cannot mix and put it on himself.

Buying Apple Trees in the Fall.

Subscriber, Ontario, Canada.—Will it be advisable for me to buy apple trees this fall, and bury them in the ground to hold for next spring's planting?

ANS.—I have practiced that method extensively, not only in this locality, but at the Experiment Farm, Ottawa, where the thermometer gets to 40 degrees below zero. I think it the best course to pursue, and have been advocating that method for several years. A little caution, however, is required. The trees should not have their roots exposed to cold winds or frost. A high piece of land should be selected where drainage is perfect. Dig a deep trench, untie the bundles of trees, spread them out so that the soil will come into close contact with all the roots, tramp it in very firmly, and cover the trunks well up; in fact, it is better to cover all but the tops of the branches; then there is no danger from mice, rabbits or ice. If the tops are mostly covered, the trees should be taken out of the trench as soon as frost is out of the ground in the spring, and either planted at once, or the roots well heeled in. If the trunks and tops are left covered too late in spring, they are likely to be injured. W. W. HILBORN.

A Mildew of the Peach.

J. B. S., Leamington, Ont.—In my own and others' peach orchards, many of the trees are badly affected with mildew on the new wood. 1. What is the cause of the mildew? 2. What is the preventive? 3. What is the cure? 4. Is it fatal? 5. Is it infectious? I have examined different bulletins and books, and asked information from officials who were expected to give it, but cannot get satisfaction. The summer here has been very wet.

ANS.—1. It very frequently occurs that the young wood of peach trees is covered by a thick, white covering which may entirely conceal the green color underneath. Although J. B. S. does not very carefully describe the disease affecting his trees, it is probable that the trouble is due to a fungus (Podosphæra oxycanthæ). In certain seasons, this parasite is very abundant upon the more tender portions of the peach. The growth found upon the leaves is not the most destructive to the orchardist. The same fungus also attacks the fruit early in the season, and it can, therefore, cause considerable loss to peach growers during seasons favorable to its growth. The first indication of the presence of the fungus upon the fruit, is the appearance of small, white, powdery patches upon the surface; sometimes these patches are fully one-half inch in diameter. As the season advances, the parts first affected may turn brown, and the tissue may dry to such an extent that the peach cracks open. Fortunately, such serious attacks are uncommon. 2 and 3. So far as I know, no accurate experiments have been made to determine the best method of checking the disease. The fungus causing this mildew belongs to the class popularly known as "surface fungi," because the bulk of its vegetative part remains upon the surface of the affected parts. It is, consequently, not so essential that treatments be begun before the disease is visible, as is the case with such penetrating fungi as the apple scab, cherry rot, etc. It appears probable that the Bordeaux Mixture, applied as soon as the fungus is noticed, will check the further spread of the disease. If, however, the fruit is so far advanced that its market value would be lessened by such late treatments, the ammoniacal carbonate of copper should be applied instead. This fungicide is nearly as effectual as the Bordeaux Mixture, and it leaves, practically, no stain upon the fruit. It appears, also, probable that the free application of sulphur, either in the form of the "flowers," or as the sulphide of potassium, would prove of value. 4. The disease might prove to be fatal to a peach tree, but I know of no such result having occurred. 5. The mildew of peaches can spread readily from tree to tree by means of spores which are freely produced upon the white growths which render the fungus so conspicuous. But it is only in rare cases that serious injury is done. E. G. L.

THE new Strawberry-raspberry still bears a flower here and there—no fruit.

SEPTEMBER 15, the tallest plants of the Mexican June corn were 14½ feet high, and the band plays — or, rather, the plants grow on. There is neither silk nor tassel yet in sight. On one of these largest plants, the writer counted 20 leaves averaging from three to four feet long and four inches wide. These plants grow in a field with 20 other kinds of sweet and field corn. Many of the plants of these have lodged. But there is not a plant of the Mexican June that is not erect. One would suppose that they would be the first to lodge, because they offer a much greater resistance to high winds. Probably the reason is that they bear no ears.....

BULLETIN No. 164 of the Ohio Experiment Station (Wooster), gives a carefully selected list of the varieties of apples, pears, plums, grapes and peaches best adapted to different parts of the State. The list does not include all of the best varieties, but it contains none but the best, and every one named may be safely planted in the section for which it is recommended. Our Ohio readers interested in the above fruits, should send for this bulletin.....

MR. WM. FALCONER, the editor of our always-welcome contemporary, Gardening, says that the Wichuraiana rose is not as hardy as he thought it was. It seems that Mr. W. H. Manning, of Boston, reports that all of these roses in Franklin Park, except a few shoots, were killed last winter. Well, we merely gave our own experience. It stood, last winter, 18 degrees below zero, at least, without the slightest injury.....

OUR esteemed London contemporary, The Garden, regards the craving for something new, a very old complaint. Probably there is no older complaint, and, probably, again, it will never be "stamped out". To stamp it out, would be the end of all progress.....

THE GARDEN regards the Weeping walnut, with its bold foliage and true pendulous habit, as a refreshing, umbrageous tree well adapted for planting on a lawn.....

A FEW MORE WORDS AS TO VARIETIES OF ASPARAGUS.—We have been overhauling our notes upon the varieties of asparagus since 1880, when we set out to investigate the questions, "In what do they differ? Which kinds are superior to others?" We began with seedlings of Red Dutch, Argenteuil and Conover's Colossal, followed by Smalley's Defiance, Barr's Mammoth, Dreer's Eclipse, Palmetto, Moore's Crossbred and, finally, Columbian White.

Our conclusions are just these: In *quality*, there is no difference. In the size of the stalks, there is no difference, always assuming that all the conditions are just the same. In earliness or lateness, there is no difference. In the *color* of the stalks, there *is* a difference. Some are reddish—Red Dutch for example—some of a medium green—Conover's Colossal for instance—some are whitish or a light green—Columbian White for example.....

IMPERIAL JAPANESE IPOMŒA OR EMPEROR MORNING GLORY.—Seeds from H. A. Dreer, Philadelphia, Pa., were sown not until early June, in the garden. The vines are of as rapid growth as those of the old morning glory, the difference being in the leaves, which are lobed and cleft in the Emperors, and often variegated. It is difficult to do justice, in a few words, to the beauty of the flowers, which are fully twice as large as those of ordinary kinds, and of a brilliancy and diversity of color excelled by no other flowers. We know of no other flower that has such brilliant contrasts, fiery red, purple, nearly black, light blue, indigo blue, maroon, grayish, brownish, bronze-colored, some of them with margins of pure white. Other flowers are blotched, splashed, marbled in all sorts of odd ways. With all their intense brilliancy, there is yet a softness and delicacy of shade, a purity and freshness of color or of combinations of color, that makes one wish to look at them, not for a moment only, but to study and enjoy them for hours. True it is, that, as with the ordinary morning glory, the flowers are short-lived. True it is, however, that in the early morning nothing among flowers is more fascinating, more refreshing, than an arbor or lattice or fence covered with these vines. They are morning glories to be sure....

CAMPBELL'S EARLY AGAIN.—We have just received a catalogue of grapes, strawberries, raspberries and currants from Geo. S. Josselyn, Fredonia, N. Y. On the last cover page, is a beautiful portrait of a bunch and leaf, in colors, of Campbell's Early grape, and on the second page cover, an excellent profile portrait of its originator, one of "Nature's noblemen," indeed, and one who has striven all his life to improve the grapes that Nature gave us.

THE R. N.-Y. is glad that it was permitted to be the first paper to introduce this grape to the public; the first to present its portrait (see R. N.-Y. December 16, 1893). We have told our readers that, in our opinion, it *promises* to be the most valuable hardy black grape or, perhaps, the most valuable variety, whether white, red or black. Now let us tell our readers how others regard it:

Prof. W. J. Green, Mr. M. Crawford, and Mr. Frank Ford, all of Ohio, say: "It is a large, black variety of excellent quality and of very great promise."

S. B. Heiges, United States Pomologist, says: "The cluster reminds me of a Black Hamburg as grown under glass. Some of the berries were an inch in diameter. The quality is remarkably fine, pulp sweet to the center, with small seeds, easily detached from the pulp; the skin thin, yet remarkably tenacious, making it a very valuable shipper. *I really* believe that it is a grape that has more good points than any other now in cultivation."

Wm. A. Taylor, assistant pomologist, says: "I hope that it will sustain its home record, when grown in other localities. If so, it will leave little to be desired."

Isidor Bush, the well-known grape authority, and author of the Bushberg Catalogue, says: "Were I to write ever so much, I could not say half as much as I think and feel about your grape. It is *the* grape of the future, exceeding *all* American grapes in its ensemble of qualities, and equal in beauty to the Black Hamburg."

All of the above commendations, coming from authorities whose judgment we *must* respect, were written after THE R. N.-Y. gave *its* opinion of Campbell's Early.

There is just one thing that remains to prove the accuracy or inaccuracy of such favorable estimates, viz., a trial of the grape in different parts of the country. In so far as we may judge from the appearance of the leaf, the hardiness of the vines, the size of the bunch, and size and quality of the berry, and the tenacity of the skin, it would seem to be superior to the grand old Concord, and it almost frightens us to say so much.....

THEY ARE THE SAME.—It must be about six years ago that a bunch of grapes was sent to the writer with the request that he give his opinion regarding it. We could detect no difference between the size, color and quality of the berry and the Eaton. Still, we had no Eatons at that time with which to make a close comparison, neither had we any leaves. Last year, both the Eaton and Hosford's Mammoth were in bearing, but the berries were destroyed by the tornado. This season, we have had a full chance to compare both vines and fruit. We have carefully compared the tendrils, leaves and leaf stalks, both as to texture, size, serration and color. We have compared the berries as to color, bloom, color of receptacle, flesh, size, pulp, quality, number and size of seeds, and we are now prepared to say that the Eaton and Hosford's Mammoth are the same. The vine of the Hosford's Mammoth was sent to the Rural Grounds November 15, 1890, by Geo. Hosford, Ionia, Mich. We learn that, about four years ago, the supposed new variety was introduced by a Michigan nursery, the name of which has escaped us, and the vines sold for twice or thrice the price of the Eaton.....

Moles and Cats.

B. T. W., ROCHESTER, MASS.—If T. A., Hartford, Conn., will keep a number of good cats, and treat them properly, I think that the moles will disappear. When I came to the place I now occupy, seven years ago, a place long neglected, we were very seriously annoyed with rats, mice, moles and squirrels. I had disliked to have cats about, but the nuisance was so great that we procured a number of kittens with most excellent results. Of the original stock of cats, we have but one, a very valuable animal. Of the increase, we give away a good many, drown some and aim to keep three or four of those that prove good hunters. Cats should never be fed meat. We give them all the skimmed milk they care for, and, occasionally, a little corn bread or an ear of green corn, and make them forage for the rest of their living.

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From E. S. CARMAN, *Rural New Yorker*:—
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"Making a Market."

WEBB DONNELL, MAINE.—There were two points in THE R. N.-Y. for June 6, that have so striking a connection, that they deserve to be firmly joined together in a succeeding issue, that the lesson that is thus taught may not be lost upon the readers. The article on strawberry growing in Florida stated that, near the close of the season, thousands of bushels of berries are allowed to rot in the fields because the price at the North has fallen so low that it does not pay to pick and ship them. Elsewhere, in the same issue of the paper, is the experience of a man who has used his evaporator for evaporating strawberries, and has found the evaporated product delicious. Instead of letting the berrics rot in Florida fields, let the owners evaporate the strawberries, and add a new product to the market. It is shrewd adaptation of circumstances that is the keynote of success in farming in these times of small margins of profit. Farmers and fruit growers have wasted enough, in times past, to make them all independently rich.

In the manufacturing industries of the world, nothing is allowed to go to waste, and material that, to the ordinary observation, would be utterly worthless, by the aid of chemistry, has been turned into articles that have a ready sale. Only by this careful saving have manufacturers been able to make money in these days of sharp competition. The farmer and fruit grower must learn the same lesson, and give more attention to stopping the waste of valuable material. Many of us, for instance, have seen hundreds of bushels of apples rotting under the trees in farm orchards, because it was thought that the price would not pay for picking and marketing. This fruit might have been worked up into a choice article of cider vinegar, into apple jelly, put up in glasses, into apple butter or cider jelly, all of which have a constant sale in the grocery stores. It is the same with many other farm products now often wasted. They may be made to assume a form which will make them desired at remunerative prices, though, in their original form, they might have found a glutted market. The farmer must be sharp to "catch on" to these points, for they are becoming of more and more vital importance every day, so changed and changing are becoming the conditions of supply and demand in this country.

Apples for Milch Cows.

J. S. W., LOCKPORT, N. Y.—I do not think that there is any better food for milch cows than ripe, sound apples. I am aware that the prevalent opinion is that apples have a tendency to make cows sick and dry them up. As confirmatory of this, I have heard of numerous instances where cows have broken into orchards and eaten their fill of apples, and have been made sick, in a few instances have died as the result. I also knew a case where a man ate an unreasonable quantity of baked beans, and it killed him. Now the one case, no more proves that ripe apples are not good cow food than that baked beans are not good human food.

The proper way to feed apples to cows is to have them ripe and sound; green or rotten apples are not good food for anything. The cows should never be given a full feed of them at first, or given them on an empty stomach. At the first, the cow should have no more than two or three quarts once a day, but this may be increased so that, in 10 days, she may be safely fed one peck twice a day, and if a very large cow, twice this quantity. In all cases, the cow should have some dry food when eating apples, and as apples are quite wide in nutritive ratio—1:8—she should have something like clover hay or wheat bran to balance the ration. Cotton-seed meal is a capital food to add to apples for cows, as its effect is constipating, while the apples are rather laxative. Still I would prefer to feed a mixture of cotton-seed meal and wheat bran. If, when feeding liberally on apples, the hay should happen to be clover largely, then it would be well to add a little corn meal to the provender, say, make it one-third each corn meal, cotton-seed meal and wheat bran.

There is some danger when feeding whole apples, that the cow may choke; but if a pair of posts or stakes be firmly set in the ground or made fast to the floor like a pair of stanchions, just far enough apart to admit a cow's neck, and a hole be bored just high enough so that a pin put through will prevent the animal raising her head quite level, it will be impossible for the apples to roll down into the throat and choke her. The same apparatus will prevent animals choking when eating potatoes or any other food. What makes the animal choke is raising the head so high that the pieces slip, by their own weight, into the gullet.

Coal Ashes for Evergreens.

E. B. W., NEWTON, IA.—I notice that the subject of coal ashes in the soil has been discussed in THE R. N.-Y. recently. Two of my neighbors have had experience with the ashes of soft coal around evergreen trees, that may be of value to others. One has a large windbreak of maples and cottonwoods on the north and west of his house. It had grown up so thick and high, and left so much space beneath the branches, that the snow drifted through it badly. To prevent this, he set out a double row of spruce on the north of the old windbreak. Previous to this, he had carried the ashes from the house through the grove north, and emptied them over the fence. When the evergreens were set, the fence was moved further north, and the row of evergreens crossed the pile of ashes. The trees that were set in the ashes all died, and they were the only ones that did die. Mr. Dodge then dug out large holes in the cinder heaps, set new trees in them, and filled up with good earth. He also watered very faithfully, but they died. I think that he tried the third time. At any rate, he has not succeeded in getting a tree to grow where there were any ashes in the ground.

The other neighbor set out 50 or more trees in his lawn, four or five years ago, mostly Balsam Fir, and he hauled coal ashes to mulch most of them. He thought that it would keep down the weeds, and keep the ground cool and moist. Perhaps it did the first year, but the second year, the trees began to die. As soon as one died, he replaced it, but after a while, he decided that the ashes were hurting them, so he took them all away from the trees. But that did not remedy matters, for they kept on dying, and he found that if he set out a tree where the coal ashes had lain for some time, it would die, for the poison seemed to go into the ground. If he wanted a tree to grow in that place, he had to remove a large block of soil, and replace it with fresh. So his little mistake of mulching with coal ashes cost him considerable money, plenty of hard work, and loss of time in the growth of his trees, besides making the trees uneven in size.

Our blacksmith tells me that the coal mined here has so much sulphur in it that he cannot use it in his forge, but he buys Pennsylvania soft coal. Perhaps, it is the sulphur in the ashes that injures the evergreen trees.

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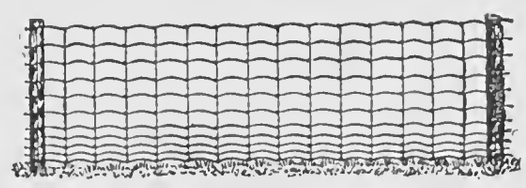

PAGE FENCE HOLDS BEARS!

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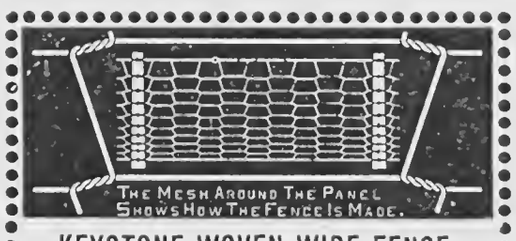

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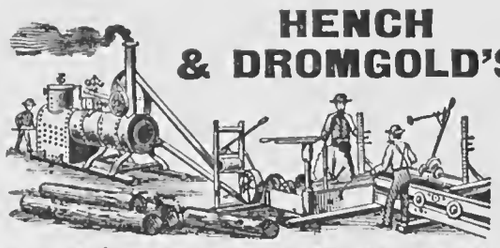

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"SUCCESS" Jr.

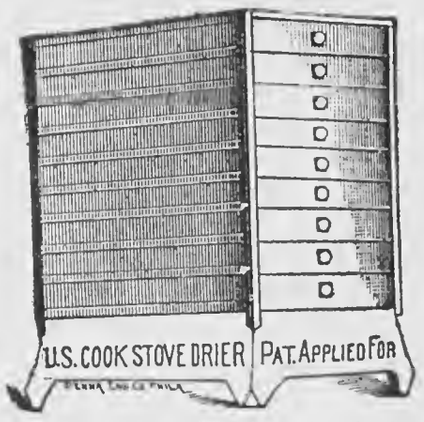
A DIGGER THAT DIGS.

IMPROVED **POTATO DIGGER**

YOU WANT a digger that will please you. We want to put 10,000 samples **ON TRIAL** for introduction. **FREIGHT PAID.** If your dealer cannot show you our improved "SUCCESS" send at once for particulars.
D. Y. HALLOCK & SON, Box 805 **York, Pa.**

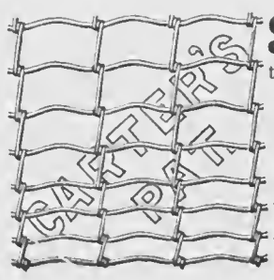
U. S. Cook Stove Drier.

In many localities, fruit is an abundant crop this year. Choice fruit will, undoubtedly, command a fair price; but you must not put one inferior apple in the barrel for shipment. Mix choice and inferior fruit, and the whole will sell at the price of the poorest. The inferior stock would better be dried for future use or sale. There is, besides, a certain amount of fruit around almost every farm home, that goes to waste.



Why not gather this and dry it for use when needed? The U. S. Cook Stove Drier will be found a great convenience in this work. It may be set on top of the cook stove, and no extra fire is needed. The regular price is $7, but we have been able to get better and better rates every year, and can now send it and a year's subscription to THE R. N.-Y. for $5. There is no experiment in using these driers now. They have been used for years with perfect satisfaction.

THE RURAL NEW-YORKER, New York.



$8.00 for a MACHINE
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The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY. Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

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Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, OCTOBER 3, 1896.

SOME of our readers are feeding rape for the first time this year. They should remember that the rape will bear a great deal of frost without harm, after being uninjured until Christmas; yet, if sheep graze it while the frost is on, they destroy each leaf that they touch. The best plan is to keep the sheep off the rape until late enough in the day for the frost to get out of it.

⊙

A SHORT course at an agricultural college will not turn out a full-fledged scientist. A man can't stuff his pillow with experiment station bulletins, and wake up in the morning a scientific farmer! The great value of the short course is that it will give a young man the right *start* under surroundings and among companions that will prompt him to continue the work of observation and investigation. Young man, why don't you make your start this winter?

⊙

THE reports from hay dealers, in this issue, indicate that there is no immediate prospect that "corn hay" will be quoted in the general market. These shredded corn stalks make good fodder and, for many purposes, could be used in place of Timothy hay with great economy. Still, as we can see from the reports, dealers know little or nothing about it. For some years, at least, the corn stalk crop must be consumed on the farm. The future may make a place for it in the market, but with the present prices for rough fodders, the outlook is not brilliant. Within a few years, baled shavings have come into such general use as bedding that the sales of straw have been considerably lessened.

⊙

AN old swindling trick in the city is worked as follows by a poorly dressed man: He approaches some man or woman who, he thinks, might prove an easy victim, for these swindlers are usually good judges of human nature. He tells a pitiful story of hard luck and starvation, but doesn't beg anything. Instead, he has a pair of gold eyeglasses which he has found, or which, in some cases, are an heirloom, very highly prized, which he will part with for a fraction of their value. The bait usually takes, and the purchaser soon finds himself the possessor of a pair of cheap glasses in brass frames, thinly washed over with gold, which can be bought almost anywhere for a few cents each. Now a local paper tells us that the same scheme is being worked in the country. It may also be worked with other goods than glasses. No one ought to need spectacles to see through this humbug.

⊙

LAST spring, we told the story of a farmer in western New York who mounted a small engine on his wagon, and thus secured a strong power for spraying fruit trees. A boy drove the wagon and attended to the engine, while two men held the nozzles and directed the spray. By means of this device, the work of spraying was robbed of many of its discomforts, and was pushed rapidly along. This man worked for his neighbors, and had more engagements than he could fill. A man in Iowa now purposes to put a small engine and a cream separator and tank on a wagon, and travel from farm to farm separating the cream and taking it away, and leaving the skim-milk on the farm. He can cover a territory, each day, that will provide 3,000 pounds of milk. This will give him a profitable business, and save the farmers the time and expense of hauling their milk. Instead of carrying it to some central power, the power will be brought to them. When the roads are made first-class, and we have a perfect "horseless carriage", the same power that runs the separator will drive the wagon, and the horse will take a vacation. These two men, one in the East and the other in the West, have thought out two ideas, and made them practical. With each succeeding year, new men begin to investigate and experiment, until it is no wonder that agriculture changes at almost lightning speed.

⊙

MR. MOSS tells us this week to beware of incubators that must depend on alcohol to regulate the heat. He overlooks an incubator that has been used somewhat by Eastern goose breeders, and that is a tipsy turkey. These breeders say that they can force a turkey to incubate whenever they need her services. The bird is fed a spoonful of wine soaked into bread, and then put into a box so low that she is obliged to squat or brood. The next day, she is given another dose of the stimulant in this box, and, generally, after 48 hours, she is ready to hatch two lots of eggs in succession. It is said that no other domestic bird but the turkey will accept this alcoholic treatment, and breeders claim that it is a great convenience to be able to make such a large bird broody at will. This is, certainly, a case where alcohol is the mainstay of an incubator.

⊙

THE country around the Ellerslie Farm is filled with summer boarders during the season. Most of them visit the farm during their stay, and examine all the processes for cleaning and purifying the milk. They go back to the city and order this milk for use in their own homes. Until they went to the farm, they did not realize how much difference there is between ordinary milk and that which is thoroughly clean. The evidence of their appreciation is shown in the fact that sales always increase when the summer boarding season is ended. One of the best advertisements a farmer can devise is to invite townspeople to visit his farm. If you have goods that possess merit, show them up, don't hide them under a bushel! Put some of your individuality into them, and then bring people to look at them! Such people might not care to look at you, but they will examine that part of you that is in your goods.

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JUST now, there appear to be two principal classes of buyers of purebred live stock. They are farmers who want good males to head their flocks or herds, or a few good females to serve as foundation stock, and speculators. The latter want to buy purebred cattle at the prices usually paid for grades. With them, it is simply a business speculation, as they expect to buy the stock for less than its value, and sell it within a year or two at a good advance. There is but little exchange among breeders just now. The best market is among the better class of farmers who desire single animals of merit. There are hundreds of such men among the readers of THE R. N.-Y. While not pretending to be the special organ of any branch of the live stock industry, THE R. N.-Y. has always advocated the emancipation of the scrub by the introduction of improved blood, and our readers have always been, and always will be, good buyers of superior animals.

⊙

IN the State of New York alone, there are over 2,000 epileptics who need something in the way of help, aside from what their relatives and friends are able to give them. These unfortunates have been, for the most part, kept in almshouses or institutions for the feeble minded, while many of them have been sent to insane asylums, though perfectly sane except during brief periods. Such treatment was the worst that could be given these unfortunate people. It is a pleasure to know that, hereafter, they will be kept by themselves—apart from ordinary paupers or the insane. The State of New York has purchased a tract of nearly 1,900 acres in the Genesee Valley, and has established a colony farm for epileptics. The place was formerly occupied by a community of Shakers, who sold it to the State when they became so few in numbers that they could not carry it on. Here the epileptics live in families or groups of 15 or less. Their life is spent chiefly in the open air at work on farm or garden, and in this quiet place, with simple food and little to annoy or excite them, it is no wonder that actual cures are reported. There is no hope for an epileptic when placed in the poorhouse or insane asylum—his disease is reasonably sure to end in insanity—but in this quiet and peaceful colony, there is hope for him, at least. Only those who know what it is to have the awful curse of insanity fall upon some loved friend or relative, can realize what such hope means. In Belgium, the insane are kept in farm colonies, and in most European countries, epileptics are treated on the colony plan. In this country, Ohio, New York, Pennsylvania, Maryland, Massachusetts, Michigan, Wisconsin, Iowa, Illinois, New Jersey, California, Minnesota, Texas and Virginia have, either started such colonies, or are preparing to do so. It is a merciful thing to separate such patients from the insane or the ordinary paupers.

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IF Mr. Cottrell's plan of working the corn land this fall with a Cutaway, and then plowing it into wide ridges for the frost to work over as described on page 653, is a success, he will save a vast amount of plowing. It is no small job to prepare 175 acres of heavy land for corn each year, and fall plowing is the most expensive part of it. This is an experiment that will be watched with great interest. Since THE R. N.-Y.'s notes were taken, the corn has been cut, and Mr. Cottrell sends this report:

We have cut the corn planted on the field that was ridged last fall. The yield from this ridged field was 17½ tons per acre. The adjoining field, treated in our usual way, gave 13 tons per acre. The extra 4½ tons per acre may not all come from the ridging, but I think that it does. The soil in both fields is our very stiff clay—the clay so dense that when water falls in a depression anywhere on the surface, it stays until evaporated. We plowed both fields in the fall of 1895. Just as the ground began to freeze, we went into one field and threw the soil up into sharp, deep ridges, such as are made for planting sweet potatoes. These ridges ran north and south, giving the soil on each side of the ridge a good exposure to the sun, so that every warm day during the fall, winter and spring, both sides were subjected to both thawing and freezing. Of course, the field was fairly level. This method of treating clay ground in the fall seems to have a good many things in its favor. It insures a thorough drainage of the first six inches of soil, and the ground can be worked 10 days earlier in the spring. So much surface is exposed that a large mass of the soil is well aërated, and the repeated thawings and freezings pulverize the soil better than we can do with any implements. Theoretically, the breaking up of the soil by the freezing and thawing, will release a large amount of plant food locked up in the stiff clay, and our increase in yield of 4½ tons of green corn per acre, seems to show that the theory is correct. When we were ready to plant in the spring, we leveled the ridges with a disk harrow, and then treated the field in our usual way. We hope to be able to ridge 50 acres this fall.

Of course, this treatment would not answer for steep hillsides, but for level land, it is well worth an experiment. Surely, if Jack Frost can unlock some of the fertility in the soil, we can, at least, make it as easy as possible for him to use his key.

⊙

BREVITIES.

Of "bugs" that chew, there's not a few.
Their poison must be eaten;
But bugs that suck, outside we duck
Or else they'll keep on eatin'.
Then Paris-green 'tis plainly seen
Has got to go inside, sir!
But kerosene with soap, to cream—
It kills them through the hide, sir!
One ounce of soap, one quart of oil,
One pint of hot, soft water;
One quarter hour churn up with power,
Dilute ten times you oughter.
Of Paris-green one pound, I ween,
To each two hundred gallons;
Then keep well stirred. It is inferred
These rules will save you millions. M. G. K.

DRINK will clog the think works.

WHAT'S better than a Bosc pear in its season?

CROOKED men must be made to walk straight.

DON'T give the little calf a cold frame to live in.

"MY *germy* side is inside," said the hog as he finished eating the sour milk.

PURE cream beats cod liver oil as a medicine. Make your customers realize that.

WE expect to startle you next week with some accounts of big crops on small areas!

WHEAT comes nearer to being a balanced ration for a hen than any other single grain.

THE latest reported freak is a cat that jumps into the water of her own accord for a swim.

THE article on grape shipping this week, is by one of the largest shippers in the Grape Belt of Ohio.

YOU can generally stump the stump speaker by asking if he practices in private what he advocates in public.

WHEELMEN bring a market to the farm. Put up a sign with "Pure Milk" on it and see whether some of them won't stop and buy.

THRASHING machines are now made with a blower attachment that distributes the straw over the stack and saves the labor formerly done by men. Another dusty job lost.

WHAT about Mr. Cushman's remarks on killing the germs of tuberculosis? A farmer's barn may become a perfect nursery for these germs unless it is thoroughly disinfected.

YOU can wash a beefsteak after you get it. The only man who can wash a quart of milk clean—not adulterate it—is the milkman. Make your customers realize that. It is a good advertisement.

MR. MOSS says that he knows men who, not satisfied with the incubators they could *buy*, studied out the matter and made new ones. He is right. That is the way some of the most helpful machines are started.

SPEAKING last week of the different forms of muscle-makers needed by different people, leads us to say that we have noticed that nervous and highly-organized people usually require meat rather than more bulky foods.

IT won't be long before some wise man will demonstrate the fact that music has a good effect on a cow's nerves. Then we shall find pianos in some of the prize dairies, with some one to play on them during milking time!

THOSE Kentucky pullets at Ellerslie did not know enough to go to roost when first bought. When put in the house, they would simply crouch upon the floor. It was necessary to put them on the roosts for several nights to *start* them.

THERE is nothing equal to live steam for cleaning dishes or utensils. Can't you manage to pipe some steam into the kitchen? It would make dishwashing a scientific operation. You can put up such a steam pipe for the cost of maintaining your tobacco pipe one year.

IS THERE MARKET FOR SHREDDED STALKS?

HOW ABOUT CLOVER HAY AND STRAW?

Is "corn hay" (the baled corn stalks after passing through the husking and shredding machines) quoted in the hay markets? Is this product sold, and at what price? Do you think it possible that a market could be made for it? Has the demand for clover hay increased during the past few years? Will city men buy it for feeding horses? Have peat moss, shavings and other substitutes for bedding, made any difference in the sales of straw for that purpose?

Answers from Hay Dealers.

My experience with corn hay has not been very satisfactory, for the reason that the shipments did not arrive in sound condition. I have one customer who would use considerable if the quality were all right, and I would be pleased to receive quotations on a strictly prime article. Regarding clover hay, I do not believe that the market has increased any during the past few years. Nearly every one wants strictly No. 1 goods, especially for private feeding. Among cattle men, there is a demand for clover hay. Peat moss and other substitutes have made quite a difference in the sale of straw for bedding, baled shavings being the most formidable competitor.

Buffalo, N. Y. H. V. BURNS.

We know of no market for "corn hay." The corn stalks are of such a nature that they will heat very quickly after being baled, and we think it impracticable to open a market for this product while hay is so low. We think that the demand for good green clover and clover mixed hay has increased during the past two years; a great many consumers are buying a fancy green clover hay to feed. There is no doubt that peat moss and baled shavings have had a tendency to lessen the demand for straw, especially oat and wheat. Good, long rye straw, pressed in large bales, and from the bundle, always meets a ready sale at fair prices. Men owning the better class of horses will have nothing else. BRIDGE & SOUTER.

Canastota, N. Y.

There is no quotation on baled corn stalks, and although we are constantly in touch with the hay trade, we have never handled them, neither can we say what they are worth. There is nothing so good for bedding as good, long rye straw, and it has the preference over anything else, peat moss included. Considerable clover hay is sold, but the trade wants clover hay in the winter for cow feed—it is not used for horses. During the grass season, the demand is light. It should be marketed at the time stated. Light clover mixed hay is used to quite an extent for horses, although good, clean Timothy is preferable. It should be pressed in large bales, unless intended for shipping, then small bales are generally used.

New York. H. DUSENBURY & CO.

There is no market here whatever for the shredded corn fodder. A few cars were sent to this market last year, but were disposed of with great difficulty. Feeders in this section don't want this kind of forage when they can get hay so cheaply. We do not think that a demand could be worked up for it. The demand for clover hay remains about the same as it has been for several years. It is not used here to any great extent for feeding horses. It is used by the dairymen. The consumption of that product has, probably, been limited some by the use of cotton-seed hulls. When clover hay gets above a certain price, the dairymen will substitute the hulls for it. There is no peat moss used here for bedding. Baled shavings are taking the place of straw for that purpose. Some of the largest planing mills in this part of the country now bale all of their shavings. They make an excellent bedding. EARLY & DANIEL.

Cincinnati, O.

There is no sale for corn hay in this market. It could not be sold at any reasonable price until introduced, and it would be a hard matter to introduce it, especially this year, when hay is reasonably cheap. The demand for clover hay has decreased instead of increased in the metropolitan district markets. It is sold to milkmen in the suburbs, and when mixed, it is sold in a limited way to cattle exporters for feed aboard vessels. Nice, bright clover is generally scarce and in good demand; it is now selling as high as No. 1 Timothy, if it is cured properly. Clover hay sells at a premium in London, England, and some other European cities, for horse feed, but consumers here will not feed it at all. Only a limited quantity of peat moss is used for bedding, mostly by racing stables, and for box stalls. It does not seem to be very satisfactory to most consumers. Not nearly so much is used as a few years ago, although straw is higher. There is no other substitute for straw used that is worth mentioning. Nice, bright, straight, bundled rye straw is in limited supply, and selling higher than the best Timothy hay. It must be pressed in upright presses, and thrashed, either with a flail or thrasher and binder, to be salable here.

Brooklyn, N. Y. WM. C. BLOOMINGDALE.

Corn hay is not quoted, and is unknown, as such, to the trade in this city. It is barely possible that a trade could be had in this article here. Other forage grains are too cheap. The only demand for clover in this city is for sheep; none is used for horses. We are trying, however, to introduce the clover cut in chaff, but don't meet with much success. Peat moss is very slightly used here, and I don't think that it makes any difference in the sales of straw.

Montreal, Can. JOSEPH QUINTAL.

Corn hay of the crop of 1895 has been handled in a limited way in this market; but it did not seem to take with the trade, and none has been offered here this year, owing to the very low condition of the market on Timothy and prairie hay, which is selling for from $5 to $6 for prairie, and from $5 to $10 for Timothy, according to condition. We have quite an accumulation of clover hay in this market, which we grade No. 2, and we find the demand very limited. The only demand for it is from dairymen to feed to milk stock, but the horse men will not feed it. We do not notice that the moss has interfered at all with the straw for bedding purposes. The market generally takes care of what little straw is offered, but we do not save it in our western country, as is done in the East, from the fact that we have such an abundance of prairie that we prefer prairie hay to straw for bedding. HARRISON-BERRY COM. CO.

St. Louis, Mo.

Corn hay or baled corn stalks shredded is not quoted in any of the eastern markets. It has been, however, quoted in the western markets, and last winter sold at Cincinnati at from $9 to $11 per ton. I do not believe that a market could be made for this kind of fodder among any of the eastern consuming points. We do not think that the demand for pure clover hay has increased to any extent for the past few years. The demand for No. 1 and choice clover mixed has increased to some extent; these are used principally for the feeding of cows, although many of the large transfer companies use them quite extensively. There is not the demand, however, that there used to be before the horse cars were superseded by electricity, etc. Peat moss has made no difference whatever in the sale of straw for bedding purposes; most of the peat moss used for that purpose is imported from Europe in very small quantities. Most of it is used for packing purposes on board ship, and on arrival, it is gathered together and disposed of to private parties. Considerable of that used in the New England cities is imported from the maritime provinces, and has but little, if any, effect on the sale of straw. On account of the scarcity of clover hay this year, higher prices than prevailed last season will, no doubt, obtain the coming season. It is in fairly good and active demand in the New York markets at present.

Hay Trade Journal. W. BYRON ABELING.

SEASONABLE GAME IN THE N. Y. MARKET.

This is the season of the year when game is growing more and more plentiful in our markets. According to the present game laws in this State, game of any kind may be sold at any time, provided it was not killed within 300 miles of the boundaries of the State. During the warm weather of summer, however, the demand is so small, that receipts are very light, although there is never a day but some kinds of game may be found in market. As the cooler weather advances, the demand increases, and the law also allows the killing of many kinds of game in the State. It is said that, sometimes, game is shipped in from the State during the close season, hidden in packages of poultry or other produce. Still there is always risk of seizure and consequent loss in such irregular shipments. All game shipped from 300 miles outside the State should be plainly marked, "game", and have the place of shipment and destination plainly marked. It is now the open season for deer in this State, the time during which they may be killed extending to October 31; but no one person may kill more than two deer in any one year. The carcasses cannot be transported except when accompanied by the owner. These provisions do not apply to the counties of Ulster, Greene, Sullivan and Delaware, where no deer may be caught, hunted or killed for five years after the existing law took effect, which was June 7, 1895. On Long Island, the same prohibition exists for two years after the passage of the law. So it may be seen that, with these restrictions, little venison is likely to come to market from this State, and hunters outside will have the market mostly to themselves. Up to this time, there have been no arrivals of fresh venison, and that on the market is from the refrigerators, and saddles sell for from 23 to 25 cents per pound; fresh would bring more if they did not come in too large quantities.

Woodcock, ruffed grouse, usually called partridges, and any other member of the grouse family may be killed in New York now and until December 31, and possessed until January 31. Quail may be killed during November and December, and possessed during January if it be proved by the possessor that they were killed within the lawful period or outside the State. They may not be killed in the counties of Genesee, Wyoming, Orleans, Livingston, Monroe, Cayuga, Seneca, Wayne, Tompkins, Tioga, Onondaga, Ontario, Steuben, Cortland and Otsego, until after November 1, 1898. Most web-footed wild fowl, may be killed from September 1 to April 30. Snipe, plover, and similar birds may be killed except from May 1 to August 31. The first snipe and plover come from the South, from as far as Texas. The most of these provisions do not apply to Long Island.

Large numbers of rabbits come to this market, but the regular season ends, with the exception of some counties, on November 30. The same is true of squirrels, though the number of the latter sent to market is not large. An occasional opossum is seen during the winter, and many Jack rabbits are sent from the Far West, sometimes coming in car-loads. Bears are frequently on sale during the winter. Reed birds come from the South in large numbers, and sell well when large and fat. Blackbirds are sent in considerable numbers, but there is not a very great demand for them, and they sell low. Quantities of game are imported, and much of the domestic is put away in refrigerators, some of it being kept for months before it is used. The present law is arbitrary and ridiculous in many of its provisions, and works great hardship in many cases. New Jersey, for example, might be swarming with rabbits, yet the 300-mile limit provision, would prevent their sale in this city during the close season, where many thousands of them are needed. It is a law in the interest of sporting men, and not in the interest of the general public.

A GOOD GUERNSEY.

The Guernsey cow pictured on the first page, is Alena 6099, born October 14, 1891. She gave 6,221 pounds of milk in one year after the birth of her second calf, her milk testing, when she was fresh, 4.6 per cent butter fat. Her dam, Belle of the Hill 2nd, gave 6,240 pounds of milk in one year. This strain of Guernseys is considered at Ellerslie, typical dairy animals, a very marked characteristic being strong constitutions. Alena is a medium-sized cow, weighing about 850 pounds when in full milk. She is very strong and vigorous, has well-developed udder, large teats, well placed, large and tortuous milk veins, well-sprung barrel, is deep through the lungs, is a good feeder, and turns her feed into milk. She is a quiet cow, and nothing will disturb her as long as she has what she wants to eat. During her last test, made September 1, two weeks after calving, she averaged 30 pounds of milk per day; average per cent of butter fat, 4.8.

BUSINESS BITS.

THE Business Bit last week about the Horton Mfg. Co., Portland, Mich., should have been about the Portland Mfg. Co., instead.

ENAMELINE is a stove polish that is growing very much in popular favor on account of being dustless and odorless, as well as being capable of a high polish.

THE Stevens Mfg. Co., Joliet, Ill., succeeds the Joliet Strobridge Co. of the same place, in the manufacture of the Peerless feed grinders. This mill has a force feed regulator so that the grist may be reduced to any degree of fineness required. It will also grind any kind of grain, damp or dry, and ear corn with the husks on, without clogging.

As the Coal Trust has put up the price of coal, greater economy is necessary. The Rochester radiator saves a tremendous amount of heat which would, otherwise, go to waste. The first order from a neighborhood secures one at the wholesale price. Send for circulars to the Rochester Radiator Company, 27 Furnace Street, Rochester, N. Y.

MR. H. M. CHIPMAN, of Waterbury, Conn., has invented a little combination tool for making and tightening wire fences, that answers the purpose better than anything else that we have yet seen. With it, one can clasp the wire as quickly as with a pair of nippers. It gives a good purchase so that the wire can be drawn up tight with very little exertion, and held easily by bracing against the body, while both hands may be used to drive the staple. It is also provided with a point for drawing staples, which is done by a simple tap of a hammer. Now that we have used it, it seems a necessity in building and repairing wire fences. We would not be without it for three times the cost It is not being advertised now, and, probably, will not be, but we are glad to bring it to the attention of those who have wire fences to build or to mend. If it please any of our readers who use it, as well as it has pleased us, we shall feel amply paid for calling attention to it.

A BUSINESS man interested in fences, writes as follows: The old rail fence, and the barbed-wire fence, are all back numbers, and are superseded by a woven-wire fence that supplies the purpose of a fence by preventing the stock from within getting out, as well as the stock on the outside from getting in, is not unsightly, is more durable, and is not destructive to stock, as was the case with barbed wire. Among these improved fences, the Keystone holds high rank as one of the best on the market. The farmer who supplies himself with Keystone, finds himself an agent, in spite of himself, for he is invariably plied with queries as to what make it is, where he bought it, price, etc. Wherever introduced, it at once jumps into popular favor. This is why the new works of the Keystone Company are obliged to run night and day to supply the demand. For full information, catalogue, etc., write Keystone Woven Wire Fence Co., Peoria, Ill.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

WHAT a pleasure it is to get a courteous letter, even though it be on a business matter and of trivial importance, from an entire stranger. It breathes a kindly feeling which brightens our thoughts for a while. Perhaps there is less need to urge more courtesy between strangers than to ask that there be more kindness between friends. Most of us appreciate courtesies and kindnesses when they come to us, but are forgetful in extending them to others. Not every one is blessed with a courteous disposition, but cultivation will produce results worth striving for.

*

THERE is need of practical, helpful and hopeful writers to brighten the domestic departments of our papers. Many who attempt that line of writing, drift into what is called the "preaching" style, and become monotonous. Others escape this fault, and go to the other extreme, allowing themselves to be carried away by enthusiasm, and predicting such great things that less hopeful persons reject all of their advice, believing the promised results impossible.

*

"WHY do you not learn typewriting?" said a business man to a woman worker. "You could earn much better wages than you now do, and have shorter hours." "But typewriting is already overcrowded," was the reply, "and many get very poor pay." "Yes, the profession is burdened with brainless practitioners; but these would not compete with you. A conscientious worker, with sense and business adaptability, need not wait for a good position in the most crowded line of work. Good workers are always at a premium." This is as true of other work, and the boy or girl who feels capable of doing good work on the farm, and is determined to succeed, will overcome the obstacles which make failures of less careful and energetic farmers.

*

IT is said that, of all lines of trade that have been benefited by the use of the bicycle, the "soft drinks" business has reaped the richest profit. Many establishments have sprung up along favorite roadways, in which nothing but temperance drinks are sold. There is quite a demand for milk in this quarter, and good buttermilk would, probably, become more popular than sweet milk, particularly in very hot weather. Good buttermilk is rarely on sale in the city, and poor buttermilk doesn't appeal to the average palate. First-class buttermilk will find ready customers, for there are many country-bred people in the city who remember the good things of the farm, and are constantly seeking them in the city.

THE FARMER'S SOCIAL LIFE.

THE QUESTIONS.

What should a farmer's social life be, and what are his social duties towards his neighbors? Is social visiting among farmers a thing of the past? What do you consider your obligations in the matter? Is it well to encourage neighborhood visiting? Do you really know of any particular case where a family has been driven from the farm by its isolation and loneliness?

NOTHING is exempt from that great process of Nature, evolution; not even the social life of the country neighborhood, that state of society where things are supposed to be at a standstill. Evolution is, usually, a slow process, so the change has been so gradual that it is only lately that people have awakened to the fact that the old order of things is passing away, and regretfully to wonder whether the spirit of hospitality is passing also from the hearts and homes of rural communities.

The present state of social affairs is, in a measure, the outcome of extended intellectual life, and of all the forces in this movement, the greatest has been that of the press. It has brought a flood of thought that has floated into the life of even the most pigheaded and book-defying farmer, forcing him to partake, by absorption alone, if he would receive it in no other way. It has brought a flood of ideas that has rippled around and touched each member of the family, from the infant in the cradle to the grandsire beside the hearth. The intelligent, well-read farmer and family who keep in touch with the world of ideas and the progress of events, are no rarity at the present day. With the wealth of knowledge thus brought into his life, he and his wife have, in a degree, lost their taste for the petty gossip and feasting that made up the sum of the usual, old-time entertainment.

The steady evolution of machinery, too, has nearly relegated to the past, the sewing circle, the quilting and husking bees, that, of necessity, brought people together formerly, and in their stead, the farmer attends the Grange, the institutes, farmers' clubs, etc. This is a long stride forward, but the farmer's social world is yet very far from being an ideal one, especially for the young folk. Small wonder that they turn their eyes towards the city.

Some Hindrances and Helps.

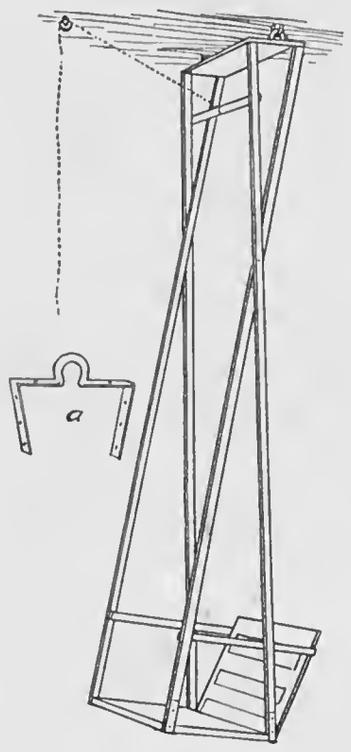
The advancement of social life in the country is greatly retarded by the married farmer, for the reason that, in the pursuit of his calling, he comes in contact with people so much more than do his wife and children, that he does not feel the need of other companionship as they do. And he becomes so absorbed in his struggle with Mother Earth, and his conquest over her, that he very grudgingly gives time to social duties. He needs some very sharp raps to rouse him to a realization of the social needs of his family. And what are his duties? They are a hearty interest, advice and coöperation in the social plans of his household; an earnest endeavor to have his home the center from which shall radiate good will and brotherly love; to use his influence for all it is worth to root up and cast out the petty jealousies and friction that always exist in some neighborhoods; to extend his acquaintance beyond his immediate vicinity. In short, it behooves the farmer to bestir himself from his sluggish, selfish indifference, put his wits to work, and devise ways and means to improve the social condition of all around him, the young people particularly; to make country life so enjoyable that the boys and girls will not leave the farm, the place that needs the boys and girls so much; the city has more than its share of them.

It depends very much upon the neighborhood, whether visiting needs any encouragement; there is as much difference in the sociability of neighborhoods, as there is difference in the sociability of families or individuals. The answer to the question also depends upon the time and inclinations of the farmer's wife. If the busy housewife finds but little time for her much-loved books and papers, she is likely to covet the hours for herself that are given, very often, to the entertainment of the woman whose chief enjoyment is in the feast of good things served up to her, and whose mind is absorbed in her neighbor's affairs, her fancy work, and the cut of her dress. We cannot always indulge our own inclinations; a little unselfishness brings its own reward, but no person ought to tax time or strength too heavily trying to fulfill social obligations.

Why They Leave the Farm.

I have lived in different country neighborhoods, and I have never known a family to leave the farm because of its loneliness. I have known of many moving into town so that their children might have the advantage of good schools; this was almost a necessity, as the average country schools are very inferior affairs.

Neither have the different cases of insanity that have come under my observation been the result of isolation. Every case was caused by trouble or disease. One of the most logical and stirring papers read before a northern Grange was written by a woman who had been an inmate of an asylum. She brought forward arguments and statistics (I have since seen the latter contradicted in print) to prove that a greater percentage of farmers' wives than of any other class of women, became insane, and that the insanity was caused by the terrible monotony and loneliness of farm life. Yet when I investigated this particular case, as I had an opportunity of doing a few years after, and about the time of her second return from the asylum, I learned that she had lived nearly all her life in town or city; that her country home was pleasantly situated, and that her husband and children had made her life as pleasant as it was possible for them to do. Yet she had been twice an inmate of an insane asylum. In this case, the insanity was hereditary, and its development was brought on by disease and ill health.



A SWING FOR THE CHILDREN. FIG. 208.

I see no wisdom in frightening the lonely farmer's wife into the idea that she runs a great risk of becoming insane because circumstances may require her to live in an isolated home. Although life may become a burden to the woman who finds herself alone, and who does not care for books, the monotony of her existence depends greatly upon her husband and herself. In such cases, visiting should, certainly, be encouraged. The quickened mind and heart from social converse mean better health, more cheerful lives, and greater capacity for work.

Before dropping this subject, I must speak of the social life of the South as seen during my two years' sojourn here. It is that of our great grandfathers' day. The family are bundled into an emigrant wagon—every farmer has one—and hie away to some neighbor's for the day. If the weather turn stormy, the visit may be lengthened to that of a week, with mutual satisfaction to all concerned. True hospitality is always graceful, and it is developed most fully beside the southern hearth. The unexpected guest to dinner seems to have no terrors for the southern hostess. One is made to feel that he is most welcome, and if the hostess have only corn bread and coffee to set before her guest, she seems to be unconscious of the fact that it is not a banquet. She certainly makes no apologies. JOSEPHINE STARR.

FOR THE CHILDREN.

ALL children enjoy swinging, and a swing on a porch or in an outbuilding furnishes a delightful pastime. Fig. 208 shows one that is perfectly safe and easily operated by the child itself. The construction is so simple and so plainly shown, as to need little explanation. The long strips should be of tough, straight-grained wood—ash, for instance—1x1½ inch and in length to suit the position selected. Let the top board be 6x24 inches, and the seat board 1x2 feet. In order to make it perfectly safe, have a metal piece, *a*, made from a half-inch rod; this passes over the top board, and down the side pieces, and is made fast with screws. A sort of eye or similar loop is fastened to a joist or the ceiling. Near the top, is a cross-piece from which a cord runs forward over a pulley, and hangs down within reach of the child, who, by pulling on it, moves the swing.

J. M. S.

WHY THE FARM IS BEST FOR BOYS.

A NARROW tendency is manifested by those engaged in professional life, to underrate the importance of life on the farm; it is considered a half-alive and half-dead sort of existence. But what can be more dead than the impecunious, hard worked clerkship in the city, with exacting duties, and little or no time for leisure or recreation? The hope of the country, next to religion, lies in its small farms, and consequently in bringing up the rising generation to work the farm. Bring up the children with just ideas of the independence, the resources, the utility of life on the farm. Farming means hard work; but there is always time for rest and recreation, such as is afforded by no other occupation. Many country boys, who have secured situations in the city, have thrown them up and returned home. They find working on the farm easier and more profitable than working early and late for some jobbing-house, and trying to sleep at nights in the oven-like attics of cheap boarding-houses. Their wages are very small, their food inferior, they are overworked and have little or no recreation. Whereas, if they were working on the farm, they would have good beds and bedrooms, and substantial food, which are enough to make a man happy. The boys in the city that are thus engaged, find themselves minor parts of some huge commercial machine,

and thereby being rapidly worn out by its merciless wear and tear. They are in the same eategory as the omnibus or car horse, and individually, of no importance to the great men at the head of the firm, in whose service they may be.

I love the farm because it is more independent than any other business, and it is just as profitable. And one doesn't have to work so many months in the year as the merchants, on stormy days, or when he doesn't feel well. The farmer is his own boss, and statistics show that the farmer lives the longest, so that goes to prove that farming is the most healthful of occupations.

And the farm is the place to rear a good family. They are free from the vices of the city, and have something to do that tends to elevate and fit them for the duties of life. With the help of machinery which we have now, it is easy for one man to run a farm himself. The whole world is depending on the farmer for the very food it lives upon.

R. S. MILLER.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and

6868—Ladies' Basque.
6728—Ladies' Skirt.

inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Basque and Skirt.

Golden brown mohair, combined with changeable silk was selected for this stylish costume. The waist is fitted in the back by seams that extend to the shoulder and the usual under-arm gores. The plastron included in the right shoulder seam closes on the left with the standing collar. The side fronts are shaped with three pointed tabs or straps, which button across the full trimming portion on to the plastron. Three box-plaits tapering toward the waist line are applied to the back of the waist. The full ripple basque is joined to the lower edge of the waist, a narrow belt concealing the seam. The tailor finish of machine stitching may be omitted if not desired. The skirt affords a pleasant novelty from the severely plain skirt matching in the basque waist. Basque waist pattern, No. 6868, is cut in sizes for 32, 34, 36, 38 and 40 inches bust measure. Skirt pattern, No. 6728, is cut in sizes for 22, 24, 26, 28 and 30 inches waist measure.

ODDS AND ENDS.

MOTHER'S COOKING.—It is not always wise for young husbands to speak too often of, or praise too highly, the superior excellence of "mother's cooking", and to express regret that "things don't taste as mother's tasted". Yet there are times when most people have pleasant and tender memories of "how good mother's dinners were". It is not admitting that the palate has keener and quicker sensations than the heart, to say that the memory of mother's dinners brings her very near to us, especially at home gatherings and holidays. No one living can make the apple and mince turnovers mother used to make. We don't care much if they don't, for half the pleasure of our homegoing would be taken away if such turnovers as mother's were to be found anywhere else. There are certain gravies and sauces, and side dishes that we do not expect to taste, and do not care to taste, anywhere but at mother's table. They are a part of the things that endear us to the blessed memory of home and mother. So we ought to be loyal to the memory of mother's cooking, and loyal and faithful to every sweet and sacred tie that binds us to our mother. MRS. W. O. WHITE.

RINSE THE DISHES.—The housekeeper who is particular about the appearance of her glass and silver, will insist upon the use of the dish-pan with two compartments for cleansing her dishes, says Virginia Van De Water, in Harper's Bazar. One side of the pan contains the hot, soapy water; the other, clear scalding water, in which all suds may be rinsed off before the article is withdrawn, and instantly dried. Dishes washed in this fashion cannot be sticky, neither can silver and glass thus cleaned be cloudy. Two ordinary pans will answer the same purpose.

IN THE KITCHEN.—A rocking chair will never get into my kitchen, unless for some one else's comfort. To rock deliberately in a kitchen, is too much for me. I would rather rest where there is less suggestion of work. And as to having flowers in the kitchen, fancy having a beautiful lily or bright, satin-cheeked hibiscus where cabbage or onions are boiling, or in the smoky atmosphere where pancakes are baking! I think that I see them pressing their dainty cheeks close to the window pane, trying to get to the other side of it. I would have the rocker and flowers near each other, but elsewhere.

My best time in the kitchen is in the evening when the lamps are first lighted, and the children and "John" watching me put the finishing touches to supper. This is to the after-supper rest what a preface is to a good book. It was here not long since that a hungry boy, with both elbows on the kitchen table, and his eyes fixed on his mother, said: "Mamma, how can you be so indifferent to good things? If I could make such nice things, my fingers would be always near my mouth."

B. B. G.

A BICYCLE AMBULANCE.—The best incidental use to which the bicycle idea has been applied is, perhaps, that of the pedal hospital ambulance, says a writer on bicycle virtues. At one stroke, horses, harness and hostler are thus dispensed with. Two bicycles are rigged with a small ambulance between them, perfect in all its appliances. When a call is received, the hospital surgeon mounts the wheel on one side, his assistant that on the other, and they pedal with all speed to the spot where they are wanted. Then the patient is put into the box, and they all ride noiselessly and without any jolting back to the hospital.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

IT'S CURES THAT COUNT.

Many so-called remedies are pressed on the public attention on account of their claimed large sales. But sales cannot determine values. Sales simply argue good salesmen, shrewd puffery, or enormous advertising. It's cures that count. It is cures that are counted on by Ayer's Sarsaparilla. Its sales might be boasted. It has the world for its market. But sales prove nothing. We point only to the record of Ayer's Sarsaparilla, as proof of its merit:

50 YEARS OF CURES.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best** —*Adv.*

THOUGHTS FOR MIND AND HEART.

The choicest garb, the sweetest grace
Are oft to strangers shown;
The careless mien, the frowning face
Are given to our own.
We flatter those we scarcely know;
We please the fleeting guest;
And deal full many a thoughtless blow
To those who love us best.

—*Ella Wheeler Wilcox.*

....PHILLIPS BROOKS: "Every honest occupation is to be considered as a channel of utterance for the divine life in the character and soul of the man who exercises it."

....DR. PARKHURST IN LADIES' HOME JOURNAL: "Patriotism has come rather generally to be interpreted as a willingness to fight and die for one's country and its institutions. That answers very well for a definition of patriotism during times of war, but is generally deficient in that it allows no room for patriotism in times of peace."

....YOUTH'S COMPANION: "The safety of the republic demands that naturalization tests should be made more rigid rather than easier. The time is past when the subject can be dismissed with the assertion that our body politic is proof against poisonous material in the form of citizenship indiscriminately conferred on ignorant immigrants."

SOLD! UNDER A POSITIVE GUARANTEE

to wash as clean as can be done on the washboard and with much more ease. This applies to Terriff's Perfect Washing Machine which will be sent on trial at wholesale price; if not satisfactory money refunded. Agents Wanted. For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

75,000 in use.

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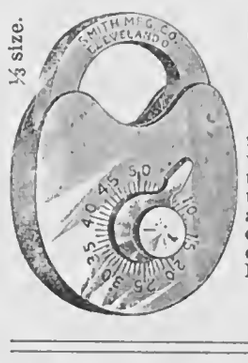

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the only strictly Burglar-proof lock on earth No key to get lost. No two locks with the same combination. YOU are the only one who can open it *AGENTS WANTED* everywhere. Write for circular and terms to SMITH MFG. CO., Cleveland, Ohio.

The best lamp-chimney word in the world is "Macbeth," whether English or French or Flemish or Dutch.

But get the shape that is made for your lamp, "pearl top" or "pearl glass." Let us send you the Index.

Geo A Macbeth Co

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ROCHESTER RADIATOR COMPANY, 27 Furnace St., ROCHESTER, N. Y.

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solves the problem. There are no examinations, but many helps for readers. Forty thousand graduates show that the plan is practicable. THE FRENCH-GREEK *year begins Oct. 1. Send for circulars to*

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THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

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THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

The Agent's Share.

By the time this issue of THE R. N.-Y. reaches readers, the trial-subscription contest will be closed. It ends September 30. Here are the winners of the last weekly premiums in this contest:

$3—J. O. LOFTIN	North Carolina	86 Trial Subscriptions.
$2—RONSON GERMAN	Michigan	39 Trial Subscriptions.
$1—C. R. FARNUM	Massachusetts	20 Trial Subscriptions.

The new agents to draw premiums were:

$3—F. W. PAINE	New York	12 Trial Subscriptions.
$2—C. C. PYLE	Pennsylvania	9 Trial Subscriptions.
$1—S. S. THORNILY	Ohio	5 Trial Subscriptions.

☞ As soon after September 30 as we can get the names counted, checks will be sent for the contest premiums as promised. We hope to get them out by October 1, and to give a full report in next week's issue. The agents, as a rule, have not sent in large clubs. Many, however, have sent in small clubs, with no intention of competing for premiums, and these have swelled the list very much, though, on the whole, it will be short of the similar contest of last year. When it is all figured up, we think that the result will show that we send the agents back more money than they sent us on this contest, without counting the commission retained. This fact may serve as a suggestion for others in the work that follows during the season

Beginning October 1, agents or club-raisers and our good friends who send us an occasional subscription, may say that the paper will be sent free for the rest of this year to new yearly subscribers for 1897. This will help agents. The term for the next contest will be announced next week, and in the meantime, all names sent in after October 1 will count.

THE RURAL NEW-YORKER, NEW YORK.

"CLIMBING HIS BACK."

When I was a boy, the motive power on the farm was a lean, old, knee-sprung horse, named Hero. He was bony and hide-bound, and his knees bulged out like a hunter's bow. The shadow of an oat would have driven him nearly crazy, for hay was about the only food that he was ever able to get his teeth into. It was rumored that, in his earlier days, Hero was a horse of some speed, but those days were but memories, and all he could do in his old age was to jog along before the creaky old carriage, or pull the rusty wagon. He was motive power on a small and rocky farm.

One winter, the old gentleman with whom I lived, bought three pine trees standing in the woods. His plan was to cut them down, haul them to the sawmill, and have them cut into boards for a new henhouse. That was the way we did business in the old-time Yankee days. When snow came, we tackled this "living henhouse," and after much resting and reflection on the old gentleman's part, and much "riding the saw" on my part, we got those trees cut into 16-foot logs. The next step was to get these logs to the sawmill, and that was where old Hero was to prove himself true to his name.

He did fairly well with the smaller logs; but one day, the old gentleman hitched him to the butt of the largest tree, and said, "Git up!" Hero tried hard to be worthy of his name. He struggled and strained and pawed the ground, but all to no purpose—he couldn't start it. The old gentleman gave him a dose of the extract of birch on the outside of his ribs; but that didn't work. Then the old gentleman sat down on a stump, and tried to rub a solution of the problem out of his bald head. Those Yankees do raise remarkable crops on mighty barren soil sometimes, and this man suddenly started up with a brilliant idea. He made me get up on old Hero's back and take the lines. Then he brought his stick down on the old veteran's quarter and said, "Git up!"

Now I am giving you the exact facts regarding this matter. There was one long struggle, and then old Hero started the log, walked right off with it, and didn't stop until he got to the sawmill. I rode him all the way—proud enough that my 70 pounds weight had started the log!

Now, the old gentleman's reason for this result was that Hero "didn't have heft according to his strength." His legs were strong enough, but he wasn't heavy enough "to hold his feet on the ground!" We will not discuss the scientific aspect of this matter. If my weight held Hero's feet on the ground so that he could pull harder, that was enough for the old gentleman. My weight represented many useful operations, and it was cheaper to put my 70 pounds on Hero's back than to put 70 pounds of flesh on the old horse's ribs. I have not mentioned this great mechanical truth for many years. The last time I referred to it, I got myself into trouble. I told one of our neighbors about it. Shortly after, the old gentleman went to an auction and bought a broken-down wagon—because it was cheap. He started for home pulling on the shafts while I pulled behind. A great voice came bawling after us:

"Say, Uncle Daniel, why don't you put the boy on your back so you can pull harder!"

I can assure you that I was both credited and debited for that remark. I am not afraid of the consequences any longer, therefore we may make the following application.

‡ ‡ ‡

MANY of us are like old Hero. The conditions under which we have lived have left us just a little knee-sprung. There was a time when we had lots of speed. Trouble, disappointment, "that tired feeling," and other influences have taken the mental and moral strength and speed out of us. When we are hitched up to the log of some big enterprise, we can't start it. We may have the power, but we lack the weight of will and purpose to make that power count.

Now, in such case, we need, just as old Hero did, somebody to "climb on our backs" and add the weight of some force and suggestion that we have not yet picked up. Lots of men object when this climbing process is carried out, but, in most cases, the result is good, for it stimulates action and thought that would not otherwise be brought into play. We find that THE R. N.-Y. has acted as a "back climber" in many instances. We have heard people say that certain articles have presented a new thought in such a way that it opened a new field to them. Others have confessed that articles have made them angry, but the very anger stirred them up to deeper thinking and, in time, lent new weight and power to their efforts to make a success of agriculture. You can't strike sparks by knocking steel against cotton wool. You must have something harder than the steel. In order to start a fire under the boiler that provides power for your life-work, you must knock your ideas against something harder and more solid than they are. THE R. N.-Y. tries to get ideas out of bed-rock principles hard enough to knock sparks out of your plans when they are wrong. That is one fair reason why you need the paper. As for your neighbors and friends—read this note from a man on the Pacific coast:

I am not competing for any premiums. If I can get your paper into the hands of a few hundred intelligent fruit growers, the better for me. There is a community of interest.

Certainly—there was a "community of interest" between old Hero and myself. There will be just such a community between THE R. N.-Y. and every subscriber whose name you can send us. We shall be as proud as kings if we can add any weight that will make your hands or heads do better work!

SOME MORE HORSE NOTES.

Low prices have discouraged the business of breeding. Very few colts are raised now, as most farmers have a surplus of horses and colts on hand. Prices have fallen nearly one-half. There has not been any change as to breeds, care or handling. There is practically no demand at present, and farmers, generally, can see no prospect of better prices in the near future—the distant future they hardly guess at. J. W. B.

Chase County, Kan.

Horse breeding has been on the decrease for the past five or six years. Farmers do not raise as many colts as formerly. This year there is one colt to 30 a few years ago. Prices have fallen one-half or more; a horse that a few years ago sold for $150, could be bought for $60 or $75 now. As to breeds, they are mostly French Norman. As for care and handling, there is not much change. Horse breeders, as a rule, are hopeful; they look for better times soon. G. H. G.

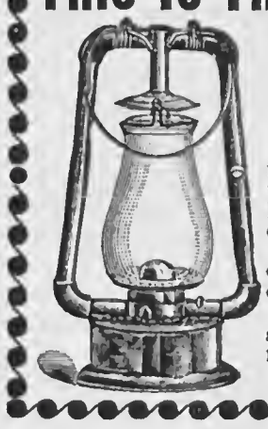
Montgomery County, O.

Horse breeding has changed by farmers breeding the better grades of horses. Not one-fifth as many colts are raised as five years ago. The price has fallen nearly two-thirds within the past four years. They are breeding from nothing but the best, such as the Norman, Shire, Coach and English Draught, and are taking the best of care of what they raise. The breeders are more hopeful, as good horses are advancing a little in price at present, but are very low yet. A. R. N.

Galt, Iowa.

I came to this county from Oswego County, N. Y., 11 years ago. At that time, the business of horse breeding was "booming"; anything and everything that could be used for that purpose, was put to breeding. The result could have been foreseen; the country was filled with a poor grade of stock, which found no sale except at the buyers' own figures. That discouraged breeding, and three years ago, a sucking colt could hardly be found. Last year, a few animals were bred, and this year, the stallions were again making their rounds through the country as of old. I can't see that there is any improvement in breeding stock among the majority of farmers; they have simply gone at work again with the same old tools.

This Is The Light That Never Failed.



IT IS A

Dietz Lantern

that for seventeen years, through storm and darkness, lighted the way of B. W. Burnham, a retail milkman of Saratoga Springs, N. Y., on his nightly rounds without a single expense of repair during that time, except for new globes, being in constant use.

Mr. Burnham brought it to the New York office, where it is now on exhibition and received a new one for his pains. It is a sample of the superior material and make of the **Dietz Lanterns.**

Ask your dealer for them and accept no other. Write for free pocket catalogue.

R. E. DIETZ COMPANY,
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Established 1840.

Miscellaneous Advertising.

A brilliant complexion is a beauty in itself. It pleases the eyes of thoughtless people and the minds of thinking people. They know that a really good complexion is a sign of health, and created by Nature. There are different ways of imitating a fine complexion: cosmetics, which deceive nobody, but ruin the skin and make the user look silly and prematurely old; stimulants which only give a temporary flush; dangerous drugs which drive pimply disorders from the face back into the blood. All these "counterfeit" complexions are unsafe and easily detected. But the genuine, unmistakeable, much-admired color and clearness of health can only be obtained by clearing all bilious matters and humors out of the blood.

The first step towards creating a good complexion by Nature's own method is to get the blood clear, and the circulation free and active. There is no complexion so sallow, muddy or pimply but it will be cleared and brightened by Dr. Pierce's Golden Medical Discovery. It is the best natural complexion-maker on earth. It sends the fresh glow of real health to the cheeks by thoroughly clearing all bilious and eruptive humors out of the blood. It strengthens the digestion and regulates the bowels in a mild, natural way. It gives brighter color to the blood, and not only beautifies the complexion but makes the eyes brighter and the breath sweeter.

If the bowels be very much constipated, it will be advisable to take small doses of Dr. Pierce's Pleasant Pellets, conjointly with the use of the "Golden Medical Discovery." One or two each day—just sufficient to get their laxative and alterative, or blood cleansing, effect will be sufficient.

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L. H. Bailey. It tells, plainly and briefly, what every one who sows a seed, makes a cutting, sets a graft or crosses a flower wants to know. Paper 50

Chrysanthemum Culture for America
James Morton. An excellent and thorough book, especially adapted to the culture of Chrysanthemums in America. Paper, 60

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H. W. Collingwood. Breeding and Feeding Poultry for Profit. The egg and the dollar are what it chiefly considers. Cloth 75

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Every book is fit for any library. Bear in mind these books are not given to the subscriber as an inducement to take the paper; they are given as reward or pay for work and trouble in introducing the paper to new subscribers. If the new subscriber is not satisfied with his bargain he can have his dollar back.

THE RURAL NEW-YORKER, New York.

Concerning the price, one of my neighbors sold a team a few days since, which weighed 3,800 pounds, for $165; but I think that was a little less than he could have sold them for. The same team would have sold readily, 10 years ago, for double the money. If every animal raised would come up to the standard, they might, possibly, be grown at that price, considering the low price of grain, hay and pasturage; but, probably, not more than one in three or four is satisfactory, and at that proportion, the profit can be represented best by the minus sign. J. J. HILLS.

Howard County, Ia.

But few colts are raised here now, not more than 10 per cent of the number raised six or eight years ago. Prices have fallen 30 per cent, at least; a first-class light horse will bring from $75 to $100. In this neighborhood, only light horses are raised, mostly blooded stock. In the Cleveland market, horses of 1,500 or 1,600 pounds' weight sell for from $125 to $150, or if extra heavy and well matched, $400 or $500 per span. The horse market is very dull. The large horses are shipped from the central part of the State.

Cuyahoga County, O. A. M. C.

Farmers are raising very few colts, compared with 10 years ago. Prices have fallen fully one-half in that time. I think that more colts will be raised in the next two or three years than in the past two or three. They will be raised to supply the farmer's own wants. Formerly, the heavier the horse, the better, for we sold to the shipper as soon as old enough to ship. But for the farm, a 1,200-pound horse is more suitable than an 1,800-pound one. The majority of the colts raised in the past three or four years in this county, are for drivers rather than draft purposes. I do not think that the horse breeders' prospects are very flattering. W. T. C.

Noble County, Ind.

CONDENSED CORRESPONDENCE.

MECOSTA CO., MICH.—From the most reliable reports, the potato crop will not be nearly so large as last year. The crop in the southern part of this State, is entirely destroyed on account of rain. Frosts have done considerable damage in the northern part of the State. If we have two or three weeks of good weather, the crop in this section will, probably, be 75 per cent of last year's crop. Most farmers will sell this fall, I think.

E. S. W.

WAYNE COUNTY, PA.—The hay crop was not one-fourth of last year's. The oat crop was fair—straw large, but the army worm and grasshoppers damaged it badly. Corn was never better. Rye was fair. Potatoes are a great deal better than last year, and prices are low. Apples are an immense crop, and the trees are breaking down with their load. There is only one silo in this neighborhood, and that has been built this summer. Rye that was sown in August, is looking well, and a large amount will be sown.

R. C. B.

DICKINSON COUNTY, KAN.—(Central.)—Times are extremely close here on account of the stringency in money matters, and are made more so on account of former failure of crops, and extreme low prices. The corn crop will be a good average, but the crop is not regular. There are some very good yields, while others are nearly a failure. The drought and extreme hot weather, with Chinch bugs in some fields, cut the late corn short. Wheat was about a half crop for the county — some very poor, while yields of 30 bushels per acre and over are reported by others. Oats were almost a total failure—rust; comparatively few will be thrashed. Potatoes are good. Apples are a light crop; there will be very few winter apples on account of insects Peaches are a fair crop. Hay was the heaviest for years. A large acreage of sorghum and Kaffir corn was sown for feed—hay—and the yield is immense. Sorghum is 10 to 12 feet high, and Kaffir corn five to seven, and over, standing like a good hemp patch. There will be an abundance of feed, both rough and grain, for stock. A large acreage of Kaffir corn is planted for the grain. It is much surer here than corn, as it stands the drought and hot winds much better. Yields of from 20 bushels per acre up to 75 bushels, and over, have been reported. It compares well with corn for stock feed. Wheat, 25 to 45 cents; corn (old), 13 to 14 cents; potatoes, 25 to 30 cents; apples, 25 to 50 cents; peaches, 20 cents to $1; prairie hay, $2 to $3; bran, $6; shorts, $8. A. M. E.

BROOME COUNTY, N. Y.—Oats yield 35 bushels per acre; the army worm did not injure them over five per cent. Apples are a large crop. Wheat yields 20 bushels per acre. Corn is a fair crop. Potatoes will yield from 50 to 75 bushels per acre; last year, our farmers had about 150 bushels per acre. Hay was about 25 per cent of a full crop. Oats and peas grow well here; they are excellent feed for cows, and should be sown every week from April 15 to June 15. Crimson clover is a failure here, as it winterkills. There are 10 silos in this vicinity, which have been filled during the last 10 days. There was a hard frost in the valleys September 2, which injured corn, potatoes and buckwheat. Wheat is worth 70 cents; oats, 25; potatoes, 35; butter, 16 to 20; hay, $15 per ton; dressed lambs, 9 to 10 cents per pound; hogs, 5; fresh cows, $35 per head; sheep, $2 to $3. It is quite dry in southern New York. The fairs have all been a decided success.

L. H. K.

POTATOES AND MILLET IN KANSAS.

The ground was well fertilized with yard manure, and subsoiled 16 inches deep with the Perine new-process plow, that breaks up, but does not throw out the subsoil—in the fall of 1895. It had gathered the entire rainfall of 21.65 inches since subsoiled, until the millet was sown, as none of the rainfall had run off. The soil is an alluvial mold, underlaid at 20 inches, with hard, yellow clay that retards the sinking of the water. The potatoes are planted the first week in April, and the millet seed was sown on June 3, when the potatoes were being laid by. The seed was sown with a hand seeder, and the crop laid by with the Planet Jr., 12-tooth cultivator and pulverizer.

Only .40 inch of rain fell for 17 days after sowing, and about one-third of the young millet plants dried up and died; but as I had sown the seed rather thickly, the stand was fair. In 90 days from sowing, the millet crop was ready to cut, and was of uncommon good quality, having short stems and extraordinarily long heads, many of which would measure a foot in length, and four to six inches in circumference, the largest I ever saw. The mean daily temperature for June was 72.6 degrees, or 1.7 degrees below normal. The rainfall was 2.80 inches, or 1.97 inches below the normal; .16 inches of the June rain came on the first, or two days before the sowing of the seed. July had a mean temperature of 78.03 degrees or .17 degrees below normal, while the rainfall was 4.39 inches, or .55 above the normal. The first three days of August were without rainfall, and had a mean temperature of 81 degrees. The crop of millet was cut August 3, and gave 2½ tons, per acre, of dry feed.

The millet sprouts and grows about two to three inches tall by the time the potato tops commence to die. No millet grows in the row of potatoes, but in the spaces between, and furnishes ample shade for the tubers during hot weather. The potatoes may be left in the ground till October in this climate, and the evaporation of moisture through the millet will prevent any rot of potatoes. Here is my estimate of the cost of growing 10 acres of potatoes and millet:

Plowing and subsoiling 10 acres	$15.00
Harrowing	.50
Rolling	.75
Seed (80 bushels at 40 cents)	32.00
Cutting seed by hand	4.00
Planting with Aspinwall planter	3.00
Two harrowings	1.00
One cultivation with weeder	.75
Cultivating crop	12.00
Digging crop	50 00
Millet seed used	1.25
Cutting millet	3.00
Stacking millet	6.00
Total cost	$129.25
25 tons millet at $3	75.00
Actual cost of 10 acres potatoes	$54.25

The actual yield of potatoes was 2,000 bushels, raised, sorted and stored at a net cost of 2.7125 cents per bushel or, say, three cents for short. Millet has a habit of improving the mechanical texture of the soil. CLARENCE J. NORTON.

Allen County, Kan.

HARVEST EXCURSIONS

In order to give every one an opportunity to see the grand crops in the Western States and enable the intending settler to secure a home, the Chicago, Milwaukee & St. Paul R'y has arranged to run a series of harvest excursions to South and North Dakota, and to other States in the West, Northwest and Southwest on the following dates: July 21, August 4 and 18, September 1, 15 and 29 and October 6 and 20, at the low rate of two dollars more than ONE FARE for the round trip. Tickets will be good for return on any Tuesday or Friday within twenty-one days from date of sale. For rates, time of trains and further details apply to any coupon ticket agent in the East or South, or address E. F. Richardson, General Agent Pass. Dept., 381 Broadway, New York.—*Adv.*

MARKETS.

BUTTER—NEW.

Creamery, Western, extras	15½@—
Western, firsts	13½@14½
Western, seconds	11½@12½
Western, thirds	11 @—
State, fancy	15 @15½
Common to prime	11 @14½
State dairy, half-firkin tubs, fancy	14 @—
Firsts	12 @13
Seconds	11 @11½
Welsh tubs, fancy	14 @—
Welsh tubs, firsts	13 @—
Welsh tubs, seconds	11 @—
Tubs, thirds	10 @—
Western imitation creamery, firsts	11 @—
Seconds	9 @10
Western dairy, firsts	10 @11
Seconds	8½@ 9½
Thirds	7½@ 8
Factory, fancy	10 @10½
Factory, firsts	9 @ 9½
Factory, seconds	8 @ 8½
Factory, thirds	7 @ 7½
Old butter	6 @ 8½

The records show this Threshing machine to be the easiest running and the greatest grain saver of all. Requires only about 1¾ miles travel per hour. For full description, and for the best Straw-preserving Rye-threshers, Clover-hullers, Fanning-mills, Feed-mills, Circular-saw Machines, Land-rollers and Dog-powers, send for **Fearless Catalogue.** For Fodder-cutters, Carriers and Drag-saw Machines, and for information showing "Why Ensilage Pays," send for **Ensilage Catalogue.** Address, MINARD HARDER, Cobleskill, N. Y.

CHEESE—NEW.

State full cream, large, colored, fancy	9 @—
Colored, good to choice	8½@ 9
Fair to good	8 @ 8½
Fancy white	9 @—
White, choice	8¾@ 8¾
Small, colored, fancy	9¼@—
Small, white, fancy	9 @—
Small, good to choice	8¼@ 8¾
Small, common to fair	7 @ 8
Light skims, choice	7 @ 7½
Part skims, good to prime	5 @ 6
Part skims, common to fair	3 @ 4
Full skims	1½@ 2

EGGS.

Near-by, new laid, fancy, selected, per doz	21 @ 22
State, fresh gathered, average best	18 @ 18½
Penn., country marks, average best	18 @ 18½
State and Penn., fair to good	17½@ 18
Western, northerly sections, fancy	17½@ —
Western, fair to good	16½@ 17
Western refrigerator, prime, early pkd.	15 @ —
Western refrigerator, fair to good	14 @ 14½
Western fair to good, per case	3 25 @4 00
Western dirties, per 30-doz case	3 00 @3 50
Western checks, per 30-doz case	2 10 @2 70

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 00@1 25
Maiden's Blush, per bbl	1 00@1 25
Alexander, per bbl	1 50@1 75
Cod'ling, per bbl	75@1 00
Culvert, per bbl	75@1 00
Gravenstein, per bbl	1 25@1 75
Fall Pippin, per bbl	1 00@1 25
Holland Pippin, per bbl	1 00@1 25
Ribston Pippin, per bbl	75@1 00
Oldenburg, per bbl	1 25@1 75
King, per bbl	1 25@1 62
Detroit Red per bbl	1 00@1 25
Nearby, open heads and common, per bbl	50@ 75
Crab, large, per bbl	25@1 25
Crab, small, per bbl	—@ —
Cranberries, Cape Cod, dark, per bbl	4 75@ —
Good color, per bbl	4 00@4 50
Light to medium, per bbl	3 00@3 75
Per crate	1 25@1 50
Jersey, per crate	1 12@1 25
Grapes, Up-River, Concord, per 25-lb carrier	40@ 50
Up-River, Pocklington, per 25-lb carrier	50@ 60
Up-River, Worden, per 25-lb carrier	40@ 50
Up-River, Niagara, per 25-lb carrier	50@ 75
Up-River, Delaware, per 25-lb carrier	75@ 85
West'n N. Y., Concord, per large basket	10@ 14
West'n N. Y., Delaware, per small bkt.	8@ 10
West'n N. Y. Niagara, per su all basket	8@ 10
Wine grapes, black in bulk, per lb	1¼@ 1½
Wine grapes, white, per lb	2@ —
Peaches, Western Maryland per carrier	75@2 00
Western Maryland, per crate	50@1 50
Western Maryland, per basket	30@1 00
Michigan per bushel basket	1 25@1 75
Plums, Green per 10-lb basket	40@ 60
Ordinary Blue, per basket	40@ 60
Prunes, per basket	50@ 65
Pears, Bartlett, per bbl	3 00@4 50
Bartlett, per keg	1 50@2 00
Clairgeau, per bbl	2 25@2 50
Du hess, per bbl	2 25@2 50
Anjou, per bbl	2 25@2 50
Seckel, per bbl	3 00@5 00
Seckel, per keg	1 25@2 00
Sheldon, per bbl	2 25@2 75
Swan's Orange, per bbl	2 25@2 50
Nearby cooking, per bbl	1 75@2 00

GAME.

Woodcock, average, per pair	75@1 00
Partridges, nearby, per pair	75@1 00
Western, per pair	40@ 75
Grouse Western, per pair	40@ 80
English snipe, choice, per doz	1 75@2 25
Plover, golden, choice, per doz	1 75@2 25
Grass, average, per doz	1 00@1 75
Reedbirds, per doz	25@ 40
Blackbirds, per doz	15@ 20
Rabbits, per pair	25@ 40
Venison, frozen, prime saddles, per lb	23@ 25

GRAIN.

Wheat	60 @69½
Rye	56 @43
Barley feeding	26 @28
Barley malting	36 @40
Buckwheat, silver	34 @39
Buckwheat, Japan	45 @—
Corn	25 @28
Oats	21 @29

HONEY.

State, white clover, comb, fancy, per lb	12½@13
Buckwheat, comb, per lb	8 @10
White clover, extracted, per lb	5 @ 5½
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	—@—
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @50

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½@ 10
Fair to good, per lb	9 @ 9½
Com. to med., per lb	7 @ 8½
Small, per lb	5 @ 6½
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 10 to 25 lbs., per lb	8 @ 10
40 to 60 lbs., per lb	6½@ 7
60 to 80 lbs., per lb	5¾@ 6¼
80 to 120 lbs, per lb	5¼@ 5¾
125 lbs and up, per lb	4 @ 5

POTATOES.

Long Island, in bulk, per bbl	1 00@1 25
Jersey, per sack	1 00@1 12
Jersey, per bbl	1 00@1 25
Sweets, Va., yellow, per bbl	85@1 00
Jersey, yellow, per d. h. bbl.	1 25@1 50
Vineland, per bbl	1 50@2 00

POULTRY—LIVE.

Spring chickens, per lb	7 @ 8
Fowls, local, per lb	8½@ 10
Western, per lb	8½@ 10
Southwestern, per lb	9 @ 9½
Southern, per lb	9 @ 9½
Roosters, old, per lb	5½@—
Turkeys, mixed, per lb	9 @—
Ducks, local, per pair	65 @ 75
Western, per pair	60 @ 70
Southern, per pair	40 @ 50
Geese, local, per pair	1 25 @1 50
Western, per pair	1 12 @1 37
Southern, per pair	75 @1 00
Pigeons, old, per pair	25 @—
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	12 @ 12½
Young, dry-picked, per lb	14 @—
Young, scalded, per lb	12 @ 13
Young, inferior, per lb	6 @ 10
Spring chickens, Phil., selected, per lb	15 @ 16
Philadelphia, poor to good, per lb	10 @ 12
Pennsylvania, per lb	12 @ 15
Western, dry-picked good to choice	10 @ 11
Western, dry-picked, inferior	6 @ 10
Western, scalded, choice, large	10½@—
Western, ordinary, per lb	7 @ 10
Fowls, Western, dry-picked, choice	10½@—
Scalded choice, per lb	10 @—
Old cocks, per lb	6 @—
Spring ducks, Eastern, per lb	13 @ 13½
Spring ducks, L. I., per lb	13 @ 13½
Spring ducks, Penn. and Va., per lb	10 @ 12
Spring ducks, Western, per lb	8 @ 10
Old ducks Western, per lb	7 @ 8
Spring geese, Eastern, per lb	13 @ 15
Squabs, tame, white, per doz	1 75 @2 00
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00@3 50
Red, per 100	3 00@4 00
Carrots, per bbl	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 50@3 50
Celery, fancy, large, per doz	40@ 60
Average, prime, per doz	20@ 30
Small, per doz	5@ 15
Cucumbers, per 100	75@1 00
Pickles, State and L. I., per 1,000	1 00@2 50
Pickles, Jersey, per 1,000	1 00@2 00
Egg plant, Jersey, per bbl	30@ 60
Green corn, large, per 100	60@ 75
Small to medium, per 100	30@ 50
Lettuce, Boston, per doz	20@ 30
Local, per bbl	75@—
Lima beans, Hackensack potato, per bag	1 50@2 00
Jersey flat, per bag	75@1 50
Onions, State yellow, per bbl	1 00@1 25
Eastern white, per bbl	1 75@2 25
Eastern red, per bbl	1 50@1 75
Eastern yellow, per bbl	1 25@1 50
Orange County white, per bag	1 00@2 00
Orange County yellow, per bag	50@1 00
Orange County, red, per bbl	25@1 50
Jersey and Long Island yellow, per bbl	1 25@—
Jersey and Long Island red, per bbl	1 25@1 50
Jersey and Long Island white, per bbl	1 50@2 25
Western yellow, per bbl	1 00@1 25
Pumpkins, per bbl	30@ 50
Red peppers, per bbl	75@1 25
Green peppers, Jersey, per bbl	40@ 75
Spinach per bbl	—@—
Squash, marrow, per bbl	60@ 75
Hubbard, per bbl	75@1 00
String beans, Baltimore, per basket	40@ 60
Western N. Y., per bag	—@—
Long Island, per bag	—@—
Tomatoes Jersey, fancy, per crate	30@ 40
Common per crate	15@ 25
Turnips, Jersey and L. I. Russia, per bbl	75@ —
Canada, per bbl	75@ 80

MILK AND CREAM.

The total daily supply has been 21,624 cans of milk 165 cans of condensed milk and 491 cans of cream The average price paid for the surplus on the platforms has been $1.15 a can of 40 quarts.

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Hyacinths, Tulips, Daffodils, Lilies, Etc., Etc.,

All of which have arrived in splendid condition.

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I wish to keep 10 breeding sows to raise two litters of pigs each per year. I wish to sell the pigs at 40 or 50 pounds weight, to stockmen. I think that I can make more profit this way than to feed them for the market. I live in northern Kansas, 100 miles west of the Missouri River, on good, flat creek-bottom land that does not overflow. I shall require two pastures. We have no grass and shall have to depend on rye, oats, barley, etc. What size should the pastures be, and what shall I grow in them? How shall I manage, feed and care for the sows and pigs? If successful, I shall increase the number each year. Are 10 enough to keep in one pasture? How many pigs can I average per sow? F. O. C.

Washington County, Kan.

Pastures Are the Staff of Life.

For pig raising, I would recommend sowing rye and wheat for fall and early spring pasture. For spring and summer pasture, sow oats, rye and cane mixed; this will furnish pasture the greater part of the year. I would sow a patch of cane early in the spring, to cut during July and August, when the pastures have dried up. Five acres in two pastures would be about the amount needed; use one while the other is growing. The fewer brood sows confined together, the better. If the sows are bred and kept up until they have become quiet, there will be no harm in having a number in one enclosure.

I would breed my sows to farrow in April and September; I find this to be the best time, as the spring pigs can be used for winter feeders, and the fall pigs will get a good start before winter. A slop made of mill feed is one of the best feeds for brood sows and growing pigs. Feed very little corn; oats are better for growth and health—corn will do to fatten. Feed the sows lightly for a few days after farrowing and increase their feed as the pigs get older. Have a place to feed the pigs away from the sows, as they will begin to want extra feed after they are about two weeks old. Keep the sows in good flesh while suckling their pigs. If one can get an average of six pigs it is good; with that number, 20 sows will make a good business. My advice is to get the best stock, as they are the cheapest. It doesn't pay to handle scrub stock. WARD A. BAILEY.

Calista, Kan.

An Old Time Breeder's Advice.

I use about 1½ to 2 acres to five sows; seed it to rye, and when pastured down in spring, plow it and seed to sorghum or sweet corn (I prefer sorghum for brood sows), and reseed to rye early in the fall. Ten sows are a plenty to run together, as the master animals are likely to injure the others at feeding time, and in cold weather, will crowd up too much at night to the injury of the coming offspring. I would prefer less rather than more. Brood sows should be kept in good flesh, and a thrifty condition without feeding heating food; feed bran, shorts or middlings made into a good slop, with a little cake meal and some whole corn to balance the ration. We feed in this manner, whether on pasture or not, increasing or diminishing the supply to suit the circumstances and conditions of green food. Handle them gently, so that they will not fear their attendant, they will come to the feeder to be petted, and he can care for them at farrowing time without trouble, and save the life of many a pig. Exercise they should have without stint, and fresh, clear water at all times.

If constipated at farrowing time, a tablespoonful of sulphur in the slop will give relief; cared for in this manner, I have no trouble with sows eating their pigs. A few days before farrowing, place the sow in a pen alone, and watch her that all goes well—I have had very few occasions when help was required. For the first day after the arrival of the litter, only pure water should be provided; the second, she is given a thin slop of wheat shorts or scalded bran, and fed sparingly until the pigs are able to take all the milk she will give. As the pigs grow older, the sow is fed all she will eat clean. By the time the pigs are three weeks old they will begin to look for extra rations; these should be furnished where the sow cannot get at them. Give a small quantity at first, preferably skim-milk; if that is not plenty, make a thin slop of scalded shorts, and flavor it with sweet skim-milk. Increase the quantity with the appetite, and see that each feed is eaten up clean with a relish. Soaked oats or oats and corn chop soaked and fed sweet, or nearly so, are an excellent food for growing pigs. Change around to break the monotony. After weaning time, feed the same as the sows before farrowing.

I have averaged, one year with another, about seven pigs to the sow, twice a year, that is, raised that many to weaning time. I had one sow that farrowed 18 pigs at three different times, and always from 12 to 13, and we seldom have less than six in a litter, usually 8 to 12. This is an outline of my experience, and there is no theory about it. I practice it, and I know by the results that it will work. I modify and change around as my judgment dictates. I have always bred the Berkshire and its crosses, believing that they make better and more prolific mothers than others, fatten well and are desirable for market. M. S. KOHL.

Furley, Kan.

Rye and Oats for Pasture.

I hardly know how to answer these questions, as F. O. C. says that he has no grass. In that case, I would use rye for fall and winter pasture; then sow oats and sorghum, mixed, which make very good pasture for a while. If he has land enough, and oats do well, part of the oats will seed and fall down, on which the hogs will thrive. I would think that he is far enough north to raise peas, of which hogs are very fond. As to the number of sows in a pasture, that depends on the size of the pasture. When they are not suckling pigs, more could run together, but when they are, not more than two should be together, as the pigs will rob each other, and not do well. At farrowing time, each sow should be by herself, with a good house or shed and lot to run in. As to the number of pigs per sow, I think five a fair average, and six very good. I breed about 30 sows, and my average doesn't run over six pigs raised.

Fort Scott, Kan. B. R. ADAMSON.

Some Pasture Is Needed.

F. O. C. should have sowed, at least, four small pastures, so as to have a change in the absence of permanent pasture. I should sow rye in the fall for fall, winter and early spring pastures, for green feed is essential for health and rapid growth of swine. He ought, also, to have small yards in which to inclose his swine during wet weather, so that they will not root up and trample the pasture, and to give them a change. He will, also, need the small yards to keep the smaller ones from the older and larger ones, as the smaller ones need more and better attention. The sows should be fed a soft, laxative food, at least two weeks before farrowing time, so that their bowels and systems will be in a healthy, cool condition. The sows should have a warm, dry place to farrow, if possible, a kind attendant, and nothing to eat the first day except plenty of cool water; the next day, a very light slop of shipstuff or shorts. This ration could be increased gradually until the pigs are 10 days old, when the sow could be full fed with soaked corn and slop. Do not feed too heavily the first two weeks. If pigs scour, there is always a reason for it. Either the bed is wet or damp, and should be removed at once, and dry bedding put in, as wet bedding will scour them; or overfed sows on too rich food will, also, cause it. If scours appear, they should be checked as soon as possible, as the pig will grow backward instead of forward.

As soon as the little fellows are two or three weeks old, they should have a small pen near their mother's feeding quarters, where they can be fed in troughs or on clean floors, by themselves. Their feed should consist of slop of shipstuff and water, or sweet milk is better if it can be had After they have begun to eat a few days, give them a little shelled, soaked corn. Do not let the feed sour, as it will give them the scours. The feed fed to the sows while suckling, should always be sweet and never allowed to sour in the least. To be successful, the pigs should grow every day, and never be allowed to go back or stand still. After the pigs are weaned, the sow's rations should be shortened a great deal.

If possible, F. O. C. should have, at least, a part of his pasture down in Alfalfa, as it makes the best pasture for stock of all kinds, especially swine. Six to eight sows are enough for one pasture; where too many sows run together, the older pigs steal from the weaker ones. From seven to nine are a good average. Above all things, use nothing but the purebred boars. R. S COOK

Pres. Kan. Swine Breeders' Association

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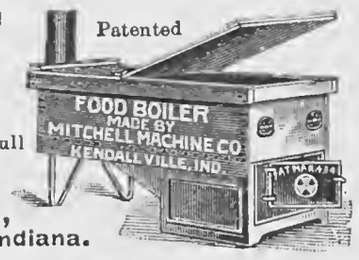

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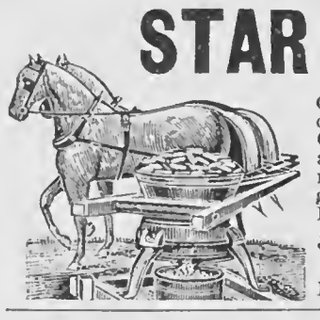

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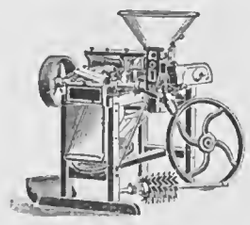

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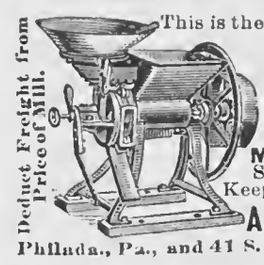

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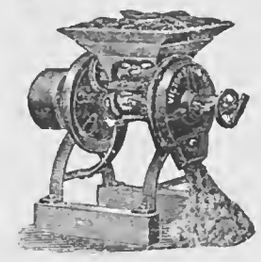

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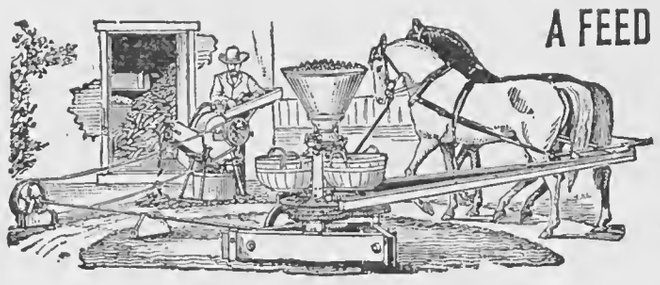

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A GOOD INCUBATOR.

HOW TO CHOOSE AND BUY IT.

What Is It For?

The incubation of an egg is a vital process, and, like any vital process, requires heat for its support. The heat must be uniform. Any attempt to conduct it artificially must not depart from Nature's laws. The hen furnishes the heat necessary, but nothing more. Hatching under hens does very well where only a few chicks are desired, but is too slow and, owing to the erratic methods of many hens, uncertain a method. Where large numbers are desired, hens are out of the question. With an incubator, you select your own time for setting. It neither breaks the eggs, breeds lice, nor tramples the chicks to death, and while it is at work, you can keep the hen at work producing eggs, instead of allowing her to waste three months in hatching and rearing a brood. Artificial incubation is as far ahead of natural as machine is ahead of hand work.

The profits in artificial poultry raising far exceed those in any other branch of farm industry. Many have made it very profitable, others have failed, while some are anxious to venture, but having heard of the failures, are afraid. It is, therefore, important that prospective buyers of incubators should be warned of the rocks on which they might be wrecked. I have no other interests to serve, and shall feel amply repaid if I can, by what follows, enable the reader to make the right selection, as a wrong one means a total loss of money, and much valuable time and patience.

The Usual Way of Selecting.

To the average buyer, choosing an incubator would seem to be a very simple matter. After studying the catalogues of various makers, and reading the flattering testimonials, it would appear that one is as good as another, and he could make no mistake were he to choose either. Correspondence with the maker brings a reply in which the merits of that particular incubator are further dilated upon, and contains a guarantee reading like this:

> We guarantee our machine to hatch ninety per cent of all fresh fertile eggs, and we guarantee our regulator to be the best made and not to vary more than a degree and a half throughout the entire hatch.

You believe the makers financially responsible, and, as a rule, they are, and you order a machine, relying on their guarantee. You fill it with fresh, fertile eggs, operate it as directed by the makers, and hatch, perhaps, 25 per cent. You make several more attempts, and find that you cannot exceed this. You find the so-called regulator a delusion, and that you must do all the regulating yourself with the lamp. You become disgusted, and, relying on the guarantee made you, write them your experience, and state that you purpose returning the machine, and wish your money refunded. They will reply to you like this:

> The trouble lies either with the eggs or the operator, for, if the eggs are all right, and it is operated correctly, it is sure to hatch as we guarantee. Should you return it, we must refuse to receive it.

What can you do? If you return it, they will refuse to receive it. The railroad company will bring it back and notify you to this effect, and ask you to pay freight charges both ways, and if you fail to do this, will sell it for the charges. Your loss of time and money is of no consequence to them. You become discouraged, perhaps disgusted. Others hear of your misfortune, and are led to condemn incubators in general.

What Are the Facts?

Now the facts are that, out of 40 different incubators on the market, you can count the only good ones on the fingers of one hand. The reason that these are successful is that they were the outgrowth of a necessity. The makers, in each instance, have labored for years with the various machines obtainable, with indifferent results, and finally devised machines that embodied such laws in their operation as they had found to govern successful work. They built double cases in such a way as to provide nearly perfect insulation of the egg chamber from outer atmospheric changes and conditions. They devised more sensitive and accurate regulators to maintain, as nearly as possible, an exact degree of heat in the egg chamber, and provided for the necessary supply of moisture to be equally distributed to *all parts* of it. But, most important of all, they provided for the maintenance of a *uniform degree of heat in all parts of the egg chamber*, by the proper conveying of the heat current through the heating or radiating body. These incubators are made to hatch, and do hatch the highest attainable percentage, time after time, and not merely occasionally, as if by accident.

I have in mind two makers who were forced to build machines for their own use in self-defense. They knew that better results were possible than they were able to secure with any machine yet made. They had spent many years in artificial poultry raising, but were handicapped by the unsatisfactory working of the incubators then made. By careful study and much experimenting, they arrived at definite conclusions, building their machines to conform to such requirements as they found necessary, and they have been successful. Since then, scientists have taken up the subject of incubation for the purpose of seeking definite principles, and the result has been to verify the theories and methods of these men in the most important points. The care with which they had worked from cause to effect, resulted in, practically, a correct solution of the problem, although they were unable to formulate the exact principles that governed it.

What To Look For.

In choosing an incubator, keep in mind the following points: Beware of makers who guarantee any certain per cent of hatch; only those who are making incubators to sell, will do this. The buyer might fill a machine with unhatchable eggs, or through carelessness or inattention, ruin good eggs, and the maker, if responsible, would be undertaking more than he could or should do to take back and refund on every machine that failed entirely through the fault of the operator. But the makers of these catch-penny affairs will very promptly assign this as the cause of failure, and though it be not the case, you will find it a difficult matter to prove the contrary.

Never buy a single-case machine, or a double-case that is packed with sawdust or cork chips. These absorb and retain moisture which affects the temperature. A dead-air space, properly constructed, is the best insulation. The temperature in some makes is regulated by a series of levers operated by the thermostat in the egg chamber acting on a sliding collar on the wick tube, and called a lamp-trip; this, at times, causes the lamp to smoke. But some of them would answer the purpose fairly well were it not that the crust that forms on the burnt wick attaching itself to the wick and tube, causes these collars to stick, hence they are uncertain. Furthermore, the thermostat can not be loaded with any combination of levers to work; it is not powerful enough, and there is too much lost motion to make it accurate. There should be some provision for cleaning out the heat flues without taking the machine apart, as soot will accumulate in time, and it must be removed.

There must be careful protection of the woodwork from fire, by asbestos around the heat flue, and over the tank. The entire top of the tank should be covered with it, and the insulation of the top should include a dead-air space, and no less than three thicknesses of heavy resin paper or felt, and two or more of wood.

The regulator should be a thermostatic bar made of such length and material as will be the most sensitive, and multiply the greatest number of times on the escape damper. It should act on it direct, and not through a series of levers which cause too much friction. The best of them will stand but little loading. They are made of various combinations of material—brass, steel, wood, rubber, and aluminium. Brass has, heretofore, been largely used on account of its expansibility, but of late, aluminium has been found far preferable, its expansibility being double that of brass under like thermal conditions. Being more sensitive, it is more prompt in its action, and regulates the flow of heat through the radiator with much greater precision, confining its rise and fall to narrower limits. Rubber dies or loses its power in about one season, otherwise it would answer fairly well.

Beware of regulators whose action is dependent on the expansion of liquids such as alcohol or mercury; they are absolutely worthless under all ordinary conditions. These liquids are very susceptible to thermal changes, and any change in the outer atmosphere, either thermal or barometric, affects them, and opens or closes the damper, forcing the heat in the egg chamber up or down, and ruining the hatch. They are the most unreliable of all regulators made, all claims and guarantees of the makers to the contrary notwithstanding. I have had them raise the heat in the egg chamber eight degrees during a storm while the outer fall in temperature was 25 degrees.

Some Hints About Hatching.

In order to do successful hatching, the temperature of the egg chamber must not only remain constant, but be *equal in all parts of it*, throughout the entire hatch. Other defects can be easily overcome, a poor regulator can be replaced by a good one; ventilation and moisture are under the control of the operator, but this defect is one of principle and construction, and nothing short of rebuilding it will remedy it.

You will notice that the makers of these cheap egg destroyers say little or nothing on this point, and are very careful not to guarantee the very thing you must have above all others. If they did, they could not attribute its failure to the operator or the eggs. Three or four thermometers, in different parts of the egg tray, would soon establish the fact, and it would be susceptible of proof.

A good incubator, like anything else that is made for service, costs more than a worthless one. Fine catalogues, with fancy lithographic covers, signify nothing as to the merits of the machines they represent. When you have made your choice, don't expect too much from the best machine, the first hatch or two. Follow the maker's instructions minutely, and they may exceed your expectations. But you will have some things to learn. Ventilation and moisture are governed, to some extent, in their application, by locality. A few trials will determine these points, and then you will have no trouble.

Kansas City, Mo. H. E. MOSS.

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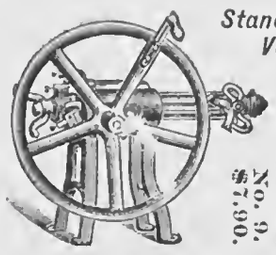

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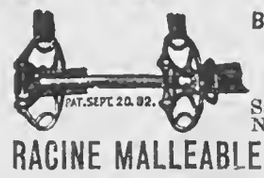

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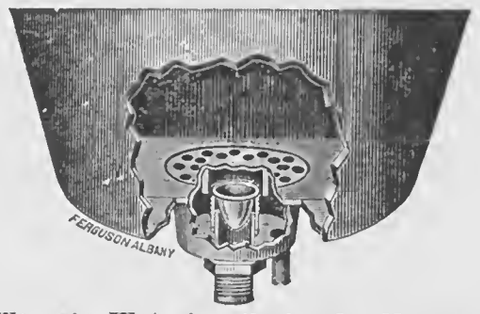

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There's a poet with a lyre,
And a liar digging balt.

The ancient mule is braying
As the plowshare turns the clods,
And through the fields with cattle straying
Comes a man with lightning rods.
—*Atlanta Constitution.*

JOHNNY: "I think I know why corn grows on a cob instead of in a pod" Papa: "Why?" Johnny: "Because a pod wouldn't hold so much corn."—*Puck.*

BY Actual Count.—"Mamma, I saw a dog to-day that had only three legs." 'Weren't you awfully sorry for him?" "No'm; he had one more leg than I had."—*Tit-Bits.*

"THESE bicycles are hurting business dreadfully," said the liveryman. "Business is not the only thing they are hurting," replied Wheeler, as he limped over and took a chair.—*Yonkers Statesman.*

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A CERTAIN minister while preaching said that every blade of grass was a sermon. The next day he was amusing himself by mowing his lawn, when a parishioner said, "That's right, doctor; cut your sermons short."—*Harper's Bazar.*

THE mother asked little Dot to go into the next room and see if the clock was running, for she had not heard it strike all the afternoon. Dot came running back, put her curly head into the door, and exclaimed: "Why, no, mamma, de clock ain't a-runnin'. It is des stannin' still and a-waggin' its tail."—*Ladies' Home Companion.*

MAUD: "Oh, Ethel, and what did you say to him when he proposed to you? Did you say what you said you were going to the other day? That was a noble speech, just suited to crush the boldest man. And did he slink away like a whipped dog?" Ethel: "Well, not exactly. You see, I did not say just that. I—I—well—er—er—well, you see, I said, yes."—*Harper's Bazar.*

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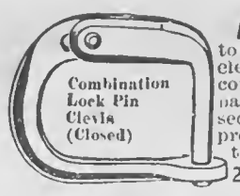

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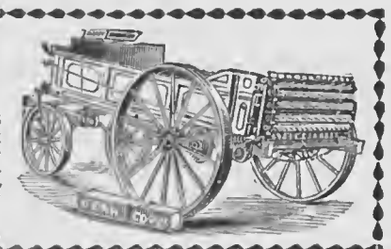

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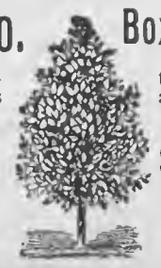

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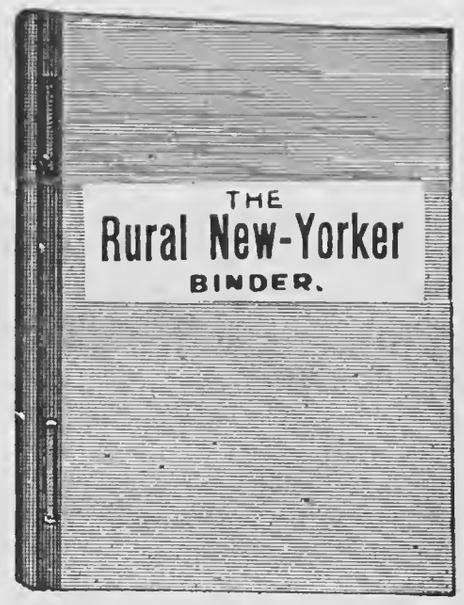

THE RURAL NEW-YORKER, NEW YORK.

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME.

PHOTO ENG.CO.N.Y

VOL. LV. No. 2437. NEW YORK, OCTOBER 10, 1896. $1.00 PER YEAR.

ONIONS IN THE STRAWBERRY BED.

THE STRONG VEGETABLE HELPS OUT.

All Done With Fertilizers.

The field of which Fig. 209 gives a partial view, contains 3½ acres gently sloping to the west, and, in the main, quite level and free from stones. The soil of about two-thirds of the piece is a black, sandy loam, with yellow clay subsoil mixed with quicksand streaks; the remainder is of stiff clay, which is quite difficult to handle on account of crusting over and baking. We had some difficulty here in getting both the onions and strawberry plants to start. Previous crops have been onions, cabbage and early potatoes. Bradley's fertilizers of different brands have been used in the past, as well as with this crop.

During the last week in April, the soil was prepared by carefully plowing about nine inches deep, with the National Reversible sulky plow, which leaves the ground level and without dead furrows. This was followed by the Meeker harrow which prepared the land as nicely as could be done by the most expert raker. It was then rolled with a hand roller. A garden line was then drawn across one end, over which the roller was run, which made a sharply defined guide line for the marker which followed This marker was made of a strip of tough, springy ash ⅜-inch by 8 inches wide, and 10 feet long, on the upper side of which two handles like thills and a crosshead were attached; on the under side three-cornered pieces of wood were nailed crosswise like runners, as shown at Fig. 210. The distance from *a* to *c* is 10 feet; from *a* to *c*, 5 feet; from *a* to *b*, 30 inches; from *b* to *1* and *2* each, 12 inches; from *d* to *3* and *4*, the same distance. The marks made by *a*, *c* and *e* were for strawberry rows, while the marks of *b*, *1* and *2* and *d*, 3 and *4* were for onion rows, thus throwing the field into rows of berries five feet apart, with three rows of onions between each two rows of berries, and making the onion rows 12 inches from each other and 18 inches from the berries.

The sowing was done with a Planet Jr. hill dropper, with fertilizer attachment, sowing about five pounds of seed and 300 pounds of complete vegetable fertilizer per acre. The first of the field was sown with the fertilizer below the seed, the rest above, but all covered with earth. No difference was noticed. A one-horse corn planter with fertilizer attachment was used to distribute the fertilizer in the strawberry rows. About 300 pounds per acre of fertilizer of the same grade and make were used. Upon the presser wheel of the corn planter, spuds were bolted 27 inches apart, which made marks in the row by the aid of which the men planting were able to set with great regularity at that distance. Care was taken to have the roots separated, set straight down, and the soil well packed.

The variety of onions used was a very fine selection of Globe Yellow Danvers, which I have been perfecting for several years. Of strawberries we set chiefly Marshall (which are shown upon the left of the cut), while the rest of the field are Brandywine and Wm. Belt. The after culture, until about July 15, was given by running a Z. Breed hand weeder over both onions and berries every time the least crust formed, and two light hand weedings among the onions. Up to that date, the weather was very dry, and had we not kept an earth mulch on continuously, a failure would have resulted.

About the date named, we began "bedding in" runners, which consisted in arranging these runners as shown at Fig. 211, by which it will be readily seen that each runner has plenty of room to grow, and does not cross or interfere with any other, making the after-hoeing much easier. It also runs the last plants of the season (tips) out into the path where they are harmless. We aim to leave the plants from six to eight inches apart each way, knowing that too many plants are just as bad as so many weeds. We also aim to stop the runners at the edge of the outside onion rows, which makes the rows three feet wide, with two-foot paths between. In bedding, we use a homemade tool like a large putty knife, with which we slightly raise the ground sidewise, slip the plant in, and press the earth back on it. Thus each plant is set about one inch deeper than it would have naturally rooted, which makes it more hardy and productive. As all plants do not grow and run equally well, and at the same time, we were obliged to go over the bed several times. Great care was taken to prevent a crust forming, by using onion hoes among the young plants which hoes, being narrow and having one end forked, could be worked in among the runners. The latter part of August, at which time the photograph was taken, we began pulling the onion crop. In pulling, we threw the three rows of onions between the two rows of berries over into and with the onions between the next two rows of berries, thus leaving one-half the rows clear to be worked with the horse as shown in Fig. 209. After the onions had dried for about a week, they were carried out in crates and topped on a piece of land formerly occupied by a crop of early potatoes. The remaining rows were then cultivated. The yield was 1,060 bushels of large onions, not counting seconds. While this yield was satisfactory, about 750 bushels per acre for the land actually used, it might have been much larger had the seed not failed to grow in some parts of the clay. On the whole, it has been a very satisfactory crop.

ONIONS AND STRAWBERRY PLANTS GROWING IN THE SAME FIELD. FIG. 209.

As to the probable yield of this field of berries, nothing with certainty can be said, except that a long winter, a cold spring, and all the many ills that the strawberry is heir to, are before them, but they are now in a fair way to do a great battle for themselves. If they do as well as the bed just beside them, from which the plants (Marshall) were taken last spring, did during the past fruiting season, we shall be abundantly rewarded. Those mentioned yielded at

the rate of 1,000 quarts per acre, some quarts having but from 14 to 16 berries per quart. The six quarts of Marshall exhibited by me at the Oswego County Strawberry Show this season were grown upon this bed, and were said to have been the largest ever grown in Oswego County. F. G. TICE.

Oswego County, N Y.

A WORD ON THE HORSE QUESTION.

I have read carefully the correspondence in regard to horse breeding in THE R. N.-Y. of September 26. I am a general farmer, and grow fruit, grain and stock. I endeavor to have my horses a source of revenue, as much as my hogs or cattle, and think that the breeders have brought much of this depression upon themselves, as the farmers have bred every mare that would breed, regardless of conformation or defects, to an entire horse with a pedigree, anticipating a Maud S, Sunol or Fantasy. It is not my intention to depreciate breeding, for I am a firm believer in any well-bred animal, providing he has a stylish conformation, and reproduces it. It has always been my observation that style will outsell speed, generally speaking, and style combined with strong conformation, will draw a plow, or wheat to market, while speed is, usually, in the box stall (many times for repairs). In other words, a farmer should breed something he can work and drive light besides.

When the season comes for fitting the horse for market, put a $2 stable blanket on him, trim up his ears, cut his whiskers, wash out his tail occasionally, and make him presentable or, more appropriately, marketable. You don't have to tell the horse buyer, "He never had a blanket on him," or "He was running to the straw stack yesterday," or "He will make a beautiful horse when in shape." But put him in shape, have him led out as if alive, and look at the shingles rather than the foundation of the barn; hitch him up and show him for action and style, and drive him no faster than he can go, and show a clean, smooth gait. "Three-minute" horses are very common in the country, if information is reliable; but that is too fast for an ordinary carriage horse to show well, unless one know that he can go that fast, and go smooth. First impressions go a great ways in the mind of the prospective buyer, so have him look well at the halter.

I usually, during the winter, shape up a few horses for market, work them on the farm during the summer, and have them well broken to show if necessary. A pair of this kind, I sold, last spring; they took the first prize in the Victoria class, in the Chicago horse show in June. One was a grade Percheron, the other by a son of Lakeland Abdallah. They were sold for a fancy price, and have size and style.

The horse question to the farmer, at present, is to get either a stylish coacher or extra heavy draught horse. Village Farm, Palo Alto, Woodburn, etc., will furnish the speed. We must begin breeding; the supply is short, and always will be, for a high-class carriage horse, and the farmers can afford to raise that kind, but trotters are not farmers' horses. Be as choice of the selection of the mare as of the stallion. Have the individual horse in mind first, and the pedigree last. Breed to a stallion that reproduces himself, and have a mare that "always raises a good colt."

Watervliet, Mich. R. H. S.

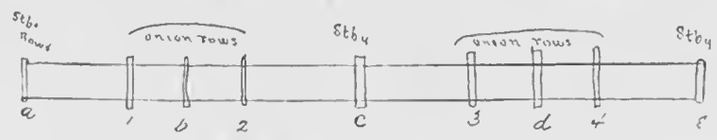
BUTTERMAKING ON THE FARM.

THE MANAGEMENT OF THE HERD.

Strictly speaking, the dairy farmer has just this use for a cow, viz., as a machine for converting the different cattle foods into butter fat. He is a manufacturer, and it is a law of economics, that the production of a manufactured article is better rewarded than is the production of crude, raw material, and that this is true just in that proportion to which time and skill and training enter into the manufacture. Take an example of what are, perhaps, two of the most primitive types of agriculture, wool-growing and wheat-raising. These can both be done by men of low intelligence. Wheat is sold in the world's markets by the serf of Russia, by the ryot of India, by the fellah of Egypt, by the Spanish half-breed of Argentina, and by the uncivilized black (under white supervision) of Australia, while a native Kaffir or Australian tends some thousand sheep for less per day than an American mechanic would receive per hour. Both wool and wheat are about as near raw material as it is possible to get on the farm, and both (barring exceptions) are raised only at a loss in the eastern United States. But when there comes a trained, skilled man, and manufactures this grain into choice butter, or grows an Easter lamb at 10 cents per pound, then the half-civilized man cuts no figure, and there still remains some profit in agriculture.

And so we do not keep cows for their society, or from any sentimental reasons whatever, but because they are the only machines the world has yet discovered, for producing real butter fat. The dairy barn where we shall shelter our machines is just as much a butter factory as the place where the separator and churn stand. We feed into the mangers (the hoppers) of our machines, rough, crude materials worth from $6 to $12 per ton, and after many manipulations, we carry to the express or freight office, a product worth from $300 to $600 per ton. I often think of this when I drive down on a light buckboard wagon with the equivalent of two or three tons of hay and grain, packed in pound prints.

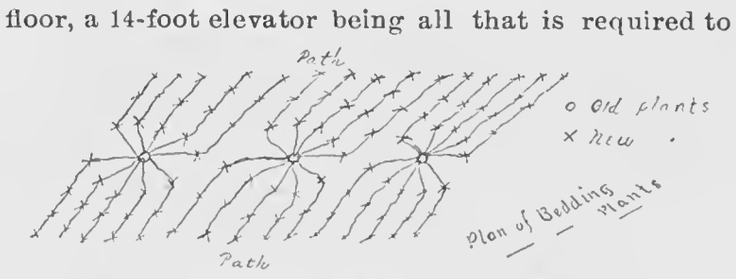
Experience has shown how other classes of factories should be built, and I think that we are coming to have a pretty generally accepted type of cow stable. It is the half basement of a building from 32 to 36



A HOMEMADE MARKER. FIG. 210.

feet wide and as long as may be necessary to accommodate the desired number of animals. This width allows for two rows of cows facing the outside, with a feeding alley in front of each row, and a driveway through the center for removing the manure. The stable should be flooded with sunlight through numerous windows, and be well ventilated. This matter of ventilation is, perhaps, the most difficult problem about the whole design. Probably what we may call the typical dairy barn should take the form of a cross, in the ground plan, as shown at Fig. 212.

Our own barn, built last year, has precisely these essential features, and I see no reason for changing them were we to rebuild. This style of barn can be either two or three stories high (in our own case, three). Grain can then be spouted from the wagons to bins on the second floor, and thence to the lower floor as needed. The silo can be filled from the third floor, a 14-foot elevator being all that is required to

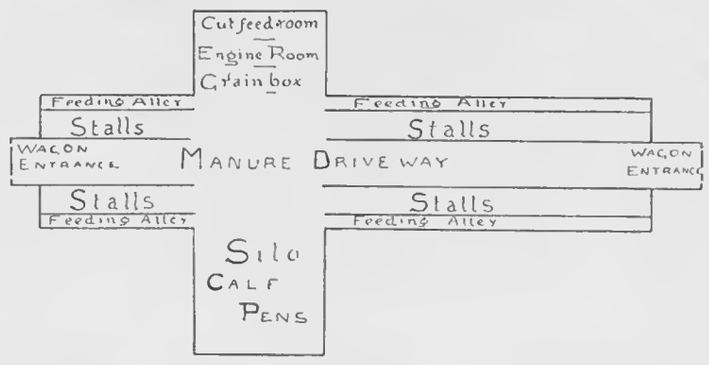


PLAN FOR ROOTING STRAWBERRY PLANTS. FIG. 211.

fill a 30-foot silo. The shortest arm of the cross is the main entrance and bridge house, which contains the granary on the second floor, and the cut-feed room, grain box, and engine room beneath the granary.

The longer arm of the cross piece is a hay mow above, sheep on the second story, and calf pens and horse stalls in the basement beneath. I consider that, with modifications to meet individual conditions or fancies, this may be, perhaps, the best general shape for a dairy barn.

Probably, a cow should rest from her labors for from six to eight weeks each year. Most of them will insist upon such an annual vacation, but many cows of pronounced milking type, will, if not dried up, milk "from calf to calf." Some good cow keepers advise this practice, but I believe that the oldtime idea is best. When a cow is milked continuously, the amount given after calving is small, and never reaches the "flush" of a cow which has gone dry a



THE PLAN FOR A DAIRY BARN. FIG. 212.

few weeks, and recuperated and increased her milk-giving or mammary apparatus. In other words, the cow needs time to "make up bag."

Probably there is no longer much question but we want our cows to "close for repairs" in July and August. Between the usual drought, flies, short feed and rush of other farm work, they are the hardest months in the year to make milk. Some recent Danish experiments show that cows freshening in the fall, gave 25 per cent more milk during the next milking period, than those coming fresh in the spring. The cow that calves in the fall, just begins to fall off in milk when the May pasture comes, and the wonderful stimulating effect of this best of all rations, makes her milk pretty well for six weeks more. On the other hand, the spring cow which begins to decline in November, simply goes right on declining.

Between cold storage and the rush into winter dairying, the old-time difference between the winter and summer price of butter is growing less marked; but that does not alter the fact that the most successful dairymen are those who have been doing their largest business when the summer pasture fields were deep under the snow banks. JARED VAN WAGENEN JR.

A TALK ABOUT TUB SILOS.

Since writing my recent notes about tub silos, I have visited a farmer near Batavia, N. Y., who has a large "tub" built outside the barn, with no protection save its round roof. "How long have you been using your tub silo?" I asked.

"I am now filling it for the third season, and have been furnishing milk to village patrons during that time, which has, evidently, given good satisfaction."

"While the tub silo may, under ordinary circumstances, preserve your ensilage in a perfect manner, is it not liable to give you trouble on account of freezing during periods of extreme cold?"

"That question is often asked, and I will admit that, during the past winter, when for several days the mercury dropped to 20 and 25 degrees below zero, the ensilage was found slightly frozen near the outside; not sufficiently, however, to cause any perceptible loss, as it was all utilized as food, apparently with no injurious results. But were I to build another silo, it would be on the same principle, only I would first line the inside with tarred paper, and then, for a second lining, use ⅞-inch matched pine or good hemlock, nailing the uprights to horizontal strips about one-half inch in thickness. Thus I would secure an air chamber which, I think, would effectually prevent freezing in the coldest weather. But we don't often look for as cold weather as that experienced last winter, in this latitude."

"Is this the only tub silo in this vicinity?"

"No, there are several others, and all are giving excellent satisfaction. Some farmers locate them inside their barns, utilizing a portion of the bay, if it is one of the ordinary grain barns. Silos, thus protected with the usual single outside covering of the barn, with an inch or ⅞-inch thickness of pine or hemlock boards, are proving a great success."

In a subsequent conversation with the man in charge of the engine, it was learned that cutting ensilage and filling silos is a business he has followed for several seasons.

"What have you learned, during that time, of the relative merits of the tub silo, as compared with the square ones now in general use?"

"It is only necessary for me to state that I have filled a great many round or 'tub' silos, some of them for years in succession, and have never heard any dissatisfaction. They are, undoubtedly, all right."

New York. IRVING D. COOK.

HORSE SHOE FARM NOTES.

EXPERIMENTS IN GRASS SEEDING.

Last season, thousands of dollars were paid out for grass seed for which not a spire of grass can be shown. Any method which will insure a good seeding, is invaluable. A failure to secure a catch not only breaks up the rotation and the owner's plans, but makes the risk of a second failure much greater by taking a second crop from the land, and what is still more detrimental, clears the land of humus.

I have been much interested in the account of Mr. Clark's hay in a recent RURAL About 14 years ago, I plowed a stony, steep, thin-soiled, hillside in the fall. It never gave a quarter of a crop of anything in those days. In the spring, it was plowed again. In August, it was covered with daisies and weeds of all kinds which were then plowed under. I noticed that the soil had turned darker, seemed moister and finer in texture, in fact, looked as though something might grow there. After several harrowings, I sowed one-half bushel of Timothy seed, and harrowed it in with a peg-tooth harrow. The Timothy came up quickly and grew finely; but my neighbors joked considerably about the smallness of my wheat, not knowing that I did not sow any. Late the next season, I cut more hay from that piece than I ever had before. The field has always given better crops, since the trial, and it was a paying investment to give up a year's use of the land. No fertilizer was used. We can not all cut such grass as Mr. Clark did, on account of the location of our fields, and would be better paid to sow wheat and get a crop while waiting for the grass to grow.

Since adopting the plan of sowing both clover and Timothy at the same time with the wheat, I have had very good success. As grass is the main object, I give a light seeding of wheat and a heavy one of grass—not over two bushels of wheat and 10 quarts of a mixture consisting of six quarts of Timothy and four quarts of clover. It is not usual to sow clover in the fall for fear of winterkilling, but I obtain better results from this seeding than from a half bushel sown in spring. After repeated trials, I now sow all grass seed ahead of the drill teeth or, if sown

with the seeder, cover with a smoothing harrow. Wherever a head of Timothy has gone to seed and shelled out, one will find young Timothy growing finely; but it's early in the season, and does not seem to make any difference, then, whether it is covered or not; it all grows. I do not think that one would ever fail if he sowed his seed at the same time Nature does. If sown too late, the grass does not always get root enough to survive cold and the heaving of the soil. Self-sown Timothy will sprout and grow on the poorest soil and roughest spots, but fails later to make a full crop, because its seed bed is not in proper condition.

The success of Mr. Clark is not due to the fertilizer applied, but to the fact that the soil is filled so that plants find a congenial (perhaps comfortable would appeal more strongly) home. Most farmers fit ground so that tools will work better, or because their grandfathers did, without thinking what kind of a home they are making for the future plants. With the amount of cultivation given by Mr. Clark, a finely divided soil is obtained, which will hold moisture, favors decomposition, makes plant food available, enables the roots to penetrate long distances making the danger of heaving less, and makes it possible for every seed to germinate. It would seem a good deal of trouble, but if we should fit a few acres in this way each year, we should soon have more profitable farms. Such articles are more valuable because of the unrest of mind and study they occasion, than from the knowledge that some unusually favored location has produced yields so far above the average that half those who read do not believe. Among my acquaintances, those who do not believe are in the majority, and not one of them ever made an honest effort to obtain a large yield; but they base their estimates of yields on what they have seen Nature produce unaided by man. The few who have intelligently sought to get above the average, admit that they have often been astonished and encouraged by their own efforts, always receiving a profit from thorough cultivation, and that their idea of the limit of production is set higher up after every trial. The farm without grass sod to plow under for humus will deteriorate, and the idea of grass being a secondary or catch crop will, in time, have to be abandoned.

C. E. CHAPMAN.

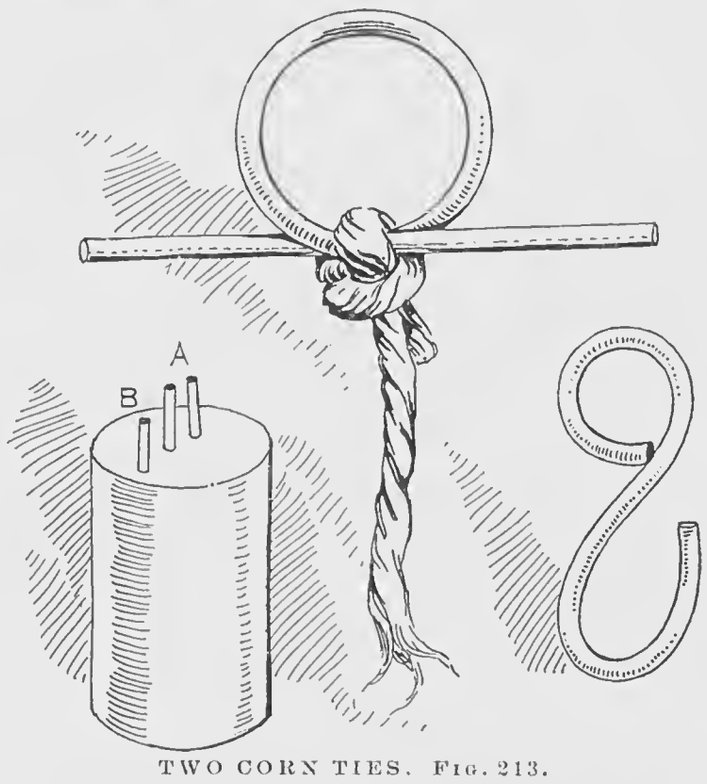
WHAT THEY SAY.

TWO MORE CORN TIES.—If F. H., on page 624, would add one piece to his arrangement for making corn ties, he could make the whole hook at one move The following is the method I use: Into a large block of hard wood I drive three 20-penny wire nails after removing the heads, as shown at Fig. 213. Then insert one end of a piece of wire between the two spikes at A, which should be just far enough apart to admit the wire. Bend the wire around the outside one at A, and then continue through between the center spike and B, then around B and towards the center spike again. Then cut it off at that point, and we have a hook like the one shown, which will be very nearly like those of F. H. The outside spikes should lean slightly towards the center one, so as to let the hook come off easily. The one at B need not stick up above the block more than three-fourths of an inch, while the others may be an inch high or more.

Fulton, Mich. R. R. C.

A Canadian Tie.—What do you think of the corn tie shown at Fig. 213? To make it, set a short length of iron rod about three-fourths of an inch in diameter into a block of wood, or wherever convenient, so that it will be firmly fixed with, say, three inches projecting free. Alongside, with just enough space between to allow a No. 10 steel wire to pass freely, drive in a stout nail all but about half an inch. With this apparatus, bend a length of No. 10 steel wire into a succession of circles or loops, three inches apart, and then, with the aid of a cold chisel, cut through the center of each three-inch space, and divide it into as many sections as there are circles; each section consisting of a circle with a 1½-inch arm extending from each side in a straight line. The cord is to be knotted around the circumference of the circle, where the wire intersects. In applying it around a shock of corn, it is drawn tightly and the loose end of the cord is then passed around the arms in a figure 8, and tucked under the band. It is effective as well as cheap, and its manufacture, moreover, may occupy an otherwise idle hour with interest and satisfaction. The cord I purpose to use in harvesting my own piece of corn, is tarred. W. O. E.

MORE ABOUT APPLE JELLY.—In my article on page 576, on How to Make Cider Jelly, I thought that I had made everything plain; but from the way questions are pouring in, it is evident that more light is wanted. Our press has a capacity of 75 bushels of apples; the pomace that the 75 bushels of apples produce, after all the cider is pressed out, is thrown into a vat of suitable dimensions. With a hoe, we break up all lumps, about 125 gallons of hot water are poured over it, and left to soak about one hour. Some object to so much water, but when we bear in mind that a bushel of apples contains all the way from three to five gallons of cider, it will readily be seen that a little over 1½ gallon of water added to every bushel of apples, will not make a pomace very wet; in fact, all is required to liberate the jelly in the pomace. To boil the juice so obtained, after pressing the pomace, we have a copper vat with a coil of copper pipe in it. The steam is turned into this coil at one end; at the other end, it escapes into a vat, and this water so obtained, we use to soak the pomace with. We use no sugar or anything else. We simply boil the juice until it will jelly. As stated before, we have ready sale for it in this shape; however, sugar may be used, and thus make a superior jelly for table use. If I were the owner of the mill, I would grind the pomace over again, and then soak it, and I would get as much more jelly. The value of the pomace is not yet fully known. J. BOLLINGER.



TWO CORN TIES. FIG. 213.

Ohio.

Cow Peas and Crimson Clover in Ohio.

In 1894, I sowed my first Crimson clover about August 20, on the most exposed spot on the farm. It was sown with Timothy and Red clover. The chickens got the most of it, but every plant that was alive in the fall, bloomed the next spring. About May 20, 1895, I sowed some again, this time with Red clover alone. About half of it headed out in the fall, and died; the rest came through all right. If the season had not been unusually dry, the Crimson clover would, undoubtedly, have gone to seed in the fall, and then died.

A NEW SEEDLING CRAB APPLE. FIG. 214.
SEE RURALISMS, PAGE 674.

This spring, I had a piece of rye—after potatoes—that I plowed under when the grain was in the milk. I sowed about 24 quarts of cow peas to the acre, before harrowing any. The soil was then worked till it was pretty solid, considering the heavy growth of rye that went under in places. The last stroke of the harrow left it in nice shape for the Crimson clover seed which was sown on June 20, eight quarts per acre, and covered with a light clod crusher, properly weighted with stones. A heavy rain the next day, followed by lighter ones, sprouted all the seed nicely, and a week from the day that the field was sown, it was quite green. The peas were a dark green at first, but soon began to turn yellow in spots, and shortly after, ceased to grow. The yellow spots increased in size until they covered nearly all of the field. On a small part of the field, the peas have made a growth of about four feet, and stand about two feet high. I have seen but one blossom at this writing (September 21). The clover has made an excellent growth, covering the ground completely, and is now about eight inches high. About one-fourth of one per cent of the clover is starting to bloom now, but there will be plenty left if one-half does go to seed this fall. The cow peas, smartweed and Panic grass will furnish a good winter protection for the clover, and will make a "balanced ration" for potatoes next year.

A part of the same field, from which the potatoes were not dug in time to follow with rye, was sown to oats and Canada peas, and cut for hay. They were cultivated in without plowing, and made a heavy growth. July 25, the stubble was cut up with a Cutaway harrow, and was sown to Crimson clover and turnips. Where the soil was light and loose, both clover and turnips have made a good growth, but where it is stiff clay, the growth of clover is comparatively smaller than on the plowed ground adjoining. The cow peas were a dirty white color, with brown eyes. A neighbor sowed some of the same variety, alone and they made no better growth than mine did.

Trumbull County, O. E. TULLY.

A STRAWBERRY BED ON A BARREL.

A UNIQUE SCHEME FOR CLOSE CULTURE.

The idea of growing strawberries on a barrel, is, probably, a novelty to most people; yet the plan is being quite extensively introduced in our village, by Mr. E. O. Hall, who is an expert gardener, and nurseryman. Having experimented for several years in the different methods of growing strawberries, I became interested in Mr. Hall's plan. I obtained an interview with him, and he gave me a full description of his barrel method in detail, which is as follows:

The barrels for this purpose are made of hard wood and strongly bound with iron. Linseed oil barrels are preferred. The outside of the barrel may be laid off in four-inch squares. Commencing about two inches from the bottom, inch holes are bored in the centers of the squares, horizontally around the barrel, making 27 holes in the row, four inches apart. Five rows of holes are bored around the barrel, eight inches apart, or in each alternate square. The second row of holes from the bottom is bored on the perpendicular lines, and so on, alternately, to the top of the barrel; in this way, holes are bored for 135 plants. Ordinary bedded plants are used, of any variety desired, mixing the perfect and imperfect varieties as in garden culture.

The barrel is filled with soil to the level of the first row of holes, putting in rich garden soil with a little well-rotted manure thoroughly mixed with it. The plants are next inserted through the holes with the roots a little higher than the stems, to allow for settling. The roots are well spread apart, and more soil is put in, and firmly packed over them. A little water is sprinkled on them, and the process continued until the barrel is filled, when it is covered to prevent the escape of moisture.

In watering the plants, care should be taken not to keep them wet. The better way is to make several holes down through the barrel with a stick, and pour in water or liquid manure according to the needs of the plants, giving them more during the time of fruiting. The advantages of the barrel method of growing strawberries are that no runners grow, and the whole strength of the plant is directed towards growing fruit. The berries are perfectly clean, all cultivation and weeding are dispensed with, and there is a great economy of space. If the plants were spread out as in garden culture, they would occupy nearly one square rod of land. The plants may be put in either in the spring or fall. If they are put in during August or September, they will yield nearly a full crop the next year, and will continue to bear for four or five years without renewal. Five bushels are the maximum yield, and three or four the average, depending on the variety and management.

A good exposure to the sun is desirable, although they will do very well in partial shade. It is advised that the foliage of the plants be occasionally sprinkled, and in the winter, a light covering of straw thrown over the barrel. Mr. Hall has been working at this business for eight years, and has set up over 1,000 barrels, and, as far as he knows, his work has been a success. The most of them were for city people, a large number in the city of Brooklyn.

This plan of growing strawberries seems to be well adapted to people living in villages and cities, who have no gardens, and makes it possible for any one to grow his own strawberries, who has a space of three feet on which to set a barrel. When the plants are in full growth, the foliage completely hides the barrel, and when in bloom, presents the appearance of

a huge bouquet, and makes a very pretty ornament for the lawn.

People who have experience in growing house plants, know that a large plant can be grown in a small quantity of soil. If the soil be weighed or analyzed before and after growing the plant, it will be found that only a small quantity has been absorbed, probably less than 10 per cent. From this it will be understood how a barrel will hold sufficient soil for so many plants, and how they will grow in the same soil for four or five years. The water which is absorbed through the roots, and the carbonic acid in the atmosphere which is absorbed through the leaves, are, by far, the greater part of the plant food required for their growth. The commercial grower will wish to know whether there is any profit in growing strawberries in this way for market. I believe that a few persons are making the trial, but as yet, I have no report from them. But any one can make a trial of it, and learn its advantages. If the plan should prove a success on a large scale, probably something cheaper and more convenient could be devised, than barrels, and many improvements be evolved from this idea. W. H. JENKINS.

Delaware County, N. Y.

NOTES FROM THE FAIRS.

After attending the State Fair at Syracuse, and several county fairs, as either spectator or judge. I felt not a little pride at our own Queens County Fair just brought to a successful close. The weather was favorable for a good attendance, the fair was well patronized, was a financial success, which shows conclusively that it is not necessary to have so many fake shows as disgrace some of our fairs. That the Empire State cannot make a successful fair without the accompaniment of such shows as the Streets of Paris, negro minstrels, and lady snake charmers, with all the accompanying noise of the "barkers" to attract the people to their disgusting displays, speaks ill, to my mind, of the management. I noticed that your correspondent in writing of the Syracuse fair said that some particularly obnoxious thing was promptly suppressed when the attention of the officers was drawn to it. But why admit such things at all? Is that what we are to learn at our fairs?

The fruit department at Syracuse was simply grand. The pear and peach crops were hurt by the severe winter, but the apple and grape exhibits could scarcely be equaled. The apple exhibit from the Geneva Station was noticeable for the number of varieties, and their perfection of growth; in the whole 300 plates, it would have been difficult to find a scaly or wormy specimen, showing that spraying, thoroughly done, is what is needed for perfect fruit. The show of vegetables would have been a bad second to either the Queens Co. or Suffolk Co. fairs, at which I was much surprised. As was to have been expected in western New York, the display of honey and honey makers and homes was really large and interesting; the different kinds of bees and beehives were well worth studying.

Our show of flowers and ornamental plants at Mineola, was very fine, that of fruit good to very good. I noticed the San José scale on some fruits shown; that is wrong and should not be allowed. There is a law in this State against allowing affected stocks to be moved from the nursery without first disinfecting, and if we are ever to get rid of it, now is the time, while it is confined to small localities. A neighbor had it introduced from New Jersey; the entomologist of the station called his attention to it, and by promptly attending to it, has his trees clean. But it requires prompt and continued care.

Queens County, N. Y. H.

THE ASPARAGUS RUST.

A NEW AND DANGEROUS DISEASE.

A somewhat new disease has been noticed in some of the asparagus fields of New Jersey. The New Jersey Experiment Station authorities have issued a circular from which we take the following notes:

When an asparagus field is badly infested with the rust, the general appearance is that of an unseasonable maturing of the plants. Instead of the usual healthy green color, the field has a brownish hue, as if insects had sapped the plants, or frost had destroyed their vitality. Rusted asparagus plants, when viewed closely, are found to have the skin of the stems, both large and small, lifted as if blistered, and in the ruptures of the epidermis, dark-brown spots are readily seen. These brown dots or lines are of various sizes and shapes, and remind the close observer of similar spots in the broken skin of stems of grains and grasses, and of the leaves of corn, also due to rusts, but not the same kind as that of the asparagus.

The asparagus rust is due to a fungus (Puccinia asparagi D. C.), that is, a minute plant consisting of microscopic threads which grow through the substance of the asparagus plant, taking up the nourishment that is needed, and finally break through the surface to bear the innumerable brown spores that give the dark color to the spots on the asparagus skins. This is the last stage in the development of the rust fungus, and as such, remains over winter. When the warm, moist weather of spring and summer comes, the spores above mentioned germinate, and a new lot of asparagus plants may become infested.

There are two general methods of checking the rust, namely, by destroying the spores, and by preventing their growing upon, and getting a foothold in, the substance of healthy asparagus plants. The rust fungi are among the most difficult to check—by protecting the plants they feed upon—by means of fungicides, Bordeaux Mixture, etc., sprayed upon them during the growing season. While something may be hoped for with the spraying pump in July and August, the chief method of eradication lies in the destruction of the spores this fall. This can be done in a very simple and effective manner, by carefully gathering all the parts of the asparagus plants that are above ground and burning them. It would be a waste of time to stack the tops and leave them to natural decay; and to place them in manure heaps would be still worse. The only safe thing to do, when a serious enemy like this is in the asparagus field, is to burn the plants, even to the last scrap that can be gathered up. Let this be done at once, for any delay means the breaking up of the brittle, rusty plants, and a generous sowing of the spores upon the ground. If the fire could go over the whole field, and burn all the small as well as the large pieces, that would be the best of all. This autumn burning should be done by every asparagus grower, even though the rust is not yet seen by him. This enemy may become very serious if thorough measures be not taken at once, and by all who are engaged in asparagus culture.

EVERGREENS FOR A SMALL PLACE.

At this season of the year, it is not opportune to speak of flowers out of doors. But, as the value of evergreens in beautifying a place, and in giving pleasure in the winter season, is so well recognized, I purpose to name a few small growing ones well suited for the purpose, and which do very well planted in early October.

Taking it all in all, but few evergreens prove more satisfactory than the various sorts of Retinisporas. There are two with pleasing green foliage, Pisifera and Plumosa, and each of these has a golden variety. All are particularly pretty when of small size, and as they never attain the size of pines, they may be planted where small-sized evergreens are desired. They stand pruning well, not objecting at all to an annual clipping, so that the keeping of them within bounds is easy. But do not clip these, or any other evergreens, to have them become stiff-looking or statue-like objects. Let branches go as they will, to some extent. Beauty is not in primness. There is a Retinispora called Squarrosa, having steel-blue foliage, which is represented by no other evergreen. Small plants of this, of two to three or four feet in height, are particularly pleasing.

For one of vivid green color and rather dwarf habit, try Obtusa nana. It keeps its bright green color all the time, winter and summer, and, making but a quite small bush, it is much planted. The Hemlock spruce is a universally admired tree. No matter whether growing as it will, or kept down by pruning, its habit and appearance always please. Another, not so well known, is called Douglas spruce, and it stands alone in the dark green color of its foliage. Those raised from Colorado seeds are the ones to plant. The Washington and Oregon forms are not hardy enough for general northern planting. This and the hemlock must not be set too close to a dwelling, as their growth is more tree-like than any other evergreen mentioned in these notes. There is a valuable evergreen from the Pacific coast too rarely seen in cultivation—the Thujopsis borealis. It is perfectly hardy here. It makes a thick growth, and is valuable to plant where a dense-looking, pyramidal evergreen is required. It is a prime favorite with the English, and it exists in England in a gold and a silver-tinted variety, both most beautiful evergreens.

Where but very little room can be afforded, the various forms of arbor-vitæ are in good repute. Besides the common American, there are these varieties: George Peabody and Meehani, both golden-tipped; Queen Victoria, silver-tipped; Globosa and Pumila, both globe-shaped; and Pyramidalis, Filifolia and Cristata, upright grower. Some of the yews and the broad-leaved box are, also, good for small places. When planted in the fall, as all may very well be, a good mulching of manure should be placed about them, enough to keep the frost from the roots, if possible. JOSEPH MEEHAN.

Pennsylvania.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

SOME INSECT AND FUNGOUS DEPREDATORS.

ANSWERS BY M. V. SLINGERLAND.

Swelling at the End of Twigs.

G. H. F., St. Lawrence, N. Y.—I send some affected twigs cut from an early apple tree. What is the trouble and the remedy? One-half the tree is killed by it, and the other half badly affected. No other trees in the orchard are, as yet, affected.

Near the end of last year's growth, the twigs were thickened to nearly twice their normal size. I have often noticed this peculiar swelling near the ends of twigs, but have never been able to discover anything which would indicate that it is the work of an insect or a fungous disease. The indications are that the growth was checked early in the season, by some injury to the tip of the shoot, and Nature, in her efforts to repair the damage, carried a surplus of food to that point, thus swelling the shoot. The enlargements seem not to prevent new shoots from starting out the next season; I thus doubt whether the death of the branches was in any way connected with the swollen parts of the twigs. I can suggest no method of preventing the enlargements; we know too little about their cause to enable us to prescribe remedies.

Spotted Plums; Cultivating Orchards.

K. J. M., Stoughton, Mass.—I send specimens of Japan plums. What causes the spots or blemishes, and what is the remedy? The trees have been planted three years. These sent are the first fruit, and all that are on one tree. I have 100 trees—Abundance, Burbank and Ogon. They are on light, sandy soil, in an elevated locality, the slope facing north. The trees made very satisfactory growth. I have two acres of orchard—apple, plum and pear set two years ago. This season, the ground was cultivated only once. It is now covered with grass and weeds. Will it injure the young trees to mow these and plow under for humus? Can I do it at any time?

The spots or blemishes were, evidently, made by the plum curculio after the fruit was quite large; the peculiar crescent of the curculio's work was visible in the spots. The surest and most effective method of fighting this old offender is to jar the beetles from the trees on to sheets, and then destroy them. "Curculio catcher" machines are now in general use by our largest plum growers. The chief trouble with the plums, however, was not the spots, but from the blemishes as a starting point, the plum-rot fungus had spread, and the fruits were rapidly rotting. This disease was discussed in detail in THE R. N.-Y. for July 11, 1896. It is a very difficult disease to check, and only thorough work will bring results. Pick off and burn all mummy fruits found hanging on the trees in the spring before growth begins. Then spray with Bordeaux Mixture when the fruit is small, following with several applications of the ammoniacal carbonate of copper solution until the fruit begins to ripen. Orchards, especially when they are young, will do the best work if cultivated like corn, potatoes, etc.; but the cultivation should not be continued after about July 15. Keep the ground covered the rest of the season and during the winter with Crimson clover or some similar crop that can be plowed under in the spring for humus. Leave the weeds and grass to cover the soil this winter, and plow them under in the spring.

The Fiery Hunter and Its Work.

C. O. S., Passaic, N. J.—I send a bug and a tomato leaf. The bug was under a strawberry plant which was eaten up at the roots. The life of the bug is remarkable; having severed the back part of his body, I thought that he would soon die; but soon he was as lively as when he was uninjured. I then stuck one pin in him that did not hurt him, then one more pin and that has not killed him after several hours. What can be applied to the soil to kill the worms and bugs?

Although the insect found under the strawberry plant reached me in a very dilapidated condition, I was able to recognize it by the rows of peculiar copper-colored pits still visible on a piece of one wing cover. It is called the Fiery Hunter (Calosoma calidum), and is one of the largest of the ground beetles. The shining black beetles with long legs which are very common on the surface of the ground, lurking under stones or rubbish, or running through the grass, are ground beetles. Most of the ground beetles, as well as their grubs, are predaceous, feeding upon other insects, which they spring upon or capture by chase. The Fiery Hunter has been known to climb trees in search of caterpillars. The most efficient enemies of grubs, cutworms, and other injurious ground insects, are, usually, these ground beetles. Thus the beetle found near the roots was, doubtless, there after White Grubs; very likely the grub which ate the roots had recently furnished a juicy morsel for the Fiery Hunter. It is not probable that the beetle ate the roots. Many insects are very tenacious of life; the well-known Plum curculio is a good example. We have had them live for two or three hours in a poison bottle in which ordinary insects would

die in five minutes. It is not at all uncommon for insects to live for days after being impaled upon pins. I know of no more successful method of controlling under-ground insects than frequent cultivation and a short rotation of crops. The tomato leaf did not reach me, so I cannot diagnose the trouble.

White Grubs in Strawberries.

B. T. W., Rochester, Mass.—I send a box containing a couple of grubs or worms that I would like to have named. They eat off the roots of strawberry plants. For some weeks, I have noticed them frequently, and now I find them putting in their work on fancy strawberry plants set a month ago, and doing well except for them. Will you name them and tell me what to do to destroy them? Of course, when I find a plant wilting, I dig down, find and destroy them.

The grubs found eating the strawberry roots were genuine White Grubs. As we have so often stated in THE R. N.-Y. for the past year, White Grubs are the young or the larvæ of the large brown beetles which fly into our rooms at night about June 1, and buzz around near the ceiling—we call them May Beetles or "June Bugs". I have discussed their life history, so far as it is known, in several answers within a year. I know of no application that may be made on or in the soil that will kill White Grubs, and not, at the same time, kill all vegetation thereon. Hand-picking and frequent cultivation and rotation, are the best suggestions I can give for controlling them in strawberry beds. An important preventive is never to set a strawberry bed on recently plowed sod, for such lands are the natural haunts of the grubs, and when the grass is plowed under, they are forced to eat the strawberry roots. Always prepare land for a strawberry bed by growing thereon, for two or more years, some crop, like corn or potatoes, that needs thorough and frequent cultivation.

Pear Blight and Plum Rots.

H. J. W., Cheltenham, Ont.—1. What is the remedy for the pear blight which affects pear trees this year? 2. Is there any preventive for the rot in my New Imperial tomatoes? I have noticed that the rot is worst where the most cow manure was applied last fall. 3. What causes our plums to rot when they should begin to ripen? They are on rich ground.

ANSWERED BY M. V. SLINGERLAND.

1. Pear Blight, or "fire blight," also attacks apple, quince, Siberian crab apple, wild crab apple, the mountain ash, service berry, and all the species of hawthorns. It is a contagious, bacterial disease, the microbes being carried from tree to tree by the insects which visit the flowers. A few of the germs survive the winter in some of the blighted branches, and these few are the source of contagion for the succeeding season. The only sure method of checking and exterminating the disease, is to cut out and burn the affected parts, and the best time to do this is just before the leaves fall in autumn; never cut through a diseased part and then use the same knife in cutting healthy wood, for a few germs will adhere to the blade, and these may inoculate the healthy wood. No spray of any kind can check the disease.

2. The first indications of tomato rot appear as a small, black spot on the blossom end of the half-grown fruit. This spot quickly increases in size, until often, half of the tomato is involved. Warm, moist weather appears to be particularly favorable to the development of the disease. It is thought that bacteria may be the first cause of the rot, but a fungous disease is also largely concerned in the decay. Prof. Bailey says that this rot "can be kept in check by spraying with Bordeaux Mixture or ammoniacal carbonate of copper; but it is difficult to apply the material to untrained plants, especially upon rich soil, where there may be a thick growth. Plants which are trained to stakes and pruned, admit of thorough treatment. The rot appears to be less, as a rule, if the plants are so trained that the fruits and vines dry off quickly after rains and dews. In single-stem training out-of-doors, rot was greatly reduced. Straw placed underneath the vines appears to increase the tendency to rot, and the same appears to be true of heavy dressings of stable manure. The less improved varieties of tomatoes, like many of the old angular sorts, and the cherry and plum varieties, are almost exempt from attack."

3. The rotting of plums, peaches and cherries is due to a fungous disease known as the Brown Rot (Monilia fructigena). It is the most destructive fungous enemy of the stone fruits, and is very prevalent in the eastern fruit-growing sections. A microscopic spore or seed falls upon the green fruit in early summer, and, under favorable moisture conditions, grows by sending out a little rootlet into the fruit. The branches of the rootlet rapidly push their way all through the pulp, with the result that the tissues become rotten. One or two small brown spots first appear on an affected fruit, and these enlarge until they take in the whole fruit which becomes covered with a velvety coating consisting of millions of microscopic spores or seeds. The wind dislodges and blows the spores on to other unaffected fruits, and starts the disease anew. The rotten fruits often continue hanging on the tree, gradually shriveling up, until, finally, they become dry and hard, forming the well-known "mummied" fruits often seen on the trees in the winter. Much danger lurks in these wintering "mummies". A few dormant spores still adhere to some of them, and their interior is filled with the dormant roots of the fungus, and these start into growth and produce a new crop of seeds during the first warm, damp spell in early spring. These spores are scattered everywhere, and many of them develop in the blossoms, and often occasion serious loss in this manner.

The fruit may be attacked at almost any stage in its growth, but the disease is most destructive about the time of ripening. The appearance of brown spots on the fruit is the first visible sign of the disease. The conditions are, sometimes, so favorable that it increases with astonishing rapidity, and a whole crop may "rot" in a few days. When the disease reaches the point where it can be seen with the eye, it is usually too late to check it with a spray; the spore or seed has its rootlets too well established in the tissues of the fruit. Remedial work against the disease must thus be begun early. Pick off and burn the dangerous "mummy" fruits before growth begins in the spring. It would, also, help much if all the rotting fruits which drop in the summer and fall were burned or fed. The disease has been greatly checked by spraying thoroughly with the Bordeaux Mixture soon after the fruit has set; then follow this with applications of the ammoniacal carbonate of copper solution, using one ounce of copper carbonate to 12 gallons of water, beginning about two or three weeks after the first spraying with the Bordeaux, and repeating the application every week or 10 days until the fruit is harvested. The ammoniacal solution does not stain the fruit as would the Bordeaux, during the ripening period. The disease is a very difficult one to contend with, and only thorough work will bring results. Combine the burning of rotting and "mummy" fruit with thorough spraying.

Starting a Maryland Orchard.

F. B. R., Cumberland, Md.—I have just bought 30 acres of land that I wish to plant to fruit just as soon as the land can be made sufficiently fertile. The soil is what I would call loam—clay, with a slate subsoil. During the last seven or eight years, it has been run down. What is the quickest way possible to restore it and fit it for apples, pears, peaches, cherries, etc.? I suppose that it would be best to improve the land before planting the trees.

ANS.—It always pays to get ready before you start, and, especially, when such an important thing as planting an orchard is to be done. By all means, get the land in good shape the first thing. It should be sown to Crimson clover at once (if not too late when this is read), and have an application of not less than 500 pounds of muriate of potash per acre, sown broadcast, and the same of dissolved bone or phosphate rock. If a good crop of clover be grown and turned under next year, there should be sufficient humus in the soil to give it life and looseness, and the potash and phosphoric acid will make trees or almost anything grow. See what your neighbors are doing who raise good fruit crops in Maryland. H. E. V. D.

The Bosc Pear; Sheathing Paper.

E. G., Coxsackie, N. Y.—What are the merits and demerits of the Bosc pear tree? Why would not sheathing paper, put around trees, keep borers away?

ANS.—The Bosc pear is one of the best of the late fall varieties. The quality is delicious, and the tree bears evenly and quite regularly. Of the many varieties of this fruit originated by that great pomologist and experimenter, Van Mons, at the beginning of this century, this is one that has stood the test, having been sent out by him in 1807. This fact, alone, is almost enough to warrant one in planting it now.

Sheathing trees with building paper, or any kind that is quite durable, will keep off the borers from about the base, provided it is sunken well into the soil and tied, so that there are no openings. Be sure not to use tarred paper, for it is deadly poison to them. This I know from sad experience in Kansas, as well as from the evidence of many others. A better material for this purpose is wood veneer, which may be had at the berry box factories by giving orders for sheets of special sizes. H. E. V. D.

Drainage Water in Cisterns; Apple Seeds.

V. C. R., Salt Lick, Ky.—1. I have a cistern, the plaster of which is porous, and allows water to filter through from the outside. When the cistern is nearly empty in wet weather, about a bucketful of water runs in daily. Is there any danger of disease germs coming through with the water? 2. I read somewhere that apple seeds would not germinate if allowed to get dry. Is it so?

ANS.—1. There is danger of disease germs getting into the cistern if the water from the surface soil is allowed to filter in. Very frequently, the drainage from a stable or outhouse will strike a stratum of clay or hardpan, and will flow along and find an outlet in some well or cistern. Surface drainage should always be excluded. If it is found that the water seeps in near the top of the cistern, it may be prevented by elevating the surface of the ground, and turning the water away to prevent drainage into the cistern. Very frequently, a thin wash of Portland cement will stop up the pores and prevent drainage. This may be put on with a kalsomine or whitewash brush very rapidly. If this treatment will not stop the difficulty, then the cistern must be replastered, using Portland cement with which to make the plaster, and making it rich with cement. 2. Getting dry would not necessarily prevent apple seeds from germinating. It might tend to delay germination, but if seeds are kept in a cool, dry place, they will germinate. The best way to preserve them is to pack away in charcoal or sawdust, and keep cool. Apple seeds are frequently very slow in germinating after having become dry, and to hasten the process, they should be soaked in warm or tepid water for a short time before planting. L. A. CLINTON.

"Wire Grass" in a Lawn.

F. W. B., Port Chester, N. Y.—My lawn is full of Wire or August grass. For three years, I dug it up in the spring, turned it under, and then sowed lawn grass seed on it. This year, I dug it up in the spring, had all the sod shaken out and removed, and sowed it heavily with lawn grass seed. It came up thick, and I had every prospect of a fine lawn until about the first part of July, when the Wire grass appeared, seeming to run out all of the grass seed. We kept it cut every week from the last of May up to the first of September. At this writing, it is one mass of Wire grass. Can you tell me of some way of getting rid of it? Will the grass seed sown in the spring come up next year, or is it killed?

ANS.—At the Rural Grounds, this grass, Digitaria or Panicum sanguinale, is the worst pest we have in our lawns, and it has defied all of our efforts to get rid of it. It is a tender annual, thriving only in the warm summer months, when its growth is so rank as to conceal or kill Blue grass and Red-top. Could we prevent it from seeding, the grass would be exterminated in time. But the seeds, evidently, will live in the soil for years, and the grass will again appear when the lawn is spaded up or plowed. The lawn mower is quite ineffective against its spread, because the culms are prostrate, and the spikes of flowers or seeds escape the knives. In so far as our experience goes, there is but one way to exterminate, and that is by plowing up or spading the lawn in the spring and keeping it clean by cultivation until September. Then sow the lawn grass seed which may be preferred.

Apples and Berries for Northern New York.

J. G. McN., New York.—I have about 10 acres of apples and a few pears near Albany, N. Y. Some of the trees are getting old—30 to 35 years—and breaking down. What would, probably, be the best marketable apple, pear and cherry for that locality, to put in the places of those that are dead, and gradually to cover 22 acres? Also, what is the best red raspberry for that climate? We have quite a patch of red raspberries there, but the tops are likely to freeze in the winter. I do not know what kind they are, but when there is fruit on them, it is large, fine flavored, and rather darker in color than the usual berry. The decay of the apple trees seems to start from where a large branch has been cut. How may I prevent this in future? Is 35 years a great age for apple and pear trees?

ANS.—On some soils, apple trees are at their best at 30 to 35 years of age, and should be vigorous and healthy. Evidently, these trees have suffered from neglect of pruning in their early growth, and the cutting off of large limbs later has led to premature decay. The remedy lies in properly pruning them in their early growth. As for the best varieties, it is generally safest to plant such as thrive best in that locality, but as red apples sell best, I should plant largely of them. The Baldwin and Ben Davis still hold front rank, though lacking in quality. Northern Spy is fine where it does well. Sutton Beauty is very highly spoken of, and Cooper's Market is another of a similar character. I would always plant some of the R. I. Greening. There are many other good ones, yet only a few kinds are wanted for a commercial orchard. Of pears, for market purposes, the Bartlett leads, and seems to sell more readily than any other. The Seckel and Flemish Beauty are of the very highest flavor, and if well grown, find ready sale. The Bosc, Clairgeau and Anjou are all good. I would not want to say what cherries would succeed best in that locality. What is the best red raspberry for that locality, is hard to say. The one alluded to is, probably, the Cuthbert. It is excellent in quality, but becomes very dark after picking, which hurts its sale. The best red for market that I have found, is the Marlboro, but it requires high culture, and must be covered during the winter to insure a crop the following season. Only about one-third of the top of the cane need be covered. It is early, very firm and of a bright color and good quality if well grown. The Miller Red (early) and the Loudon (late) are on trial yet, and need more time to determine their value in this locality. WALTER F. TABER.

The Alice Grape.

T. I. M., Fleming County, Ky.—Can you give me any information about the Alice grape? It's said to keep through the winter.

ANS.—We have the first vine sent out for trial by the originator, Ward D. Gunn. It is a medium-sized, red grape, of pure quality, with thick skin. It is among the best of keepers.

A NEW CRAB APPLE.—We have received from Mr. C. C. Gray, of Lestershire, Broome Co., N. Y., a half dozen crab apples, one of which is shown at Fig. 214, which are as odd and pretty as any crabs we have ever seen and of decidedly better quality. Mr. Gray tells us that he raised them from seed of the Northern Spy. He studied all the new apples at the Chicago Fair, and found none to equal these in quality. Many good judges who have eaten the apple agree with this opinion. These little beauties are marked much like the Northern Spy, being striped with bright and dark red upon a yellow ground. The flesh is yellowish, very fine-grained, almost melting, sub-acid and, as the writer thinks, of higher quality than its parent. We should be very glad to have a tree of this to set out in the Rural Grounds.....

MR. GRAY has, among many seedlings which he is raising, one that bears apples of a blood red color all the way through. He says that the apple sauce made from them closely resembles cranberry sauce in color.....

REMARKABLE BEHAVIOR OF POTATOES.—Side by side, in a garden soil made uniform by spading and manuring for many years, were planted, in early spring, from one to six hills of several kinds of potatoes which have originated at the Rural Grounds. Let us first write of a new kind which will, probably, be introduced by a leading firm next spring. It is not, as yet, named. It is a seedling of the R. N.-Y. No. 2, and so closely resembles it that only by a comparison of the habit of the vines, the time of dying, the yield and the quality, is it possible to tell one from the other. The newcomer, in shape, differs from the R. N.-Y. No. 2 only in being more uniformly of the same form, and in yielding substantially no small tubers. The vines die from four to six days later. The habit is much the same, the flowers purple and white, the stems streaked with purple. The color of the skin and of the flesh is the same. But the quality is better and the yield, judging from two seasons' trial, greater. Here is a comparison of yields of the present season:

One hill of the *seedling* of the No. 2 yielded 15 tubers, all of which were of marketable size. In form, every one was similar to every other one. The 15 tubers weighed precisely 4¾ pounds. Now, as the potatoes were planted one foot by three feet apart, this would give the yield per acre, assuming that all hills yielded the same—an absurd assumption, of course—1,149 bushels. We hope to present a tuber of this newcomer to all of our subscribers who apply before next spring. But we cannot say positively as yet.....

NEXT to this hill of the *seedling* of the R. N.-Y. No. 2, was a hill of the R. N.-Y. No. 2. It yielded eight tubers, all of fine shape and of marketable size, which weighed 2¾ pounds. This would be at the rate of 665 bushels to the acre.

In another row, Carman No. 1 yielded eight marketable and seven small tubers, weighing 4¼ pounds. This would be at the rate of 1,028.50 bushels to the acre. The shape was variable, however, and undesirable.

One hill of Carman No. 3 yielded 6½ pounds, of which 18 were large and 7 small. These, too, were unshapely. This would be at the rate of 1,573 bushels to the acre. We have not before seen the Carman No. 3 so variable in shape. We would not have recognized them. These yields were witnessed by two persons, one of them a leading New York seedsman, whose name we would give if so required to do.....

A REMARKABLE CHANGE.—We have told the story of our early hopes for the Carman Peachblow; how, in our own grounds, the skin was corky, the quality superb, the yield heavy. The firm intending to introduce them this year, engaged a well-known potato grower to propagate them. He did so, but reported that the skin was perfectly smooth, the shape bad, and the quality low. From this very stock, we again planted a hill last spring. Dug September 21, the yield was 14 tubers (only one of which was small), weighing seven pounds. This would be at the rate of 1,694 bushels to the acre. *The tubers had the original corky skin* and were of the original superb quality. We have never eaten better potatoes. So said every member of the family.....

MANY of our readers may remember our report that a single hill of a seedling of the R. N.-Y. No. 2, the *first* year, yielded 157 *small* tubers. Naturally, we selected the best, and planted them last year, a report of which was placed before our readers last fall. The best tubers were again saved and planted last spring. We dug them September 21. There were 12 hills. The yield was 100 bushels per acre. They were *all* small and *few* in the hill. We have shown, by careful trials, that *generally* the thriftiest vines will give the heaviest yield of tubers. The vines of this seedling of the R. N.-Y. No. 2 were fully six feet long—as long as any we have ever raised. Yet the yield was only about 100 bushels to the acre.....

WE have dug the best of our new seedling potatoes, and with the exceptions above noted, the yield was small. Among them, were many seedlings of the Carman No. 1 and R. N.-Y. No. 2. All were raised in the same garden plot, and all were treated the same.....

WELL, the writer, as his old acquaintances and readers know, has given a deal of time to potato culture during the past 20 years. He has arrived at *one positive* conviction. It is that he does not know much about what causes these variations in yield, the variations in shape, the changes in quality.....

JUDGE SAMUEL MILLER, of Missouri, regards the Timbrell and Parker Earle as the best varieties of strawberries....

ON September 19, Mr. M. J. Persing, of Clyde, O., expressed us a small box of a seedling peach which was received by Ruralisms September 23. We are told that the tree "came up three years ago last spring, along his garden fence among some rose bushes, a couple of other peach trees, and a cherry tree." Although crowded in this way, it has outgrown the others, a good example of the survival of the fittest. The fruit sent to us was picked September 16, after 2½ pecks had been taken from the tree, "leaving nearly two pecks still on the tree." Several branches had broken under the weight of the fruit, though the peach crop is a failure in Mr. Persing's section of the country. Some of the peaches measured eight inches in circumference, and the quality, it is judged, is superior to that of Elberta, which has been largely planted thereabouts. The flesh is of a deep yellow color, the pit of medium size and quite free. The skin is tough, down short, cavity medium, regular and deep; stem short, suture shallow. Mr. Persing fancies that this seedling is destined to take the place of the Smock. Leaves sent with the peaches are, at least, six inches long. The peaches were overripe, so that we could not fairly judge of the quality.....

SUPPOSE we plant a seed of a potato—the seed from the ball or fruit. Suppose we get 10, 20, or 50 little potatoes from this one seed. Suppose we plant every one of these little tubers in separate hills; will the different hills produce the same potato that the parent—the first hill—produced? We doubt it. We have insisted that a new variety be started from *one* tuber. We must not plant all the tubers from the parent seedling hill—else, as we insist, we shall have tubers in the introduced variety of many different shapes. For example: The R. N.-Y. No. 2 was started from one tuber. It is known that R. N.-Y. No. 2 potatoes are of fairly uniform shape. So it is with Carman No. 3, though less so with the No. 1. Why is this?

Take the Freeman. There are many of a perfect shape. There are others of all sorts of shapes. Is this because the Freeman was started from *all* of the tubers of the *first* seed planting? Can we change the shape of a given variety by planting tubers of a certain shape? That is what Ruralisms has been working at for several years. Our latest essay is, perhaps, the best. Three years ago, one of our seedlings gave tubers which were, for the most part, distinctly *pear* shape; let us say—obovate-pyriform. The most decidedly pear-shape tubers were selected for the next season, last year. We were surprised to find nearly *every* tuber of a pear shape. We selected the most typical pear-shaped tubers to plant last spring. What is the result? Not one in ten is like the parent tubers. They are of many shapes. Why is this? Again, we have selected the pear-shaped tubers for planting next year. Who can tell; who can reasonably conjecture what the shape will be *next* year? Can we change the shape of potatoes of a given variety by selection of seed potatoes? Who knows?

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Those Two Western Strawberries

PROF. J. L BUDD, AMES, IA.—To meet the requirements called for on page 638, I would select from the list doing well in that part of the West, Parker Earle and Charles Downing, and I would alternate them in the rows, as the Charles Downing does not seem to bear well where it does not have a perfect sort beside it. I know of no variety of its size and quality among the newer sorts doing well in the West.

Strawberries in September.

C. W. C., SAC CITY, IA —Who ever had the pleasure of eating strawberries in September—strawberries grown in the open field? I have been picking a second crop of strawberries grown in our old bed fruited this summer, mostly Beder Wood, and fine, large berries. Last week, we picked about a quart, and had a fine strawberry shortcake, and we shall have as many more this week if the weather continue warm enough to ripen the green ones now set. I never had the like occur before, and would like to ask if others have, and the cause. Both old and new beds are looking fine, and we have an excellent prospect for a good crop another year.

Apples for Oregon.

F. W. M., OSWEGO, ORE.—My choice for late keeping winter apples for this section of the country is, Wealthy, Northern Spy, and Baldwin. The tree of the Wealthy resembles the weeping willow somewhat; there is no breaking of branches and no propping up to do. The tree is hardy and a good bearer; the fruit is large and round, dark red and an extra good keeper. It sells as readily as any and with many is first choice. The other two varieties do well here; the trees are hardy, and fruit of good size and color. I cannot see any difference between the eastern grown and those grown here, where the orchard is well cared for, excepting in the Greening, which does not do well in this section.

Another Large Pear Orchard.

GEO. G GROFF, PENNSYLVANIA.—Pennsylvania has a pear orchard of 75 acres, a portion set eight or nine years. This orchard, too, like the one in Indiana, is of Keiffers, although in the later plantings, each tenth row is of another variety for the purposes of fertilization; one of the Chinese russet pears has been used for this purpose. Since setting, these trees have produced one crop. They have made a remarkably fine growth. The problem of profit is by no means settled. The expense of caring for such an orchard until bearing is reached, is considerable, and in this particular case, a disease has invaded the trees which may be an important factor in regulating the profits. Altogether, it is something like putting all the eggs into one basket.

"Cherry Stones."

M. G. K., ITHACA, N. Y.—On page 632, the writer of "Cherry Stones," says that he hopes that the cherry tree "is standing there to-day, with its roots still deeper in that rock." It is. It is now about 15 inches in diameter, and has forced the stone about two feet apart across the top. I have no doubt that some of the readers of the article, think that the story originated in the writer's brain; but the description is too accurate for a student of that college to mistake it. It is to be regretted, perhaps, that the "good old days," of which the writer speaks, are gone. The old footpath by the stone is now overgrown with weeds. A trolley line has supplanted the college "bus." But though the student now hurries past the old stone at the rate of 15 miles an hour, yet he is sure to see it, and hear the story of the cherry tree.

The writer speaks of working his way. It may interest the readers of THE R. N.-Y. to know that over 90 per cent of the students at that college work their way, and that of the class with which I was graduated, only two were city-bred boys, each of whom earned his own expenses. No one is looked down on because he works his passage. A student is rated by his fellow students at his full value. Clothes and appearance don't rank highest. One student whom I know had only $2.50 when he had paid his first term's fees. He was graduated at the head of his class, and now holds a good government position.

The college is the oldest agricultural college in America, and gives a thorough scientific, agricultural, and mechanical education. It is the grandest workshop I know. Its product is men, broad-minded men; and in 1900, it will graduate its first class of women who cannot but be broad-minded also.

To Poison Prairie Dogs.

S. E H. GREELEY, COL —Thirty grains of strychnine were placed in a four-quart pail, and a little vinegar turned over it to dissolve it quickly. To this were added two quarts of water and one-half cupful of sugar (to overcome the acidity), and the pail was filled with sweet corn and left to soak 24 hours. This was scattered over the ground where a colony of prairie dogs lived, and they all disappeared—probably died in their holes, as no dead animals were found. Wheat treated in the same way, they refused to eat; it was left to germinate and grow. Then we tried sweet corn with the result given.

Cutworms; Poison; Song Birds.

B. T. W., ROCHESTER, MASS.—I wish very heartily to indorse the views of F. Hodgman, on page 606, so far as they apply to song birds. I suppose that all people enjoy the songs of birds, but if Fred Grundy (or anybody else) is dependent upon the products of his gardens for a living, he may regard practical facts as well as mere sentiment. Last fall, I set about one-half acre to a dozen or more of the newer kinds of strawberries. The season was very dry, but I took great pains with the plants, and got them through the winter in fairly good shape. I did not expect much of a crop, but I did expect to get enough fruit to judge of the quality and merits or demerits of each kind. The plants bloomed and fruited quite well, but on the whole half acre, not a quart of fruit could I get. Of the large berries, such as Timbrell, Marshall, Greenville, Iowa Beauty, etc., not one was permitted to ripen fully. As soon as one side of a big berry showed red, just so soon a robin was on hand to spoil it. If these pests would eat the whole berry instead of picking 100, it would be less annoying. I have watched robins for many hours, at different times, and the only "insects" I ever saw them trouble were earth worms, and these, so far as I know, are entirely harmless.

In going over my strawberry beds, especially those where the fruit was not heavy, and finding so large a proportion of the best berries spoiled, I have often threatened to have every robin on the place shot. I never have, however, and, probably, never shall; but I would rather have 100 despised crows than one robin on the place. "The protection of song birds," so far as robins are concerned, is, in my opinion, a matter of sentiment only. We have a great variety of birds in this locality, and several kinds, robins especially, are very plentiful; but insects of many kinds and all, or nearly all, kinds of destructive worms were never more plentiful or more destructive than during 1896. And now the army worm is here, not satisfied with eating green food, but devouring in great quantity fodder corn that has been cut several days, and is in process of curing. If a mixture of molasses, bran and Paris-green will destroy cut-worms, I shall risk its destroying robins.

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The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

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Why, one dollar! You may take new subscriptions from now until January 1, 1898, for one dollar! You may retain the usual commission, and have a fair chance at the premiums! See page 680 and start.

⊙

THE bulletin on tuberculosis, mentioned by Mr. Newton on page 682, is issued by the Massachusetts Station (Amherst). It is a very valuable pamphlet, and we advise all readers who are interested in the subject, to send for it. It is, certainly, a strong argument against the plan of slaughtering cattle whenever they react from the tuberculin test and yet show no outward signs of the disease.

⊙

HORACE GREELEY used to say that an inch board was not enough between a cow and zero weather. Old stables have not grown any warmer within the last 25 years. Many farmers seem to think that, if they cannot build a fine new barn, it is not worth while to do anything. If they would put in new windows, with wide jambs coming out even with the nailing girths, sheath up the whole inside surface with one-inch hemlock lumber, and stuff the inside space with chaff well rammed in, then finish by spraying the whole surface with whitewash, they would have comfortable and neat-looking stables. It is better to do this now, than to wait three months before starting.

⊙

AMERICAN farmers are too likely to regard the Short-horn as a beef-making breed, regardless of the fine showing made by a herd of Short-horns at the World's Fair. The Mark Lane Express says that, if the Short-horn breeders of England were polled, it would be found that the pedigree herds that, through being subjected to the high-feeding system, have had the milking property sacrificed, form only a small section compared to those that cultivate milk. It appears that an immense proportion of English butter is still made by Short-horn cows. In fact, the dairy Short-horn seems better suited to the conditions of the English dairy farmer than any other breed of cows.

⊙

THE law that permits taxpayers to work out their road taxes is a poor one. The farmers are losers thereby, and should ask for its repeal. No class needs good roads more than farmers, and good roads are rarely obtained by such a system. The efficiency of a road supervisor is nearly as important to any community as that of the President of the United States. He should be a man of more than ordinary natural ability, and should be endowed with good road sense. Then he should have all the tax in money, and apply it in a business-like way. An ounce of prevention is worth a pound of cure, and in hilly districts, the supervisor should have a man on the road during every rain turning little streams of water out of the wheel tracks into the ditches, watching culverts, and otherwise protecting the public highway. He should go over the entire road district once every month, removing all loose stones larger than one's fist. He should see to it that no water ever stands in holes on the highway. Were these things done, country roads would be vastly better. After this, the surplus money should be used in making a piece of permanently good highway, however short, every year. If all wagon tires were four inches wide, and one axle were six inches longer than the other, so that the wheels would not track, they would act as rollers, and assist in making the highway better instead of nearly ruining it, as narrow tires do when roadbeds are soft. The best man in the district should be elected road supervisor next spring, the taxpayers should pledge themselves to pay all their road tax in money to him, and should agree to use wide tires as soon as practicable. Then that supervisor should be expected to use the same judgment in the expenditure of the money as he does in his private affairs. Can this not be done in hundreds of districts in those States that have faulty road laws now? R. N.-Y. readers are good people to inaugurate such a reform.

⊙

SOME days ago, we sent an important letter to a farmer in Ohio. In answering it, he says:

I am sorry that I could not answer this communication sooner; we have been so rushed with work the past week, that no one went to the post office all the week until Saturday evening. None of the neighbors that usually bring the mail, went last week, so I did not get your letter early enough. Why city merchants get their mail carried to them four or five times a day, and the farmer not even once a week, seems to me a question that needs some consideration by our Post Office Department.

Certainly, it does, but it is not likely to receive any. This administration is, evidently, opposed to any attempt to bring about any great improvement in rural mail service. The wonder to us is that city merchants can't see beyond the end of their nose, and understand that anything that increases a farmer's ability to do business by mail, is a good thing for the town or city merchant. One would think that city business men would be the first to work for free delivery of mail in the country!

⊙

IN our city parks, men are employed to pick up the pieces of paper that are scattered about. Probably 150 men are employed in New York City at this work alone. Formerly, they went about stooping down for the paper, or even getting on their knees for it. One day, one of these workmen conceived the idea of driving a sharp brad into the end of a cane and using this to pick up the paper without stooping. All he had to do was to stick the brad into the paper, lift the cane and put the paper in his basket, without bending his back in the least. This plan has spread all over the city, until most of the backache has been taken out of this job. The original cane man may have been lazy or afflicted with a kidney trouble or something else; but whatever his motive, he did a good thing for his fellows. There is no reason why a man should be ashamed to do hard work in the easiest way. Human flesh and bone are worth more than wood or steel. Let us not despise any honest arrangement for making wood or metal add to our comfort.

⊙

ON page 675, B. T. W. speaks of robins not destroying insects. He must have a peculiar kind of robins. If there is anything that will eat a greater number and variety of worms and insects of almost all kinds than a nestful of young robins, we have yet to see it. And the parent birds are kept busy, early and late, in supplying the demand. Their food during the spring and early summer, is almost entirely of this character. Talking the other day with an old Connecticut farmer who is a great lover and observer of birds and their habits, he expressed a great liking for nearly all birds except crows and English sparrows. His grievance against these is that they destroy the nests and young of other birds. He says that the sparrows will drive off the old birds, even of robins, and feed upon their eggs. The sparrow seems to have few redeeming traits, and his persistent, discordant chattering is enough to make his best friends hate him In regard to other birds, the question is simply whether the good they do overbalances or equals the destruction they entail.

⊙

WHAT with onions growing among strawberries, and the outside *surface* of an ordinary barrel producing more fruit than can be packed inside of it, our readers certainly have a dose of intensive culture this week. These articles show something of the possibilities of comparatively small areas of land. We find farmers everywhere who are spreading their operations over too much land. They seem to feel that the outlying fields must be cultivated anyway, and, therefore, they spread their time and labor over 40 acres when 20 would yield a more profitable crop in return for an equal amount of energy. Some of the most enterprising farmers of whom we know are turning the outer fields into meadows, pastures or orchards, and concentrating their work upon a few well-located acres near the barn. While the total crops on the fewer acres may not be so large, they cost less, and there is generally more profit in them. Up to the present time, a good deal of our American farming has been conducted on the principle that, when one farm has been exhausted, there is always cheaper land somewhere that can be exhausted in the same way. We are getting near to the end of the cheap land, and, from this time on, farmers must give more study to the problems of soil restoration. They must now stay by the old farm and build it up, rather than pass on to a newer one.

⊙

JARED VAN WAGENEN JR., says, on page 670, that, probably, the typical dairy barn should take the form of a cross. Nearly four years ago, THE R. N.-Y. described the immense barn on Mr. Havemeyer's Mountainside Farm at Mahwah, N. J., which is in this form. It differs in several respects from the one outlined by Mr. Van Wagenen, and is, we think, superior in some ways, at least. In Mr. Havemeyer's barn, the main entrance is at the end of the longer arm of the cross, and the feeding alleys are in the middle between the rows of cattle which face this alley, both arms of the cross being filled with cattle. The whole barn is low, but the main part is used for storing hay and dry fodder, which are elevated from the wagons driven right up the alley, by means of a fork operated by steam power into the lofts directly over the cows. At the end opposite the main entrance, is another arm of the cross, and here are immense silos, the engine and storage rooms, ice house, cold storage and dairy rooms, etc.—all under the one roof. It is an admirable and economical arrangement.

⊙

"THE dirty milkman's makeshift!" That is what Prof. W. A. Henry called "Preservaline" some years ago. A company was formed to sell this stuff, and they did manage to dispose of large quantities of it. THE R. N.-Y. showed repeatedly that it contained borax, and we pointed out the danger of using this substance in milk, as well as the folly of paying an extravagant price for it. Finally, the "Preservaline" advertisements disappeared, but in their place came offers to sell a secret method of preserving fruits by a "cold process." This was but a new dodge to dispose of more borax at a high price, and it finally failed. Now we see that an English milkman has just been fined for using borax in milk. The chemist found 30 grains of boracic acid in a pint of the milk. Medical authorities say that 10 grains of boracic acid is the largest amount that may safely be given to a child inside of 24 hours. Think of the consequences to a child from drinking a full pint of such milk. Men who would use drugs in this way, should be sent to prison. There is no need of using such a drug, for milk that is properly cleaned and cooled will keep sweet, at least five days.

⊙

BREVITIES.

THE ABANDONED FARM.

It stands upon the hilltop, with its face
  Turned eastward to the sun—rough boards are nailed
Upon its windows—all about the place
  Brood the sad spirits of a home that failed.
The path is lost in weeds—the flower and shrub
  Of old-time days have disappeared from sight.
Two leafless elms like hateful furies rub
  Their gaunt, dead hands together day and night.
The fields, grown up with brush, spread out before
  With useless walls of stone—the orchard trees
That years ago bent with their fragrant store,
  Now stretch dry arms up to the wandering breeze.
A curse rests on the place—a broken home—
  Abandoned to the elements—no more
The scattered children of the house shall come
  And kindle memory's altar at the door.
Poor monument of human hate and strife,
  Abandoned to its past of doubt and pain,
Stand grimly—till some newer, sweeter life
  Shall make the old farm blossom once again.

READ the horse article—page 670.

THE best "side show" a dairy cow can make is a mellow, golden hide.

YOU can't be rightly called a "brick" until you are baked in the fire of experience.

SOUND the alarm! Sound the alarm! Kill every scrub that is found on your farm!

DON'T worry about the future of your grandchildren—attend to the present of your wife.

HAPPY the pasture that is covered over with Mr. Farmer's sweetheart, Miss White Clover.

HAVE you noticed that water sinks into sod more rapidly than into bare ground with equal drainage? Why?

THE barn is as much a butter factory as is the creamery. That's right—read Mr. Van Wagenen's article, page 670.

WE are using Parker Earle strawberry plants dug with a Richards transplanter, for filling our barrel strawberry bed.

WITH that barrel strawberry bed a success, no farmer can have any excuse for not supplying his family with berries. Start this fall.

TAKE a good-sized Spitzenburg apple, cut out the core, fill with sugar and bake in a hot oven. There you have a dish fit for a king.

MR. MAPES, page 682, finds it better to sell butter fat on a calf's bones than in a butter tub. It may not pay you to do the same, but have you figured on it?

PULL up the big tomato vine before the first hard frost, and hang it in the barn or in the shed. The fruit will color slowly, and your work will not be lost, though everything outside is bare and dead.

MR. EDWIN HOYT, of Connecticut, gives this as his idea of a model cow barn: "One that may be kept so clean that, when the milker comes into the house, the women folks won't have to say, 'Whew! go out and change your clothes!'"

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

Receivers of live poultry say that the receipts now are mostly spring chickens, few hens being received. The reason they give for this is that the comparatively high prices of eggs lead producers to keep the hens as long as there is any probability of getting eggs from them. Feed is cheap; a dozen eggs, in some localities, being worth nearly as much as a bushel of corn. The consequence of this scarcity is that the price of fowls is considerably higher than that of chickens.

I saw a lot of very fine Niagara grapes, all large, choice clusters, packed loosely in the common five-pound grape baskets, and without covers. They made a fine appearance, and I asked the dealer about them. They are from nearby, and for a fancy trade. They were delivered here and not shipped in. Of course, they are in extra good shape, and are very attractive; but it would be impracticable to ship grapes open like that. And the most of the produce that this city receives is shipped here by car or boat, and much of it must stand pretty rough handling.

Some of the largest Duchess pears, it is said, that ever came to this market, were received by a commission firm here last week, from M. N. Cook, Genesee County, N. Y. They graded 124 to the barrel, and were very fair and smooth. Each pear was wrapped in paper. Over the contents, a circular piece of pasteboard was placed before the head was inserted, and the head and staves of the barrel were perforated with holes for ventilation. The receiver said that pears of this size thus packed, sell quickly for double the price of ordinary stock. And the freight on a barrel of these is no more than that on a barrel of trash.

It would seem that every one ought to be able to eat grapes this year. Perhaps if they did, growers might get better prices. During recent weeks, I have seen five-pound baskets of Concord, Niagara and Delaware grapes selling for 10 cents at retail (though few of the latter sell for less than 15), and California grapes for 25 cents per five-pound box. From the push-carts, they have retailed for three cents per half pound. These are all good, ripe, fresh grapes, too, no old, poor stock. Some people are so afraid of appendicitis that they don't dare to eat grapes. Nonsense. For every case caused by grape seeds, I'll warrant that the eating of grapes has relieved hundreds of other complaints. F. H. V.

NOTES FROM A CONNECTICUT FARM.

The New Canaan Grange recently held a fair and exhibition of fruits and vegetables. The fair was held indoors, and brought out a great display of choice products. One excellent feature was a display on one table of the products grown on a single farm. It is remarkable to see how close the Yankee comes to producing all he needs in the way of food, from his own soil, and we think most farmers would be surprised if they could have, spread out before them, a complete collection of samples of their own crops. Among the novelties was a "new breed" of poultry, known as "Dimon Creepers". They have the color and shape of Plymouth Rocks, but their legs are scarcely three inches long. I presume that they cannot scratch with quite so much power as a long-legged bird! Six stalks of B. and W. corn were shown at this fair that were over 18½ feet long and weighed 80 pounds—at least that weight was marked on them. I will testify to the length!

Mr. Edwin Hoyt, of Stephen Hoyt's Sons, made a fine exhibit of fruits—chiefly apples and grapes. Readers will remember Mr. Hoyt's articles on Apple Culture printed a few weeks ago. He is living up to his doctrine and setting out orchards of his own. One of the best apples in his collection is the Baker. This is a local variety, originating in Fairfield County, and has not been widely scattered. It is a large, handsome apple with a high, spicy flavor and ought to be popular when once fairly introduced. The great demand now is for red apples, and in Mr. Hoyt's nursery the Baldwin leads in numbers. He says, however, that in his own orchards he expects to plant a good many Rhode Island Greenings. He says that 15 years from now there will be more Greenings than Baldwins sold in the best markets. Just now the craze is for a red apple, but in time people will be "educated away from color", and will learn to look *inside* the skin. Speaking of grapes, Mr. Hoyt says that if Green Mountain were only black there would be a market for millions of tons. This is another case of "color line" that limits the sale of a desirable variety. Mr. Hoyt has a long trellis on which are growing, side by side, single vines of all the new and standard varieties. They have the same culture and care and thus give a fair test. The latest varieties to go there are Campbell's Early and McPike.

To my taste there is nothing better than the rich flavor of the Bosc pear, and I have a notion that the long tapering stem end contains a concentrated extract of richness. I have often wondered why there are not more of these pears on the market. Mr. Hoyt says that the Bosc tree is the hardest pear to grow in the nursery. In spite of every care, a large proportion of the trees will grow crooked or weakly. In fact, about the only way to insure a satisfactory Bosc tree is to top-work it on such varieties as Buffum or Clapp's Favorite. This "perversity of pear nature" explains why there are so few good orchards of Bosc pears. Mr. Hoyt says that the old-fashioned "Box" is coming into vogue again as a hedge plant. He had an order last year for 1,400 yards of the Box and found it difficult to secure enough to fill the order. There is a great demand for California Privet for hedges.

In connection with their nursery the Hoyts have a dairy of 40 cows. Just now they are making butter from the milk. It is a herd of "mulleys." They scoured the country to pick up hornless cows—natural "mulleys" without regard to breed. Bulls have been raised from the best of the cows heretofore, but now there is a polled Angus bull at the head of the herd. That doesn't look like a very good milk combination; but Mr. James Hoyt claims that the cows are as good as, if not better than, the average. The cows are kept in the basement of the barn. The mangers are arranged in sections and play on hinges, so that they can be raised for cleaning.

The Hoyts have had their barns burned several times. In the present barn there is a system of electric wires running to Mr. Hoyt's bedroom, so arranged that it would be impossible for any one to enter the barn at night without sounding an alarm. If any doors or windows are left open the electric indicator will show where they are. H. W. C.

NOTES ABOUT FRUITS.

Rambling Horticultural Notes.

We have found the LeConte pear most excellent for canning, fine-grained and beautiful, better, we think, than the Keiffer. It should be canned before it is ripe, as then it is too soft and insipid. Prunus Simoni, when canned, loses that disagreeable taste; so does the Japan quince, Cydonia, as well as the wild fox grape. Jelly made from these is quite good. The Garber's Hybrid is not equal to the LeConte, but is a rapid grower; but neither is a good table fruit with us.

We had a moderate supply of Japan plums. Burbank was the largest and best, but nearly all of them rotted on the tree. Cabot and Matsu [Is not this Maru? EDS.] bore a few nice plums, ripening after Burbank and Abundance, and we were pleased with them; they are sweeter than the others, and later. It is a great satisfaction to have such beautiful, rapid growers, which are pretty sure to have fruit unless the blossoms are killed by frost, or they are allowed to overbear.

Poplars are not fashionable trees, but they supply a place where, often, more beautiful trees do not succeed. Many years ago, the Abele Silver poplars were extensively planted, but they sucker badly, and soon become a nuisance. For this reason, in part, there is a prejudice against the whole family. But there is a wide difference in the many kinds. We have planted a number of the Japan poplar (Siebold's), and they have proved very satisfactory, distinct from any other we have seen. They make a rapid growth, have more abundant leaves, and we hope the variety will prove worthy of cultivation. If poplars are trimmed one-half of the year's growth, their appearance will be greatly improved. Balm of Gilead trees, kept compact, will hardly be recognized. ISAAC HICKS.

Some New Varieties of Red Raspberries.

My attention has been called to an article by S. E. H., Cherry Valley, Ill., on new raspberries. He told how large a new variety of red raspberry had grown with him. This reminds me that I have seen the well-known Shaffer raspberry, which I introduced many years ago, growing so vigorously that a team and lumber wagon would be entirely hidden from view if driven through the plantation. These bushes stood eight or nine feet high, and many of the branches were as large as a three or four-year-old apple tree. Surely the good old Shaffer is vigorous enough. To say that any new variety is more vigorous, I do not think would add to its value. The Shaffer has two faults: One is that the color is purple, almost black when ripe, rendering it unattractive. The second is that it is not hardy in many localities—not quite so hardy as the Cuthbert, and the Cuthbert often winterkills, even about Rochester. Both these characteristics the new raspberry S. E. H. speaks of possesses in common with the Shaffer.

The other new red raspberry of which S. E. H. speaks as winterkilling, and as being of poor quality, so hard and dry to handle, almost like marbles, surely is not the genuine Loudon. It is not surprising that many people who supposed that they purchased the Loudon, have been deceived. We know of, at least, one plant seller, who, while advertising it, never purchased a plant, and could not have sent out a genuine plant. We are in a position to know this to be a fact. The London is a berry of good quality, juicy, yet firm enough to endure shipment. Its color is a bright red, much more attractive than Cuthbert. Loudon is much hardier than Cuthbert. I think that it stands in hardiness very close to Turner, which is the hardiest of all red raspberries, so far as I am informed. It is not such a rank grower as Cuthbert. I am inclined to think that rank-growing varieties are more liable to winterkill than those which grow more moderately, and ripen up their wood earlier in the fall. I shall be glad to hear of whom S. E. H. purchased his supposed Loudon plants.

You will notice that I do not mention the name of the variety in which S. E. H. seems to be interested, since I have no reason to attack that variety in THE R. N.-Y. It seems to me that, since S. E. H. speaks of the seven berries that the Loudon has produced in the last two seasons, he seems to be a little bitter towards the variety. CHAS. A. GREEN.

Two bushels of wheat per acre are spoken of as a light seeding, by C. E. Chapman, on page 670. This is, probably, nearer the common amount sown than any other quantity. But it is not light seeding. On the contrary, on rich soils where the plants will tiller freely, it is heavy seeding, and many sow less. Any amount sown more than is necessary, is so much thrown away, and we don't believe that many farmers can afford to throw away wheat these times. What amount gives the best returns with you, and what is the character of your soil?

⊙

SOME years ago, THE R. N.-Y. told its readers about Canaigre, a plant containing a large amount of tannic acid. Canaigre (Rumex Hymenosepalus) belongs to the same family as the common dock, and is found growing in the dry, arid regions of Texas, Arizona and New Mexico. Year-old roots contain about 30 per cent of tannic acid, which seems to be just as useful for tanning hides as the acid found in bark. Up to within a few years ago, few attempts were made to cultivate Canaigre, and commerce in it was limited to the handling of a few wild roots dug and shipped by wandering Mexicans. The experiment station of Arizona started a series of experiments to see whether Canaigre could be successfully cultivated, and these experiments were so successful that a large company was formed for the purpose of growing the roots and preparing them for shipment. Prof. Harrington, of the Texas station, has now issued a bulletin showing that the culture of Canaigre is successful in that State. The roots are planted much like potatoes, by hand or with a potato planter. They grow in much the same form as sweet potatoes, and are harvested by hand or machine. Cultivation improves the quality of the root, and an average yield is 10 tons The price in England for the sliced and dried root, is about $40 per ton. The value of this Canaigre culture is that it provides a profitable crop for a section where almost nothing else of value will grow. The supply of bark is rapidly decreasing, and new supplies of tannic acid are needed. Canaigre appears to offer the best substitute yet discovered. One singular fact in this connection is that Texas exports, each year, millions of raw hides, and buys thousands of them back in the form of leather. This plan of sending the hides away for tanning, is a clear loss to the State. Now that Canaigre gives a home supply of tannic acid, it is proposed to build tanneries near the markets where hides are produced, and export, not hides, but leather. Texas made a mistake when she began to export raw cotton and import the same cotton as cloth. There is no reason why both hides and Canaigre should be sent out of the State.

BUSINESS BITS.

E. W. REID, Bridgeport, O. Pocketbook price list of Reid's nurseries—everything for the fruit grower.

ARTHUR J. COLLINS, Moorestown, N. J. Illustrated catalogue of peach, pear, apple, plum and nut trees and small fruits.

ALFRED BRIDGEMAN, 37 East 19th Street, New York. Fall catalogue of bulbs of all kinds, small fruits, shrubs and vines.

Do you want pigs? Do you prefer Cheshires? This is the time to get them cheap. W. E. Mandeville, Brookton, N. Y., has some for sale.

HAVE you beans to pick? Do you pick them by hand? If so, just write Miller Bros., Rochester, Mich., for descriptive circulars of their bean pickers.

J. M. THORBURN & Co., 15 John Street, New York. A catalogue of French hybrid gladioli, lilies and other hardy bulbs; flower seeds of special merit, vegetable seeds, fertilizers, etc.

JOHN R. & WM. PARRY, Parry, N. J. A fall catalogue of Parry's nurseries; nut-bearing and ornamental trees; apple, cherry, peach and pear trees, small fruits of all kinds; rhubarb and asparagus.

HENRY A. DREER, 714 Chestnut Street, Philadelphia, Pa. Autumn catalogue of all sorts of hardy bulbs for planting now; vegetable seeds for forcing and fall sowing. A fine collection of palms and ferns at popular prices.

THERE can be little question that a food cooked can be used to great advantage on the farm. The "Economy" cooker is made by Economy Mfg. Co., Homer, Mich. They mark prices plainly in their advertisement, but it will be well to get their full description, which they send on application.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

A VETERAN.

I'm a battered, old banged baby carriage, you see,
And I don't think I'm good for much more.
For at first, bless their hearts, they just bought me for one,
And I've had to do duty for four.

Yes, I looked pretty fine when they first brought me home,
Painted white, with a lace parasol,
And I surely felt proud when they wheeled baby out,
But No. 2 came in the fall.

So they tucked them both in, and I didn't much mind,
In spite of the folks' silly grins,
But No. 3 gave me the blow of my life,
For I never had counted on *twins*.

My parasol's torn, and my paint is all gone,
Washed off by a night in the rain,
And to tell the plain truth, I am rather a wreck,
And I'll never be pretty again.

But there's life in the old carriage yet, and I think
That my spirits, perhaps, my revive,
And with care and some mending, I'll brace up again
And be ready to tote *No. 5*.

—*Louise Edgar in Youth's Companion.*

ECONOMY is lauded as a virtue, and commended to all. Yet the pinch of economy has snuffed out the brightness and youth of many a life. Economy costs, in many cases, far more than it is expected to save; only we do not always see or value that which is lost.

*

THERE are two very successful young women architects in New York. One of their first business rules was to ask the same pay for their work that men get. Desiring to make an improved plan for a tenement, one of them lived in the poor district for four years. She became acquainted with all of the inconveniences against which the tenement dweller must contend. Her practical way of dealing with the problem bore fruit. With the best city architects as competitors, the subsequent plans of these two young women working together, were approved, and will be carried out by some persons interested in improving the condition of tenement homes.

*

"HALF of the praying that is done, consists of back talk," says the Atchison Globe cynic. The cynics can tell us a few truths, and most of them don't hesitate to do it. Why not stop that kind of praying; at least, stop calling it prayer?

A BIT OF HUMAN NATURE.

"THERE'S some folks you couldn't feel that way about, but that's the way I feel about *her*." Little Mrs. Patten had a sweet, small mouth, with a despondent droop to its corners. I watched it form the words daintily, with precision. "That's how I feel about Lydia Symmonds," it repeated.

"Yes?" I said, wondering why the soft hisses of the s's sounded so musical.

"Yes, she's a beautiful woman. I could let *her* take care of my children. I've watched her with her little nieces, sometimes. She's the only woman I ever saw to whom I could trust my darlings."

I meekly nodded. I knew that I was not much of a "hand" with babies. Still I confess that I winced a little at the unconscious hint in this small mother's words. She, herself, was sublimely ignorant of offense.

"I wish that Thomas knew Lydia Symmonds," she ran on, "I want him to. I shall try to bring them together. I want him to admire her good qualities as I do—to *appreciate* her. Then, if anything ever happens to me"—

The droop deepened in the corners of the sweet mouth. Mrs. Patten's tone was solemn and significant. I began to listen more attentively, for I knew that she was in earnest from the minute she called her big, rollicking Tom, "Thomas."

"Yes," she sighed plaintively, "I could let *her* be a mother to my children if—if anything happened to me. Of course, I shouldn't dream of suggesting such a thing to Thomas, you know—dear me, no! But I shall bring them together, and try to impress him with her superiority."

She laid her work down and gazed wistfully out of the window at the nosegay of brightly-gowned little ones playing on the lawn. "You—you are not feeling sick, Mrs. Patten, I hope!" I exclaimed, rather clumsily. I could never do such things with grace.

"Bless you, no!" she cried, recovering her spirits instantly, "I never felt better, and I come of a long lived race. But, you know, it's always best to be prepared for everything. I always am. I find it's a comfort to decide just what you'd do when—when it was necessary."

We both of us laughed at her ambiguity, and, callers interrupting, we never continued the subject—that is, not until two years later, when I went to Mrs. Patten's again to board through the summer days. The intervening year I had spent abroad. The pleasant little home I found just as pleasant as ever—the children just as sweet, though taller in their little black-stockinged feet, to be sure, and "Tom" just as jovial and big, though growing a bit bald. Mrs. Patten's mouth still had its pathetic droop. One afternoon, we two women sat together on the shady porch, and pretended that we were sewing. *I* wasn't, anyway. A pretty phaeton drove lazily by, and Mrs. Patten nodded. I thought that she made the slight salute rather coolly.

"I wonder who that is," I happened to say, absently.

"Lydia Symmonds!" Mrs. Patten's little, sharp teeth cut the words, it almost seemed, on their way out.

"Oh!" All at once, I remembered our conversation about Lydia Symmonds long ago. "She is the woman—the only woman in the world—you would trust your chil"—I began with innocent interest.

"Wait!" She cried, interrupting me in the midst of the "children," "Wait! Don't finish it!" She held her needle point toward me, like a lance. Was she going to impale me on its tip? "Don't say another word about Lydia Symmonds," she said, "or I shall either cry or laugh." Of course she laughed.

"She is married then?" I ventured, sympathetically.

"No," shortly.

"And she isn't dead, of course, seeing that she rides by in phaetons"———

"Of course!"

"Well?"

"Well, she's an excellent woman, Lydia Symmonds is. Who said that she wasn't?" Mrs. Patten's mouth-corners drooped depressingly, though I was sure that I caught twinkles in the corners of her eyes. There was a little interim of silence between us that embarrassed me into plying my needle with zeal. It was broken by Mrs. Patten's clear, sweet laugh, under which, however, a note of chagrin lay, ill-concealed. That encouraged me to ask:

"Did Tom—did Mr. Patten ever meet her?"

"He met her!"

"And didn't like her—Oh, I see!" I have said before that I was clumsy—behold the proof!

"And *did* like her. I brought them together just on purpose, you know," Mrs. Patten said, still the undernote of chagrin in her voice. "I kept at it—had her here two or three times. Tom thought that she was perfectly lovely."

"Just as you had hoped he would," I wickedly interrupted.

She went on, ignoring, "He said that she was the loveliest lady he ever saw—except me," she added demurely.

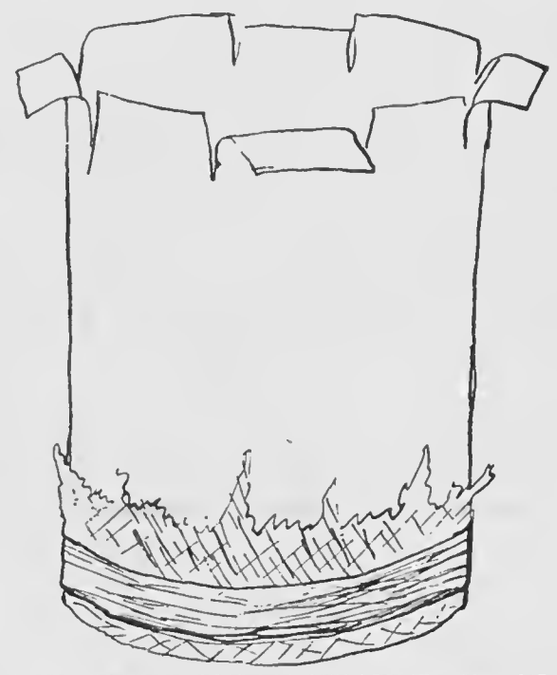
"Just as you hoped."

Mrs. Patten's needle advanced upon me again, lance-like, "Well," she said, rising and striking a charming little attitude before me, "I've given up all my desire to have Lydia Symmonds the mother of my children!"

ANNIE HAMILTON DONNELL.

A CHEAP COFFEE STRAINER.

A SERVICEABLE strainer and coffee dripper can be made of a baking powder can and its cover. Cut the bottom smoothly out of the can; spread over one open end of it, a piece of cheese cloth. Cut the top smoothly out from the cover of the can, which will change it into a broad ring; slip this ring over the cheese cloth on the can, and press down until it fits firmly around the can, holding it taut, or slack, as desired. Around the other end of the can, cut at intervals, perpendicular slits about an inch long, see Fig. 215. Bend the tin between the slits outward so as to form a projecting rim around the can, which



A HOMEMADE COFFEE STRAINER. FIG. 215.

rim may rest on the edge of any vessel into which you are straining, thus obviating the necessity of holding the strainer.

M. LANE GRIFFIN.

TROUBLESOME CHILDREN.

"BEGINNINGS," by S. B. R., page 583, recalls to my mind a friend near whom I once lived who used to visit me frequently. She had two children, three and five years old. Being an intimate friend, she came to see me at any hour she chose. She always had three meals a day. My husband being from home, I generally got but two meals, preferring bread and milk or bread and fruit for tea. My friend would often come in just when we were eating, and immediately her children would begin to coax and tease for whatever was on the table. It was, "Ma! Ma! I want an ear of corn," from the oldest; whereupon the youngest would chime in, "Me want one, too!" I would give them the corn without butter, for I knew that they were liable to be in the parlor the next minute. But that wouldn't do. "Want butter on it! Lot's of butter!" they would say. If it wasn't corn, it was a piece of meat, or piece of bread and butter. The latter must always be well supplied with sugar, too.

Much as I liked the mother, I took a great dislike to her children. Not only would they tease, but if they had a chance to help themselves, they would do so. I had taught my children never to tease for anything to eat away from home, and I noticed, when visiting my friend, that, if her children asked her for something to eat, she would say no, most emphatically. So I could but wonder how she could sit so quietly and let her children tease until their wishes were gratified. I have often thought of it, and tried to account for the seeming lack of sense on the mother's part.

I stood it as long as I could until, at last, when the children began to tease, I would not notice them. Every little while, I would hear the mother whisper, "Keep still!" Then they would begin, "I want to go home! I want to go home!" and I would ask, "What is the matter?" The mother would reply, "They say that they are hungry, but they cannot be; we ate just before we left home." Then I would get a cracker for each of them, and if it were scattered over the carpets, I need not care. In fact, I got into the habit of keeping crackers on hand for visitors' hungry children, and think it a good plan; for there are children, of course, who are really hungry, and crackers are clean.

MABEL H. MONSEY.

BE GENEROUS.

HOW childish, and often cruel, it is to hold a spite against a neighbor, relative, or old friend, because of some unguarded word or act of theirs against our "august self." A child is allowed to say of a friend, "He is so hateful, and I'll never speak to him again!" The parents say, "They are only children!" But children form habits, we must remember. A spiteful child makes a spiteful man or woman.

Forgive and forget, if you would grow noble and respected. There are plenty of ignorant people to hold grudges and keep up quarrels. You are a privileged person, educated and refined. There is some good in every one, and it is your duty to add your little mite towards the happiness of every one you know. We lessen our own enjoyment when we cannot think of neighbor Mary, or cousin Joe, without a feeling of resentment. It is a small mind that cannot be generous to another's beliefs, when they are not one's own. It's a mean spirit that will not forgive another's faults, for each of us has his own faults.

How we mourn when we lose a friend by death! Yet we sometimes see people give up a living friend for some little quarrel which, if it might not have been averted, should have been forgiven and forgotten. We are no more important than our friends; why should we expect them always to be true to us when we are often wanting in faith to them?

"Put yourself in his place" often when you judge another. Ah, it looks different now! How lenient we are to ourselves! It is said of Whittier that he was very generous to the faults of others, though very strict with himself. Shall we be counted with Whittier? R. M.

440

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Ladies' Basque Waist.

The basque is pointed front and back. The vest may be made to close in the center or at the left shoulder with the standing collar and under the left rever. The back has the fullness at the lower edge laid in overlapping plaits at the center, which are flatly stitched and arranged over the fitted lining. The sleeves are faced with velvet to a considerable distance above the elbow, the

6863—Ladies' Pointed Basque.

short, full puffs being gathered and arranged to stand out fashionably at the top. Pattern No. 6863, may be had in sizes for 32, 34, 36, 38 and 40 inches bust measure.

"IT IS MY WAY."

HOW often we hear this remark made in defense of some disagreeable speech. Those afflicted with this unfortunate habit, seem to think that the explanation, "It is my way," will atone for any rudeness or unkindness of which they may have been guilty. We all know the woman who boasts, "I always call a spade a spade;" or, "I always speak my mind, and let folks know just what I think." Our plain-spoken friend never takes into account the hard feelings she arouses, or the bitter tears she causes to be shed, by her unnecessary and unkind words.

I have known mothers who, instead of correcting their daughters, when this propensity for being outspoken made its appearance, meekly accept the situation as though no other course were possible. One mother said, apologetically, to me, when her daughter was treating us to some specimens of her plain speech in reference to her teacher, "That's Ethel's way; she always says what she thinks." The mother surely ought to know, for she herself is often the subject of her daughter's outspoken ways.

If mothers would only realize that this is a habit that can and ought to be corrected, they would confer a lasting benefit on suffering humanity. It sometimes seems as though, now, children are allowed too great a freedom of speech. It is no uncommon occurrence to hear girls not yet in their teens, contradicting their mother. Young girls are impulsive, and often speak thoughtlessly. If not restrained by a mother's wise counsels, they soon form the disagreeable habit of saying all sorts of unpleasant and unkind things. It is not possible for us to like every one, but it is possible for us to refrain from expressing unkind and uncalled-for opinions.

Many girls whose material wants are carefully looked after, are allowed to express their dislikes in the most violent manner. These girls have heard so often from the lips of their mother, that it is Mary's or Jennie's way, to say just what she thinks, that they believe that their way is an inherent right. When these girls become women, they will find that all their new acquaintances will not accept the old-time apology, "It's my way," with as good a grace as the weak but patient mother did. Let us take warning in time, and teach our children, boys as well as girls, kinder ways of speech.

N. C. ANDREWS.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best** —*Adv*

MEN AS COOKS.

ELLA WHEELER WILCOX says, "I never see a petted, pampered girl who is yielded to in every whim, by parents and servants, that I do not sigh with pity for the man who will, one day, be her husband." On the other hand, I never see a son humored and waited upon by his indulgent parents, that I, too, do not sigh for the young woman he may, some day, lead to the altar.

It is well that boys understand housework. There are times when it is a matter of moment, as well as convenience, that a man can prepare a meal. In the far East, all the cooks are men. A traveler who spent some time there, says, "I would as soon have a camel in my parlor as a man in my kitchen; men are well enough, they will answer for the drudgery of life, but when you come to solve the nice problem of what you shall eat, commend me to a woman. Women sometimes make mistakes in what they offer us to eat; Eve did. But a few months' experience in the land where men are cooks, will drive you to sing with the poet, 'Oh, woman, with all thy faults, I love thee still!'" Yet for all this, I have known men who were carefully trained by excellent mothers when boys, who were very convenient about the kitchen.

That the art of cooking is thoroughly understood by some of the sterner sex, is proved by the fact that the chef at renowned Delmonico's is a man, as well as those at other famous places. These have learned it as an art, and are paid almost fabulous prices for their services. But that which is brought to a fine art in one sense, can certainly be used to advantage in a minor one; and it is, certainly, an accomplishment for a boy or man to know how to prepare, at least, a plain meal.

ELLA F. FLANDERS.

A LIST OF DON'TS.

DON'T think that any medicine will take the place of right living!

Don't fret; whatever else you do, don't fret; don't scold; don't worry; keep calm and even-tempered. This will preserve your face from wrinkles, your body from infirmities, your mind from unrest and friction, and prolong your life in peace.

Don't use any device to preserve beauty, such as paints, powders, washes, dyes or bleaches; the only thing that will really preserve or procure beauty is good health. A clean and healthy body and a sound and active mind are the only beautifiers known to man.

Don't wear anything tight, neither hats, as some men do, nor tight clothes, as some women do, nor tight shoes, as both men and women are too likely to do.

Don't get ashamed of your natural station in life! Don't get ashamed of your business! Don't get beyond your generation! Don't get too big for your clothes! Don't get too proud for your purse!

Don't allow anything to sour or mold about the house, or allow any room to remain unventilated, dark and damp for any length of time!

Don't be afraid of sun and air when you are sick! The best disinfectant in the world is sunlight. The best invigorator known to man is fresh air.

Don't be afraid to confess a fault, or apologize for a wrong act! True courage is always willing to make amends.

Don't judge of a man's religion by what he says; wait and see what he does. Don't judge of a woman's virtues by her public graces; first learn what her every-day conduct is at home.

Y. M. R.

PRINTED PATCHWORK.

Better trust all, and be deceived,
And weep that trust and that deceiving,
Than doubt one heart, that if believed
Had blessed one's life with true believing.
—*Frances Anne Kemble.*

....HARPER'S BAZAR: "The prude and the roué see exactly the same evil in things. One may laugh at it, the other may shiver, but both have seen something which the really pure people never thought of."

....WM. HORATIO CLARK: "No one has a sincere desire to call upon and converse with a grumbler, who is constantly alluding to symptoms and aches. Constant complaining drives away sympathetic companionship, and is the opposite state from self-control."

....THE CHAUTAUQUAN: "We Americans, especially, need to have play forced upon us; we are too much given over to constant money-grabbing and the feverish pursuit of sordid ambitions. There is small danger that we will fall too far in the direction of recreation and healthful pastime.

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NO. 92 FIFTH AVENUE, NEAR 14TH ST., N. Y.

THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

Miscellaneous Advertising.
IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Naked Pills
are fit only, for naked savages. Clothes are the marks of civilization—in pills as well as people. A good coat does not make a good pill, any more than good clothes make a good man. But as sure as you'd look on a clothesless man as a mad one, you may look on a coatless pill as a bad one. After fifty years of test no pills stand higher than
AYER'S Cathartic Pills
SUGAR COATED.

The Agent's Share.

Our Contest for Trial Subscriptions for the rest of this year, closed September 30. The winners of the Sweepstake Premiums were :

1—RONSON GERMAN..... Michigan.....227 Trial Subscriptions.
2—J. O. LOFTIN..... North Carolina....224 Trial Subscriptions.
3—C. R. FARNUM..... Massachusetts.....146 Trial Subscriptions.
4—R. R. GAGE..... Ontario.....110 Trial Subscriptions.
5—C. A. MILLER..... New York..... 39 Trial Subscriptions.

The checks are already in these agents' hands. They have made good money, and we are glad of it. We have given them all the money they collected for subscriptions, and a little more besides. We would, of course, rather the clubs had been so large that there would be a little left for us ; but no matter, our profits will come later, and we are going to give our agents and friends some more money in another Contest right away.

October 1 to November 14.

The next Contest will close November 14, and all names sent after October 1 will count. We will continue to allow the regular 15 per cent discount as formerly.

Weekly Premiums.

Three Dollars will be sent out every Saturday night, beginning October 17, to the agent who sends the largest club for that week ; and $3 will also go out every Saturday night, beginning October 17, to the agent who sent the largest club who won *no other* weekly premiums since August 15.

Then, on November 14, we will give the following premiums :

For First Largest Club, - - -	**$25.00**
For Second Largest Club, - - -	**15.00**
For Third Largest Club, - - -	**5.00**

and $10 for the largest club sent by an agent who did not win any of the September 30 premiums. The first three premiums are open to all. The $10 premium is open to all except Ronson German, J. O. Loftin, Chas. R. Farnum, R. R. Gage and C. A. Miller.

Then, to make sure that every one gets paid for his work, we will guarantee a premium of $5, November 14, to every agent who sends 20 yearly subscriptions during this Contest.

Rest of this Year, Free.

To give our agents a chance to do good work, we will send the paper for the rest of this year, free, to those who subscribe for 1897. That is, you can give new subscribers the inducement of getting THE RURAL NEW-YORKER every week from now until January 1, 1898, for $1.

Now, there you are ! You see the profits made in the last Contest by agents who did a little work. Do you want some of this money ?

REMEMBER THIS : You can tell your farmer friends that THE RURAL NEW-YORKER always stops when the time paid for expires ; and they can have their full $1 back in three months if they are not satisfied with the paper.

Do you want some of this money ?

THE RURAL NEW-YORKER, NEW YORK.

IMPROVEMENT IN DAIRY STOCK

IN NEW YORK DAIRY COUNTIES.

Dairy stock in this county has improved greatly in the past 10 years. At that time, only a few of the very best farmers had pure bloods; now good grades and full bloods can be found on almost any farm. I think that I am safe in saying that the average grade of to-day will make one-fourth more butter than natives of old times. The improvement is due to both improved feeding and breeding. Corn and wheat bran are the cheapest feeds that we can buy. F. R.

Steuben County.

I think that the dairy stock has been improved fully one-third in the past 10 years. I do not think that the average grade cow of to-day will make more butter than the native of olden times. The improvement is due to feeding. I have experimented some with feed, and never fed over six quarts per day—two quarts each of cotton-seed meal, wheat bran and hominy—that gave me the best results for butter. I have never fed for milk. If I could get the genuine old native cow, I would prefer her to any other. W. S. H.

Delaware County.

The dairy stock of this county has greatly improved in quality during the past 10 years; I should say fully 25 per cent. There are very few scrub cattle to be seen in this section of the country nowadays. The grade cow of to-day will make, at least, 20 per cent more butter from the same amount of feed than the old-time native. But this is not a butter-producing neighborhood, being in the New York milk district, and our cows being bred for milk rather than butter. The improvement in milk production is partly due to blood and partly to improved methods of feeding and better care. In winter, our cows are stabled in warm buildings, with running water constantly before them, and fed regularly a balanced ration, adjusted to their needs. The cheapest grain we can buy, to-day, is ship feed—that is, wheat bran with the middlings left in—at $10.50 per ton by the car-load, laid down at our nearest railroad station. This, of course, is not a balanced ration in itself. C. A. EVANS.

Orange County.

Our county has hardly kept pace with other sections of the country in the improvement of the dairy. The increase of the dairy product is from 25 to 50 per cent; the greater part of it is due to better regulation in feeding and milking, better conveniences for water, warmer stables, better fencing, more White clover in the pasture, better milkers and kinder treatment, earlier cut hay, and a better balanced grain ration. For the past 10 years, I have added a variety of grains to my feed, as I found that they would produce more butter than one grain alone. D. T. E.

Columbia County.

The dairies of this county have greatly improved in the past 10 years, in quantity and quality. As this is a milk-producing section, I can't say in regard to the butter. The native cow of to-day is producing one-third more milk than she did 10 years ago; the improvement is due to better care and better feeding. As I am in the milk business, I feed to produce the largest quantity of milk at the least cost. I feed mostly hominy meal, sprouts, bran, gluten meal and cotton-seed meal. The cheapest grain to-day is hominy meal and bran. G. W. MARTIN.

Orange County.

In this part of the county most of the dairies are making milk for the creameries; but taking the county altogether, the dairy cows have not been improved very much along the line of the railroad, as the cows are changed so often, new ones filling the places of those that are milked out. Back from the railroads the dairies have been improved to the extent of 30 or 40 per cent in the last 10 years, due to better breeding and better feeding. The farmers have learned much in feeding stock in the last 10 years, and a great deal of this knowledge has come through THE R. N.-Y. In regard to feeds, bran, middlings and gluten feed mixed, are the best for milk; but for butter, bran and corn meal, with oats, are the best. I don't like the gluten feeds for butter. The cheapest feeds are bran and gluten for milk and middlings and corn for butter. The quantity of butter produced has increased about 30 to 40 per cent. N. F. B.

Sullivan County.

I believe that the dairy stock of this county has been improved, at least, 20 per cent in the past 10 years, the improvement consisting in both better breeding and better keeping. I think that the average grade cow of to-day will make one-fifth more than the native of old. The improvement is due to both better blood and better feeding. The feeding has changed in this section, considerably, by the use of ensilage and the increased use of grain. We use more wheat bran than any other grain, and believe that, if it is bought at the right time of year, it is the cheapest for us. J. M. BREED.

Chemung County.

The dairy stock of this county has been greatly improved in the past 10 years, which is due about equally to improved blood and feeding. There are still some scrub dairies which are fast giving way to the more improved grades of cattle. The average grade cow of to-day will make one-third more butter than the native of old times. The method of feeding and caring for stock has changed a great deal in the past 10 years. The cheapest feed at present, I think, is ship feed, which can be bought for $12 per ton, with the addition of a little heavier feed, such as linseed, cotton-seed and corn meal. W. S. REYNOLDS.

Sullivan County.

The average grade cow or purebred Jersey has been improved about 25 to 30 per cent, first in improved breeding, second by better feeding, third by warmer stables and water easy of access without wallowing through snow and then drinking ice water at that. I hardly know what is the cheapest feed to buy; perhaps, corn and bran. We don't buy grain through this section; we raise corn fodder and hay, and for a grain ration, feed barley, oats and peas, corn and buckwheat, such as we have. These make good feed. I never have had any experience with cotton-seed meal and distillery feeds. B. I. G.

Steuben County.

When we used scrub stock, we thought that, if we got two 80-pound firkins of butter to the cow, we were doing pretty well; but now, as a general thing, the dairy with grade Jerseys, and with about the same feed, will make about 240 pounds to the cow. Most of the dairymen are improving their stock, but we have a few old-timers that stick to the scrub cow for fear of expense and trouble. Dairy stock have been improved more than 25 per cent during the past 10 years, and

(*Continued on next page.*)

Miscellaneous Advertising.

Napoleon Bonaparte, one of the most forceful men in all history, a man continually wrapped in schemes and campaigns, in plots and counter-plots, striving intently and ambitiously for success and power—a man whose utter disregard for human life made his battles the bloodiest the world has ever seen—this man found bitterness in his triumphs because he had no heir to whom to bequeath his greatness. Josephine was divorced largely for this reason. Many women are incapable of bearing children. Many more of them are afflicted with disorders of the organs directly feminine so that bearing children would be dangerous to them, and unfair to the children. Every child deserves the heritage of health. The children cannot receive this from a sickly mother. There is no reason why they should have such a thing as "female weakness." It is as unnecessary as it is distressing. Dr. Pierce's Favorite Prescription cures all forms of distinctly feminine sickness. It purifies, strengthens and invigorates. It is prepared for just this one purpose and no other. It's the only medicine now before the public for woman's peculiar ailments, adapted to her delicate organization by a regularly graduated physician, an experienced and skilled specialist in these maladies. It cannot do harm in any condition of the system. Its sales exceed the combined sales of all other medicines for women.

Every woman ought to send 21 one-cent stamps to pay for mailing a free copy of Dr. Pierce's thousand page "Medical Adviser." World's Dispensary Medical Association, Buffalo, N. Y.

OUR RURAL BOOKS.

Any Book on this List will be forwarded promptly on receipt of price.

Accidents and Emergencies.
G. G. Groff, M. D. What to Do In—Home Treatment of—What to Do 'till the Doctor Comes. Sunstroke, poisoning, broken bones, cuts, bites of mad dogs, insects, snakes, etc., freezing, bruises, burns, choking, colic, drowning, exhaustion, explosion, suffocation by gases; what to do in storms, being stunned, wounds, etc.....20

A Fortune in two Acres.
Fred Grundy. This is a story of how a workman in a small market town gained independence and a fortune on two acres. Paper.....20

Chemicals and Clover.
H. W. Collingwood. A concise and practical discussion of the all-important topic of commercial fertilizers, in connection with green manuring, in bringing up worn-out soils, and in general farm practice. Paper.....20

Country Roads.
I. P. Roberts and others. Expert opinions upon laying out, constructing and maintaining public highways. Highway laws. Illustrated. Paper.....20

Fruit Packages
A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper..20

Fertilizers and Fruits.
H. W. Collingwood. How the Hudson River fruit growers cultivate and market their crops, and especially shows how these skillful men are feeding their vines and trees. Paper.....20

Fruit Culture.
W. C. Strong. Laying out and management of a country home. Illustrated. Each kind of fruit treated separately. Injurious insects described. How to fight them. Cloth.....$1

Horses, Cattle, Sheep and Swine.
Geo. W. Curtis, M. S. A. Origin, History, Improvement, Description, Characteristics, Merits, Objections, Adaptability South, etc., of each of the Different Breeds, with Hints on Selection, Care and Management. Methods of practical breeders of the United States and Canada. Superbly illustrated. About 100 full-page cuts. Cloth.....$2

How to Rid Buildings and Farms of
Rats, Mice, Gophers, Prairie Dogs, Ground Squirrels, Rabbits, Moles, Weasels, Minks and other Pests, Quickly and Safely. How to Snare Hawks and Owls. Valuable Hints to Housekeepers, Farmers and Poultrykeepers.....20

Improving the Farm.
Lucius D. Davis. Methods of Culture that shall Afford a Profit, and at the same time Increase the Fertility of the Soil. The contents treats exhaustively on renewing run-down farms. Cloth.....$1

Milk : Making and Marketing.
E. G. Fowler. Selling Fat and Water. An illustrated account of the methods, herds and appliances of several remarkably successful milk-producing farms.....20

My Handkerchief Garden.
Charles Barnard. An explicit account of Mr. Barnard's actual operations on a suburban village house-lot. Interesting and valuable to all suburban dwellers, professional men and mechanics.....20

Plant Breeding.
By L. H. Bailey. (Cross-breeding and Hybridizing, revised and enlarged.) Contains the Facts and Philosophy of Variation; the Philosophy of Crossing Plants; Specific Means by which Garden Varieties Originate; Detailed Directions for Crossing Plants. Cloth, $1.

How to Plant a Place.
Elias A. Long. A brief treatise, illustrated with more than 60 original engravings, and designed to cover the various matters pertaining to planting a place. Paper.....20

Popular Errors About Plants.
A. A. Crozier. A collection of errors and superstitions entertained by farmers, gardeners and others, together with brief scientific refutations. Valuable to practical cultivators who want to know the truth about their work. Cloth.....$1

Spraying Crops
Prof. Clarence M. Weed. Why, When and How to Do It. Illustrated. Covers the whole field of the insect and fungous enemies of crops for which the spray is used. Paper.....25

The Modification of Plants by Climate.
A. A. Crozier. Influence of climate upon size, form, color, fruitfulness, acclimation, etc. 35 pp. Paper.....25

The New Botany.
J. W. Bail, M. Sc., Ph. D. A Lecture on the Best Method of Teaching the Science. Valuable to Students and Amateurs, being a useful guide in studying "The Beautiful Science."".....25

THE RURAL NEW-YORKER, NEW YORK.

Improvement in Dairy Stock—Continued.

farmers are raising more sowed corn. Most of the farmers cut and cure it, and mow it away in the barns. Some have silos, but they are mostly milkmen. The cheapest feed to buy, is wheat bran and corn meal, equal parts by weight. We have fed about the same for the past 10 years.

Chemung County. G. H. T.

I think that the average cow of to-day will make, at least, 25 per cent more butter than she could have made 10 years ago; this is due more to better feed than to improved blood. The farmers in this locality are waking up to the fact that it pays better to raise more corn fodder, and feed more ground feed, thereby keeping up the flow of milk, than it did to let their cows go almost dry at this season of the year, and let them worry through the winter on a mixture of weeds and overripe white-top hay. Proper feeding is what they need to learn first, and then it will be some benefit to them to go into grading up their stock. If they would all read THE R. N.-Y. for one year, and couple the information obtained with common sense, it would prove the best investment ever made. Wheat bran and corn meal are the cheapest feeds at present for milch cows, but enough of something else to make out a balanced ration, should be added to get the best results.

Sullivan County. P. E. WILSON.

CROP AND MARKET NOTES.

Small crab apples are in demand at good prices.

California Lima beans are selling very slowly.

The American Institute Fair is in full swing at Madison Square Garden.

Egg prices have gone considerably higher. Strictly fresh are scarce.

The tendency of the market in all lines of dried fruits, is toward higher prices.

The apple market is firm and in good shape, and the demand active for all choice varieties.

Wheat prices seem to be going in the direction of the dollar mark, but whether they will reach it or not is another question.

The Egyptian cotton crop promises to be the largest ever known. It is estimated that it will amount to 6,000,000 cantars (570,000,000 pounds).

The cranberry crop this year is considerably less than last, the falling off being largely in New Jersey, whose crop is reported to be almost a failure.

A joint session of the North Dakota and South Dakota Dairymen's Association will be held at Aberdeen, S. D., October 7 to 9. Dairying is picking up in the Northwest.

The seed firm of D. M. Ferry & Co. have applied for an injunction restraining Secretary Morton from distributing free seeds, on the ground that it is an injury to their business, and is unconstitutional.

The International Association of Farmers' Institute Workers will hold its second meeting at the Sherman House, Chicago, beginning October 14 at 10:30 A. M., continuing two days. Most of the prominent institute promoters in the United States and Canada are expected to be present and take part in discussing the various phases of the work. The regular programme will be supplemented by brief talks and discussions, which will give an opportunity for asking and answering questions.

SMALL KANSAS PIGS.—As to the question asked on page 666, we would say that the size at which the pigs are to be disposed of would depend upon the business of the buyer. Cattle feeders want pigs of 100 pounds and upwards, which growth the pigs should make in four months. Under 100 pounds, pigs would not be very salable in large numbers.

The sows and young pigs will do very well running on rye pasture, but Alfalfa is preferable. Sows and pigs on pasture require grain in order to make satisfactory growth; corn is best. A separate pasture for each sow and litter is far preferable, because it contracts the ranges and prevents the pigs of different litters from invading the rights of others. The sows should be kept in moderate flesh during pregnancy, and should be fed liberally while suckling pigs. A good food for them at this period, on pasture, is ground barley, wheat, corn and oats or rye made into a slop. If not on pasture, bran should be added, and oil meal can be used to great advantage.

The young pigs after weaning time must have the best of care and most nutritious food. After weaning one can keep as many pigs in one pasture as it will stand, if there is plenty of trough room to feed them, being careful to feed the pigs of the same size in pens by themselves, so that the larger ones will not crowd out the smaller ones. Our plan has been to build fences around the troughs, leaving openings to sort out the pigs, and begin feeding the smallest.

You can average 15 pigs per year from each sow. We have found the large English Berkshire best adapted to our needs; they are good grazers, quick growers and excellent sellers, and average about nine pigs to the litter. Thoroughbreds are by all odds the best, and, while the first cost is greater, they are more profitable in the end.

Russell, Kan. WM. B. SUTTON & SON.

CONDENSED CORRESPONDENCE.

MONROE COUNTY, MICH.—Corn in Michigan is a heavy crop. The hay crop is light, and straw worthless for feed, which will make the price of hay high. Potatoes are all destroyed on the low ground, and in some places they are rotting on the sand. The yield, where not rotting, is generally very light. The apple crop is immense and of extra fine quality. Prices range from 40 to 50 cents per barrel for the fruit. E. R. D.

ADAMS COUNTY, IOWA.—The business of horse breeding in this locality has been changed from almost all grade draft to about one-half the usual number, and of all kinds, including mules. Prices have fallen one-half in the past six years. Care given now, is nothing like it used to be, when they were worth double the present price. Horse breeders are not very hopeful of the future as a general thing, though some are. E. L. G.

FULTON COUNTY, N. Y.—The potato crop harvested in this county this year, will be the poorest ever known to the writer. The acreage will average about 50 per cent of last year's, and the yield will not average over 25 per cent. Present market prices incline farmers to sell now. Large size, smooth stock (which is very scarce), finds quick purchasers. R. D. B.

WINNEBAGO COUNTY, ILL.—We are feasting upon Crosby peaches and Prairie du Pont pears. Crosby ripens after Champion and stands the winters better than the Maiden's Blush and Fall Orange apple. Prairie du Pont pear is, when ripe, a light yellow color, and when exposed to the sun shows a beautiful red blush. It is a delicious fruit of good size and the tree seems to be perfectly hardy in our severe climate. A specimen on my desk measured 4½ inches in length, 3¼ in width and weighs 12½ ounces. S. E. H.

R. N.-Y.—The Prairie du Pont pear is new to us. There is a Prairie du Pond given by Downing.

MARKETS.

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 30	@1	32½
Medium, 1895, choice	1 15	@1	20
Pea, 1895, choice	1 15	@1	20
Medium or Pea, common to good	1 00	@1	10
White Kidney, 1895, choice	1 35	@	—
Red Kidney, 1895, choice	1 22	@1	25
Red Kidney, common to good	1 00	@1	15
Black Turtle soup, 1895	1 45	@1	50
Yellow Eye 1895, choice	1 20	@1	22
Lima, Cal., 1895 (60 lbs)	1 35	@1	40
Green peas, Scotch, 1895, bbl., per bushel	75	@	80
Barrels, per bushel	65	@	70

BUTTER—NEW.

Creamery, Western, extras	16	@	—
Western, firsts	14	@	15
Western, seconds	11½	@	13
Western, thirds	11	@	—
State, fancy	16	@	—
Common to prime	11	@	15
State dairy, half-firkin tubs, fancy	14½	@	15
Firsts	12	@	13½
Seconds	11	@	11½
Welsh tubs, fancy	14½	@	—
Welsh tubs, firsts	13½	@	—
Welsh tubs, seconds	11	@	—
Tubs, thirds	10	@	—
Western imitation creamery, firsts	11	@	11½
Seconds	9	@	10
Western dairy, firsts	10	@	11
Seconds	8½	@	9½
Thirds	7½	@	8
Factory, fancy	10	@	10½
Factory, firsts	9	@	9½
Factory, seconds	8	@	8½
Factory, thirds	7	@	7½
Old butter	6	@	8½

CHEESE—NEW.

State full cream, large, colored, fancy	9¼	@	9⅜
Colored, good to choice	8½	@	9
Fair to good	8	@	8½
Fancy white	9¼	@	9⅜
White, choice	9	@	9⅛
Small, colored, fancy	9¼	@	—
Small, white, fancy	9	@	—
Small, good to choice	8¼	@	8¾
Small, common to fair	7	@	8
Light skims, choice	7	@	7½
Part skims, good to prime	5	@	6
Part skims, common to fair	3	@	4
Full skims	1½	@	2

EGGS.

Near-by, new laid, fancy, selected, per doz	21	@	22
State, fresh gathered, average best	18½	@	19
Penn., country marks, average best	18½	@	19
State and Penn., fair to good	17½	@	18
Western, northerly sections, fancy	18	@	—
Western, fair to good	16½	@	17
Western refrigerator, prime, early pkd.	15	@	15½
Western refrigerator, fair to good	14	@	14½
Western fair to good, per case	3 25	@4	00
Western dirties, per 30-doz case	3 00	@3	50
Western checks, per 30-doz case	2 10	@2	70

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	5¼	@	5½
Choice, 1896, per lb	4½	@	5
Prime, 1896, per lb	4	@	4¼
Common, per lb	3	@	3¾
1895, prime to choice, per lb	3½	@	4½
1895, common to good, per lb	2	@	3
N. C., sundried, 1896, sliced, fancy	2½	@	3½
Southern, sundried, common to choice	2	@	3
State, sundried, quarters, bbls	—	@	—
Western, sundried, quarters, bbls	—	@	—
South-West'n, sundried, quarters, bbls.	—	@	—
Southern, sundried, quarters, bbls	—	@	—
Southern, sundried, coarse cut bags	2	@	2½
Chopped, 1896, per lb	1½	@	1⅝
Cores and skins, 1896, per lb	1	@	1¼
Peaches, Sundried, 1896, peeled, per lb	7	@	8
Cherries, 1895, per lb	8½	@	9
Cherries, 1896, per lb	9	@	10
Blackberries, 1896, per lb	4	@	—
Raspberries, evaporated, 1896, per lb	14	@	14½
Huckleberries, 1896, per lb	7	@	7½
Plums, Southern Damson, 1895, per lb	—	@	—

GRASS SEED.

Clover, per 100 lb	6 50	@	8 25
Timothy	2 70	@	4 00

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 00	@1	25
Maiden's Blush, per bbl	1 00	@1	25
Alexander, per bbl	1 50	@1	75
Baldwin, per bbl	1 00	@1	25
Cod ing, per bbl	75	@1	00
Culvert, per bbl	75	@1	00
Gravensteln, per bbl	1 25	@1	75
Fall Pippin, per bbl	1 00	@1	25
Greening, per bbl	1 00	@1	25
Holland Pippin, per bbl	1 00	@1	25
Ribston Pippin, per bbl	75	@1	00
Oldenburg, per bbl	1 25	@1	75
King, per bbl	1 25	@1	75
Detroit Red per bbl	1 25	@1	50
Nearby, open heads and common, per bbl	50	@	75
Crab, large, per bbl	50	@2	00
Crab, small, per bbl	3 00	@5	00
Cranberries, Cape Cod, dark, per bbl	4 75	@	—
Good color, per bbl	4 00	@4	50
Light to medium, per bbl	3 00	@3	75
Per crate	1 25	@1	60
Jersey, per crate	1 00	@1	25
Grapes, Up-River, Concord, per 25-lb carrier	40	@	50
Up-River, Pocklington, per 25-lb carrier	50	@	70
Up-River, Worden, per 25-lb carrier	40	@	50
Up-River, Niagara, per 25-lb carrier	50	@	75
Up-River, Delaware, per 25-lb carrier	75	@	85
West'n N. Y., Concord, per large basket	10	@	14
West'n N. Y., Delaware, per small bkt	9	@	12
West'n N. Y. Niagara, per small basket	9	@	12
Wine grapes, black in bulk, per lb	1¼	@	1½
Wine grapes, white, per lb	1½	@	2
Peaches, Western Maryland, per carrier	75	@2	00
Western Maryland, per crate	50	@1	50
Western Maryland, per basket	30	@1	00
Michigan per bushel basket	1 25	@1	75
Plums, Green per 10-lb basket	20	@	60
Ordinary Blue, per basket	40	@	60
Prunes, per basket	50	@	75
Pears, Bartlett, per bbl	3 00	@4	50
Bartlett, per keg	1 50	@2	00
Bosc, per bbl	2 50	@4	00
Clairgeau, per bbl	2 25	@3	00
Duchess, per bbl	2 25	@2	75
Anjou, per bbl	2 25	@3	00
Seckel, per bbl	3 00	@7	00
Seckel, per keg	1 50	@3	00
Sheldon per bbl	2 25	@3	00
Swan's Orange, per bbl	2 25	@2	75
Nearby cooking, per bbl	1 75	@2	25

GAME.

Woodcock, average, per pair	75	@1	00
Partridges, nearby, per pair	75	@1	00
Western, per pair	50	@	90
Grouse Western, per pair	50	@	80
English snipe, choice, per doz	1 75	@2	25
Plover, golden, choice, per doz	1 75	@2	25
Grass, average, per doz	75	@1	75
Reedbirds, per doz	25	@	40
Blackbirds, per doz	15	@	20
Rabbits, per pair	25	@	40
Wild ducks, mallards, per pair	50	@	60
Teal, per pair	25	@	30
Common, per pair	20	@	25
Venison, frozen, prime saddles, per lb	22	@	24

GRAIN.

Wheat	72	@	73
Rye	56	@	43
Barley feeding	26	@	28
Barley malting	36	@	40
Buckwheat, silver	34	@	39
Buckwheat, Japan	45	@	—
Corn	25	@	28
Oats	21	@	29

HONEY.

State, white clover, comb, fancy, per lb	12½	@	13
Buckwheat, comb, per lb	8	@	9
White clover, extracted, per lb	5	@	5½
Buckwheat, extracted, per lb	4	@	—
California, comb, fair to prime, per lb	—	@	—
Extracted, per lb	5½	@	6½
Southern, in bulk, per gallon	45	@	50

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½	@	10
Fair to good, per lb	9	@	9½
Com. to med., per lb	7	@	8½
Small, per lb	4	@	6
Buttermilks	5	@	6
Grassers	4	@	5
Pork, country dressed, 10 to 25 lbs., per lb	8	@	10
40 to 60 lbs., per lb	6½	@	7
60 to 80 lbs., per lb	5¾	@	6¼
80 to 120 lbs, per lb	5¼	@	5¾
125 lbs and up, per lb	4	@	5

NUTS.

Peannts, Va., h. p., fancy, per lb	3¾	@	4
H. p., extra, per lb	3	@	3½
Shelled, No. 1, per lb	4½	@	—
No. 2, per lb	3¾	@	4
Spanish, shelled, No. 1, per lb	6½	@	6¾
No. 2, per lb	4¾	@	5
Pecans ungraded, per lb	4	@	5
Chestnuts, northern, per bush of 60 lbs	3 50	@4	00
Southern, per bushel of 60 lbs	2 00	@2	50
Hickorynuts, per bushel of 50 lbs	2 00	@2	50

POTATOES.

Long Island, in bulk, per bbl	1 00	@1	25
Jersey, per sack	1 00	@1	12
Jersey, per bbl	1 00	@1	25
Sweets, Va., yellow, per bbl	70	@	90
Jersey, yellow, per d. h. bbl.	1 25	@1	50
Vineland, per bbl.	1 50	@2	00

POULTRY—LIVE.

Spring chickens, per lb	8	@	8½
Fowls, local, per lb	10½	@	—
Western, per lb	10½	@	—
Southwestern, per lb	10	@	10½
Southern, per lb	10	@	10½
Roosters, old, per lb	6	@	—
Turkeys, mixed, per lb	9	@	—
Ducks, local, per pair	65	@	75
Western, per pair	60	@	70
Southern, per pair	40	@	50
Geese, local, per pair	1 25	@1	50
Western, per pair	1 25	@1	37
Southern, per pair	1 00	@1	25
Pigeons, old, per pair	25	@	—
Young, per pair	15	@	20

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	12	@	12½
Young, dry-picked, per lb	12	@	13
Young, scalded, per lb	11	@	12
Young, inferior, per lb	5	@	10
Spring chickens, Phil., selected, per lb	13	@	14
Philadelphia, poor to good, per lb	9	@	12
Pennsylvania, per lb	12	@	15
Western, dry-picked, good to choice	8½	@	9½
Western, dry-picked, inferior	5	@	10
Western, scalded, choice, large	8½	@	9
Western, ordinary, per lb	7	@	8
Fowls, Western, dry-picked, choice	10	@	—
Scalded, choice, per lb	9½	@	—
Old cocks, per lb	6	@	—
Spring ducks, Eastern, per lb	12½	@	13
Spring ducks, L. I., per lb	12½	@	13
Spring ducks, Penn. and Va., per lb	9	@	11
Spring ducks, Western, per lb	8	@	9
Old ducks, Western, per lb	7	@	8
Spring geese, Eastern, per lb	13	@	15
Squabs, tame, white, per doz	1 75	@2	00
Mixed lots, per doz	1 25	@1	50
Dark and poor, per doz	1 00	@1	25

VEGETABLES.

Cabbage, L. I., per 100	2 00	@3	50
Red, per 100	3 00	@4	00
Carrots, per bbl	75	@1	00
Cauliflower, L. I. and Jersey, per bbl	1 50	@3	00
Celery, fancy, large, per doz	30	@	50
Average, prime, per doz	15	@	25
Small, per doz	4	@	12
Cucumbers, per 100	1 00	@1	50
Pickles, State and L. I., per 1,000	1 00	@2	50
Pickles, Jersey, per 1,000	1 00	@3	00
Egg plant, Jersey, per bbl	50	@1	00
Green corn, large, per 100	75	@1	00
Small to medium, per 100	30	@	50
Lettuce, Boston, per doz	20	@	30
Local, per bbl.	75	@	—
Lima beans, Hackensack potato, per bag	1 25	@1	75
Jersey flat, per bag	50	@1	25
Onions, State yellow, per bbl	1 00	@1	25
Eastern white, per bbl	1 75	@2	25
Eastern red, per bbl	1 50	@1	75
Eastern yellow, per bbl	1 25	@1	50
Orange County white, per bag	1 00	@2	00
Orange County yellow, per bag	50	@1	12
Orange County, red, per bbl	50	@1	37
Jersey and Long Island yellow, per bbl	25	@	—
Jersey and Long Island red, per bbl	1 25	@1	50
Jersey and Long Island white, per bbl	1 50	@2	25
Western yellow, per bbl	1 00	@1	25
Pumpkins, per bbl	50	@	75
Red peppers, per bbl	75	@1	25
Green peppers, Jersey, per bbl	50	@1	00
Spinach, per bbl	—	@	—
Squash, marrow, per bbl	60	@	75
Hubbard, per bbl	75	@1	00
String beans, Baltimore, per basket	40	@	60
Western N. Y., per bag	—	@	—
Long Island, per bag	—	@	—
Tomatoes, Jersey, fancy, per crate	30	@	75
Common, per crate	15	@	25
Turnips, Jersey and L. I. Russia, per bbl	75	@	—
Canada, per bbl	75	@	80

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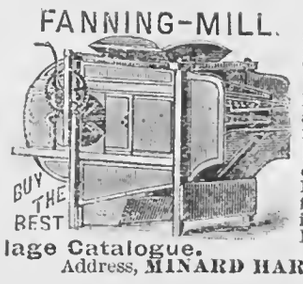

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TWO WAYS OF DEALING WITH TUBERCULOSIS.

The way it is dealt with here in New England, is to test cattle with tuberculin, and if they react, kill them. So far as I have been able to discover, the idea that any other course was to be pursued has been utterly scouted by most of the veterinarians, especially those connected with experiment stations. They were going to eradicate the disease, and if the farmer got a part of what his cattle were worth when killed, he might think himself well off.

The veterinarian of the Michigan Experiment Station is the first to announce an attempt to cure tuberculosis. Prof. Grange deserves the thanks of American cattle growers for his new departure. Heretofore, all cattle in station herds which reacted have been at once killed. Farmers have been asking why an attempt has not been made to cure these animals. In the town in which I live, about 100 cattle have been killed by the cattle commissioners. While there were some terribly bad cases, the larger part of these animals were only slightly diseased. Some of the finest Jersey stock in the country was represented in two of these herds. One farmer lost every animal he had, and he was a poor man, too. The owners got a few dollars, but what is $15 or $20 for cows which cannot be replaced for $50, $75, or $100? There has not been such excitement here since the Civil War, or since the smallpox swept through the place nearly 40 years ago, there being 80 cases. You can imagine how farmers would feel who had spent years in building up fine herds, to have them condemned and killed.

Is there not a better way? Thousands of farmers have all along believed that there is. When they have seen fine animals killed, seen the veterinarians hunt until, at last, a small point about the size of a pin head was found which was declared to be tuberculosis, they have asked, with good reason, whether killing such animals was necessary. They have felt that, with proper sanitary surroundings, these animals might have entirely recovered. The farmers have received help from an unexpected quarter. The Massachusetts State Board of Agriculture, and the Hatch Experiment Station have jointly issued a translation of a paper by Dr. B. Bang, who is at the head of veterinary work in Denmark. I believe that this is, by far, the most valuable paper or bulletin on tuberculosis which has ever been issued in this country, and I hope that the United States Department of Agriculture will reprint the bulletin so that it can have the wide circulation which it deserves.

The Danish method of dealing with the disease is very different from the American way. The statements made by Dr. Bang are quite in accord with the conclusions reached by dairymen here, and the wonder is that our veterinarians have not tried the same experiments which have succeeded so favorably in Denmark. For example, a herd of 208 were tested and 131 reacted. In this country, these animals would all have been killed, and the farm would have been left with only 77 cattle. Moreover, here all the infected cattle would have been burned, no matter if it took a microscope to detect the disease. Instead of this wholesale destruction, the Danish herd was divided into two parts, and the reacting animals were kept in a separate pasture and in a stable which was divided by a board partition, one side of which was covered with building paper. Precautions were taken to prevent infection from being communicated to the healthy herd, and the infected animals were tested yearly. Any which did not react, were transferred from the sick to the well division. In this way, starting with 131 reacting animals, at the end of the first year, there were only 90 which reacted, at the end of the second year 81, at the end of the third year 69. This is as far as the record goes. Besides this, the female calves were all kept, those in the reacting division being separated from their mothers at once. Whenever a diseased animal showed visible signs of tuberculosis, it was killed.

Now I ask whether this is not a much more rational plan than the immediate slaughter method? I have never observed the use of the term "latent tuberculosis" by writers in this country, but Dr. Bangs makes use of it. He says, "The majority of reacting cows have simply latent tuberculosis. In time, this may develop further in many cases. But my investigations have shown that such tuberculosis can often remain without development for years, and exert no influence on the general health or functions of the animal. We cannot conclude from this observation that an animal which reacts with tuberculin is, thereby, condemned to advancing disease, to wasting away and final death. The reaction simply indicates the possibility of such a result. Whether or not it will prove a reality, we do not know." This will be good news to thousands of farmers. J. W. NEWTON.

SOUTHERN CATTLE FEVER AGAIN.

On page 634, J. C. Senger intimates that murrain, which is a common designation for splenetic fever, or Southern cattle fever, is coincident with the appearance of the cattle tick, and that if the latter be plentiful, the disease will be more prevalent. He also attributes the recovery of the three cattle referred to in his article, as well as others of his knowledge, to the mechanical removal of the feces. The experiences of farmers are so varied, and often conflicting, in the simpler matters that engage our attention, that it is no wonder if we disagree as to the causes and treatment of this insidious disease, when the skilled veterinarians of the Bureau of Animal Industry acknowledge, after years of careful investigation, that many things connected with the infection are inexplicable, and that, after the disease of the virulent type has advanced to the stage at which it is distinguishable to the senses, there is no treatment known to them that can be relied on to cure.

In an experience that I do not care to have repeated, I have made a few observations, and the knowledge acquired of ticks and murrain does not sustain Mr. Senger in his opinions. That ticks do communicate the disease to healthy animals I do not deny; but that an increased number of ticks, even on susceptible cattle, are not accompanied or succeeded within the period allowed for incubation, by a corresponding outbreak of the disease, I can positively affirm. If some ticks do transmit infection, there are others that do not, or else the power to transmit is dependent on other conditions. During the past six years, we have had ample evidence of it. Two instances will suffice to demonstrate.

In 1895, my milch cows pastured in fields beyond those in which the young cattle and dry cows ran, but passed through them each morning and night. Ticks were present from June to September inclusive, but became unusually plentiful on the herd that was not being milked, towards the end of the summer. It is no exaggeration to say that each animal carried thousands, and five figures might be needed to count them on a few individuals. In this herd which numbered over 60, not an animal showed the slightest symptoms of the fever, and all were in good condition in the fall. Ten per cent of the milch cows died.

In 1896, ticks did not make their appearance in appreciable numbers until August. During June and July, the fever was extremely virulent, and the mortality in the herd that escaped in 1895, reached 25 per cent. During August and September of this year, both herds have enjoyed complete immunity from the disease, although ticks have been abundant through these months. We might infer from Mr. Senger's article, that the clogging of the intestinal track is the immediate cause of death. Constipation is a frequent symptom although, in a large percentage of cases, a laxative condition prevails, and my experience leads me to believe that the recovery of the animal is not assured by maintaining a free passage. The disease is seated in the blood, and is caused by a minute animal organism which attacks and destroys the red corpuscles. The liver becomes clogged with these, and its functions are suspended. Digestion is, therefore, imperfect, and constipation may result. Removing the constipated matter may give some relief, but it cannot free the liver and spleen from their enormous load of destroyed blood corpuscles. A post-mortem examination always shows these organs to be in a very unnatural state, always much enlarged, and the spleen when cut appears as a dark, reddish-brown, disintegrated mass.

After drenching with all sorts of stuff advised by farmers as well as veterinarians, including salts and linseed oil, and practicing the operation recommended by J. C. S., I have come to the conclusion that it is a very difficult disease to master; and that it is well-nigh useless to administer medicine or do anything but give the patients a cool, quiet place until the distemper has run its course. Then, if they do not succumb, tempt their appetites with some nourishing food. There seem to be two forms of the disease—a mild, and an acute form, with symptoms very similar. If taken by the latter, you may as well give the cow up. If by the mild form, the chances are that she will recover. I think that the cattle of which J. C. S. speaks, would have got well anyhow, though the treatment he suggests could but do good. But it certainly did not reach the vitals involved. In making a close study of the environment, we invariably find that stagnant water is associated with the fever. It may be only coincident, but still it is strange that even when ticks are common, there is no fever when stagnant water is not accessible. ALBERT R. BELLWOOD.

Virginia.

SOME FOUR-LEGGED MILKERS.

CALF'S STOMACH FOR MILK PAIL.

Mr. O. W. Mapes, of Middletown, N. Y., is known to R. N.-Y. readers chiefly as a "hen man." His "Hens By the Acre" articles have been widely discussed. Last week, I visited Mr. Mapes's place to look at a new feature of the business. In former years, Mr. Mapes has kept his hens in groups of 50, each group in a little house of its own. These houses are scattered over a rocky pasture, and the hens run at large without fences of any sort.

This was, in one sense a revolution, but now Mr. Mapes's son has gone to the other extreme, has put up a building 16 feet wide and 320 feet long, and is stocking it with 1,000 laying hens. This building stands at the center of a 10-acre lot of rough pasture land. The hens run about at will, for there are no fences around the house. Here is a very interesting experiment under way. In one case, the 1,000 hens are kept in 20 scattered houses, while in the other, they are all under one roof. In future articles, I hope to compare the two systems and point out some interesting features.

Mr. Mapes, like most other Orange County farmers, keeps a small dairy. Just now he has nine cows. They work up the wastes on the farm—stalks, apples, etc.,—and make a better use of the rough pasture land than any other stock would do. For a time, Mr. Mapes sold bottled milk, but a small dairy is always at a disadvantage, especially when it is located some distance from town. It is much the same with butter-making in a milk district. Mr. Mapes

(Continued on next page).

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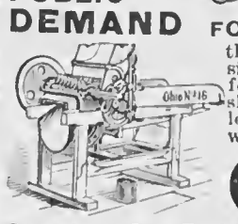
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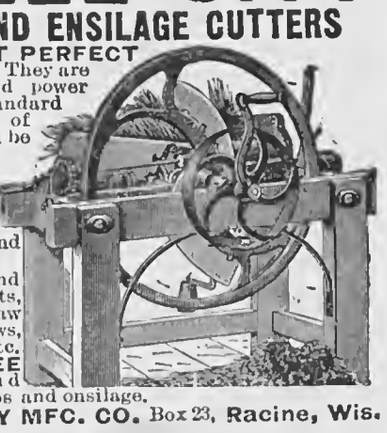
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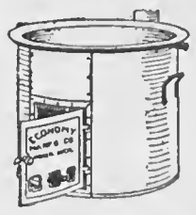
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(CONTINUED.

has been so successful in developing his hen-power, that I wondered what attachment he had put on the cows.

"Here are our milkers," he said, as he opened the door of a dark shed. There stood a group of sleek, fat Holstein calves, ranging in age all the way from babies up to ripe veal.

"So you are breeding Holsteins are you?"

"No; other folks do the breeding and we do the feeding. We buy the calves as 'bobs'—two or three days old, and let them suck the cows. We plan to have a calf for each one of our cows while she is in milk. These calves do all our milking for us. All we do is to 'strip' after them, and this gives us milk enough for 'ourselves and the cat'. A calf's stomach is a convenient milk pail, and saves lots of time."

"Does it pay as well as selling the milk for two-legged babies?"

"Better. We buy the little calves for, say, $1.50 each. They suck a month and then bring from $9 to $10. We figure that this means nearly three cents a quart for the milk."

"How many calves will one cow fatten in a year?"

"On an average, eight—and this, you will see, means over $70 a year income per cow. Of course, ours is a small dairy, and the business might not pay in a larger one. We are in a milk district where there are plenty of calves, and where the stock is usually of large size. It would not pay so well to raise Jersey calves in this way, for, while they are of fine quality, they do not give the desired weight."

Mr. Mapes makes every edge cut, as we shall see when we talk about the hens. H. W. C.

FORCING A BULL CALF.

I have a Holstein bull calf five weeks old, that I wish to use late next spring for service in my dairy. How should I feed and care for him in order to secure the most growth and vigor in that time? S.

Michigan.

I have never owned a Holstein, and do not know at what age a young bull of that breed can be used for service, or how much feed it should have. But I presume that it would require much more than a Jersey. A Jersey bull can be used for service at nine months. In winter, we feed the calves milk, good hay, ground oats and wheat bran, mixed half and half, about one quart night and morning. E. L. CLARKSON.

If I wished to force a calf so as to get as much growth and vigor as possible in a given time, I would give it all the warm milk it wanted—either let it suck a cow or feed it the milk, as preferred—and as soon as it will eat, give it some very nice clover hay with ground oats, wheat bran and cake meal, two pounds each of the oats and bran and one of the meal. But I think that S. would have better results as a breeder, if he used a bull a little older, and one that was not forced along so fast. Calves that grow and take on flesh very fast when calves, do not make as good breeders, either heifers or bulls, as those that have not been forced. A. A. CORTELYOU.

We have been more successful in producing rapid growth in Holstein-Friesian calves by feeding liberally with new milk, and also adding, in a separate feed, a mixture of wheat bran and ground oats, half and half, with plenty of grass in the summer, and clover hay, ensilage, etc., in the winter. We have frequently produced a growth of from 100 to 138 pounds in a month, on calves from two to six months old; but if the bull is to be used for the production of dairy stock, we would not recommend any such course. We, many years ago, made thorough tests of calves for dairy purposes, fed on new milk, grown rapidly, and kept fleshy, until they were a year old. The results were not satisfactory, and since that time, we have raised all our calves, both bulls and heifers, on skim-milk, keeping them in a healthy, growing condition, but in moderate flesh, and the results, by actual tests when the heifers came into milk, showed a very large per cent in production, in favor of the latter method of raising dairy stock. We are, therefore, decidedly in favor, for dairy purposes, of raising calves on a moderate allowance, avoiding high flesh. Even a very rapid growth is not the most desirable.

SMITHS & POWELL CO.

FORKFULS OF FACTS.

SKIM-MILK CALVES.—W. C. Rockwood, in Hoard's Dairyman, tells of a fine Jersey calf that had been stuffed with new milk until it was as fat as butter. Mr. Rockwood says:

This is a mistake which is often made by persons who have a few specimens of fine Jerseys or other buttermaking breeds. They think that, because they are a little extra, they deserve to be taken extra care of; and this is true to a certain extent, yet not to the extent of pampering. This course is decidedly harmful. In the case of this calf, the animal would be all the better, in my opinion, if fed upon skim-milk, supplemented, perhaps, by a little ground oats, bran, or oil meal. The fat in the milk puts fat on the frame of the calf, and it is not a veal calf we want in our Jerseys, but a good, big frame. This is best encouraged by feeding upon such foods as are deficient in fat-forming elements like those mentioned, which will tend to make bone and muscle rather than fat.

Skim-milk fed warm is better than whole milk for the development of the heifer calf which is to become a cow. Do not waste any sentiment or any cream upon her. Simply give her a good generous ration of non-fat-forming foods, and although she will not look quite so sleek, and will, undoubtedly, develop quite a paunch, she will be in far better form than the one fed like a veal.

As much harm may be done the calf by over-feeding, as by under-feeding, and the experienced person will go to neither extreme. Keep the young animals growing and thrifty, and do not be ashamed to show them to visitors, even if they do get "pot bellied". That is exactly what we want, for who wants a cow which has not a big, capacious paunch? Take good care of the calves, provide them with shelter and good warm quarters in winter, and feed them skim-milk as long as you have it for them, but do not think it necessary to feed your pet new milk.

DEVON CATTLE AND SHEEP.—James Wood, in the Country Gentleman, gives the following reasons why the Devon cow has been popular in America:

She was an important factor in the make-up of our much-abused, but really excellent, American "native cow." The original settlers in America took with them the stock of the sections from which they came. Dutch, Scotch-Irish and English immigrants thus contributed distinct bloods which, in the course of the first century, became amalgamated into quite a distinct animal. She had good lines of ancestry on every hand, and was an animal of great excellence. She came into disrepute from two causes. The first was a just one. The breeding sections from which drovers drew their supplies, came to be the back mountain districts, where the least attention was given to quality, and where great deterioration necessarily resulted. The second largely sprang from interested breeders of imported stock, who made it fashionable to ridicule the native cow. Many New England settlers, notably those of Connecticut, were from southwestern England, and took red Devons with them. From there they were scattered in every direction, great numbers being taken to the Western Reserve in Ohio. Litchfield County, Conn., has retained the breed in its distinct characteristics more persistently than has any other section of America preserved any type of any domestic animal.

He also refers to the turf fences he saw in Devon and the Devon Longwool sheep:

An old Indian remarked that Uncle Sam putting an iron lock upon a leather mail bag, made his knife laugh. So these turf fences, when considered as barriers, seem to make the sheep laugh, speaking metaphorically. To keep them from jumping, they are chained in couples. Leather straps about their necks are joined by a chain about three feet in length. The two animals never will jump together until months of experience drive the idea into their dull intellects. Then the pairs are changed, and are secure for months more. We saw many hundreds thus chained feeding in the fields. As might be expected, there is ceaseless pulling in opposite directions. Sometimes the stronger quickly gets the mastery, and the weaker learns to yield, but more often the contest never ends until one of the pair is selected for the butcher. Then the survivor may have the feeling that prompted the epitaph found upon an old tombstone in a churchyard in Cheshire:

Here lies my wife, no pair in life
So equal lived as we did;
Alike we shared perpetual strife,
Nor knew I rest till she did.

KILLING WOODCHUCKS.—We have one farm—a deep chestnut loam—on which woodchucks delight to live, and it keeps us constantly "at it" to keep them under. I have tried all the methods lately recommended in THE R. N.-Y.; many of them I know to be good, and some are "good for nothing." But all are too much trouble.

I have a way, and have told it so often that its repetition seems stale to me; but it seems that there are many who have never heard of it, and so for their benefit, and because it is so easy and so "dead sure," I will repeat it. Woodchucks are desperately fond of sweets. I learned this from a tame one we once had, and I made use of this knowledge in destroying them.

Make a lot of molasses or sugar cookies, about the size of silver dollars, and make them very sweet. Smear one with molasses, dip the coated side in arsenic, and put another cooky on top. Drop a pair of these down into a woodchuck hole below the reach of dogs or cats, and you need not take the trouble of filling the hole. The chucks will smell the sweet, will eat the cooky, and will "sleep the sleep that knows no waking." It never fails. Arsenic is so very cheap that five cents' worth will kill all the "varmints" on 100 acres of badly-infested territory. The trouble is that, in a woodchuck country, they "keep coming". J. S. WOODWARD.

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—*Washington Star.*

IF you would get money, raise thyme, for thyme is money.—*Boston Transcript.*

IT does not follow because a gardener is growing sage that he is becoming wise.—*Boston Transcript.*

ONE of the funniest things in the world is to see a girl wearing bloomers, cry like a woman.—*Atchison Globe.*

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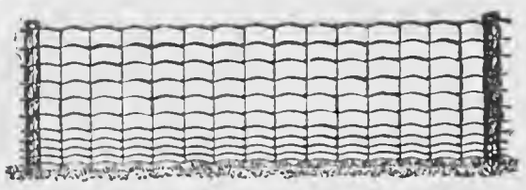

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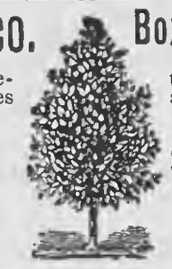

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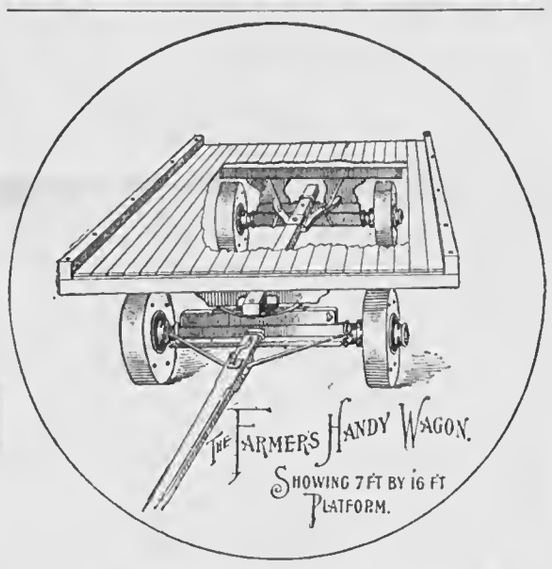

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FEEDING HABITS OF VARIOUS PLANTS.

THEIR APPETITES FOR DIFFERENT FORMS OF PHOSPHORIC ACID.

Clover and Turnips Lunch on "Floats".

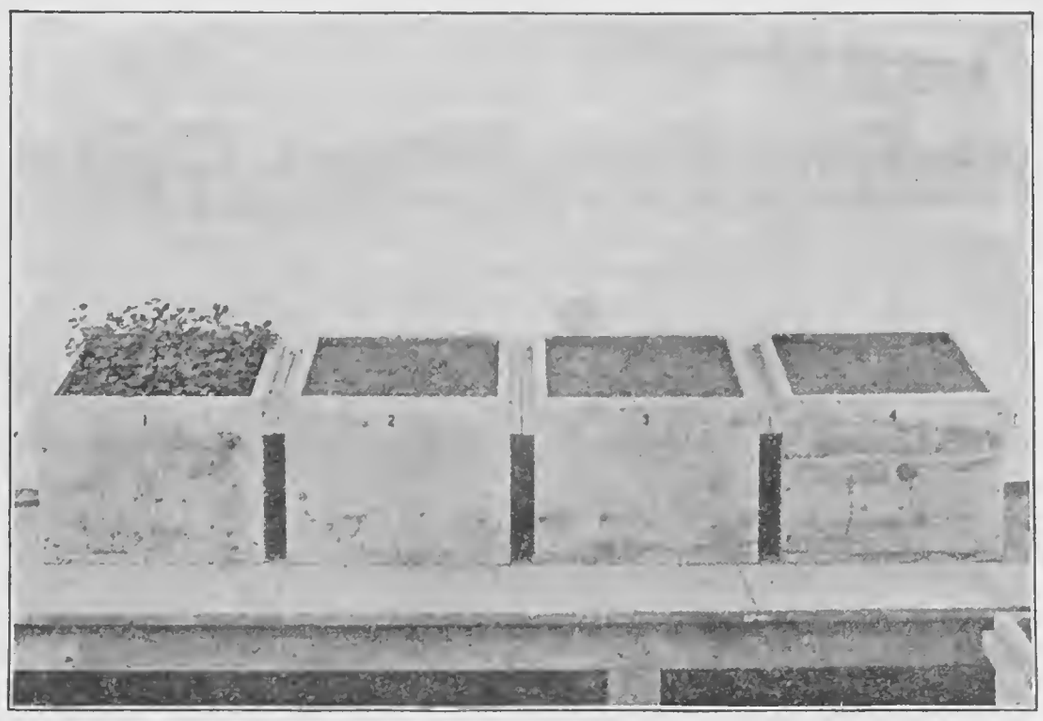
Week before last, we had an illustration of the effect of using a fertilizer containing only one very soluble form of nitrogen. This week, we wish to refer to an interesting experiment with phosphoric acid recently carried out at the Maine Experiment Station. Phosphoric acid, as most people understand, is a very important manurial element. It gives strength to the stem or skeleton of the plant, and is found in the seeds or fruits, just as in the animal it is found most prominent in the bones and brain. While phosphoric acid is widely diffused in nature, it is seldom abundant. In fact, it is one of the rarest of plant foods, and one most likely to be found wanting in the average cultivated soil.

Nitrogen, as we know, is in the air all about us, and falls upon the soil in rain or snow. It may be added to the soil by growing clover or peas, and plowing them under or feeding them. It is not so with phosphoric acid and potash; these substances must be brought to the farm from somewhere on the outside. In organic forms, they come in the form of grain to be fed to stock and applied in the form of manure, or in the form of crushed bones of animals that lived, perhaps, thousands of miles away from the farm. There is a large supply of coal in the world, but we do not go and dig it on our own farm; it is crowded together in certain parts of the earth's crust that we call mines, and from the mine it is brought to the farm as fuel. In the same way, the vast proportion of the potash we use is dug out of a mine in Germany, and sent over the ocean to the American farm. Ages ago, vast stores of phosphoric acid were packed away among rocks in Canada, or in bunches or nodules in various parts of the South. It is dug and brought to your farm in order that your soil may produce crops.

Now the potash comes to you all ready for use in its raw state. As "muriate", "sulphate", or "kainit", it is soluble in water, hence ready for use at once. This is not true of the phosphoric acid. Except in the form of very fine ground bone, this phosphoric acid is locked up in tough combinations until set free by some powerful acid. As some of our readers know to their sorrow, dealers often advertise a cheap "phosphate" which contains plenty of phosphoric acid, yet will not make crops grow, because it has not been made soluble by the use of an acid. It is certainly one of the singular things of nature that this necessary phosphoric acid should be locked up in these tough combinations, and not left like potash ready for use as soon as it is ground fine.

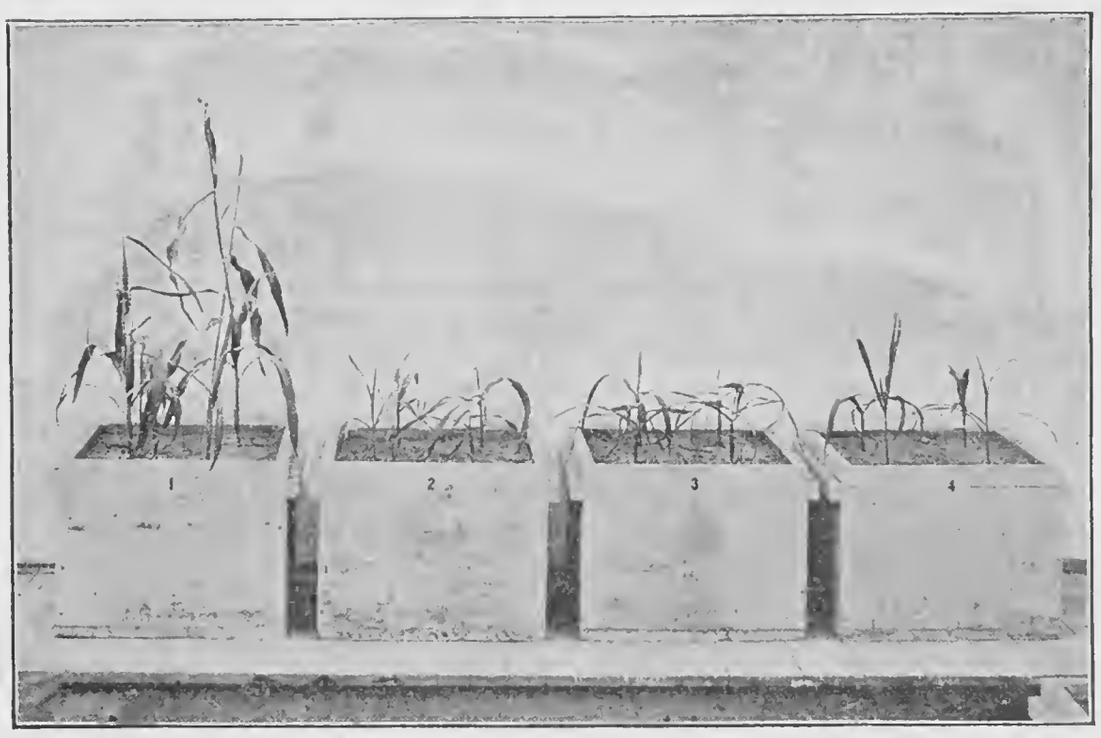
We have been taught to believe that the farmer must pay the cost of dissolving the phosphate with acid. Is there no other way to set this plant food free? This experiment in Maine was carried out to try to learn whether different plants had different feeding habits—that is, whether a crop like corn or clover cannot make use of crude rock to better advantage than, say, potatoes or oats.

You may take a little calf only a few days old. It would be folly to feed that calf on ensilage, stalks and cotton-seed meal. It would only die on such a ration. Give these foods to a cow, however, let her make them over into milk, and feed the milk to the calf, and you have a satisfactory arrangement. Or to make it even plainer, take a nursing child and see how it is nourished by the change of the food its mother eats, into more soluble forms of nourishment which it can digest. Another illustration may be found in a potted strawberry plant, where the small

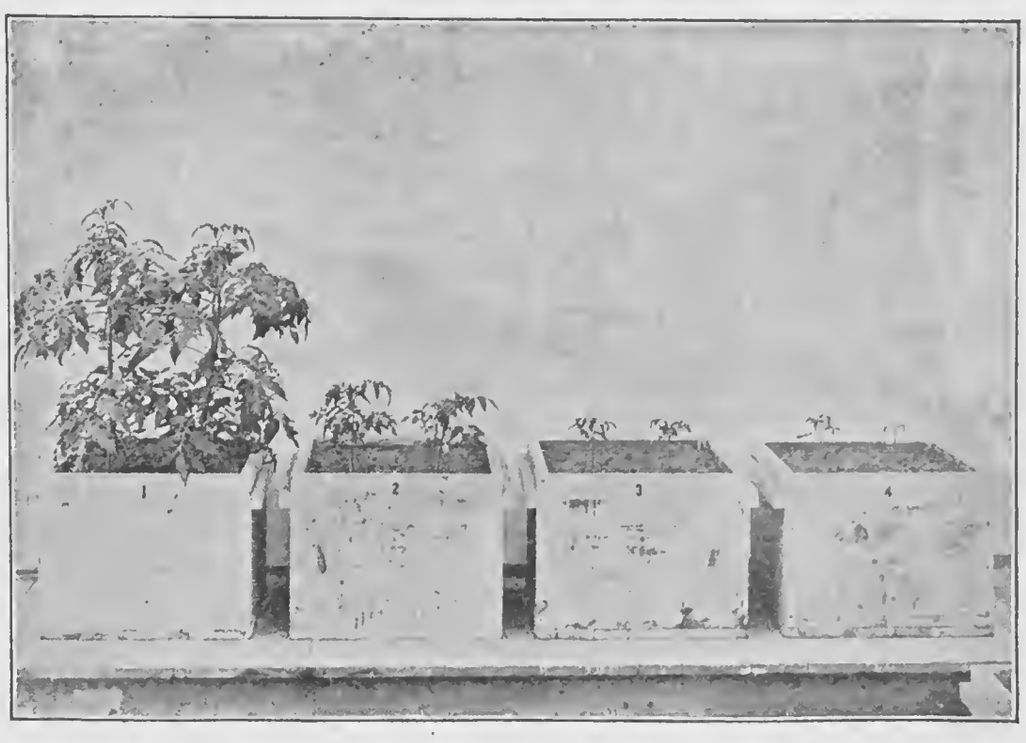


THE GROWTH OF YOUNG CLOVER. FIG. 216.

THE GROWTH OF MATURE CLOVER. FIG. 217.



CORN WITH DIFFERENT FORMS OF PHOSPHORIC ACID. FIG. 218.



TOMATOES WITH SOLUBLE AND INSOLUBLE PHOSPHORIC ACID. FIG. 219.

SOLUBLE AND INSOLUBLE FORMS OF PHOSPHORIC ACID TESTED.

root of a "runner" is stuck into the ground. This little plant is fed from the parent plant through the connecting stem and makes a far more rapid growth than it would if it depended upon its own little roots alone. In other words it thrives on the plant food taken from the soil, and made over into soluble forms by the parent plant.

Now to apply this theory to plants, let us take buckwheat as an example. It has been called the goat among farm plants, because, during its quick growth and comparatively short life, it can feed on the hardest and coarsest plant food. Fertilize it with raw phosphate rock and leather, and it will make a hearty growth, for it has the power to dissolve and assimilate more of these tough materials than any other cultivated plant except, possibly, the turnip. A large buckwheat crop might be grown with the cheap ground phosphate rock, and this growth plowed under for another crop like wheat or corn. The corn might not be able to feed on the phosphoric acid in the crude rock, yet after the buckwheat had dissolved it and made it over into new forms, the corn could utilize it. There might be cases where the acid on a buckwheat root would be cheaper than sulphuric acid in making these mineral phosphates fit for plant food. In order to compare the feeding habits of plants, the Maine Station scientists selected clover and peas to represent the nitrogen-gatherers, turnips and rutabagas for roots, barley and corn for grain and potatoes, and tomatoes as another distinct class. Here were four distinct classes of plants, each one with its peculiar system of root growth and method of feeding. The plants were grown in little boxes, 14 inches square, and 12 inches deep, filled with pure sand. The boxes were kept in a forcing house so that the temperature and water could be kept under control.

There were 96 boxes in all—12 for each kind of plant. Three forms of phosphoric acid were used. 1. "Acidulated Rock"—that is, ground phosphate rock from Florida that had been "cut" or dissolved with sulphuric acid, so that the phosphoric acid was soluble in water. 2. "Floats" or the raw Florida rock simply crushed and ground into a fine powder. 3. Crushed and ground "Redonda" phosphate; this is a rock formation containing phosphates of iron and alumina. In one box, the acid rock was used, in the next, the "floats", in the next, the Redonda phosphate, while the last contained nothing but the sand to serve as a measure for the yield. In every box containing phosphoric acid, enough nitrate of soda and sulphate and muriate of potash were used to make a balanced fertilizer. For each plant, there were three boxes of each combination. You will see that this gives a chance to compare the feeding habits of these plants and their ability to strike out and eat these different forms of phosphoric acid. It is like taking four calves of just about the same size and weight. To one, you feed a certain quantity of new milk. You analyze the milk and make up a ration of skim-milk and oil meal containing the same amounts of muscle-makers, fat-formers and pure fat which you feed to the second. To the next, you feed skim-milk, oatmeal and hay tea, and to the fourth, skim-milk alone. At the end of the month, you would weigh the calves and take the skim-milk calf for the standard of comparison—with the others weighing a varying number of pounds more.

The pictures on the preceding page show how three of these plants looked. In every case, the box at the left contains the acid rock or soluble phosphate. The next box (No. 2) contains the "floats" or insoluble rock, the next (No. 3) the insoluble Redonda phosphate, and the box at the right is the pure sand—or skim-milk calf.

Now let us first look at the yield. Here it is all figured out, not considering fractions:

	Acid Rock.	Floats.	Phosphate of iron.	No Phosphate.
Peas	500	366	283	261
Clover	433	338	251	165
Turnips (whole plant)	664	604	561	357
Ruta baga (whole plant)	455	435	365	193
Barley	1,015	514	559	436
Corn	653	253	293	92
Tomatoes	405	275	236	107
Potatoes (whole plant)	778	562	466	451
Turnips (edible root)	299	210	270	132
Ruta bagas (edible root)	187	141	107	49
Potatoes (tubers)	555	393	419	344

There is chance for quite a little study in these figures. You will notice that all the plants were able to eat enough of the tough, undissolved phosphates to increase their yield over the no-phosphate soil. Corn is, evidently, a crop that must have phosphoric acid. The tomato and the clover plant also show a great increase when this life-giving substance is put near them. You will also see a difference in the ability of these plants to live on the "floats" or the phosphate of iron. Southern cattle feeders make up a ration consisting of cotton hulls, cotton-seed meal and a little hay. It is a tough, indigestible mass, and some steers thrive on it, while others make but a poor gain. It is the feeding habit of the steer that makes the difference. These tables show that, as regards the use of phosphoric acid, different plants certainly have different habits of feeding. They are all greatly helped by the acid rock, but compare the result of using the acid rock with that of using the floats, and we have a striking lesson. Clover and turnips did nearly as well with the floats as with the acid rock, while barley and corn cannot possibly make a fair crop unless the phosphoric acid be available.

There can be no question about the fact that available phosphoric acid will show a marked effect on all crops. It gives clover a dark, rich, green color, and tends to develop the tubercles on the roots by means of which the nitrogen is taken from the air. We want to call attention to one thing, however, and that is the difference in the pictures of the young and the mature clover. In the young clover, the acid-rock box is far ahead of the others, while in the mature clover, the "floats" have made almost as good a showing as any. It was found that, as the plants grew larger, and the roots were better able to hunt about for food, they become better able to make use of the "floats". It was like feeding a little calf oatmeal boiled down to a jelly. At two months of age, the calf does not need this boiling, but can eat the whole oats. It is possible that these experiments may teach, among other things, that a small quantity of soluble phosphoric acid, and a larger quantity of "floats" will prove a satisfactory dressing of phosphoric acid for the clover crop. It would be a very interesting thing for some of the Crimson-clover farmers of Delaware to try this on a large scale, and see whether clover can be induced to change the cheap "floats" into the costly "available" phosphoric acid. The turnip, evidently, is able to feed well on the raw phosphates, and this may give the crop a new value for green manure.

Prof. Jordan, in summarizing the results of this experiment, called attention to the fact that, as the clover grew larger, its ability to eat the crude "floats" increased. He says:

> This observed increase of feeding power as the plants matured, so that they fed upon crude ground rock, especially the clover, suggests that the crude ground phosphates may be made a cheap and useful source of phosphoric acid in grass fields, and on the other hand the inability of several species, notably certain of the gramineae and solanaceae, to use the water-insoluble phosphates freely in the earlier periods of growth, emphasizes the wisdom of using chiefly water-soluble phosphoric acid upon hoed crops, especially where early maturity is essential.

I hope that other experimenters will take up this matter and tell us more about the feeding habits of plants, not alone as concerns phosphoric acid, but with reference to potash and nitrogen as well. H. W. C.

ORCHARD FRUITS FOR FAMILY AND MARKET

WHAT APPLES, PEARS, CHERRIES AND PLUMS TO PLANT.

A Valuable List for Cellar or Seller.

I have 17 acres of clay land which I intend to plant to a family and market orchard of apples, pears, cherries and plums. The site is elevated and situated on the bank of a creek which runs around the west and north sides. I intend to drain the ground thoroughly with tile, and plant a row of Norway spruce around the whole for a wind and sunbreak. As I own the land on both sides of the creek, I think of planting the evergreens on the side of the creek opposite the orchard. The ground slopes slightly towards the creek, and is about 12 feet higher than most of the surrounding ground. I have a good market near home. What varieties of apples would you recommend planting? What preparation would you give a piece of thinnish clay land for orchard planting? What would be your ideal of a model apple orchard? J. C.

Paulding County, O.

ANSWERED BY H. E. VAN DEMAN.

J. C. seems to be well situated for making fruit growing profitable in a business way, besides providing an abundance for home use. Moreover, he has good ideas as to what is necessary to fit the land for an orchard, and how to do it. All of his ideas I heartily approve. In laying the tile drains, I would advise putting a piece of tarred building paper over each joint before covering, to prevent the entrance of the roots of the trees; for they have been known to grow into and fill up drains. As to "the preparation of a thinnish piece of clay land for orchard planting," I would say put on not less than 20 wagon-loads of stable manure per acre, as soon as the drains are laid, or, before, if they are not laid soon, and plow it under. In the spring, when, as I understand, the trees are to be planted, and after that is done, scatter on the surface about each tree for a distance of two to four feet, not less than one quart of a mixture of equal parts of muriate or sulphate of potash, and dissolved bone. The stable manure will furnish humus and nitrogen, and some potash and phosphoric acid; and the others will fill out the proper proportions of the two latter essential manures. Keep up and increase the breadth and relative quantity of potash and phosphoric acid from year to year, but slack on the stable manure, as the trees come to bearing age. Crimson clover may be substituted for the stable manure; as it will supply nitrogen and humus if plowed under, cheaper than hauling stable manure.

Giving a suitable list of varieties of "apples, peaches, pears, cherries and plums for family and market," is not an easy matter; but, having grown to manhood in Ohio, and having observed as well as studied Ohio fruits, I may presume to do so intelligently. Those kinds which are good for family use, may not be profitable for market, and vice versa. But there might be something like a happy medium. However, in planting 17 acres to an orchard for *both* purposes, I advise J. C. to divide the varieties so as to have the two classes separate, and to plant them separately; putting those for family use all on one side or corner, and that should be next the dwelling for convenience. The purposes of the two plantings are so diverse, that it is necessary to proportion the varieties very differently. A family list should have many varieties, and but few of a kind, while a market list should have but few varieties and many of each. The composition of the lists thus made separately will not confuse J. C., and may help many others who contemplate planting for one or for both purposes. The lists will suit a very much wider territory than northern Ohio, reasonably well; and with a few local exceptions, from the Atlantic to the Pacific and from the southern borders of the Great Lakes to the northern limits of the Gulf States. They will be found placed in the order of ripening, and those of the same season are grouped together by brackets. There are many good varieties not yet fully tested, and others of local value, that are left out.

Family Orchard Lists.

These are based on certain numbers of trees of each species that are about right for most families, but they may be reduced by dividing the number of trees of each or any variety, or, by dropping some out altogether, as necessity or inclination may dictate.

APPLES.

2 Summer Rose,	2 Wine,
2 Yellow Transparent,	2 Mother,
2 Red June,	2 Hubbardston.
2 Early Harvest.	5 Grimes Golden,
2 Fanny,	5 Jonathan,
2 Primate,	5 Domine,
2 Lowell,	5 Akin.
2 Golden Sweet.	10 Rome Beauty,
2 Maiden Blush,	10 Stayman (instead of
4 Jefferis,	10 Huntsman. [Winesap
2 Chenango.	10 York Imperial,
Total, 100.	10 Stark.

PEARS.

On planting a family pear orchard, the question at once arises, Shall they be standard or dwarf trees? A good plan is to plant dwarf trees, and set them so deeply that they will send out pear roots above the quince stock, about the time that they would otherwise begin to fail from bearing. They will take fresh courage and be about as long-lived as standards.

2 Tyson,	2 Onondaga,
2 Madeleine.	4 Sheldon,
2 Howell,	2 Bosc.
2 Clapp.	2 Hovey,
2 Flemish Beauty,	2 Winter Nelis.
4 Bartlett,	4 Lawrence,
2 Boussock,	2 Diel,
2 Seckel,	2 Easter.
2 Louise Bonne.	Total, 40.

PEACHES.

As peach trees are short-lived, it is well to plant a few every two or three years, in order to have some part of the orchard, at least, in a thrifty condition.

2 Alexander,	2 Reeves.
2 Triumph.	4 Oldmixon Free.
2 Rivers.	2 Stump.
2 St. John.	2 Walker.
2 Mountain Rose.	4 Heath Cling, or, if procurable, Ringgold.
4 Elberta.	2 Henrietta.
Total, 30.	

PLUMS.

The selection of plums for northern Ohio, or for any other section, is not so easy, because of the varying success and failure of the different classes. The European class is, in a large measure, restricted to the New England States, New York and Michigan. East of the Rocky Mountains, and west of them, they succeed almost everywhere that fruit is grown. The Japanese plums embrace some of the very good kinds, and we have very many American varieties, belonging to several native species, that are well worthy of culture. Both are generally successful.

European or Domesticas.	*Japanese.*	*Native.*
2 Clyman.	2 Red June.	2 Wild Goose.
2 Lombard,	2 Abundance.	2 Newman.
2 Imperial Gage,	2 Chase.	2 Forest Garden.
2 Bradshaw.	2 Burbank.	2 Rockford.
2 Yellow Egg,	2 Georgeson.	2 Golden Beauty.
2 McLaughlin.	—	—
2 Damson, any kind	10	10
14		

CHERRIES.

The cherry is much like the plum in regard to its variability of success in different parts of the country. The varieties may, for convenience, be classified into three groups—morellos, dukes and hearts, although Prof. L. H. Bailey makes six classes of our cultivated cherries. The morellos will succeed over the entire area previously mentioned, but the dukes are much more sensitive to climatic variations, and the hearts are decidedly unreliable throughout a large part of the Mississippi Valley, because it is too warm in the South and too cold in the North, and much of the rest of it is too changeable. In the regions about the Great Lakes, and in the Piedmont sections of the Appalachian mountain ranges, these two latter types do well. On the Pacific coast, especially in Oregon

and Washington, they are at home. In flavor, the morellos are sour, the dukes tart, and the hearts very mild or sweet.

Morellos.	*Dukes.*	*Hearts.*
2 Dyehouse.	2 May Duke.	2 Purple Guigne.
2 Richmond.	2 Choisey,	2 Gov. Wood.
2 Montmorency.	2 Olivet.	2 Mercer.
4 Wragg.	2 Hortense.	2 Napoleon.
	2 Magnifique.	2 Windsor.

(*To be continued.*)

THE RUSSIAN PLUMS IN ILLINOIS.

As I was reading THE R. N.-Y. of September 19 (and an extra good one it was), I was freshly reminded of the great area which our country embraces, of its great diversity of soil and climate, and, also, how utterly foolish it is for any one to say, without qualification. that this or that variety is utterly worthless. Prudence should add, "At this place," if the variety had been tried for many years, or, "This season here," upon a shorter trial—or some other such limiting phrase. On page 624, is an article praising the Russian plums. While I am so strongly feeling that those I have tried are comparatively worthless here, it is hard to make proper allowance, and remember that the country for which Dr. Hoskins writes, is, horticulturally, as different from this as the moon may be from Mars.

I have as yet fruited only about a half dozen varieties of the Russian plums; but with me, so far, they are very unfruitful, quite liable to black-knot—more so than the ordinary varieties of the Domestica to which type, I suppose, all the Russians belong. I have seen only one kind that I thought was "very good" in quality, and it was a stray, without name or number. Some, as Orel No. 19, Orel 21, and White Orel, I think, are very poor to eat out of hand. How they would taste canned, or otherwise preserved, I cannot say, for a dozen trees eight years planted, have not given enough fruit for a jar of preserves, they evidently intending to perpetuate themselves by sprouts rather than seed.

Two trees of Russian No. 1 have died from black-knot; what little fruit there was on the remaining three trees, has rotted with such avidity (as Mark Twain might have said), that only a few ripe specimens have been found for a taste, and this from trees planted in 1885. Hungarian is a large, thrifty tree notwithstanding some black-knot. It is of fair prune quality, and rather large in size; but a peck measure would hold all the plums it has given me so far. Communia (this may not be a Russian) has given me one crop, and the fruit was large and good; but this is not very high praise for an 11-year-planted tree. Moldavka, from scions six years ago, may do to plant again. It is late, of good size, and of a kind of Abraham Lincoln shape. It is a cooking plum, and seems more productive than the other varieties named. On the whole, we, I think, don't want any of the Russians here, or, indeed, any of the Domestica type, except the Damsons. Further, after losing totally from the blight, 10 or 15 varieties of Russian pears, with many other varieties nearly dead from the same cause, and no good pear found yet, I feel like abandoning the Russian pears along with the plums—cutting loose, never to be a slave to the Slav fruit any more.

B. BUCKMAN.

A GRASSHOPPER'S SNAKE STORY.

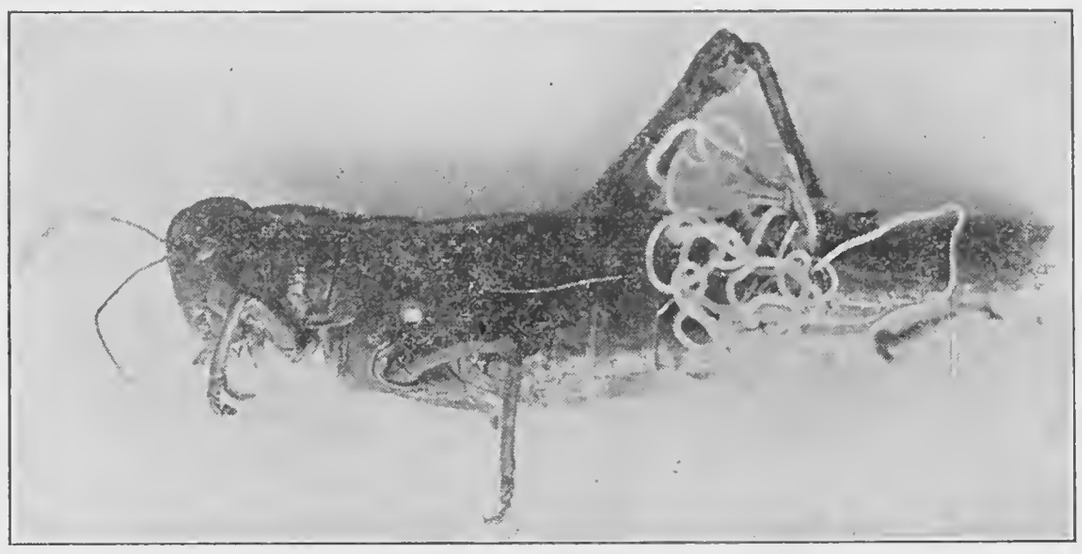
HOW "WORMS" MADE LIFE A BURDEN.

Grasshoppers are not often serious pests here in the East, but during the past few years, they have been unusually numerous, and have done considerable damage in many localities. This has caused more attention to be paid to them, with the result that several of our correspondents during the past two summers, have testified to the following "snake story":

Certain grasshoppers seemed to have a pale and sickly look, and were especially sluggish in their movements; in short, as one correspondent very aptly expressed it, some of them seemed to have "that tired feeling." It was, usually, the females that were thus afflicted. When these "tired" grasshoppers were captured, a close examination would reveal little unusual about their external aspect. But when one's abdomen was dissected or broken open, instead of the usual mass of eggs taking up the larger part of the interior, there would be revealed a mass of white, thread-like creatures wound about the internal organs in seemingly inextricable confusion. In a moment, the minute, hair-like cords would begin to move and work their way out through the break in the abdomen. Fig. 220 shows this phase of the story on one of the "tired" grasshoppers; it is represented twice natural size, and the name of the grasshopper is Melanoplus femoratus, one of our largest eastern grasshoppers. These white, wriggling, hair-like creatures we have all known since childhood as "hair-snakes" or "hair-worms." Then we all used firmly to believe that these curious creatures were developed from horse hairs, and many of us have, for days, watched for the horse hairs that we had carefully placed in pools, to become snakes. Although this curious belief that horse hairs will turn into these "hair-snakes" has been conclusively disproved many times, it is no rare occurrence, to-day, to meet grown persons who believe it as firmly as do our children; however, lifeless horse hairs never have and never will turn into animated "hair-snakes."

What are "hair snakes"? They are classed among the vermes or worms of the animal kingdom. Among their nearest relatives, are the "vinegar eels" and the deadly Trichina of pork. They are ranked considerably lower in the scale of animal life than the insects. The ones commonly found in grasshoppers in the East bear the name Mermis albicans. They are the same "hair snakes" that farmers often find knotted together in the soil when plowing. This fact would indicate that these creatures could tell a curious life story; and truly they can.

If the "tired" grasshoppers were placed in a box with moist earth, after a time, perhaps before their death, the "hair snakes" would be seen boring their way out through the anus or the thinner parts of the walls of their host's body. All the "snakes" so leaving their victim are sexless, and, unless they are full-grown when their host dies, or unless they reach moist earth, they perish; but if full-grown, and they succeed in reaching the surface of moist ground, they at once bore into it, and bury themselves out of sight. Here the sexual organs are developed from a fatty body that the parasitic form contains, and after shedding their skins once, the male or female form is assumed. During this underground life, no food seems to be required, though several months elapse,



A GRASSHOPPER THAT "HAD SNAKES". TWICE NATURAL SIZE. FIG. 220.

and the winter is passed before the animal provides for the multiplication of the species. The sexes unite in knots (we often find these in the soil), and the female lays her eggs in the ground. They are, probably, very prolific, for one female of the brown "hair worms" (Gordius), sometimes lays over 6,000,000 eggs in a slender cord measuring 91 inches in length. The young, white hair-snakes, which are hair-like, like their parents, at once worm themselves to the surface of the soil, and crawl into, as parasites, various soft insects, and mostly those that are found under leaves, moss, etc., near the ground.

"Hair-snakes" are, also, frequently found infesting katy-dids, crickets, cockroaches, and, sometimes, in many other insects and smaller animals, and beetles, caterpillars or moths and butterflies, bees, flies, spiders and snails; they have several times been found, both in this country and Europe, in the worm that causes "wormy" apples—the Codling Moth caterpillar. The only explanation that has been offered to account for their appearance in tree-inhabiting and fruit-inhabiting caterpillars, is that the newly-hatched worms may be able to crawl up the stems and trunks of plants and shrubs by aid of the moisture with which these are sometimes covered for hours, and even days in the spring.

It is asserted that, in 1875, in one part of Minnesota, these "hair-snakes" destroyed as many grasshoppers as did any other enemy. Ordinarily, there is but one worm in each grasshopper, and five seems to be the most that have heretofore been recorded from one host. This year, "hair-snakes" must have been especially numerous, for almost every grasshopper sent to the insectary contained a dozen or more worms. The grasshopper shown in Fig. 220 was packed so full of the "snakes" that I had a curiosity to know how many there were; most of them were in the abdomen of their host, but many were, also, taken from the thorax, none occupied the head. Here is the astonishing result: I pulled out and pulled out "hair-snakes" until, by actual count, 53 lay before me in a pile. Is it to be wondered at that the poor victim "had that tired feeling"? The worms measured from 1¼ to 4¼ inches in length, and the grasshopper was still alive! Rather a large-sized snake story to be told by one little grasshopper, but she has given us, in Fig. 220, a photographic verification of its truth.

M. V. SLINGERLAND.

WHAT THEY SAY.

A CORN SHOCKER.—Fig. 221 is a sketch of a home-made tool used to draw a shock of corn fodder tight and ready to tie a twine string around. It is made of any light wood, say, 1½ inch square and five feet long. Sharpen to a round point, and slip a wooden wheel shaped like the bobbin of a sewing machine, and about six inches in diameter, on this pointed shaft up to within about one foot of the large end. Mortice a crank on the extreme of the large end, and bore a hole for a rope through the space between the wheel and the crank. Also drive a staple in this same space. To use, thrust the spear through the untied shock, walk around it with the small rope, and catch the bridle snap at the end of the rope in the staple. Then turn the crank, and it draws the shock as tight as desired and from all sides at once. This avoids the pulling to one side which is the result of drawing a shock up with a rope and ring. If the crank doesn't stay without holding till the shock is tied, bend a stalk out a little and let it hold the crank. We have such a machine, and it saves one man's wages in tying, is as speedy as the old way with two, and does the work much better. Any farmer can make one at a cost of, not to exceed 10 cents.

Indiana. E. H. COLLINS.

APPLES FOR COWS.—We consider apples as a cow food, well worth the cost of picking up. We feed about a peck per cow twice a day just before or after their grain ration. An increase of milk immediately follows such feeding, and ceases when the apples give out. For grain with apples, we like wheat bran, corn meal and cotton-seed meal, 200 pounds bran, 100 pounds each corn meal and cotton-seed meal. Apples are a nuisance in a pasture where cows are, as the cows chase from one tree to another, and use up too much of what ought to be turning into milk; besides, they will get thin in flesh. If a cow get a chance, she will eat enough to make her drunk in short order, unless immediate attention is given her. If we can get them soon after their excessive eating, or when they will not refuse grain, we give them from two to four quarts of corn meal and thus prevent any injurious effect. The oil of the meal counteracts the acid of the apple, and fermentation is not caused in the stomach. The corn meal remedy has been worth much to us. There are now in our barn three cows that got away yesterday, and had about seven hours of all the apples they wanted. They were too full to eat the grain, and are now lordly drunk. They look sorry, but they have ceased to give milk, neither will they, this season, give their full former flow.

Connecticut. H. G. MANCHESTER.

Preparing Land for Winter.

In traveling through New York State, and noticing the condition of the fields, it is evident that the majority of farmers have not yet learned how to prepare the land for winter. They may understand all about fitting it in the spring for the seed, but this preparation for winter is most important. More than one-half of the rain which falls during winter, and the larger part of the water from melting snow, is lost to the soil because the ground has not been put in condition to take up this water, and hold it as a supply to be drawn upon later in the season, by growing crops.

Fall plowing, especially of clay land, should be extensively practiced. If the ground is in poor physical condition, leave it thrown up rough without harrowing, that the clods may be acted upon by the rains and frosts, and pulverized. Then water, instead of running off on the surface, can sink into the soil and be saved. Fall plowing will destroy the larvæ of many injurious insects. A clay soil which is in good condition, should have some cover crop growing on it. Drill in wheat or rye, and the growing plants will serve to bind the particles of soil together and prevent puddling. This cover crop may then be ganged under in the spring, and humus has been added to the soil.

The corn fields, instead of being left bare after the corn is taken off, should now be covered with a growth of Crimson clover. This crop should be far better known to the farmers of the State than

it is. Ten pounds of the seed per acre, sown in the corn just ahead of the last cultivation, about the middle of July, would now make a covering for the soil, would be storing up nitrogen, the most costly element of all fertilizers, and when plowed under in the spring, would add in fertility to the land an amount equal in value to $10 or $12 worth of fertilizer per acre. Some farmers object to Crimson clover because it dies out in the spring. But it has then done its work, and dying does not take from it the nitrogen stored up. One farmer who has tried it, used it for fall pasture, and the increase in milk alone, he declared, more than paid him for the cost of the clover. Every corn and potato field should now be covered with Crimson clover. L. A. CLINTON.

A Good Shaving Horse.

Fig. 222 shows a good and inexpensive shaving horse—an article almost necessary to the farm. Use a two-inch plank, 10 inches wide and nine feet long. Five feet from one end, a block 10 inches long and six inches wide, is nailed with the edge downward. Another two-inch board is attached to the upper edge of this block, and extends to the farther end of the main plank. A slit 2¼ inches wide and six inches long is cut near the upper end of this plank, with one of the same width and 10 inches long in the plank just below it. A ¾-inch hole is bored crosswise through the middle of the upper plank and fitted with a wooden pin small enough to turn easily.

A strip three inches wide and two inches thick, with a large head at the top and a number of holes bored through the thin part below is inserted, and may be held at any height desired, according as the pin is inserted in the higher or lower holes. At the bottom and at one side of this, cut a notch three inches wide and one-half-inch deep. A strip 2x3 inches and one foot long is firmly bolted, with the end projecting forward. The wood on which one intends to work is placed under the edge of the head, where it is easily held in place by light pressure on this short horizontal strip. A. FRANKLIN SHULL.

"Blooded Potatoes" and How They Stuck.

In the spring of 1894, I bought one peck of Carman No. 3 potatoes for $3. In a discussion of potato growing, by a number of farmers, I mentioned the fact that I had procured a supply of new blood, also the price paid. An old farmer at once spoke up as follows: "You are stuck, and so is any one else who pays $3 for a peck of potatoes." Now let us see how I was stuck: I raised from the one peck of seed, eight bushels of beautiful, smooth, white potatoes which I could have sold at $2 per bushel. I won the first prize at a street fair for the best peck of potatoes, $3, making the sum of $19. My general crop, I sold at prices ranging from eight cents to seventeen cents per bushel. If I had sold all my general crop at the latter price, the difference in favor of the blooded stock would have been $1.83 per bushel; or, supposing the yield of the general crop to be the same per acre as the Carman No. 3, the difference in favor of new blood was $16 28.

Let us continue the comparison. Instead of disposing of the crop at $2 per bushel, as I was advised to do, I held them and planted again. I raised, this year, from what seed I had left, after using a few on the table, and giving away a few, 105 bushels of the finest potatoes I ever put in my cellar. I am disposing of what I have to spare of them at $1 per bushel, while ordinary varieties are being loaded on the cars here to-day at 16½ cents per bushel. Now let us see what the difference is in favor of blooded stock:

105 bushels Carman No. 3 at $1	$105 00
105 bushels ordinary at 16½ cents	17 33
Difference in favor of blooded stock	$87 67

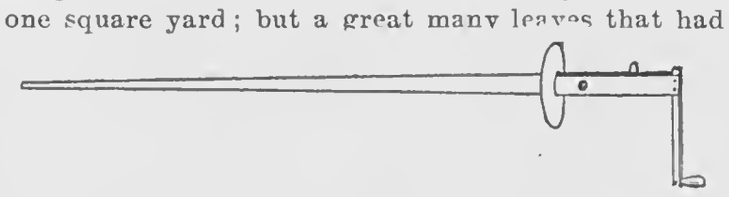
This is not all. To the above, should be added premiums won this fall, and the fact should be taken into consideration that I do not have to look up buyers for my blooded stock, for the reason that buyers look me up and take the stock here, so that I am relieved of the expense of delivery. If this is being "stuck", then I like to be stuck. C. H. D.

Hartford, O.

SUCCESSFUL EXPERIMENT WITH COW PEAS.

I have read with much interest, the different reports that have appeared from time to time, in THE R. N.-Y., relative to the cultivation of southern cow peas. I believe that others are equally interested in learning more as to the adaptability of this crop to northern climates and conditions, and venture to give the results of a trial, the present season, on four acres. The land was quite stony, several large bowlders towering above the surface and, in fact, the whole patch needed a good cleaning up. Accordingly, in October last, we went to work with a No. 40 Oliver chilled plow, a Shanghai subsoil, and five men. The ground was pretty thoroughly worked to a depth of 22 inches. I also used 60 pounds of high grade dynamite. As a result, we drew off over 500 tons of stone.

The latter part of May, 1896, the ground was again nicely plowed and prepared as for corn. The grain drill was set to sow 2½ bushels of wheat per acre, which meant about 1½ bushels of peas. At the same time, we applied per acre, a mixture of 100 pounds of nitrate of soda, 400 pounds of acid phosphate, and 100 pounds of muriate of potash. The varieties sown were Whippoorwill and Wonderful. The season was quite dry for some time after sowing, but seasonable rains coming later, a fine growth was made, so much so that the latter part of August, when straightened up, the vines were higher than a man's head, and completely covered the surface of the ground to the depth of a foot. The first frost of the season came on the morning of September 23. On September 26, with a man to help, I measured off a square yard by driving four stakes the proper distance apart, and drawing a string around them, which caused a passing neighbor facetiously to inquire. "What kind of a playhouse you children goin' to build now, I wonder?" After cutting the vines inside the inclosure, we weighed them and found that we had 7¾ pounds from one square yard; but a great many leaves that had



A HELP IN BINDING CORN. FIG. 221.

died, and fallen to the ground, we could not gather up. Another square was measured off on a thinner portion of the field, a kind of slaty knoll, from which we obtained seven pounds.

Being desirous of knowing something more about the root growth, I had a trench dug 14 inches deep on the lower side (the ground sloped somewhat to the east) intending to separate the roots, if possible, and weigh them. Owing to the peculiar formation of the root system, I found this to be impossible without water pressure. While looking around, at some little distance away, I called to the man, anticipating a droll answer, asking him whether he noticed any little excrescences on the roots.

"Which—how did you say?"

"Did you see any lumps on the roots?"

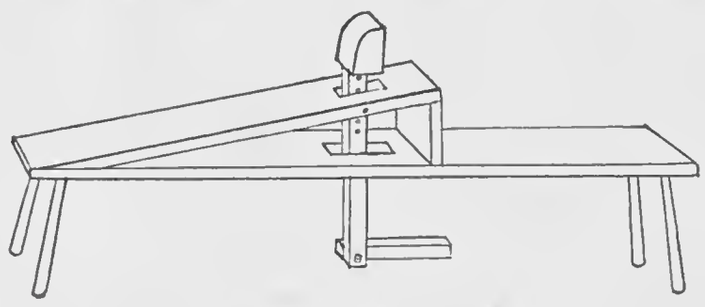
"Lots of 'em".

"How large are the smallest?"

"Oh, 'bout as big as the little end of nothin' whittled out to a p'int!"

By this time I had got down in the ditch myself, and following one of the leading roots from a point directly beneath the surface, I traced it down 16 inches in length, when it broke. It seemed as large there as 16 inches farther up; but on that 16-inch piece, I counted 15 nodules, some of which were no larger than my man had so uniquely suggested; but others were found as large as a fair-sized pea.

There is no doubt in my mind that nothing can take the place of a good two-year-old clover sod for almost any crop; but in this section, it has been extremely hard to find such a crop, whether because of the dry seasons, poverty of soil, or both combined, I cannot tell; but certain it is, that we do not see the



A SHAVING HORSE. FIG. 222.

rank growth of clover as formerly. May it not be possible, through the medium of cow peas, to propagate and develop the minute bacteria, that are so potent a factor in enabling the legumes to obtain their needful supply of atmospheric nitrogen? I have an opinion that, when this piece of ground now in peas has grown a crop of potatoes next summer, and afterward been seeded to clover, the soil will be sufficiently inoculated with the microbe, so that clover will have less difficulty in every stage of its growth.

Since writing the above, I chanced to find an old bulletin from the New Jersey Station, giving the method of growing cow peas for green manuring. The bulletin says that "following Crimson clover, cow peas yielded at the rate of 14,400 pounds of green material per acre. The vines contained 2,278 pounds of organic dry matter, 70.6 pounds of nitrogen, 17.3 pounds of phosphoric acid, and 50 4 pounds potash. The roots on one acre weighed only 1,080 pounds, and contained 295.2 pounds of organic dry matter, 24 pounds nitrogen, 1 5 pounds phosphoric acid, 4.4 pounds potash. The nitrogen in the vines is supposed to be equivalent to that contained in 437½ pounds nitrate of soda, worth perhaps, $11 per acre."

In the experiment I have attempted to describe, if my figuring is correct, making an average between the square yard containing seven pounds, and the one containing 7¾ pounds, we should have 35,695 pounds of green material per acre. With the data from the New Jersey Station, as given, for a guide, the interested reader will not be long in figuring the value of such a crop. M. GARRAHAN.

Luzerne Co., Pa.

SWAMP LANDS AND THEIR RECLAMATION.

PART I.

We have had in southern Michigan, for the past few years, a number of dry seasons which have aided in demonstrating the great value of the low or swamp lands for crop raising. The season of 1895 was prominent above all others in that respect, partly because it was the culmination of a series of dry seasons, and partly because more of the swamp lands were brought under cultivation, and a greater variety of crops raised on them than ever before. It has been proved beyond a doubt that, when the surplus water is taken off from them, there is no better producing land in the State.

The season of 1896 has been a wet one, and as a consequence, many people who planted the low lands, have lost their crops and labor from an excess of water. There is a call for the services of the drain commissioner, which would be more general were it not for the hard times. During the past 30 years, I have had a great deal to do with the drainage of the swamps in Kalamazoo and adjacent counties, and have had occasion to see a great deal of the good as well as of the bad work which has been done. I have always felt a peculiar interest in this work, from the fact that my father always contended that, some day, the Michigan swamp lands would be the best lands in the State. He was not a farmer, and at that time, farmers in the vicinity generally ridiculed the idea. Things have changed since, and now there is little low land left in the country which has not been, at least partially, drained. Much of the work has been done so crudely and inefficiently that more harm than good has resulted.

In their natural state, these low lands grew more or less vegetation, having some value for pasturage or timber. Some of them were well stocked with cranberries and huckleberries. In the early settlement of the State, the marshes furnished pretty much all the hay that was used. It is difficult to see how the early pioneers would have got along without it; certainly not so well as they did with it. Much of the drainage which has been done has been just enough to kill the native vegetation without rendering the land fit for cultivation. It is neither one thing nor the other, and the soil is occupied by a worthless waste of weeds which spring up when the surface water is removed.

There is a great variety of soils and conditions in these low lands—quite as great as, if not greater than, in the uplands. Various names have been given them which are supposed to indicate, more or less clearly, the natural conditions. When we speak of a swamp, we generally understand that it is wet land covered with bushes and trees, and by marsh, we mean wet land having few, if any, scattering bushes and trees. Then again, the swamps are designated as tamarack swamps, Black ash swamps, willow swamps, etc., according to the prevailing timber which grows on them. If the swamp is narrow in proportion to its length, it is usually called a swale, and if small, not more than an acre or so in extent, it is often called a cathole. This latter name seems to have been given to these dense little swamps because they were favorite retreats for wildcats and other predaceous wild animals.

There is one general condition to be considered in regard to both swamps and marshes in determining both their character and the means of reclaiming them. That is, whether or not they lie at or below the level of the water-bearing strata of the surrounding country. If they do, they will be fed by springs from the margin, and, very likely, from beneath. Streams will run from them, and there will usually be plenty of fall for their drainage. The upper muck, or vegetable mold, will, generally, be found to lie directly upon a stratum of sand or gravel, often of quicksand. Drains will need to be laid along the margin to cut off the water from the springs, and plenty of tiles will need to be used to carry off the surplus water. If they lie above the water level of the country, and, probably, a majority of the swamps in southern Michigan do, then few, if any, springs will be found, and open surface drains will generally be found sufficient to reclaim them. F. HODGMAN.

Propagating the Shaffer Raspberry.

H. R. M., Bradford, Ill.—How is the Shaffer raspberry propagated?

ANS.—By root-cuttings, and, also, by tips.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

INSECTS THAT BOTHER THE FRUIT GROWER

ANSWERS BY M. V. SLINGERLAND.

Habits of the Strawberry Root-Worm.

A. M., Penn Yan, N. Y.—Is anything known of the habits of the inclosed beetle? I cannot discover that he works on anything except strawberry plants. I inclose leaves and a runner showing its work. I have never seen these beetles at work, but always find them hiding under small stones, and in crevices in the soil, and conclude that their habits are nocturnal. The foliage is almost entirely destroyed in some places, and a great many of the beetles are hidden nearby.

The strawberry leaves looked as though they had been riddled with bird-shot. This is the work of the Spotted Paria or Strawberry Root-worm. It is a small beetle, about three-tenths of an inch long, of a brownish color, with the wing covers obscurely marked with four blackish spots. They are active little chaps, hopping briskly about when approached or disturbed. This habit may account for A. M.'s not finding them at work when he approached the vines, or they may have already gone into hibernation. The insect is widely distributed over the United States, and it has been especially numerous in strawberry fields this year. It does not confine its work to strawberries, for in the spring of 1895, our attention was called to it twice as a raspberry-bud eater. It is an old insect pest, having been discussed as a strawberry foe since 1873.

The insect is destructive, both in its grub and beetle states. The little white grubs feed upon the rootlets of the vines, and often seriously check their growth; this habit gives the insect the name of Strawberry Root-worm. The grubs may be found at work on the roots about July 1, and these produce, in July and August, the beetles that riddle the leaves. They continue feeding on a variety of plants until late in the fall, and then hibernate under the mulch, or in the earth. In some instances, as noted above, these hibernating beetles apparently come forth in the spring, and eat raspberry buds; they, also, doubtless, feed upon the strawberry leaves in the spring before laying their eggs, which they deposit in the soil in June. From these eggs, come the grubs which eat the roots. There is, thus, but one generation of the insects each year.

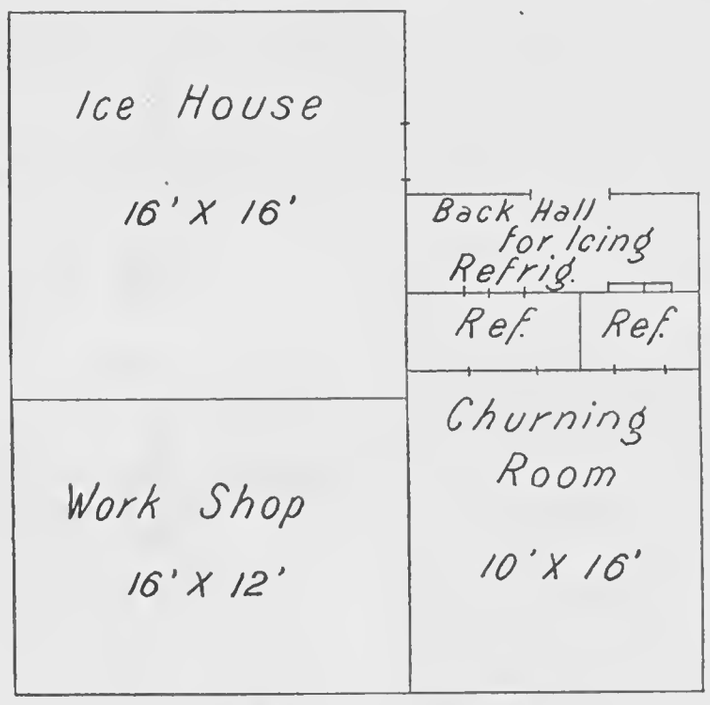
The frequent rotation of strawberry beds must do much to check this insect; old, neglected beds form favorite breeding places. As the most destructive work of the beetles is begun after the fruiting season, and as they feed openly upon the foliage, I cannot see why they could not be easily killed by thorough work with a Paris-green spray; make two or three applications if necessary. The destruction of the beetles in this manner would, of course, prevent the further increase of the insect the next season. There is no practicable way of killing the grubs at work on the roots in July; underground insects are difficult to reach with surface applications.

The Grape Vine Leaf-Hopper.

J. H. T., Astoria, N. Y.—What is the nature of, and the remedy for, the attacks of an insect that causes the leaves of my grape vines to die and drop off? The vines, at this writing, are as brown as though from the effects of heavy frost, but the injury appears to be caused by yellowish-white insects about one-eighth inch long, which, when the vine is shaken, rise in a cloud, but quickly settle back again on the under sides of the leaves. I inclose a leaf on which are, apparently, the young or the eggs of this insect. I have sprayed once, since gathering the fruit, with kerosene emulsion, but with no apparent effect.

The grape leaf showed that the Grape Vine Leaf-hopper (Erythroneura vitis), or some closely allied species, had been at work in quite destructive numbers. There are several leaf-hoppers that work upon grape leaves. All are minute, narrow, yellowish insects about one-eighth of an inch long, and some of them have their wings crossed by blood-red bands. Among vineyardists, these insects are known as "thrips"; properly, however, this name belongs to an entirely different group of insects. The grape leaf-hoppers pass the winter in the adult state, hibernating under dead leaves or other rubbish, the survivors becoming active in spring, when they insert their eggs in punctures in the leaves of the vine. The yellow nymphs are hatched from these eggs during the month of June, and they resemble their parents except in size, and in having no wings. During their growth, they shed their skins (which are nearly white) several times, and although exceedingly delicate and gossamer-like, the empty skins remain for some time attached to the leaves in a very life-like attitude. The nymphs feed together on the under sides of the leaves, and are very quick in their movements, hopping briskly about by means of their hind legs, which are especially fitted for this purpose. They have a peculiar habit of running sideways, and when they see that they are observed upon one side of a leaf, they will often dodge quickly around to the other. Each is furnished with a sharp beak or proboscis, with which it punctures the skin of the leaf, and then sucks out the sap; this produces yellowish or brownish spots on the upper surface. At first, these spots are small and do not attract much attention; but as the insects increase in size, the spots often involve the whole leaf, which appears as though scorched, and often drops from the vine. Occasionally, vines become so far defoliated that the fruit fails to ripen. As the nymphs grow, diminutive wings appear, which gradually develop into the mature wings of the adult. With the full growth of its wings, it acquires such powers of flight that it readily flies from vine to vine, and thus spreads itself in all directions. It continues its mischievous work until late in the season, when it seeks shelter for the winter.

The Clinton, Delaware, and other thin-leaved varieties suffer more from the attacks of these leaf-hoppers than do the thick-leaved sorts like the Concord. The insects are sometimes quite abundant in a vineyard one year, and comparatively scarce the next. Their preservation, doubtless, depends much on favorable hibernating conditions. One should not wait until late in the season when the leaf-hoppers are full-grown and can fly, before beginning active warfare against them. When young nymphs, they can only hop about, and are also more susceptible to insecticides. As they suck their food from the interior of the leaves, the poisons can have no effect upon them. If J. H. T. had sprayed with the kerosene emulsion early in the season, and had aimed at the insects on the under sides of the leaves, he would have had much better results. Kerosene emulsion, thoroughly applied to the under sides of the leaves about July 1, will check this pest. Tobacco dust similarly applied will, also, do the work. Some vineyardists have caught and killed millions of them on a sheet saturated with kerosene, or covered with tar, the sheet being stretched on a frame which is carried along one side of the row, while some one goes along the other side of the vines and frightens the insects toward the trap.



DESIGN FOR A CANADIAN COLD ROOM. FIG. 223.

An Attack of Canker Worms.

A. M. E., Kansas.—Last spring, many orchards were attacked by small caterpillars, about an inch long, at the time of blooming and when the leaves were coming out. They continued for several weeks, stripping the trees of foliage and blossoms. The outer ends of the branches were stripped almost bare. Many of the trees have not recovered, the stripped branches remaining bare all summer. Can they be destroyed by spraying? If so, at what time should it be done, and what materials should be used? Many orchards are, apparently, ruined.

These caterpillars were, probably, the Canker worms, which I discussed in detail in THE R. N.-Y. for April 25, 1896. Yes, this pest can be controlled by spraying. After May 1, the trees should be examined every day, and as soon as the newly-hatched worms are seen, preparations for thorough and frequent applications of Paris-green (1 pound to 200 gallons of water) should be made. Prof. Bailey demonstrated last year, in a western New York orchard, that "The Canker worm can be killed by honest spraying with Paris-green." Details of this interesting and instructive experiment may be obtained in Bulletin 101 of the Cornell Experiment Station, at Ithaca, N. Y.

A Talk About "Boils."

Sufferer, New Jersey.—What causes "boils"? What treatment is best for them? Should we try to kill them at their beginning? Is a boil the same as a carbuncle? Do boils promote health by discharging effete or poisonous matter from the system?

ANS.—While the formation of boils is supposed to be favored by poor or insufficient food, overwork, unsanitary surroundings, low states of health, or the presence of certain diseases, especially diabetes, anæmia, fever and blood poisoning, the belief now accepted is that their essential cause is a microbe, Staphylococcus pyogenes aureus. The hydropathic treatment is liable, somehow, to result in an attack of boils. Sometimes they will follow a blister. It is better to abort or kill them, if possible. This, at times, may be done by a free application of turpentine, rubbing it in well and often, or by introducing a fine point of nitrate of silver (lunar caustic) into the center of the boil when it first starts.

There is a difference of opinion as to whether a boil and a carbuncle are essentially of the same nature, only differing in size. Billroth, the great surgeon, thinks that they are the same. They are much alike, but a carbuncle is larger than a boil, is not like a boil, tender to the touch, does not come in crops, being solitary, and is flatter in form, less prominent than a boil. I think that it is better to dispense with poulticing. Either apply resin cerate spread thinly, or a patch of carbolated gauze, and that again covered with a wad of carbolated absorbent cotton. Or else, instead of the resin cerate, use iodoform gauze, 10 or 12 thicknesses, and of a size sufficient to extend well beyond the inflamed area. This may be held in place by adhesive plaster cut to a size only just large enough to serve the purpose. In addition to the local treatment, it is well to take all available measures for invigorating the system as, for instance, the use of some combination of quinine, iron, strychnine and arsenic taken after meals. In addition, cod liver oil may also be taken with advantage. Sulphide of calcium in doses of one-eighth to one-fourth grain, taken every two hours, is supposed to act as a preventive. There is no reason to think that boils serve any purpose in promoting good health. Anything that tends to depress the general health should be avoided. W. O. E.

Cold Storage In a Cold Country.

W. H. S., Lincoln County, Ont.—I intend to build a workshop for odd jobs, and wish to build an ice house on the north side and a room in which to churn. I wish to build in the ice house, or under it, two refrigerators, one for milk and one to keep fresh vegetables and meat for use in the family. I wish the milk room cold enough without bothering to put ice in the room. My ice house will be 12 feet square and 10 feet high. How shall I build this?

ANSWERED BY W. W. HILBORN.

W. H. S. wishes to build in or under, two refrigerators. I have never had any personal experience in this direction. One of my neighbors, about three years ago, went to considerable expense in building a milk house with ice over it, and it did not prove very satisfactory. The ice melts too fast. I put up enough ice every winter for a large refrigerator, and think that W. H. S. would get much more satisfaction if he would build hi two refrigerators in such a way that he can open them from the churning room, and have doors in he back for icing, thus keeping out all dirt from the churning room when putting in ice; 12x12 feet is not large enough to hold ice for that purpose; 16x16 feet is none too large. The refrigerator should be made so that a whole block of ice can be put in at a time, as the large cakes of ice last so much longer than small ones. Fig. 223 shows a small diagram of a plan that would, perhaps, help out to some extent. The rooms may be enlarged or cut down if required. If the refrigerator be properly constructed, it will allow any kind of meats and most vegetables to be placed in together without one tainting the other in the least. Neither will there be dampness or mold.

Values of Tannery Refuse.

H. L. C., Canton, Pa.—What fertilizing values does the following tannery refuse have: hair which is loosened with lime, spent lime or sediment taken from the lime vats and tannery ashes made from the spent tan bark? The ashes are put in large piles exposed to the weather.

ANS.—The hair and the spent lime have little agricultural value; we would not pay anything for them. The hair contains considerable nitrogen, but it is in an unavailable form, and is not fitted to feed plants. Ordinary ashes of spent tan bark, contain about 36 pounds of potash and 28 pounds of phosphoric acid per ton, which, at trade prices, are worth slightly over $3.

A Ration for Dairy Cows.

M. H. L., Siegfrieds, Pa.—I have six graded Jersey cows, averaging about 850 pounds in weight, and am making butter. How shall I feed my cows to obtain the best results, considering the prices of feed, which are as follows: Timothy hay, $16 per ton; clover hay, $12; meadow hay, $13; corn stover, $8; oat straw, $8; wheat bran, $12; wheat shorts, $12; gluten feed, $13; linseed meal, $21; cotton-seed meal, $22; corn, 32 cents per bushel; oats, 26 cents; rye, 38 cents?

ANS.—You do not say whether the hay and grain must all be bought, or whether part of it was grown on the farm. This will make some difference in figuring out an economical ration. For example, we would not think of paying $16 per ton for Timothy hay to be fed to cows. If we had any amount of it on hand, we would sell it at $16, and use the money to buy clover at $12. At the prices given, the clover, if of good quality, is by far the cheapest rough fodder you name. If the corn stover is on the farm, and you *value* it at $8 per ton, you might feed it with the clover to good advantage; but we would not advise you to *pay* $8 in cash for it, while you can get clover at $12. If you have both clover and stalks on the farm, we would feed 12 pounds of clover and six or eight of stalks per day. For a grain feed, we would make up a mixture, by weight, of four parts bran, two parts corn meal, and one part each linseed and cotton seed, and feed, say, eight pounds of the mixture to the heaviest milking cows, and grade down the amounts for the others.

As we are once more nearing the end of another season of flowers, we would again call attention to the new spiræa, Anthony Waterer. It is blooming now as brilliantly as in early summer, and the flowers are of the same rich, crimson color. It gives itself no rest. It blooms from the beginning of the season until frost bids it rest. We have tried all of the spiræas that are worth trying, and some that are not. Anthony Waterer is the best. The flowers are valuable for bouquets at this time—at any time, indeed—when there are few other flowers that one cares to gather. Try an Anthony Waterer. It is a more constant bloomer, and the flowers are of a richer color than those of its supposed parent, Bumaldi.....

LAST YEAR, we received one plant of the new (new to us) rose Germain Trochon. It is a hybrid tea, and passed the trying winter of 1896 without protection and without injury. The buds are of medium size, and somewhat—not decidedly—pointed. The open flower which is about two inches in diameter, is fairly double—not crowdedly so. Its color is odd. We find it difficult to describe it. We should say, it is a mixture of buff yellow and light salmon. The odor is deliciously and delicately fragrant. We are describing the flowers that were in bloom September 30.....

THE London Garden says that the Bismarck apple is grand in every respect, its size and color stamping it as a valuable market kind. In addition to this, the tree is hardy, a vigorous grower. The apples are very sound, solid and heavy. The high opinion of the Bismarck formed by experts when it was first brought before the public, has been fully borne out by its behavior since. It is especially recommended for gardens when grafted on the Paradise stock.....

THE FULLER QUINCE.—That bright and well edited paper, American Gardening, regards the Fuller quince "as undoubtedly one of the finest we have. Its very delicate flavor and curiously weak odor" are regarded as "noticeable features."

American Gardening expresses surprise that we should place this new quince, if new it is, among those novelties that are not worth even a trial.

Our friend asks, "Has THE R. N.-Y. a real Fuller?"

We cannot swear that we have. We ordered several plants of J. T. Lovett in the spring of 1891. Mr. Lovett was the introducer. We labeled them with our usual care, and have since made notes respecting them as we do respecting all the fruits, shrubs and trees about which we desire to inform our readers. We knew of the Fuller quince long before it was introduced. As the writer remembers, it originated in the grounds of the late Mr. England, the publisher of the New York Sun, whose country home was just opposite Mr. Fuller's home, two or three miles east of the little New Jersey town of Ridgewood, Bergen County. Mr. England gave Mr. Fuller a plant or so, and after his death, Mr. Fuller sold the stock he had accumulated to Mr. Lovett. It was named the Fuller quince, the propriety of which name we commented upon adversely at the time, since Mr. Fuller did not originate the quince, and merely introduced what had been presented to him by Mr. England. We find that a second tree is bearing a few quinces which, as with the other mentioned in the notice to which American Gardening alludes, are small and in no way superior to Rea's Mammoth or the Orange, while they ripen later.

It is desirable that the value of the Fuller quince should be known. If we underestimate it, we request American Gardening and any of our readers who have fruited it, to specify wherein we do so. Where has American Gardening seen it in fruit? What is the age of the fruiting trees? What is the size of the fruit? When does the fruit mature as compared with Rea or Orange? Is it among the possibilities, if not the probabilities, that this quince thrives better in the Lovett nursery than in the Rural Grounds?.....

THE ELIOT EARLY PEAR.—A tree of the Eliot (not Elliott), was sent to us by the late James Dougal, of Canada, in the spring or fall of 1883. About five years ago, it bore a few pears which ripened as early as any pear we have tried—at least one week earlier than the Wilder Early, which by Mr. C. A. Green and other competent judges, is regarded as the best pear of its season. In quality, it seems to us better than Wilder Early; that is, it is more sprightly, of higher flavor. It is below medium in size, as grown in an unfavorable place in the Rural Grounds, and is between obovate and pyriform in shape. The tree is now 18 feet high, of a close-growing habit. After Mr. Dougal's death, it occurred to us that this very early and excellent pear ought to be introduced. But we had no authority to give buds to those who would gladly have propagated it. We, therefore, as has been stated in these columns repeatedly, put ourselves in correspondence with those who should be familiar with Mr. Dougal's family. The result was that we were given permission to send buds to whomsoever we chose. One relative said that it had borne fruit in Canada, but that the birds destroyed the pears as soon as they began to ripen, and that a fully-ripe specimen had never been taken from the tree or trees.

Some three years ago, we requested Ellwanger & Barry to propagate the Eliot Early, and the firm consented so to do, and we now find the pear offered in the supplementary catalogue just issued by that firm. We hope that many of our friends will give it a trial. We have no positive indorsement to offer. It *seems* to us the best early pear we know of.....

A MARVELOUS new strawberry is being advertised in the French and English papers. Its name is Louis Gauthier, and the portrait shows "the true natural size as over 10 inches in circumference." The claim is made that it is the largest strawberry known, a wonderful cropper, and that the vines give two crops the same season. The flavor is "delicious." On September 7, the National French Society of Paris awarded a certificate of merit "on presentation of a dish of *second-crop fruits*." The firm offering this marvel is Letellier & Son, Caen, France. This firm originated the Spineless gooseberry.....

WE have inquiries from time to time as to when the Carman gooseberry will be introduced. The entire stock was purchased by the Storrs & Harrison Co., of Painesville, O., about five years ago, as we remember, and the firm has ever since been trying to propagate a sufficient stock to introduce it. The firm has met with disappointment after disappointment. Under date of September 8, Mr. Robert George, one of the company, writes us: "There are no prospects of our being able to offer the Carman gooseberry the coming season. We have made one or two very bad failures." Mr. George says that all the large gooseberry growers resort to stooling in propagating the plants. After they have become well established, say, two years, they are cut to the ground and allowed to sprout from below and near the surface of the ground. These are allowed to grow until about the middle of July, when the earth is thrown up about them, and filled in between them. Handled in this way, by fall, nearly every shoot will have made a fine bunch of roots. Especially is this the case with American varieties. Some of the English varieties it is next to impossible to grow by any method, in this country. It is time wasted to try to grow such gooseberries from cuttings.....

MR. W. J. GREEN, the experienced horticulturist of the Ohio Experiment Station, says that the King Red raspberry is large, firm, of a beautiful color, and prolific. He pronounces it as far ahead of either the Loudon or Miller. Plants of the King Red raspberry were received from the Cleveland Nursery Co., of Rio Vista, Va., during April of 1894. Thus far, the plants show less vigor, are less productive, and the berries are neither so large nor so firm.

Mr. Green says that, of the new kinds of strawberries about to be introduced, none pleases him better than Carrie. It resembles, he says, the Haverland, but is superior to it in size, color and firmness. It has the fault of the Haverland, viz., long fruit stems and the berries lie out in the row, and are liable to be trodden on by the pickers. He concludes: "It will pay growers to keep a close watch of Carrie."

Plants of the Carrie were sent to the Rural Grounds in September of 1895, and we reproduce our report of July 25:

CARRIE (P.)—From Thompson Sons, Rio Vista, Va.—April, 1895. June 2: Ripening, conical shaped, medium sized, scarlet color, moderately firm. June 4: Berries large, vines extremely productive. June 5: Berries rather soft, with white tips. June 8: Very productive; berries rest upon the ground. June 10: Height of season. The tips are not white now. The objection to this variety seems to be that the peduncles do not hold up the berries at all. June 19: A fair quantity of ripe and green berries still, from small to medium size.....

Miscellaneous Advertising.

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GEO. S. JOSSELYN, Fredonia, New York.
From E. S. CARMAN, *Rural New Yorker:*—
"I am really glad that I was the first to tell in print of this grand grape, which in quality and appearance is the best native black grape we have ever seen. There is no acidity about the seed as there is in the Concord. As there is a growing and not ill founded objection to swallowing grape seeds, this is a strong point in its favor, &c."

The McIntosh Red Apple.

C. M. D. R., NEWINGTON, N. H.—I have had the McIntosh Red apple in bearing for four or five years, and every one who has tasted the fruit pronounces it simply delicious. I wish that the inquirer might see the apples this year.

J. D. M., LINWOOD, N. Y.—I read in a recent R. N.-Y. an article describing the McIntosh Red apple, as of inferior quality. This statement is misleading. I have fruited it three seasons, and find it one of the very best cooking and eating apples we have. It is called a winter apple in some nurserymen's catalogues, but we find it here in Livingston County, a fall variety.

J. S. W., LOCKPORT, N. Y.—I have fruited the McIntosh Red for a few years, and cannot recommend it. Its quality is good enough, but with us it is not a good bearer, and then it is as bad as, if not worse, to spot with the scab fungus, than the Fameuse, of which I judge it to be a seedling. It came to us with loud praise, but, like many other things loudly praised by those interested in their sale, its fruiting has been a sore disappointment. I don't believe that anybody wants it as a market fruit.

E. C. B., WILMINGTON, VT.—I have had the McIntosh Red apple in bearing three or four years. With me, the trees are not quite hardy enough to stand the cold winters, but when top-grafted in thrifty trees, it grows and bears well. It grows larger and keeps later than the Fameuse, of which it is said to be a seedling. In grain and texture, it resembles its parent, but has a peculiar flavor, different from any other apple of which I know. My family, including myself, call it very good, but as tastes differ, I could easily forgive any one for calling it poor.

H. K. W. HALL, LINCOLN, MASS.—In THE R. N.-Y. of October 3, Ream Co. ask to hear from growers of the McIntosh Red apple. I grew about 10 barrels this year. They were very large, fair, and brilliant in their red jackets, singularly free from any blemish, and met with a ready sale, at a high price. They were appreciated because of their size, beauty and fine flavor. Some prefer them to Fameuse (which they resemble in color, viz., white flesh). The Massachusetts Horticultural Society, a very discriminating body, offered prizes for the best specimens of them, at their exhibit which has just closed, and a resident of this town won them. The apples of this variety have a taste and value peculiar to themselves, and I think that they will become favorites. There are many palates to tickle, and "many men of many minds."

Grass with Rye.

J. M. JAMISON, OHIO.—A. M. E., Moonlight, Kan., wishes to know what kind of grass to sow with rye to secure pasture after the rye next summer. To get the greatest amount of pasture, I would sow with the rye, four quarts of Timothy per acre. If the weather be favorable, it will get a hold this fall, and give an early bite next spring if the rye shade be not too dense. Next spring, early, sow 10 to 12 pounds of Medium or Mammoth clover seed per acre. I would not pasture the rye so closely that a portion would not go to seed. That run down and tramped in the ground by the stock, will give a volunteer growth. That with the clover will give a wonderful amount of pasture late in the summer and during the fall. The straw from the rye going to seed, will be an excellent mulch for the clover against severe summer and fall drought. By the latter part of July, in rye that I let ripen and fall for the hogs, I have had clover 18 inches high. But the weather must be favorable for such growth. My experience teaches that pasturing the rye does not injure the clover, unless the land is very wet, and the pasturing too close.

Another plan is to sow rye and clover together in February or March, or even up to the middle of April. Then they will come on together, and the rye will give succulent pasture a month or six weeks later than the fall sown. Last spring, I followed this plan, sowing the middle of April. Both clover and rye made a fine growth, the clover almost keeping pace with the rye. I kept them pastured to an even height of four to six inches, till the first week in July, when the rye died and left the clover in possession of the land. In another trial of the same kind, the rye that escaped the stock perfected itself about one month later than the fall-sown rye. I say, perfected itself; it came out in head, but I do not know whether it filled.

Horse Breeding in Illinois.

J. M. H., RIDGE FARM, ILL.—The breeding of horses has declined very much within four years. Within two years, it has dropped to almost nothing. I can think of only one stallion being billed last spring hereabouts, where in former years, one would see a score of bills in a half day's travel. There are a great many horses—more than we need—but no colts. Prices are about one-third what they were 10 years ago, and about half what they were five years ago. Two years ago, people said that they could buy colts cheaper than they could raise them; but now that prices of all farm products have gone clear below bottom, it is likely that the farmers will conclude that they can afford to raise colts again when the surplus is exhausted. We can raise cheap horses on 10-cent oats and 15-cent corn, and I expect a return to breeding them within a few years.

Dairy Stock in Orange County, N. Y.

B. H., HIGHLAND MILLS, N. Y.—According to my very limited observation, the dairy stock of this county has been changed but little during the past 10 years. As to buttermaking, you must know that this county was long ago superseded by other places. As to the native, I know very little of her, and believe less, of what knowing (?) ones tell me. My knowledge of milkers runs back 68 years, and I cannot fix the date when I first saw the Devons, Ayrshires, etc. I am fully satisfied that, during these years, dairy stock and management, have improved fully 50 per cent. The manner of feeding has changed in the past 10 years, principally due to the silo, which has obtained a strong hold. As to cheapness of feed, I am not prepared to say, but notice that corn green, matured, and corn meal, constitute the foundation.

Miscellaneous Advertising.

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Waltham Watch—Men's Size, $13.50.

The American Watch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

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The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

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The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

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The Rural New-Yorker.

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SATURDAY, OCTOBER 17, 1896.

ATTENTION is called to the elaborate article by H. E Van Deman, in this issue, on a suitable list of fruits for home and market. This is just what hundreds of our readers have called for, and we are glad to give them such a carefully-considered answer as Mr. Van Deman has prepared. We regard it as the most comprehensive article on this subject that has ever been printed.

⊙

POSSIBLY you are keeping Jersey cattle or Berkshire hogs, Shropshire sheep or Plymouth Rock poultry—thoroughbreds or grades! Can you tell *why* you use these breeds? Did you ever sit down and make out a good argument for these animals? We would like to have you do it for us. How do you prove that your breed of stock is better for you than any other? Let us hear from you.

⊙

LAST week, a correspondent wrote about coupling the information gained from reading THE R. N.-Y. with common sense. That's right! No matter how good the advice given, the reader must have the common sense to adapt it to his own particular circumstances in order to get the most good from it. In so far as a reader does this, in just that degree will he be helped by reading THE R. N.-Y.

⊙

WE have Crimson clover nearly three inches high, and a perfect mat over the ground. Such clover is just as good as a coat of manure. It cost less than any manure we can buy. If every plant were to kill out before next spring, we would still be far ahead of the outlay. We would have no more right to blame the clover for dying than we would have to blame the manure for not reproducing itself! That is a fact which farmers must understand. When Crimson clover keeps alive until snow covers the ground, or till the "heaving" of spring frosts, it has done enough for you. To live in the spring is heaping up the cup It's making you a present that you don't always deserve.

MR. GARRAHAN'S report of his experiments with cow peas will be particularly interesting to those who read the accounts of his system of farming published last year and the year before. He bought a worn-out grain farm which he desired to turn into a garden as rapidly as possible. The problem was to take soil so exhausted that it would not produce an average crop of wheat and improve it so that it would produce a full crop of onions or cabbage. The farm is so situated that stable manure is not available, and Mr. Garrahan has been obliged to follow the "Chemicals and Clover" system, *i. e*, grow green crops to give the desired humus, and use chemicals for the minerals and part of the nitrogen. Cow peas have produced heavy crops on this farm. In last year's drought, they gave a larger yield than any other green manure crop, and they are likely to become one of the chief aids in changing that poor wheat soil into a garden loam!

●

PROF. I. P. ROBERTS of Cornell, has growing around his house, what he calls a "tree clock". Trees are planted in such positions that one of them will shade a portion of the house at every hour of sunlight. For example, at nine o'clock in the morning, the "nine o'clock tree" shades a part of the piazza, while, as the sunlight changes, the "10 o'clock tree" shades another part—and so on through the day. On a hot summer day, this "tree clock" insures a succession of shady places around the house. It is possible, too, to make such trees almost the same as members of the family. We might have "father's tree", "mother's tree" and name others after members of the family or dear relatives. All such things make the home seem a little dearer, and the children who go away from it have another tie to hold them to the old home influences. Let us do all we can to make the home cheerful and attractive.

⊙

THE most remarkable thing about the English grain markets during the past year has been the great increase in sales of Indian corn. It is estimated that English farmers have used, at least 38,000,000 bushels more of corn than they did in 1885. But little of this was used for human food—the greater proportion being fed to poultry. It is said that English poultry will select barley out of a lot of mixed grains, for their first eating, but after a few generations of corn feeding, this will be changed, and Indian corn will surely lead. In England, the term "corn" is applied to all cereals about as our farmers use the word "grain". The Mark Lane Express says:

> So large has been the display of this staple, and so ubiquitous has it become, that even farmers attending small rural markets have begun to comprehend how, in the slang of New York commerce, the term "corn" is held to mean not wheat or oats or barley, but maize, and maize alone.

It is a good thing for American farmers that this education is going on. Every English animal that acquires a taste for corn-meal mush, is an agent for the American farmer, because Americans will always have nearly a monopoly in the production of maize.

⊙

THOSE experiments to test the feeding capacity of different plants, are of great interest and value. We hope that some one will carry the subject on and find out more about it. If we put a large bone at one side of a growing plant, and a chunk of phosphate rock at an equal distance on the other side, we shall find that most of the roots have gone to the bone rather than to the rock. The nitrogen in the bone has something to do with this, of course, but, after all, phosphoric acid is the true life principle in fertilizing. If certain plants in a rotation can save us part of the expense of making this phosphoric acid available, we shall learn another of those little economies that mean so much in modern agriculture. You might take a truck driver and a bank president sitting down to dinner in the same restaurant. The former has been working hard in the cold air, and a heaping plate of baked beans is just the food he needs. The latter could not digest the beans—an egg and a piece of toast may be all he can eat. Now, buckwheat, clover and turnips may be likened to the truckman, while potatoes and tomatoes or the small grains resemble the bank president in their food requirements. When we know more about the feeding habits of these various crops, we can, evidently, use our manures and fertilizers to better advantage.

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MOST of our readers have, doubtless, heard something about the New York police force in late years. This force has been greatly improved since Theodore Roosevelt came to the head of it, and now offers to a strong, active man of good intelligence, about as good a position as he can hope to obtain in any other department of the public service. Within the next four months, 800 new men will be needed. Mr. Roosevelt writes as follows:

> Appointments are made solely upon merit. Every hard-working, industrious man of good character and good bodily development, who can pass our examinations, will be appointed wholly without regard to any influence he may or may not have, and without regard to his political or religious affiliations. He must be five feet, eight inches tall, between 21 and 30 years old, and a citizen of this State for one year; but whether he lives in New York or in the country does not make the slightest difference.

The salary of a policeman at the beginning, is $1,000 a year, and within five years, it rises to $1,400. After 25 years of service, the policeman is retired on a pension of half pay for life, while the higher places are filled by promotion. In former years, positions on the force were secured only by political influence. That day has gone by, and appointments are now made strictly on merits. There may be some young men among our readers who have an inclination for the life of a policeman. As at present managed, the New York police force offers as honorable an opening as the army or the navy, and while there is no "soft job" about it, honest work and intelligence will be pretty sure to count. Mr. Roosevelt has sent us the following personal letter regarding the matter:

> We emphatically do wish countrymen; we find that they make excellent policemen. We do not discriminate against them in any way, and the only thing they ought to do is to study up a little of the local geography of the city, so as to know where the principal streets, car lines, churches and the like are. But even this is not necessary, as the mark given on that subject is very small, and I am trying to have it abolished. We particularly want countrymen to come in. We have appointed a number of them within the last year. Yours truly, THEODORE ROOSEVELT.

THERE is a very strong law in England to control the sale of fertilizers or food articles and prevent adulterations. A fertilizer dealer is compelled, on request of a buyer, to give a guaranteed analysis, and also state of what his goods are made. A Liverpool fertilizer maker sold a lot of fertilizer, stating that it contained nitrogen "equal to sulphate of ammonia 2¼ to 3½ per cent." The buyer brought suit against the maker, claiming, as we understand it, that this statement deceived him into thinking that there was from 2½ to 3½ per cent of nitrogen in the goods. Sulphate of ammonia contains about 20 per cent of nitrogen. If the fertilizer contained 2½ per cent, or 50 pounds, of *sulphate of ammonia*, it is easy to see that this represents only 10 pounds of actual nitrogen or half of one per cent. Of course, it is easy to say that a chemist will know at once what such things mean; but chemists do not pay money for fertilizers, while farmers are not always well versed in chemistry. This dealer was fined $100, with $75 costs in addition. THE R. N.-Y. has often protested against the absurd analyses printed by some of our fertilizer dealers. It is refreshing to know, at least, that it would be pretty expensive business to use such misleading terms in England. One trouble in this country is the fact that different States have different requirements in this respect, so that dealers who do a wide business put almost everything in the line of description into their analysis in order to cover every State law. What we need is a national law like that in England, for that would simplify matters at once.

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BREVITIES.

Within the country churchyard on a dim and cheerless day,
Among the graves I idly paced a laggard hour away.
A crude, unlovely, hopeless place—with tangled briars strewn,
With drooping headstones, gnawed by time, moss-covered and rough-hewn.
I read on one rude headstone—cracked and heaved by frost's rough whim,
A common name and then the words: "*God gave new life to him.*"
Behind me walked a feeble man with halting step and slow.
"He was a pauper, sir," he said, "Some 30 years ago—
A hateful, wretched wreck of life—ambition dead within,
And every noble impulse cowed to slavery by sin.
Then Lincoln called for *men* to save the nation from disgrace,
And that poor pauper's soul was stirred to manhood by the grace
Of one unselfish, manly wish—he answered freedom's call.
The pauper gained a newer live—he gave his country all.
And so, our town has honored him—he sleeps beside our own.
Not in the nameless Potter's Field unmarked by cross or stone."
The simple tale has haunted me through many a busy day.
How at the touch of nobleness the *pauper* fell away
And left the *man*—the hero. Ah! Within your life and mine
When days are dark may God still send some nobler hope divine!

THE cur dog will make *too bark* ulous cows.

GET mixed farming well fixed on your farm.

WHAT can you tell us about solid metal wheels?

THE sound of a weak backbone is heard in a whining tone.

No better time than this to kill the scrubs. Make them into meat!

AN unripe peach in the stomach of a boy is likely to mean a screech.

THE litter or "muss" test is a good way to pick out the careless housekeeper.

THE housewife behind with her dinner finds green wood a good cure for "boil."

YOU might truthfully say that the grasshopper pictured on page 687 "had it bad."

STATEMENTS from the dairy prize winners at the New York State Fair will soon be printed.

HAPPY is that man's foot who can afford two pairs of boots and "change off" every week.

MRS. BUSINESS HEN wants to know if the green bone cutters have lost their grip this year.

IT'S a pretty bad thing when a young woman's beau can say and do things that mother mustn't know.

THERE is more lime in oats than in other grains. That is one reason why oats are good bone builders and good for children.

OF what is the best butter color made? Good pasture, ensilage and clover hay! How do you make it? Strain it through a Guernsey cow!

Is the army worm coming again next year? Can't tell. The safest plan is to be ready to fight him at a day's notice. Keep THE R. N.-Y. of July 25 on hand.

THE way the western farmers stick to the Plymouth Rock poultry, is something wonderful. Is the P. R. the great corn eater among poultry, like the Poland-China among swine?

HEREAFTER, in New York State, cities of 50,000 and more inhabitants, blacksmiths or horse shoers must have a license granted by a Board, the majority of which appear to be practical horse shoers.

WE know of a little Fox terrier dog—too small to kill a woodchuck himself—that will drive the 'chuck into a corner and hold him there until the larger dogs come and kill him. There's coöperation for you!

No, sir, there is nothing in the world that will kill bacteria and clean dirt like a jet of live steam. It will go into cracks, crevices and corners where a cloth and hot water never could reach. Your wife needs steam in her kitchen!

THE pressure on the barn wall next to a big silo is something tremendous. We have seen barn sides "bulged all out of plumb" by such pressure. An octagonal silo with two or three iron hoops around it will hold the ensilage safely.

AMONG the coming attractions in THE R. N.-Y. is an "illustrated article" on bed bugs. Mr. Slingerland has sent us this note: "I have an excellent photograph of the chap. I met the enemy, 25 in number, at one hotel where I put up recently, and although they conquered my night's sleep, I secured material with which to adorn the rogue's gallery."

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

MANY people are inquiring about the market for turnips. Receivers say that, at present, the market is full, and prices are low. Whether there will be any improvement in the immediate future, is a question, as the crop is, undoubtedly, large. The Swedes or ruta-bagas are preferred. Some of the best that come to this market are from Canada.

‡ ‡ ‡

I HAVE been much interested, each year, for several years back, in watching the declining price of chestnuts, after the first early shipments are sold. For instance, this year, the first shipments of choice ones, sold for about $10 per bushel, although earlier receipts of poor quality, brought $8. As few came in for some time, this price was maintained for several days. Then, as receipts increased, the price dropped to $8, next day to $6, then to $4, until now the average price is about $2, ranging from $1 up to about $2 75. A bushel is calculated to weigh 60 pounds, though dry nuts will not weigh that. The first southern are usually as good as the northern, though later receipts get wormy and sell for lower prices. Sometimes, when prices are low, many nuts are put in cold storage and held until later. Quite a profit is sometimes made in this way, but such stock must be used at once when taken from cold storage. Sometimes, it becomes wormy.

‡ ‡ ‡

APPLE exporters tell me that, although the foreign apple market has been badly crowded with poor fruit, at no time has really choice fruit been in excessive supply, or sold for an unremunerative price. They state in the strongest possible terms, that shippers must send only the finest selected fruit, and in good sized lots, not less than 25 to 50 barrels in a lot (car-load lots would be better); lower freight rates are thus secured. They also advise shippers to withhold part of their winter fruit until later, and not to ship it all at once. Some of the exporters also advise packing some of the finest fruit in half barrels to be held until the Christmas market. Many growers are so situated that they must get rid of their apples before cold weather, and these are likely to keep the market fully supplied. Red apples are preferred, though good, green cooking varieties sell well, as do Newtown Pippins. Many have lost by shipping overripe fruit, which arrived in bad condition. Freight rates are high, because of the extra demand for space. Exports are away ahead of those of last year.

‡ ‡ ‡

THE R. N.-Y. has heretofore had considerable to say condemnatory of the business methods of the Hayts, father and son, who have done considerable in the way of soliciting consignments of farm produce. I have been informed, on what seems undoubted authority, that the son is now doing a good business under the name of the Goodwin Produce Company. Honest men don't have occasion to make such changes.

‡ ‡ ‡

RECENTLY, I have answered several letters every day, asking for the names of reliable commission men. I believe that all those now advertising in THE R. N.-Y. come under that head. Why not write to them? But be sure to tell them that you saw their advertisement in THE R. N.-Y., for they are all anxious to please our readers.

F. H. V.

KEIFFER PEARS FOR THE ENGLISH MARKET.

Would it be advisable to ship Keiffer pears to England? Would they carry across the ocean all right if packed and shipped as soon as picked? Could they be packed better than to wrap each in paper and put them in bushel boxes? I can get boxes for about 12 or 13 cents bound with hoop iron. Or would barrels be best? What would it cost to send them? For how much would they, probably, sell? Can you recommend any reliable merchants in England? Is there any other market that would be better?

G. W. F.

We have shipped these to England several times, and we cannot say that it has been a success. From our experience, so far, we would not advise shipping them. Pears are scarce in our local market. We think that the best disposition that can be made of them this year, is to put them up nicely in bushel boxes and send to this market. If shipped to England, barrels would be the best packages. The cost of shipping at present, would be about 85 cents a barrel, including all expenses after they arrive in Boston until they are sold in the foreign markets.

Boston, Mass. LAWRENCE & CO.

Some of the questions which G. W. F. asks are impossible to answer. If he can ship Keiffer pears in boxes such as he describes, they will undoubtedly sell in Liverpool, London and Glasgow; but in view of the immense quantity of apples now being sold in these markets, it would be only guess-work to name a probable price. The freight would not be heavy for one of those boxes. The freight across the water would not be over 30 or 40 cents at present rates; maybe less. Of course, everything depends upon the condition in which the fruit arrives. If it should arrive sound, it would meet with a ready sale; but if ripe when shipped it would arrive in bad order without doubt, and there would be losses. Barrels would be undesirable packages, as they are too large for the small dealers abroad to handle. Later in the season there is a large business done in exporting California pears in such boxes. OTTO G. MAYER & CO.

New York.

Last season, as there was a heavy crop of pears and a poor market for them here, I sent over some 30 odd lots from different shippers in various parts of New York State, with the object of learning what could be done to relieve the market here. These were chiefly Bartletts. My advice then was to pack the pears green in kegs, and those shippers who followed that advice, and packed green, did pretty well. The merchant to whom I sent them wrote me, suggesting that, in the future, they should be packed in boxes similar to the California boxes, which can be seen anywhere. I do not quite agree with this, as some years previous I sent over some Clairgeau pears, and took a lot of trouble as regards boxes, without any better result. The best package, to my mind, is a bushel keg, and the pears should be packed green. As regards packing in paper, I don't think that it makes any difference. I sent over, last October, about 50 kegs of the Keiffer pears, and I received, after deducting all expenses, $1.20 per keg. The reason that I suggest kegs is that they are easier to get, the fruit can be more easily packed in them, and they stand the handling better. This year it is difficult to say what could be done with pears; there have been shipped 603,000 barrels of apples this season, as against 35,000 last season, with the result that apples are selling very cheaply, which will, of course, reduce the price of pears. KENYON PARSONS.

New York.

These pears usually carry very well. It is not necessary to wrap each in paper, as, if one or more should become decayed, the juice runs on the others and generally gives a bad appearance to the whole box. Shipping in boxes is preferable. The freight from New York to London, which is always the best market for pears, is about 40s per ton, of 40 cubic feet; this would be about 35 cents per box.

New York. JOHN ELLICE & CO.

THE GREAT INTERSTATE FAIR.

AN IMMENSE COLLECTION OF FARM PRODUCTS.

One of the largest and best managed fairs in the East, at least, is the Interstate, at Trenton, N. J. Every detail is systematically arranged, every facility is furnished, and every care taken for the convenience, comfort and entertainment of both exhibitors and visitors. Much and, in fact, most, of this is due to the business tact and level-headedness of the secretary, Jno. Guild Muirheid. He says that he is far from satisfied with the present status of the fair, and hopes to make still further improvements. The exhibits this year were large and varied, the quality good, as a rule, and the attendance larger than that for any other year except 1891, which was the banner year.

One good feature of this fair is Children's Day; this is a day set apart during the week when children are admitted free, and thousands of them avail themselves of the privilege. A feature in one of the buildings is a large exhibit of drawing, penmanship, etc., from the schools, which were very creditable indeed. No gambling is permitted on the ground; many of the objectionable side shows of former years are missing, though there are yet a few which would much better be abolished.

In horses, the chief exhibits were Standard bred, French Coach, Percheron and Hackney, and a single animal each of the Cleveland Bay and Clydesdale, besides a collection of roadsters, carriage horses, saddle horses, ponies and mules.

In cattle, the largest in numbers of exhibits, probably, were the Jerseys, though these were crowded hard by their near relatives, the Guernseys. Both of these breeds were represented by the leading herds from several different States. Aberdeen-Angus came next in point of numbers, and made a grand showing. These cattle, judging from those shown and the attention they receive, are gaining in popularity. They are an attractive breed, and well worthy the attention of those who wish general-purpose animals. Next came Ayrshires, and those shown were worthy specimens of the breed. Holstein-Friesians were not in large numbers, but those shown were of superior quality. The hardy Devons were well represented, and their appearance bears out their reputation as hustlers. A single herd of the oddly marked Dutch Belted cattle attracted much attention. Some French Canadian cattle were shown. These are new to this country, last year being the first they were shown here, and this shortly after their importation. They are recommended as a general purpose breed. Of the distinctively beef breeds, the Herefords led the Shorthorns somewhat in numbers, and both breeds made a magnificent showing. There were several fat cattle, many of which were veritable mountains of flesh, and of no earthly use as breeding stock.

In sheep, the preponderance of the mutton breeds shows the tendency among breeders. There were Merinos, and other allied breeds, but the different Down breeds, the Shropshires and Leicestershires, were largely in the majority, while the Dorsets filled a large place in the pens. The latter seem to be steadily gaining in popular favor. Taken together, the exhibition of sheep was an uncommonly good one, a credit to breeders, and an evidence that the sheep business has not yet died out.

Swine made a most excellent showing, both white and black; the latter color seems to be gaining in favor from year to year. Of the blacks, the Berkshires seem to lead, though there were many Poland-Chinas. Breeders all make a great mistake in not availing themselves to a greater extent of the opportunities afforded by these exhibitions for advertising their stock.

The poultry buildings were, as usual, well filled. There are two of these, most admirably arranged for the exhibition of the birds. But one of them was filled with a miscellaneous assortment of cage birds, pigeons, pets, etc., and the other was so crowded in consequence, that a tent had to be provided for the overflow. On account of the moulting season, this is a poor time to show fowls, and many of them presented anything but a pretty appearance.

In machinery, one cannot fail to notice the large number of machines designed for the making of ensilage, the husking and shredding of corn, etc. There have been great developments along this line in recent years.

Horticultural Hall made a great showing of fruits and vegetables. New Jersey is not an apple-growing State, still there was a goodly number of entries. Grapes were a fine lot. Few peaches were shown, as this is an off year for peaches. There were a good many pears, but not many plums. In watermelons, the display was immense. Nearly all the products of a distinctly truck-growing State were shown. Several lots of broom corn betoken another industry. The firm of J. & Wm. Parry made a large display of the different kinds of nuts, comprising not less than 18 different varieties of chestnuts alone.

A new feature of this fair was an auction sale of live stock on the closing day. The question of having an extensive sale, comprising all kinds of stock, had been agitated, but not in time to make it practicable at this fair. But as an entering wedge, Wills A. Seward advertised about 30 animals of various ages from his herd of Berkshires. The results were not encouraging, to say the least. Some animals from winners of the highest premiums in this country and England, went for about what they were worth as pork. It was evident that appreciative buyers were not present. This is a feature that should be common to all fairs, and thus afford an opportunity for buyers and sellers to meet to their common advantage.

F. H. V.

BUSINESS BITS.

THE Granite State Evaporator Co., 203 Main Street, Marlow, N. H., has prepared an interesting and valuable pamphlet on the advantages of cooking foods for stock, which is sent free to any one applying for it. The object is, of course, to advertise their feed cookers; but the information is gathered from reliable sources. The cooker is a simple, practical and economical means of cooking food, heating water, etc.

THIS is about the time of the year when people are thinking of sawing up their season's wood. A good way to saw it is to use the Folding Sawing Machine, made by the Folding Sawing Machine Co., Chicago, Ill. One man can operate it and accomplish the work of two. It saws down trees and can be instantly adjusted to five different positions. Those who are interested should investigate its merits before sawing their wood.

IT may not be so important in the city, where supply stores are handy, but a bottle of good liniment is almost a necessity in the farmhouse or barn, where accidents will happen and where prompt application saves much suffering and loss of time. Tuttle's elixir is one of the best liniments. A sample bottle will be sent free for three two-cent stamps to pay postage. Send to Dr. S. A. Tuttle, 27 R Beverly Street, Boston, Mass.

THERE is a large crop of corn in the country this year, as every well-informed person knows. Many farmers in the West have their cribs full of the old crop. They will not feel like building permanent cribs for this new supply, neither will they desire to sell it at present prices. Some five years ago, W. J. Adam, of Joliet, Ill., brought out a portable corn crib. He has, from year to year, improved this crib, and this year has added a No. 2 crib, which, while not as good as his No. 1 crib, is cheaper, and will answer the purpose of very many farmers and feeders. It will pay to investigate these cribs, for when corn can be cribbed for from one to two cents per bushel, it is a shame to waste it either by dumping it on the ground or rushing it into market at the present depressed prices. If you wish further information about these cribs, write Mr. Adam for it.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

SUITS consisting of a jacket of solid color and skirts of small checks or mixed goods, are very popular this fall. The jacket is of the color of the prevailing tone in the skirt, with revers faced with the material of the skirt, and collar and cuffs either trimmed with the same or entirely of the check, according to the fancy of the maker. For the woman who is not sufficiently adept in dress-making to give a stylish, tailor-made effect to a jacket, here is a suggestion: Buy your jacket ready-made (or use one already on hand), of a color and material that you can match to a certain extent in material for a skirt. In buying material for the skirt, get enough extra to face the jacket, and you will not find it such a difficult thing, if you are a neat worker, to put this stylish finish to your jacket. Brown, blue and green are the colors most frequently used in these combinations, and the small checks are much more favored than mixed goods.

*

THE plain felt hats, most of them modifications of the alpine shape, are as much in favor as ever. The ribbon band and binding, similar to the finish of men's hats, are, usually, the only trimming. A quill is sometimes added, the bow at the side made more elaborate, or velvet substituted for the ribbon band. These plain hats are more worn than formerly, for fashion prescribes an untrimmed hat as the only suitable one for bicycling; and, probably, half the time, in many cases, when a woman dresses for the street, it is to appear on the wheel. This is only one of the common-sense habits which the wheelwoman is adopting. And her example influences others.

*

As a result of bicycle riding among women, manufacturers have placed comfortable corsets on the market, realizing that many would have a comfortable corset or none. Underwear will be remodeled by those who have experienced how much more suitable are the styles designed for wheelwomen. Skirts are being shortened by a few. This last reform will progress more slowly, for it is in evidence to all, and there are few women who are brave enough to stand alone in inaugurating any reversal of old customs. It is, "I will if you will," with most of them, and because of this, there are several clubs formed for the purpose of introducing shorter skirts on rainy days.

*

THE question of dress reform affects all womankind, because the realm of dress is one of the strongholds of conservatism and unreasonableness. Once woman claims liberty to follow here the dictates of sense and science instead of fashion and custom, she will be enjoying a large share of that emancipation of body and soul for which many have been so long clamoring.

THE FARMER'S SOCIAL DUTIES.

VISITING ALMOST A THING OF THE PAST.

FARMERS are only men and women; their social duties are, therefore, the same as other classes of people—that is, they should be interested in the happiness and welfare of all with whom they come in contact. If they are thus interested, they will express it in some way, if only by a cheery word or smile. However, I fear that we country folks are growing remiss in the performance of our social duties. Indeed, I sometimes think that we do not realize that we have any, absorbed as we are in the daily round of labor, and the necessity for thought and care that our profession demands. In the rush for competence, or mere bread and butter, we seem never to have time for visiting or other social courtesy, and heedlessly, perhaps, wrong ourselves and others, not thinking of the lonely homes of people who are less favored than we with companions and home resources of literature, music, etc.

"It is not good for man to be alone," is true in more senses than one. We should be social creatures, mixing with—visiting, if you will—all our neighbors, sharing with them joys and sorrows, ready always with sympathy or rejoicing. We may feel neighborly in our hearts, but it is a fact that, in our locality, social visiting among farmers is almost a thing of the past. Especially, I think, is this true of farm owners. In every neighborhood, there are more or less tenant farmers, who naturally often change residence. Yet these seem to visit back and forth among themselves in the old fashion, while the settled people keep to themselves except as mutual business interests make them neighborly. As for their women folk, their acquaintance rarely progresses beyond a good night or good morning. Men are a little more social, and in their over-the-fence chats, lasting friendships have been formed, though they found little outward expression.

There seems to be a line drawn between owners and tenant farmers which, at first glance, might indicate "caste"; but so far as my experience goes, the former try hard to make themselves agreeable to their neighbors, and would gladly be social, if allowed.

Let me give you a bit of personal experience, and it is not a rare one, I am sorry to say, in our town. We came to this farm nearly 20 years ago, fresh from the city and hosts of friends, though cities are sometimes called unsocial; in all these years, we have never broken bread with a farmer (relatives excepted). That we should have been glad to have our neighbors visit us, goes without saying. Those long, first winters were almost unendurable, and will never be forgotten. We have not been to blame, for we have not stood for etiquette, but made first advances ourselves, until tired, and have, finally, given up and rely on our church and village friends for companionship. With this vivid memory always with me, I would gladly encourage neighborhood visiting, and think that it might be made most pleasant and profitable.

Although I do not know of any case where people have left their homes solely on account of their isolation and loneliness, I am convinced that many a woman, could she have had her way, would gladly have done so, even at great sacrifice. The loneliness is so much harder on us than on men, whose varied occupations and frequent visits to "mill and to market" give them the change we so much need. We stay at home and grow morbid and narrow in our views, and, perhaps, get irritable and repine, when we ought to be content and happy. Social visiting would, certainly, be helpful to us, if it did not degenerate into gossip, and I have little fear of that; we have so many things to talk about that we need not tell tales of people.

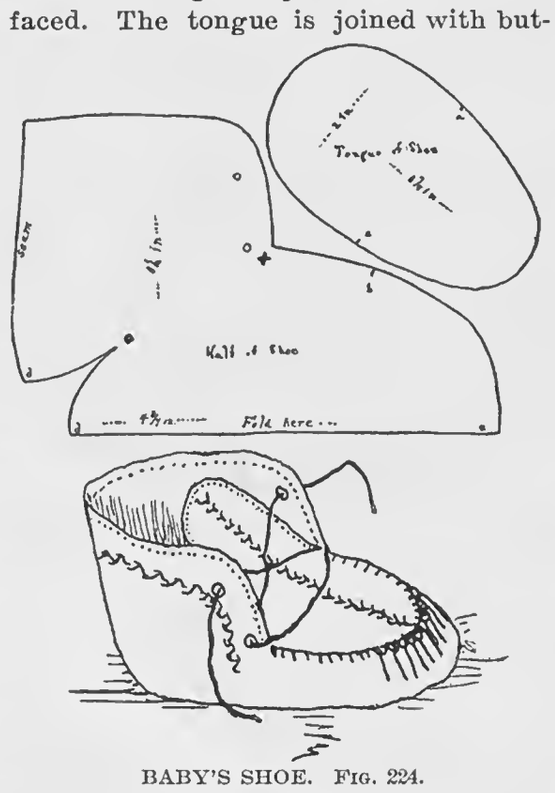
The social feature of the Grange is to be commended, and I wish that all the discouraged, lonesome, hopeless farmers in the community were compelled—if they could not be coaxed—to join it. So sure am I that the relaxation of the social visit in the Grange room would benefit them, to say nothing of the practical gain they might get from interchange of ideas with others in their class! "Social duties" is a subject to which it is well to call attention, and I hope that it will be freely discussed; surely, no other lies closer to our hearts.

MARY MANN.

SHOES FOR THE BABY.

OUR baby has knit and crocheted bootees of many styles, the gifts of different friends and relatives who wished to present His Little Majesty with some of their own handiwork. He isn't yet old enough to wear real shoes, but the white bootees soil so easily and suggest bedroom slippers too much, to give the dressed-up effect that baby's mother always likes, whether it be wise or not. So we decided that baby should have a pair of shop-made shoes. The ones we found in the shoe store were so cute and babyish, and of so simple a pattern, that they may easily be copied at home. Fig. 224 shows the finished shoe and the pattern for cutting it.

They were made of soft leather—olive, finished in pink silk was my choice. Chamois would answer to make them, and also cloth in dark colors. A piece 7 by 5½ inches is needed for the shoe, which is cut in one piece. The tongue may be cut from a small piece. The seam *c d* is first sewed, then the back seam. Two eyelets are made on either side. The edges may be buttonholed or faced. The tongue is joined with buttonhole stitch, beginning at *a* and *x*. The toe is gathered, beginning at *b*. The fancy stitches may be according to taste.



BABY'S SHOE. FIG. 224.

G. H.

LEAVENED BY TACT.

THERE is truth in the paradox that people should not always be as actively sympathetic and helpful as they possibly can; for there are cases in which the omission of a service may prove to be the truest kindness. "Why don't you help her?" whispered a visitor to a young woman, indicating grandma, who sat at a distance, laboriously trying to thread a needle. "She does not like to have me, was the reply. "It makes her realize that her sight is going, and that troubles her." Every one who has lived in the house with old ladies, will remember that they differ amazingly on this very point. One is grateful for the aid of young eyes, and another will say, with almost hurt emphasis, "Oh, no, thank you! I like to do it myself."

There is quite as great a difference between people in regard to their craving for discussion of their physical condition. Some have a horror of sympathetic inquiries, while others hear with melancholy gratification the remark that they are not looking as well as usual. Sympathy, unaccompanied by tact, is almost valueless. It may still be golden, but a man knocked down by a mass of the precious metal, is quite as likely to be injured as though the missile had been lead or iron. It is, of course, always better to err on the side of helpfulness than that of neglect; but only constant study of the individual preferences of others, can make our services perfectly acceptable to them. It is necessary, in the exercise of the truest kindliness, not only to weep with those that weep, but to withdraw our attention from those who prefer to be let alone.

MRS. W. O. WHITE.

CHRISTMAS GIFTS.

MRS. WINTERS was reaching some vases from an upper shelf, and dusting them, preparatory to filling them with bouquets of winter flowers. Her work seemed to call up so many recollections of the past, that she fell into a soliloquy. "That white vase," said she, "is one that George bought for me when he was 12 years old. What good taste the boy always had. The figures and vines on this are very beautiful. I did not realize, at the time, how carefully he had selected it. My good boy, always so conscientious and affectionate; all who ever knew him are better and happier for having had his society. And how much he enjoyed the Christmas season; and always planned to give pleasure to all around him! Oh, if my children were young again, and all around me, how I should enjoy preparing Christmas gifts once more! Nothing touches me so deeply as the holiday season, and whether they are conscious of it or not, I believe that every one feels the same way.

"Mother Winters was a very reserved woman, but she always kept the little mats and pincushions which her grandchildren made for her at Christmas. The copy of Scott's poems that brother John gave me the first time we ever had a Christmas tree at home, has been a lifelong pleasure to me; and the set of Dickens's works that Uncle William sent me from New York, how much they have brightened my laborious life! And how my heart warms towards the one who remembered me with such thoughtful kindness!"

AUNT RACHEL.

RENOVATING BLACK GOODS.

ONE can scarcely avoid feeling a little bit of impatience at seeing a mistaken idea persistently insisted in, and a course followed out simply because a notion has taken root in the feminine mind, writes a woman of large experience in the New York Ledger.

Day after day, we read directions for cleaning black goods, especially silks, a part of the process recommended being to begin while they are slightly damp, and iron them until they are thoroughly dry. As a matter of fact, a hot iron should never touch silk. It is fatal to its beauty, and as there are ways to restore this fabric that render it almost as handsome as new goods, it seems the sheerest folly to stick to such an antiquated notion as ironing it dry.

The great objection to the improved process is that it involves quite a little time and considerable hard work, but when the task is completed, the operator will be so astonished at the result that the ironing method will never afterward be received with any degree of toleration.

The first necessity is a wide, smooth board, or, in the absence of this, a piece of smooth oilcloth, not less than 1½ yard long, and three-quarters of a yard wide. This may be placed on a table or board, and firmly fastened. In a comfortably large family, it is well worth while to have a board for this special purpose. If one can secure a single board 28 inches or so in width, this is well, but if two boards must be joined, this must be carefully done, as no hint of the union must be evident to make a ridge or a mark on the surface of the fabric. In any case, the oilcloth covering is desirable, as it keeps the board from warping or splitting, and if it is made up of sections, smooths the irregularities, and permits of a much better finish to the goods.

When all is ready, make a rather strong decoction of soap bark. This is prepared by putting an ordinary teacupful of bark into about two quarts of water, and placing on the back of the range to simmer for several hours; then add another quart of water and pour the liquid into another vessel, adding more water and placing the bark again over the fire. With a piece of black cloth, or what is better, a moderately soft bristle brush like an ordinary clothes brush, wet the silk thoroughly with the liquid, then with the hand or a folded rag, the size of an ironing holder, rub the silk the straight way of the grain until all the moisture is rubbed out, then turn it over, wet it again, and rub dry as before.

Each piece must be handled separately, and under no circumstances must it be folded. Now hang the sections over a straight stick—a line is not as good, for it sags, and may make wrinkles in the material. When all of the pieces are gone over, take them all from the stick and select the largest one, smoothing it upon the board, being sure that the grain of the fabric is absolutely straight, and stroking it with the cloth or hand until it is firmly attached to the board. If necessary, a little moisture may be added to facilitate this operation. All of the pieces of one size are to be placed one over the other in the same way, wetting them when it is necessary, and smoothing them till they adhere firmly to each other. Then the small pieces are put on, graduating them in size so that all of the edges may lie smoothly and not overlap some other portion. Put a folded cloth over the board and place it in position at an angle of about 45 degrees. After a few moments, the superfluous water will begin to drip away. Do not disturb the silk at all for some hours, or until the water has long ceased to fall from it. If the weather is cold, leave it until the following day; if extremely warm, put it in a cool place and let it remain undisturbed for at least 12 hours; then with the thumb and finger carefully lift each piece. Very likely there will be more or less dampness, and this must be removed by spreading the pieces upon some smooth surface, or over sticks or a clothes frame.

When the silk is dry, if the work has been properly managed, there will be neither a wrinkle nor a fold left in the goods. With care, almost all marks of stitches may be taken out. If there have been shirrings or plaitings, take a breadth of silk between the hands, grasping the edges firmly, being careful that the grain of the goods runs straight from hand to hand, then move the hands back and forth so as to draw the silk on the bias, repeating this process a number of times. This must be done while the silk is wet. It will work the displaced threads back into their original shape, and greatly improve the appearance of the material. One trying may not bring this process to perfection; but it is safe to say that, after a few experiments, no other means of cleaning black silk will be adopted. This course of treatment works equally well with black wool goods, and is managed precisely in the same way. For double-width fabrics, the material is folded in the original folds when laid away to drip. Care must be taken that the goods do not dry in streaks. To avoid this, keep the board covered with a thick cloth until all the moisture has been drained away. It sometimes is desirable to place a much thicker cloth around the edges, and a lighter one where the material is very thick on the board.

As silk is an animal substance, and originally a liquid that becomes solidified by exposure to the atmosphere, it stands to reason that a hot iron should never touch it. It seems strange, indeed, that among people who ought to know better, the ironing of silk is recommended season after season.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for

6864—Ladies' Waist.

skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Waist.

Green barege sprinkled with autumn-leaf-red velvet dots is the material in this waist, decorated with barbs of lace passementerie and edging to match. The crush collar and belt with bows are of leaf-red velvet, and a spreading bow of fine net is worn at the throat. The sleeves are made over fitted linings, the full tops being shirred in the center and caught up with barbs of passementerie from the shoulder. The wrists are bell-shape and faced inside with leaf-red velvet, bows being placed just above the flare. Pattern No. 6864 may be had in sizes for 32, 34, 36, 38 and 40 inches bust measure.

PEN POTPOURRI.

A crust of bread and a corner to sleep in,
A minute to smile and an hour to weep in,
A pint of joy to a peck of trouble,
And never a laugh but the moans come double;
And that is life!

A crust and a corner that love makes precious,
With the smile to warm and the tears to refresh us;
And joys seem sweeter when cares come after,
And a moan is the finest of foils for laughter;
And that is life!

—*Paul Lawrence Dunbar.*

....YOUTH'S COMPANION: "Life is short. Speech should be to the point. Circumlocution is the thief of time, and often takes away oportunity and repels effort."

....HARPER'S BAZAR: "The man who is surest of a thing is most likely to be mistaken. Knowledge is apt to be distrustful; ignorance alone is positively certain."

....MARTHA CLARK RANKIN IN CHRISTIAN WORK: "There are plenty of brilliant men and women who were thought commonplace, perhaps even stupid, as children, simply because they developed slowly. But how much better to have the ability in mature life, when it counts for something, rather than in childhood when one is really just as well off without it."

....DR. PARKHURST IN LADIES' HOME JOURNAL: "The thing we have the most to fear is not the depravity and the criminality that are rampant, but the decency that is languid and the respectability that is indifferent, and that will go junketing when a State is on the edge of a crisis, or go fishing on a day when a city is having its destiny determined for it at the polls."

VARIETY IN RAG RUGS.—In weaving rag rugs, a very pretty and soft effect is produced by leaving spaces in the warp, so that, at intervals of an inch or so, the rag woof is left free from warp. When these rugs are so woven from selected rags, choosing a negative tone, like gray, tan or dull red for the center, with bright colors in stripes for the ends, the effect is so good that they can be used on tapestry or ingrain carpets without looking to be out of place, or "quarreling" with their surroundings.

M. W. F.

A ten-cent lamp with the right chimney gives more light and less smell than a $100 lamp with a wrong chimney.

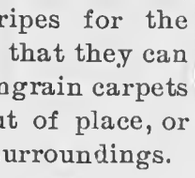
What is the right chimney?

What lamp have you got?

We'll send you an Index; free.

Geo A Macbeth Co

Pittsburgh Pa

SOLD! 

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to wash as clean as can be done on the washboard and with much more ease. This applies to **Terriff's Perfect Washing Machine** which will be sent on trial at wholesale price; if not satisfactory money refunded. **Agents Wanted.** For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

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TO BE DIVIDED

Within a short time by THE LADIES' HOME JOURNAL. You can have some of it just as well as not. Never were such chances possible before. See for yourself by writing to

The Ladies' Home Journal

Philadelphia

Housewives Can easily chop meat for sausage and mince-meat, hamburg steak, suet, corn for fritters, scrap meat for poultry, hash, beef for tea, etc., with the

ENTERPRISE MEAT CHOPPER

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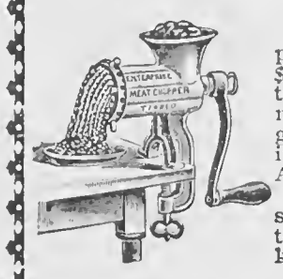

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A definite course for 1896-1897 in French-Greek politics, art and literature, showing their influence on

Modern Life and Thought

Desultory reading is unsatisfactory. The C. L. S. C. enables busy people to make good use of spare moments by having a well-defined plan.

Address JOHN H. VINCENT, Dept. 17, Buffalo, N.Y.

SOLID SILVER

4 cents. This is a Gentleman's Scarf Pin or Ladies' Stick Pin, two inches long, we only show the top. The double heart is solid sterling silver warranted 925-1000 fine. Sample by mail **Four Cents** in Postage Stamps. Address,
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THE RURAL NEW-YORKER has Twice Selected the Emerson Piano above all other makes, as the First Prize in their Subscription Contest. Send for free catalogue.

PIANOS—THE WORLD RENOWNED—**PIANOS**

Finest Tone, Best Work and Materials.

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Sold and Rented, Moderate Prices, Easy Terms.

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Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Smouldering fires of old disease

lurk in the blood of many a man, who fancies himself in good health. Let a slight sickness seize him, and the old enemy breaks out anew. The fault is the taking of medicines that suppress, instead of curing disease. You can eradicate disease and purify your blood, if you use the standard remedy of the world,

Ayer's Sarsaparilla.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best —*Adv.*

The Agent's Share.

Our Contest for Trial Subscriptions for the rest of this year, closed September 30, and we are going to give our agents and friends some more money in another Contest right away.

October 1 to November 14.

The next Contest will close November 14, and all names sent after October 1 will count. We will continue to allow the regular 15 per cent discount as formerly.

Weekly Premiums.

Three Dollars will be sent out every Saturday night, beginning October 17, to the agent who sends the largest club for that week; and $3 will also go out every Saturday night, beginning October 17, to the agent who sent the largest club who won *no other* weekly premiums since August 15.

Then, on November 14, we will give the following premiums:

For First Largest Club, - -	$25.00
For Second Largest Club, - - -	15.00
For Third Largest Club, - -	5.00

and $10 for the largest club sent by an agent who did not win any of the September 30 premiums. The first three premiums are open to all. The $10 premium is open to all except Ronson German, J. O. Loftin, Chas. R. Farnum, R. R. Gage and C. A. Miller.

Then, to make sure that every one gets paid for his work, we will guarantee a premium of $5, November 14, to every agent who sends 20 yearly subscriptions during this Contest.

Rest of this Year, Free.

To give our agents a chance to do good work, we will send the paper for the rest of this year, free, to those who subscribe for 1897. That is, you can give new subscribers the inducement of getting THE RURAL NEW-YORKER every week from now until January 1, 1898, for $1.

Now, there you are! You see the profits made in the last Contest by agents who did a little work. Do you want some of this money?

REMEMBER THIS: You can tell your farmer friends that THE RURAL NEW-YORKER always stops when the time paid for expires; and they can have their full $1 back in three months if they are not satisfied with the paper.

Do you want some of this money?

THE RURAL NEW-YORKER, NEW YORK.

CONDENSED CORRESPONDENCE.

READING, PA., CHRYSANTHEMUM SHOW.—A chrysanthemum show and general floral exhibition will be held for the benefit of the hospitals and other local charities, November 18 to 21. The premiums aggregate $600. A committee is in charge of the arrangements with John D. Mishler as president, and Cyrus T. Fox as secretary. M. H. Schnader, a public-spirited citizen, has granted the free use of The Auditorium, a fine, new four-story structure, centrally located, with a hall, 60x200 feet, on the ground floor. Q.

HORSE BREEDING IN NEW YORK.—Within the past five years 80 per cent less mares have been bred than up to 1891 or 1892. In this locality, farmers are now raising more colts than during any of the previous four years. The prices for service of good stallions of all kinds have been reduced one-half. There is practically no price for young colts, as farmers and dealers are looking for nothing but mature animals, that can be made useful or sold again at once. Our farmers are raising more French Coach colts now than ever before. There is, certainly, a very bright prospect for the farmer that raises some extra good coach and carriage colts now. Good horses, four years or over, with high action, are very high priced now, and almost impossible to find. E. S. AKIN.

Cayuga County.

THE ASPARAGUS RUST AGAIN.—At the time my first article was sent to THE R. N.-Y., letters were dispatched to one or more botanists and horticulturists in nearly every State in the Union. A large number of replies from these indicate that the dreaded disease is possibly confined to a small portion of the United States, for no place west of New Jersey has been reported from as having the asparagus rust, and only two elsewhere. Many other replies may come in, and a more definite statement can then be made concerning the range of the pest.

This second note, aside from the information contained, is designed further to stimulate observers to note whether asparagus in their section is infested or not. If the rust is as restricted as it appears to be, it is easy, and, therefore, all the more important, to burn the rusty fields and destroy the enemy before it gets spread throughout the whole country. BYRON D. HALSTED.

Experiment Station, New Brunswick, N. J.

FARMERS' INSTITUTES IN NEW JERSEY.—I am now planning a series of farmers' institutes to cover the entire State; some counties will have as many as two and three each. We shall begin work about November 10, and go on into the winter until all are held, culminating with the annual meeting of the State Board in Trenton, about the second week in January. I have already engaged F. E. Dawley, Director of New York Farmers' Institutes, John Gould, of Ohio, and Ex-Secretary J. S. Woodward, of New York. Other speakers throughout the State are being engaged, and, with the professors of our experiment station, we expect a strong and capable corps of workers, and hope to accomplish much good. While there are many subjects of local interest, which will claim attention in the different neighborhoods, the dairy, breeding, feeding and care of dairy cattle, care and culture of orchard fruits and the production of small fruits, market gardening, marketing farm produce, poultry and general farm crops, will claim our chief attention.

Secretary. FRANKLYN DYE.

KANSAS HORSE BREEDING.—The business of horse breeding has changed only from bad to worse. Prices have gone so low that colts cannot profitably be raised, even in connection with general farming. The cost of the service of the stallion sometimes is greater than the value of the colt when weaned. As may be readily inferred, farmers have largely quit breeding their mares, and exclusive breeders have gone into bankruptcy or changed their business.

It is hard to say to what extent prices have fallen. One can buy a pair of sound, well-broken, young horses of medium weight for $100 or less. Ponies and scrubs may be had for from $5 up. Some attention is being given to trotting stock, but roadsters and heavy draft horses are neglected. It seems as though everybody was absolutely certain that the market for horses is everlastingly slumped, and recovery impossible. Here and there, a man believes in better prices in a few years, but he is regarded as a mild lunatic. R. W. D.

Anthony, Kan.

JERSEY GRADES IN DELAWARE COUNTY, N. Y.—The dairy stock of Delaware County has been greatly improved in the last 10 years by the introduction of Jersey blood. I should say that there are probably 10 grade cows now where there was one 10 years ago. Twenty years ago there were hardly any Jersey cows in the county, outside of the town of Bovina; but now you will find some grade Jerseys in other towns, which are just as good as any that they have in Bovina. Messrs. Ayer & McKinney, two Philadelphia gentlemen, own about 700 acres of land in this town, Meredith, and have been keeping thoroughbred Jersey stock. At one time, they claimed to have the finest herd in the United States. They have sold quite a number of bulls to the farmers of this county, and this has undoubtedly helped very much to improve the stock of this vicinity.

There is no doubt in my mind that the grade cow of to-day will make more butter than the old native, even if she is fed the same. But I cannot say how much more; that would be a hard matter to tell, and probably no two men could agree on what the increased yield would be. The increased yield of butter to-day, however, is not all due to improved blood; improved feed, in many dairies, probably has as much to do with the yield as improved blood. In our own dairy we had quite a number of grades 10 years ago, and I think we made about as much to a cow then as we do now, as we feed just about the same now that we did then.

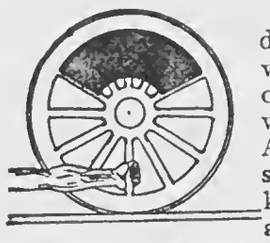
The cheapest feed that we can buy now is wheat feed and corn meal. Wheat feed is $11 to $13 per ton, and corn meal is $14 per ton.

GEO. MIDDLEMISS.

CORN FODDER IN IOWA.—A writer in the Iowa Homestead gives the following note: "While making a journey about half way across the State of Iowa recently, I observed that scarcely any corn was being cut up this fall. Whenever hay is plenty, the work of cutting corn fodder is not much relished by the stock owner. A few more years of scarcity will have to appear before the western farmer will utilize this product instead of permitting it to bleach in the winter blasts. It is a very good feed, and the only objection to it is that its preparation involves a good deal of labor to which the farmer has not been accustomed."

SHREDDED CORN FODDER.—Prof. C. S. Plumb, of the Indiana Experiment Station, has this to say about shredding stalks: "Fodder that is shredded should not be run through the machine until it is entirely dry and well cured. It would be better over dry than not dry enough. Last season, at the Indiana Experiment Station, we shredded all of our corn fodder (stover) with the most satisfactory results. It kept well in the mow, and was free from mustiness. The cattle and sheep ate it freely, and it was used well into the spring with the stock. This fall we will shred nearly all of our 1896 crop. Shredded fodder presents several important points in its favor. 1st—It is more economical to feed than the uncut corn. 2nd—It is eaten up cleaner by the stock than most cut fodder is, there being less waste, due to the absence of the hard, sharp-edged, short butt pieces of stalks usually found in cut fodder. 3d—The refuse makes better material for bedding than do whole stalks or cut pieces, being finer and softer. 4th—It handles far better in the manure pile than does the entire stalk. 5th—It does not make the mouths of cattle sore, while coarsely cut fodder oftentimes does. 6th—It packs more economically in the mow than does uncut fodder."

Miscellaneous Advertising.



Did you ever wonder what that heavy weight on one side of a locomotive-wheel was there for? Anyone who understands mechanics knows the need of a counter-balance to equalize power and keep the machinery going with a steady even motion. Without it the machinery would wrench itself out of shape. It is the same way with the machinery of the human-body: it needs to go on steadily and regularly to be in good health—not by fits and starts. The sudden wrenching medicines which people sometimes take to overcome constipation, give a violent strain to the intestines which weakens them, so that the costiveness is afterwards worse than before.

What costive people need is a natural laxative like Dr. Pierce's Pleasant Pellets which are powerful without being violent. They move the bowels gradually and comfortably but surely. You can regulate the dose—one, two or three "Pellets"—exactly as you need. They strengthen the intestines to do their own work, so that after their movements have become regular they keep on naturally of themselves.

The "Pleasant Pellets" gently stimulate and invigorate the liver to throw off biliousness; and tone up the stomach to secrete the digestive juices, and overcome dyspepsia. The entire digestive, or alimentary, tract is put in motion in the regular steady way of nature and health. This is what makes the "Pleasant Pellets" so immensely superior to the numerous purging pills which wrench and weaken the system. Druggists may get more profit out of those other pills but *you don't*.

The "Pleasant Pellets" are tiny sugar-coated granules—40 or more in a little one-inch vial tightly corked, hence, always fresh and reliable.

Send 21 one-cent stamps to cover cost of mailing *only*, and get his great book, The People's Common Sense Medical Adviser, *absolutely* FREE. Address, World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

Only One Standard

You and we may differ as to money standards and out of our very differences good may come. But we won't differ as to the merits of one standard emulsion of cod liver oil.

SCOTT'S EMULSION has won and held its way for nearly 25 years in the world of medicine until to-day it is almost as much the standard in all cases of lung trouble, and every condition of wasting whether in child or adult as quinine is in malarial fevers.

Differ on the money question if you will, but when it comes to a question of health, perhaps of life and death, get the standard.

Your druggist sells Scott's Emulsion.
Two sizes, 50 cts. and $1.00
SCOTT & BOWNE, New York.

NORTHERN-GROWN SEED POTATOES

We always use northern seed potatoes here even at largely increased prices over our own seed. One reason is, they do better; another is, that we do not grow late potatoes. Our potatoes are planted in March and April, and either marketed early, or dug in August, and put in the cellar. These potatoes are badly sprouted before it is time to plant them, and the second or third sprouting never produces as well as the first. I have frequently planted some of our own seed by the side of northern seed, with a result always favorable to the northern seed. C. P.

Cinnaminson, N. J.

We plant home-grown seed potatoes only in exceptional cases. My experience is that the northern seed is better on all occasions. Plant northern seed at any reasonable difference in cost. I have seen a difference in yield, many a time, of one-third. In these days, we don't keep any potatoes for seed, always buy northern seed, and I have said that I didn't feel that I could afford to plant home-grown seed as a gift. D. C. LEWIS.

Middlesex County, N. J.

My experience is that what we call northern-grown seed potatoes, give better results than our home-grown stock, grown and kept in the usual way. I have never had a good crop from home-grown, first-crop seed, and do not plant them any more. My preference, over all other kinds, is good, home-grown, second-crop seed—when I can get them. I have observed a difference in the growth and yield of northern-grown seed, due, as I believe, to a difference in the composition of the soil in which the seed is grown. Quality in seed is, after all, not a matter of latitude, but of soil, fertilization, stage of maturity when harvested, and manner of preservation until planting time. There are a few things which I think I know on this subject, but what I don't know would fill at least a page of THE R. N.-Y. B. R. B.

Mullica Hill, N. J.

A COUNTRY FAIR.

It was my privilege to be called to attend a town fair at Red Hook village, held under the auspices of the Agricultural Club of Red Hook on Wednesday, September 16. I say privilege, because it is seldom that such an exhibition of farm products as there met the eye, is seen at our county fairs. The exhibition embraced the products of the field, the orchard, and the garden, embellished with rare plants from some noted conservatories in the neighborhood. The club is favored in having a live secretary, in the person of R. N. Lewis, who seems determined to grow everything worth growing, and to experiment with grains and grasses, fruits and flowers, in almost unlimited variety; also vegetables of every hue, and butter and cheese that took the blue.

The president of the club, Mr. John A. Fraleigh, was a large exhibitor of fruits and vegetables, having 39 varieties of apples, and the largest collection of fruit on exhibition. Mr. W. S. Teator, of Upper Red Hook, who is a prominent grower of seed potatoes, had 36 varieties on exhibition, and a fine collection of apples, taking first premium on the best 12 plates, and second on the largest collection of fruit. The display of pears and grapes was not large, but good. Mr. S. D. Willard, of Geneva, had on exhibition one plate each of Sutton's Beauty and Longfield apples. There were several artistic designs in cut flowers, and one representing a bicycle covered with golden rod, by Miss Rosalie Fraleigh, was unique and pretty.

On Wednesday evening, the chapel where the exhibition was held, was crowded to its utmost

limit, all standing to listen to an address on agriculture by Walter F. Taber, of Poughkeepsie, who dwelt mainly upon the need of humus in the soil to retain moisture to dissolve the fertilizing elements in the soil, so that plants could feed upon them. Thursday evening, Mr. Richard Lewis, gardener for the Misses Cruger, delivered an address on horticulture and vegetable gardening. Altogether, the fair was a grand success, and the club may well feel proud of this their first effort in this direction. Altogether it was a model for other farmers' clubs to copy. T.

MARKETS

BEANS AND PEAS.

Beans, Marrow, 1895, choice	1 45@ —
Medium, 1895, choice	1 25@ —
Pea, 1895, choice	1 2)@ —
Medium or Pea, common to good	1 10@1 20
White Kidney, 1895, choice	1 4)@ —
Red Kidney, 1895, choice	1 22@1 25
Red Kidney, common to good	1 00@1 15
Black Turtle soup, 1895	1 50@1 55
Yellow Eye 1895, choice	1 2)@1 25
Lima, Cal., 1895 (60 lbs)	1 35@1 40
Green peas, Scotch, 1895, bbl., per bushel	75@ 80
Barrels, per bushel	65@ 70

BUTTER—NEW.

Creamery, Western, extras	17½@—
Western, firsts	15½@16½
Western, seconds	13 @14½
Western, thirds	11½@12
State, fancy	17 @17½
Common to prime	11½@16½
State dairy, half-firkin tubs, fancy	15½@16
Firsts	13 @14
Seconds	11½@12
Welsh tubs, fancy	15 @15½
Welsh tubs, firsts	14 @—
Welsh tubs, seconds	11½@—
Tubs, thirds	10 @11
Western imitation creamery, firsts	11 @12
Seconds	9 @10
Western dairy, firsts	10 @11
Seconds	8½@ 9½
Thirds	7½@ 8
Factory, fancy	10 @10½
Factory, firsts	9 @ 9½
Factory, seconds	8 @ 8½
Factory, thirds	7 @ 7½
Old butter	6 @ 8½

CHEESE—NEW.

State full cream, large, colored, fancy	9¾@ 9⅞
Colored, good to choice	9 @ 9½
Fair to good	8½@ 9
Fancy white	9¾@ 9⅞
White, choice	9 @ 9½
Small, colored, fancy	10 @—
Small, white, fancy	9¾@—
Small, good to choice	9¼@ 9½
Small, common to fair	7 @ 8½
Light skims, choice	7½@ 8
Part skims, good to prime	5½@ 6½
Part skims, common to fair	3½@ 4½
Full skims	2 @ 2½

EGGS.

Near-by, new laid, fancy, selected, per doz	21 @ 22
State, fresh gathered, average best	19 @ 20
Penn., country marks, average best	19 @ 20
State and Penn., fair to good	17½@ 18
Western, northerly sections, fancy	18 @ —
Western, fair to good	16½@ 17½
Western refrigerator, prime, early pkd.	15½@ 16
Western refrigerator, fair to good	14½@ 15
Western fair to good, per case	3 25 @4 00
Western dirties, per 30-doz case	3 00 @3 60
Western checks, per 30-doz case	2 25 @2 70

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	5 @ 5½
Choice, 1896, per lb	4½@ 4¾
Prime, 1895, per lb	4 @ 4¼
Common, per lb	3 @ 3¾
1895, prime to choice, per lb	3½@ 4
1895, common to good, per lb	2 @ 3
N. C., sundried, 1896, sliced, fancy	2½@ 3½
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	—@—
Western, sundried, quarters, bbls	—@—
South-West'n, sundried, quarters, bbls.	4 @—
Southern, sundried, quarters, bbls	—@—
Southern, sundried, coarse cut bags	1¾@ 2½
Chopped, 1896, per lb	1⅜@ 1⅝
Cores and skins, 1896, per lb	1 @ 1¼
Peaches, Sundried, 1896, peeled, per lb	7 @ 8
Cherries, 1895, per lb	8½@ 9
Cherries, 1896, per lb	9 @10
Blackberries, 1896, per lb	4 @—
Raspberries, evaporated, 1896, per lb	14 @14½
Huckleberries, 1896, per lb	6½@ 7
Plums, Southern Damson, 1895, per lb	—@—

GRASS SEED.

Clover, per 100 lb	6 50@ 8 50
Timothy	2 85@ 3

FRUITS—GREEN

Apples, 90-Ounce, per bbl	1 12@1 37
Baldwin, per bbl	1 00@1 12
Culvert, per bbl	75@1 00
Gravenstein, per bbl	1 50@2 00
Fall Pippin, per bbl	1 12@1 50
Greening, per bbl	1 00@1 12
Holland Pippin, per bbl	1 12@1 50
Ruston Pippin, per bbl	75@1 00
Oldenburg, per bbl	1 25@1 75
King, per bbl	1 25@1 50
Detroit Red per bbl	1 25@1 50
Nearby, open heads and common, per bbl	50@ 75
Crab, large, per bbl	75@2 25
Crab, small, per bbl	3 00@5 00
Cranberries, Cape Cod, dark, per bbl	4 75@ —
Good color, per bbl	4 00@4 50
Light to medium, per bbl	3 00@3 75
Per crate	1 25@1 60
Jersey, per crate	1 00@1 25
Grapes, Up-River, black, per 20-lb carrier	45@ 55
Up-River, black, per small basket	6@ 7
Up-River, black, per large basket	10@ 13
West'n N. Y., Catawba, per small basket	8@ 10
West'n N. Y., Concord, per large basket	10@ 14
West'n N. Y., Delaware, per small bkt.	10@ 15
West'n N. Y. Niagara, per small basket	9@ 15
West'n N. Y., Salem, per small basket	8@ 10
Wine grapes, black in bulk, per lb	1 @ 1¼
Wine grapes, white, per lb	1½@ 2
Peaches, Western Maryland, per carrier	1 00@2 25
Western Maryland, per crate	1 00@1 75
Western Maryland, per basket	50@1 25
Michigan per bushel basket	1 00@2 00
Plums, Green per 10-lb basket	20@ 60
Ordinary Blue, per basket	40@ 60
Prunes, per basket	50@ 75
Pears, Bartlett, per bbl	2 50@4 50
Bartlett, per keg	1 50@2 25
Bosc, per bbl	3 00@4 00
Clairgeau, per bbl	2 50@3 00
Du Chess, per bbl	2 25@3 00
Anjou, per bbl	2 50@3 00
Seckel, per bbl	5 00@8 00
Seckel, per keg	2 00@3 50
Sheldon per bbl	3 00@3 50
Swan's Orange, per bbl	2 25@3 00
Nearby cooking, per bbl	1 75@2 25
Quinces, choice bright, per bbl	2 75@3 00
Fair to good, per bbl	2 00@2 50
Seconds, per bbl	1 50@1 75

GAME.

Woodcock, average, per pair	75@1 25
Partridges, nearby, per pair	75@1 00
Western, per pair	60@ 90
Grouse Western, per pair	30@ 80
English snipe, choice, per doz	1 75@2 25
Plover, golden, choice, per doz	1 75@2 25
Grass, average, per doz	75@1 75
Reedbirds, per doz	15@ 60
Blackbirds, per doz	15@ 20
Rabbits, per pair	30@ 40
Wild ducks, mallards, per pair	50@ 60
Teal, per pair	25@ 50
Common, per pair	20@ 25
Venison, frozen, prime saddles, per lb	23@ 25

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	77½@80
No. 2	67½@72½
No. 3	60 @65
Shipping	55 @60
Clover, mixed	60 @65
Clover	50 @55
Salt	45 @50
Straw, No. 1, long rye	85 @90
No. 2	70 @80
Short rye	65 @65
Tangled rye	40 @50
Oat	35 @40
Wheat	35 @40

HONEY.

State, white clover, comb, fancy, per lb	12½@13
Buckwheat, comb, per lb	8 @ 9
White clover, extracted, per lb	5 @ 5½
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	—@—
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @50

HOPS.

N. Y. State, crop of 1896, seedlings	9 @10
Medium to prime	7 @ 8½
Crop of 1895, choice	7 @—
Medium to prime	5½@ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1895, choice	6 @ 6½
Prime	6 @—
Medium	5 @—
Crop of 1894, common	2 @ 2½
German, 1895	14 @18
German, 1896	24 @27

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½@ 10
Fair to good, per lb	8½@ 9
Com. to med., per lb	7 @ 8
Small, per lb	5 @ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 10 to 25 lbs., per lb	8 @ 10
40 to 60 lbs., per lb	6½@ 7
60 to 80 lbs., per lb	5½@ 6½
80 to 120 lbs, per lb	5 @ 5½
125 lbs and up, per lb	4 @ 5

NUTS.

Peanuts, Va., h. p., fancy, per lb	3¾@ 4
H. p., extra, per lb	3¼@ 3½
Shelled, No. 1, per lb	4½@—
No. 2, per lb	3¾@ 4
Spanish, shelled, No. 1, per lb	6½@ 6¾
No. 2, per lb	4¾@ 5
Pecans ungraded, per lb	4 @ 5
Chestnuts northern, per bush of 60 lbs	3 00 @4 00
Southern, per bushel of 60 lbs	1 00 @3 00
Hickorynuts, per bushel of 50 lbs	1 25 @1 62

POTATOES.

Long Island, in bulk, per bbl	1 25@1 37
State, per 180 lbs	1 00@1 12
Jersey, per sack	1 00@1 15
Jersey, per bbl	1 00@1 25
Sweets, Va., yellow, per bbl	75@1 00
Jersey, yellow, per d. h. bbl.	1 00@1 25
Vineland, per bbl	1 25@1 75

POULTRY—LIVE.

Spring chickens, per lb	8 @ 8½
Fowls, local, per lb	8½@ 9½
Western, per lb	8½@ 9
Southwestern, per lb	8½@ 9
Southern, per lb	8½@ 9
Roosters, old, per lb	5½@—
Turkeys, mixed, per lb	9 @ 10
Ducks, local, per pair	65 @ 80
Western, per pair	60 @ 75
Southern, per pair	40 @ 50
Geese, local, per pair	1 25 @1 50
Western, per pair	1 12 @1 25
Southern, per pair	1 00 @1 12
Pigeons, old, per pair	25 @—
Young, per pair	15 @ 20

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	11 @ 12
Young, dry-picked, per lb	11 @ 12
Young, scalded, per lb	10 @ 11
Young, inferior, per lb	5 @ 9
Spring chickens, Phil., selected, per lb	13 @ 15
Philadelphia, poor to good, per lb	9 @ 11
Pennsylvania, per lb	12 @ 15
Western, dry-picked, good to choice	8½@ 9
Western, dry-picked, inferior	5 @ 8
Western, scalded, choice, large	8 @ 8½
Western, ordinary, per lb	6½@ 7½
Fowls, Western, dry-picked, choice	10 @—
Scalded, choice, per lb	9½@—
Old cocks, per lb	6 @—
Spring ducks, Eastern, per lb	13 @ 13½
Spring ducks, L. I., per lb	13 @ 13½
Spring ducks, Penn. and Va., per lb	9 @ 11
Spring ducks, Western, per lb	8 @ 9
Old ducks, Western, per lb	7 @ 8
Spring geese, Eastern, per lb	14 @ 15
Squabs, tame, white, per doz	1 75 @2 00
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00@2 50
Red, per 100	3 00@4 00
Carrots, per bbl	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 50@2 50
Celery, fancy, large, per doz	40@ 60
Average, prime, per doz	20@ 30
Small, per doz	10@ 20
Cucumbers, per 100	1 00@2 50
Egg plant, Jersey, per bbl	50@ 75
Green corn, per 100	50@ 75
Lettuce, Boston, per doz	20@ 30
Local, per bbl	75@—
Lima beans, Hackensack potato, per bag	1 00@—
Jersey flat, per bag	50@ 75
Onions, State yellow, per bbl	1 00@1 12
Eastern white, per bbl	2 00@2 50
Eastern red, per bbl	1 50@1 75
Eastern yellow, per bbl	1 25@1 50
Orange County white, per bag	1 00@2 25
Orange County yellow, per bag	50@1 00
Orange County, red, per bbl	50@1 37
Jersey and Long Island yellow, per bbl	1 25@—
Jersey and Long Island red, per bbl	1 25@1 37
Jersey and Long Island white, per bbl	1 50@2 25
Western yellow, per bbl	1 00@1 12
Pumpkins, per bbl	50@—
Red peppers, per bbl	75@1 25
Green peppers, Jersey, per bbl	40@ 75
Spinach, per bbl	—@—
Squash, marrow, per bbl	60@ 75
Hubbard, per bbl	75@1 00
String beans, Norfolk, per half bbl basket	75@1 00
Charleston, per bushel basket	50@ 75
Long Island, per bag	75@—
Tomatoes, ripe, per box	40@ 65
Green, per box	15@ 25
Turnips, Jersey and L. I. Russia, per bbl	50@ 65
Canada, per bbl	70@ 75

WOOL.

XX and above, Ohio	18 @19
X, Ohio	16 @16
Other grades	20 @22
Washed combing and delaine	18 @23
Unwashed combing	17 @20
Texas, medium to choice	10 @13
Fine and medium, fall clipped, Texas	9 @10
California	9 @15
Oregon	12 @13½
Territory	7 @14

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(Rev.) B. C. LIPPINCOTT.

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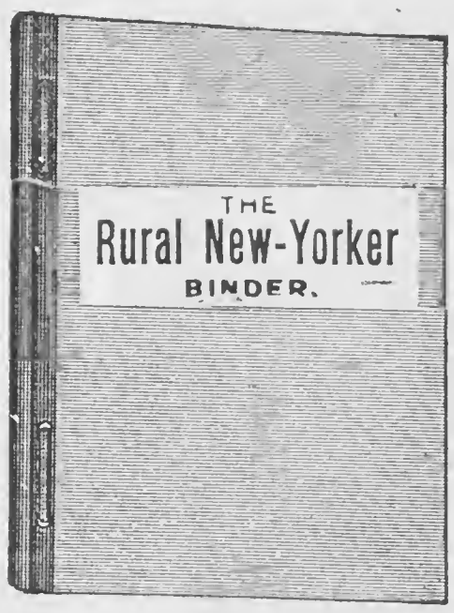

THE RURAL NEW-YORKER, NEW YORK.

TURKEYS AS HATCHERS.

THEY MAY BE TRAINED TO SIT AT ANY TIME AND USED FOR LONG PERIODS IN PLACE OF INCUBATORS.

PART I.

How many of THE R. N.-Y. readers know that common turkey hens can be persuaded to sit at the pleasure of their owner, and used to hatch brood after brood of chickens, ducks or geese? This is nothing new, for it has been followed in France for a very long time. As long ago as 1865, when Mr. Geylin, an English poultry producer, visited France in the interest of the National Poultry Company, he found hatching establishments in which as many as 60 turkeys were hatching or sitting at the same time, and he was informed that as many as 100 were used in this way at one time in this establishment during the winter. In his report to the National Poultry Company, he carefully deseribes how it is done there. He said, "The hatching-room is kept dark and at an even temperature, summer and winter. In this room, a number of boxes, two feet long, one foot wide and one foot six inches deep, are ranged along the walls. These boxes are covered with lattice or wire work, and serve for turkeys to hatch any kind of eggs. Similar boxes, but of smaller dimensions, are provided for broody fowls. The bed of the box is formed of heather, straw, hay or eocoanut fiber. The number of eggs for turkeys to hatch is two dozen, and one dozen for hens.

Training Turkeys to Sit, in France, 1865.

"At any time of the year, turkeys, whether broody or not, are taught to hateh in the following manner: Some addled eggs are emptied, filled with plaster of Paris, then placed in a nest, after which a turkey is fetehed from the yard, placed on the eggs and eovered with lattiec. For the first 48 hours, she will endeavor to get out of her confinement, but soon becomes reeoneiled to it, when fresh eggs are substituted for the plaster of Paris ones. She will then continue to hatch (sit) without intermission, for from three to six months, and even longer, the chickens being withdrawn as soon as hatched, and fresh eggs substituted. After the third day, the eggs are examined, and the clear ones withdrawn, which are then sold in the markets for new laid. But as they may be soiled or discolored from being sat upon, they clean them with water and silver sand to restore their original whiteness.

"The turkeys are taken off the nest once a day, to feed and to remove their excrement from the nest, but after awhile, they cease feeding, when it is necessary to cram them, and give them water once a day." At one farm, he saw "a turkey that was then sitting, and had been upward of six months, and as I considered it rather cruel, the hatcher, to prove the contrary, took her off the nest, put her in the meadow, and also removed the eggs. The turkey, however, to my surprise, returned immediately to her nest, and called in a most plaintive voice for her eggs. Then some eggs were placed in a corner of the box, which she immediately drew under her with her beak, and seemed quite delighted."

Turkeys and Capons for Rearing.

Referring to the practice of having young chickens reared or brooded by turkeys and capons, he said, "In some parts of France, where poultry breeding is carried on as a trade, they seldom allow a hen to lead the chickens after being hatched, as the hen is more valuable for laying eggs; but they intrust this office either to capons or turkeys, which are said to be far better protectors to the chickens than hens. They require, however, a certain amount of schooling preparatory to being intrusted with their charge, which consists in this: When a turkey has been hatching for some months, and shows a disposition to leave off, a glassful of wine is given her in the evening, and a number of chickens substituted for the eggs. On waking in the morning, she kindly takes to them, and leads them about, strutting amidst a troop of 75 to 100 chickens with the dignity of a drum-major. When, however, a troop leader is required that has not been hatching, such as a capon or turkey, then it is usual to pluck some of the feathers from the breast, give it a glassful of wine, and, while in a state of inebriation, to place some chickens under it. On getting sober the next morning, it feels that some sudden change has come over it, and as the denuded part is kept warm by the chickens, it also takes kindly to them."

Hatching and Rearing Chickens With Turkeys in France, 1896.

An article in the American Fanciei recently, written by a woman poultry keeper in France, for the English Fanciers' Gazette, shows that this practice is still followed there. She advises the giving of wine or whisky to the turkey as she is put on the nest, but several in this country who have tried it according to Mr. Geylin's directions find that the use of spirits is not necessary to make turkeys willing to sit.

She writes as follows: "I have made up my mind to outdare the smiles of the skeptical, and give the French process of training turkeys for the benefit of those who, in following my advice, can have a broody hen whenever they want one. In our large centers of poultry raising, in France, where enormous quantities of eggs are hatched in winter, turkey hens are mostly used as sitters. Each breeder possesses from 30 to 100 of these fowls, which are brooding with interruptions, the whole year 'round. Even the large poultry hatchers (this is a separate trade) who have always 20 or more incubators at work, have them to do a part of the labor. * * * To those who do not possess an incubator, turkeys are still more precious, as they generally get broody after a few days training. * * * The proeess is simple and not beyond the reach of every purse.

"Secure a box long and wide enough to give the turkey her complete ease, though not high enough to allow her to stand up in it. This box must be shut by a cover, fastened by hooks, or kept down by a heavy stone. Four laths nailed together over a piece of wire form the best cover to use; but one or two boards put over the box, with a little spaee left between them for air, will do quite well. A pieee of canvas covers the whole, and keeps the bird in the dark. On the bottom of the box place a good bed of hay, slightly hollowed out in the center, and in this place a few elear or ehina eggs. Then take the turkey gently, and give her five or six pieces of bread, soaked in red wine, or brandy and water (half and half) or whisky and water, or any other liquor capable of giving a slight 'elevation', after which place her on the nest and cover her. Morning and evening take her from the nest, put her under a coop, give her water, grain, a dust bath, and again bread soaked in some kind of spirits. Repeat this until you see that the turkey settles herself on the eggs and remains quietly on them without being covered. Then you may give her good eggs and depend upon her to do her duty conscientiously.

"*An important point upon which I can not insist enough, is the necessity for looking for vermin before placing the hen on the nest, in order to prevent her becoming troubled by these pests and becoming restless*, as such large birds are more liable than others to break eggs. A good sprinkling of pyrethrum powder through the feathers and in the hay of the nest, is to be recommended. The first operation should take place by daylight. The turkey, being plunged from full light into eomplete darkness, when the effect of the wine begins to act and makes her feel rather funny in the head, gets so frightened that she will remain on the eggs without moving. The eontact with these, and her long tete-a-tete with them, develops her maternal instincts, and, as a rule, a few days are sufficient to provoke the brooding fever. I have known turkeys to get broody the day after they were set. I never train them more than eight or nine days, and give liberty to those who have not taken to the nest by that time. If properly managed, they will sit from six to eight weeks eonsecutively, without showing any trace of fatigue. Some breeders make them brood much longer, but it is cruel and dangerous, for sometimes the birds die on the eggs. When they do sit, it is not necessary to feed them twice a day; take them off in the morning only, but let it be regular."

SAMUEL CUSHMAN.

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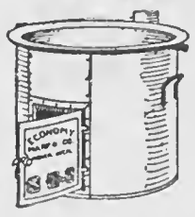

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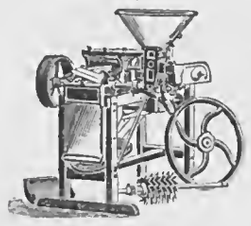

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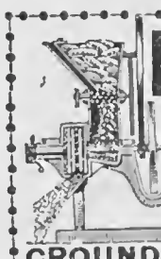

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DISINFECTION FOR TUBERCULOSIS.

WHAT IS DONE TO DESTROY DISEASE GERMS?

The following notes are written in response to Mr. Cushman's article on page 656, in which he called attention to the lack of care in disinfecting stables in which tuberculous cows had been slaughtered:

The System in Vermont.

I do not know what is practiced in other States, but in this State, we look carefully to the thorough disinfection of stables where we find tuberculosis. The method varies according to the conditions. Where one or two animals are found in a stable, and they have occupied only their own separate stalls, we simply disinfect their mangers. But when we find a number of animals in a stable that have tuberculosis, we disinfect the whole stable. Sometimes, when a stable is in such condition that we fear our inability to make it safe—by freedom from remaining germs—we order the mangers torn out and new ones built. But our usual method is to sweep down thoroughly the ceiling, sides and floor, and carry out all the dust; then, with a small hand pump, spray the whole with corrosive sublimate—about one to 500—being careful to wipe out the mangers so as not to leave any puddles that the cows can drink. Whenever we test any cattle in a herd, we test the whole so as to make clean work as far as we go. Our State provides sufficient authority and ample means to do thorough work, where we do any.

C. M. WINSLOW.

Remarks of Mr. B. C. Sears.

In our own case, cattle were slaughtered on a field, which was plowed for corn, for two years, and has not yet had an animal on it; every part was buried. When others were killed, it was too cold, and they were slaughtered in an old barn which was thoroughly cleaned, and has not been used since for cattle. Every part of these diseased animals except the hides was buried.

The stables were scrubbed with a strong solution of potash, and then sprayed with a solution of bichloride of mercury, or corrosive sublimate, which remained about 36 hours, and then was scrubbed off again with potash solution. All this was done under the direction of Dr. Faust of Poughkeepsie, who was in the employ of the State Board of Health of New York, and I believe, as far as I know, that similar directions were given by Dr. Faust to others; whether carried out by others I do not know. We had enough of it, and did not want any more.

We are thoroughly satisfied with the wisdom of our asking the State Board to inspect our herd. We were well treated, and fairly recompensed, but many others have not been so fortunate, and I do not think that the dairymen of the State should be put in the power of a force, such as would necessarily be appointed to carry out a stringent law such as the State Board of Health ask for, and those interested demand. I believe the constant agitation of the matter, an injury to the producer and consumer of milk. The view taken of the matter by the advanced professional veterinarians is too professional, and exaggerates the danger very greatly. The tuberculin test is too severe, should be in the most careful hands, and may be cruel to the animal, unjust to the owner, and an injury, also, to the consumer of dairy products.

Orange County, N. Y.

From Dr. Grange of Michigan.

I think that Mr. Cushman has made some very excellent suggestions with regard to the advisability of disinfecting premises which have recently contained tubercular animals, because there can be little doubt that proper disinfection is one of the important features to be kept in mind while endeavoring to exterminate a communicable disease. With regard to my observation in the matter of handling cattle after they have been condemned as being affected with tuberculosis, I always endeavor to arrest the spread of the disease, but am not able to say from recent observation, how this is conducted by inspectors throughout the country.

Great Importance of the Matter.

Mr. Samuel Cushman's letter, presenting the necessity for State disinfection of all infected premises, after the killing of tuberculous cattle by the State authorities, and urging that the farmers demand that inspection and disinfection go hand in hand, is so excellent in every way that I cannot refrain from expressing hearty approval of his suggestions. He has covered the ground so thoroughly that little remains to be said on the subject, albeit it is such an important one to the farmers and to humanity at large.

As Mr. Cushman forcibly says, it is, indeed, "throwing State money away" to condemn and kill cattle, and then neglect a thorough extermination of the lurking disease germs in the buildings, which is in itself a task of no small difficulty, and one requiring the utmost care that a scientifically educated man can give, and which the average man does not know how to give. And not only should the buildings and all utensils be disinfected, but all manure should be hauled out and spread on fields to which cattle will not have access that season, and which do not drain into water supplies, so that the sunlight will destroy the germs. Prof. Koch says that strong sunlight is fatal to them in seven hours, though, of course, it is necessary, if this result is to be expected, that the sun shall have full access to the germs; it has no effect, of course, on those germs hidden in the manure, though after exposure to the elements, the disintegration necessarily consequent would present them to the light.

In regard to the possibility of infection from diseased carcasses en route to fertilizer works, there is no danger, unless portions be dropped on the highway, or the men handling them spread the germs by incautiously handling things which other persons may afterward touch unknowingly, and thereby possibly convey the germs into their mouths, or, possibly, into a wound. The carcasses being in a damp condition, it is impossible for the germs to be blown about. Our chief danger from tuberculosis lies from infection by means of the dried germs, carried through the air, (which retain their vitality for years in darkness), and from milk. There is very little danger from meat, as most people cook it thoroughly; but in the case of milk, there is danger, taken, as it is, directly into the stomach in a raw state. Many people scout at the idea of there being any danger from the use of milk, on the ground that, if it had been dangerous, how is it possible to account for their healthy condition? But it is the dead we must consider in this connection—not the living. Otherwise, we could, with equal justice, point to the survivors of the famous "600," and claim that Balaklava must have been a healthful spot!

Mr. Cushman's suggestions should lead to the necessary changes in the present methods of carrying out State inspection, which will insure to each farmer who undergoes it the greatest possible immunity from a future outbreak of the disease. Tuberculosis germs are like other disease germs, inasmuch as they require not only a suitable soil, but also proper conditions for their germination; and as we can never be sure at what time we, or our cattle, may be offering them just the proper conditions for their growth, it behooves us to leave no stone unturned that will insure both our own safety and that of our herds. Hence, we should have our buildings most thoroughly disinfected, after inspection, by competent officials.

I cannot say as to the method of disinfection followed in Pennsylvania now, but I am under the impression that the State officials do not attend to it themselves, but merely give directions as to the detail. I think, however, that we can rest assured that our present able State Veterinarian, Dr. Pearson, will do all that is possible to be done to advance the interests of the people. G. R. F.

West Chester, Pa.

SELF-SUSTAINING COWS.—The latest live stock story comes from Kansas, and runs as follows: "In Kansas, once, after a drought and a grasshopper visitation had destroyed all the crops, the people of a certain neighborhood met to devise means of getting through the winter without starving. After several had spoken, a fellow got up and said cheerfully that his family could pull through, as he had a cow. 'But you have no feed, and what good will a cow do if you can't feed her?' he was asked. 'The cow is all right', he answered; 'she doesn't need any feed—she sucks herself.'"

Four years ago I had a severe attack of La Grippe. It ran into Pneumonia. My Cough was something terrible. Doctors failed to give me any relief. I became so weak I could not turn in bed. Finally, my wife got a bottle of Jayne's Expectorant. Before I had used one-half of it, my Cough was easier, and I was soon completely restored. I have no hesitation in saying that YOUR EXPECTORANT SAVED MY LIFE, and it is my wish that the world shall know of this grand medicine.—J. E. HOISLEY, Proprietor of the Halsey House, New Holland, O., Nov. 5, 1895.

The Family Pill—Jayne's Sanative.—*Adv.*

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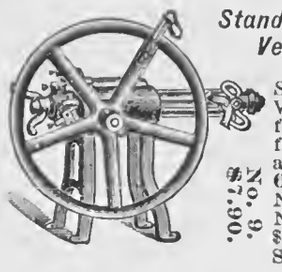

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NEVER disturb a brooding hen. You may break the set.—*Boston Transcript.*

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QUESTION: "What is a politician?" Answer: "A politician is a man who understands politics." Q: "What is politics?" A.: "Politics is the art of getting a $700 man a $3,000 job." Q: "Is that all there is to politics?" A.: "No." Q.: "What else?" A.: "The man has to study out a way to get re-elected to his $3,000 job without spending $2,900 with the boys."—*Chicago Journal.*

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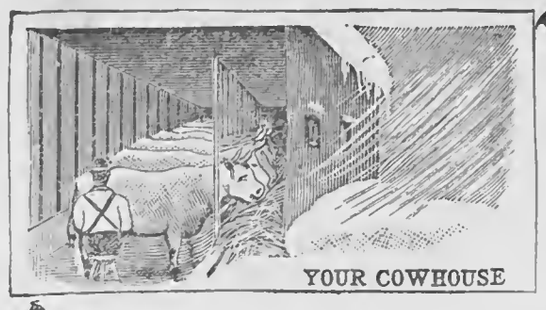
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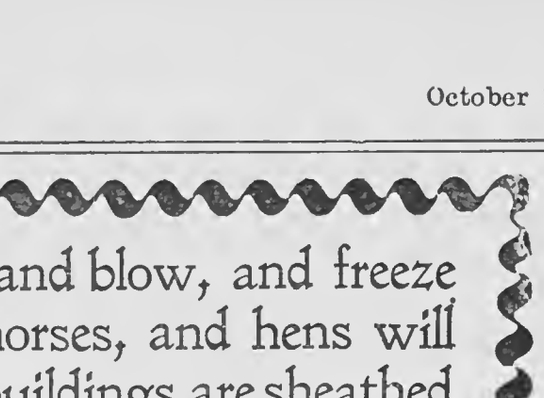
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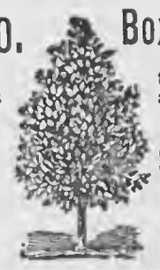
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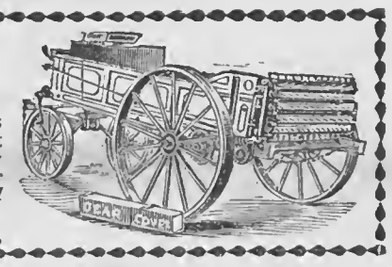

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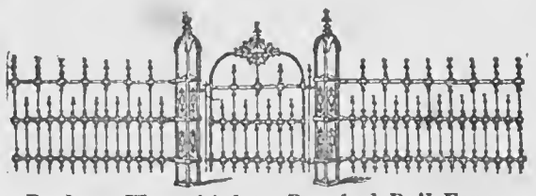
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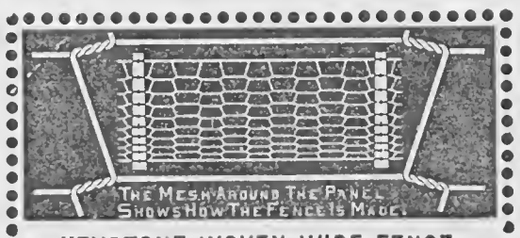

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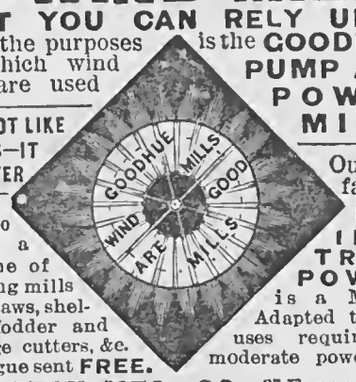

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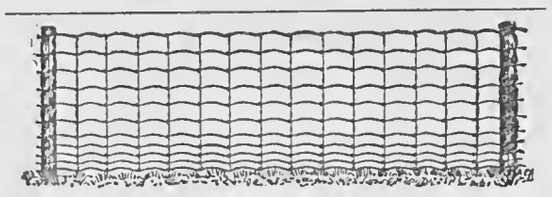
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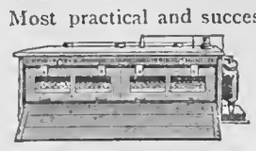
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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THE JERSEY GRADE AT THE SOUTH.

SHE MAKES OVER A MISSISSIPPI COUNTY.

Home Grown Heifers and Texas Steers.

Over 20 years ago, Col. W. B. Montgomery, of Starkville, Miss., began to collect a herd of Jersey cattle. He was far-sighted enough to see that the day would come when dairying would be a profitable industry in the Gulf States and Mexico, and he set out to produce the typical Southern dairy cow—an animal which would meet the requirements of that warm climate. All Southern breeders know of the dangers of bringing mature cattle to the Gulf States from the North. The dreaded "acclimation fever" has slain thousands of choice animals. Col. Montgomery quickly saw that, taking losses from "fever" into consideration, a good "acclimated" Jersey cow would cost too much for the practical dairyman. He, therefore, determined to breed grades, and to make his home county (Oktibbeha), headquarters for the trade in "Mississippi dairy cattle". Accordingly, he encouraged the purchase of surplus Jersey bulls by farmers, selling them at low figures in order to get them into the hands of people who would, otherwise, use a scrub. Then he set out to demonstrate the capacity of the Jersey grade as a butter producer. Public tests were made and the grades were compared with the thoroughbreds and the old-time scrubs, so that all could see what it meant to put the new wine of improved blood with the strength and vigor of the old "natives". The result is that, to-day, there is hardly a cow in Oktibbeha County that does not show Jersey markings, while nearly 4,000 heifers are sold each year to supply Mexican dairies. It is one of the most remarkable examples of the possibilities in improved *grade* breeding that this country has known. It is more remarkable, even, than the production of the celebrated "Delaware County Jerseys" of New York State.

Mr. D. A. Saunders, of Starkville, is one of the largest dealers in Jersey grade heifers, and he has told us something about the business as conducted in the South. Most of these Mississippi cattle go to Monterey, Mexico, where dairying is developing rapidly. The grades average from one-half to three-fourths Jersey blood, and bring from $25 to $35 each as two-year-olds. When sold in Mexico, these heifers bring from $125 to $150 in Mexican money. The cost of raising a heifer to two years, is estimated at $10. In the mild climate of Mississippi, they run in the pasture from the time they are weaned until they are sold. The young stock are never housed, the shelter of the woods or cane brakes being ample. The ground may be frozen for a few days during the winter, in which case they are fed Alfalfa hay; but with this exception, they can find ample pasturage all through the year.

Mexican buyers come direct to the farms and make their purchases. Northeastern Mississippi is about the northern point of safety for Mexican breeders. When taken from above the Tennessee line to Mexico, the danger from the fever is increased; but these tough, vigorous heifers from Oktibbeha County, can be taken South without danger. Col. Montgomery's original stock was of the highest quality, and most of the farmers naturally used bulls of his breeding. The result has been to produce a wonderfully uniform line of grades, since there was considerable uniformity about the "scrubs" or natives. In this way, there has been produced a distinct form and type of the Jersey grade cow—of great value as a dairy animal for the South. It cannot be said that Oktibbeha County is better situated for producing dairy stock than dozens of other southern counties. In fact, it has not, by any means, the best soil or the best of railroad facilities. It has, however, the *reputation* of producing first-class Jersey grades. It has been advertised all over the South as a Jersey grade county. The farmers worked together to produce a uniform grade of cattle, and they now breed enough good heifers to make it an object for large buyers to come to them. Buyers go to western New York for apples, to Wayne County, N. Y. or to St. Joseph County, Mich., for peppermint; to Humboldt, Kan., for horses; to Elgin, Ill., for butter; to Delaware for peaches, or to the Ohio Lake counties for grapes, because they know that the people of these districts are making special efforts to produce both quantity and quality of these products. For the same reason, the Mexican cow buyers go to Starkville because they are sure to get what they want with little effort. That is a great illustration of the value of coöperation among farmers in the production of a uniform line of goods.

JESSE K. SHARPLESS. FIG. 225.

THE ORIGINATOR OF THE SHARPLESS STRAWBERRY. SEE PAGE 702.

The "Mississippi Jersey" has advertised herself by her own butter. There are several home creameries, and the butter has long been popular in such cities as Mobile and New Orleans. In fact, it was the butter that sold the cows, for buyers were so much pleased with it that they followed it up to see where it came from. Other parts of the South, with just the same stock food, but with ordinary cows, were sending inferior butter. It did not take long to see that the superiority was due to the Jersey blood, and when that was seen, of course, Jersey blood went to a premium.

A good many steers are fed for beef in this county. Are the Jersey grade steers raised? No. It is to the credit of the Jersey grade cow that she is able to pay her own way and support her little brother, too; but these Mississippi dairymen have found a better way. All but the choicest Jersey bulls are vealed or killed at birth. The car that takes away a load of Jersey heifers generally comes back from Texas filled with big Short-horn or Hereford grade steers. These are turned into the pastures and fed on cotton-seed meal and cotton hulls or, in fall and winter, on Alfalfa hay and cotton-seed meal. After about 90 days' feeding, they are sold to make way for another lot. Buyers come after the steers just as they come after the heifers. Thus, while it pays to breed the heifers at home, it also pays to import the steers. In other words, the first two years of a buttermaking machine are more profitably spent in Mississippi, while the early life of a beef-maker is more of a success in Texas.

Mr. Saunders says that the introduction of beef and buttermaking on business-like methods, has done more for the agriculture of Oktibbeha County than anything else yet attempted. It has diversified farming, and given the farmers four cash products when, formerly, they had but one—cotton. Now, they can sell beef, butter, heifers and cotton. In former years, hardly a week passed without bringing a car-load of pork from the West. Now they use hardly half a dozen car-loads in a year. The meat is now made on their own farms, and improved breeds of hogs are to be seen everywhere. The best of it is that the cotton crop is larger than ever, for improved stock raising has compelled better care of grass lands. This means more manure, and that means more of all useful crops. Surely, if one cares to see evidences of the beneficent reign of Queen Jersey Cow, he will find it in Oktibbeha County, Miss. Alfalfa has been a great help in developing the dairy interests of Mississippi. It has helped to solve the food problem, which was almost as important as the introduction of the best Jersey blood.

H. W. C.

JESSE KERSEY SHARPLESS.

The originator of the Sharpless strawberry was born at Catawissa, Columbia County, Pa., September 3, 1818, in the old "high house" at the plant of the Catawissa Fiber Company, then owned by his father. The old house is still standing. His parents, Benjamin and Harriet Bousall Sharpless, were Quakers, the former a native of Delaware County, Pa., and the latter of Philadelphia, Pa.

As a boy, he worked for his father in the old paper mill. The educational facilities afforded in those days were very meager, and young Sharpless's early education was confined to the "subscription" schools. At the age of 18, he entered the store of George Reifsnyder, at New Castle, Pa., as clerk, where he remained four years. In 1840, he became a partner with his brother John in the mercantile business at Catawissa, the store standing upon the site of the building now occupied by his son, A. H. Sharpless. In 1842, this partnership was dissolved, J. K. Sharpless continuing the business at the old stand. In this year, 1842, on December 22, he was united in marriage to Mary Margaret Harder, of Catawissa, since deceased.

For a quarter of a century, he successfully carried on the business alone. During this time, the merchants of this section purchased their goods in Philadelphia, making bi-yearly trips to the city. When the canal was open, they made the trip by "packet boat," and in the winter by stage. It took from ten days to two weeks to get the goods from the city. In 1867, he took his son, Ambrose H., into partnership, and later, his son, Charles C., the business passing in 1889, to the two sons, and later, owing to the death of the latter, to A. H. Sharpless, by whom it is still conducted. By strict attention to business, coupled with a reputation for business integrity and honesty that was recognized and respected wherever the firm was known, he amassed a competence. He is not a member of any church, but his religious convictions are strongly with the Quakers, and his whole life has been strongly marked with the tenets of that faith.

To the world of horticulture, he is well-known as the originator of the celebrated Sharpless strawberry, which, notwithstanding its nearly a quarter of a century of existence, was never larger or of finer flavor than this year. It may be that the soil in this vicinity has an influence upon the life of this berry, for the crop in this section, this year, has been a marvelous one. The berry was the result of a series of experiments conducted by Mr. Sharpless, who early became interested in small fruits. Indeed, the spacious garden connected with his comfortable home was an experiment station upon a small scale, filled with the choicest varieties of small fruits. The berry was the result of mixed seed of the Jucunda, Charles Downing, Wilson and Colonel Cheney, and its characteristics have been fully described years ago in these columns, plants having been set out as soon as it was announced in the Rural Grounds.

While Mr. Sharpless had every faith in the excellence of the new berry, he would not place it upon the market without the indorsement of some of the noted fruit growers, and it was entrusted to the well-known firm of Ellwanger & Barry. At first, their letters to him were rather discouraging, in view of the great number of new varieties then being introduced, which were proving worthless. Too late, they discovered its merits; Mr. Sharpless had sold and given away a number of plants when the proposition came making a flattering offer for the sole control of the growing and sale of plants, and, through his disinclination to call in and destroy those sent out, the monopoly of their growth and sale was lost. He eventually realized a couple of thousand dollars out of the plant instead of the big return he merited, and has lived to enjoy the honor of being a public benefactor which, to him, is greater than any money remuneration, and now in his declining years he is entitled to the thanks of the American people for producing one of the best varieties known. F.

WHAT THEY SAY.

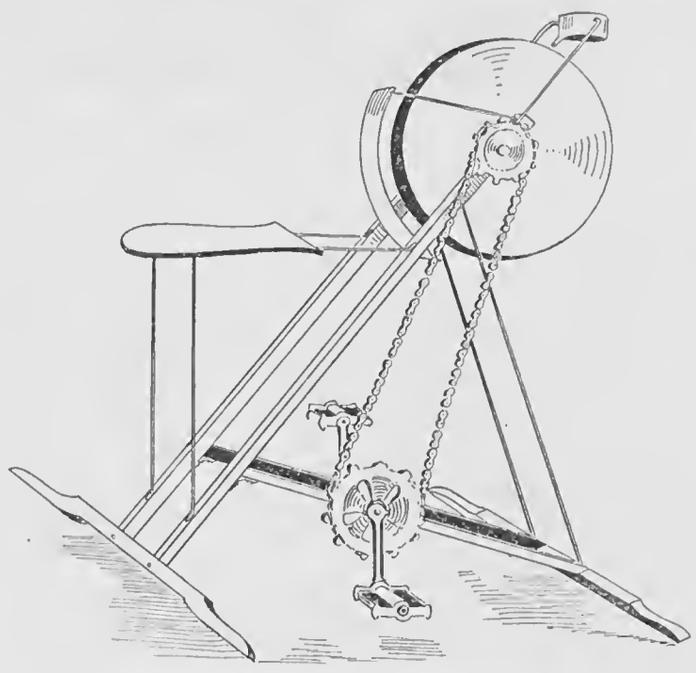
GRINDSTONE FOR GRUNDY.—In THE R. N.-Y. of July 22, Fred Grundy makes a request for any device by which one man can turn and grind with comparative ease. The device shown at Fig. 226 may suit his purpose. I was once in the same fix, and had to call on my better half to turn, and I never once thought that she did it with any great relish; so I went to planning for a machine that would do the work, and at the same time cost little. The only thing about the grindstone business that a man's wife can't understand, is why she cannot hold the tool and he do the turning.

Take the small sprocket wheels and chain from an old worn binder or other farm machinery, and gear it two to one; that is, the lower or crank shaft wheel must have twice as many cogs as the one on the stone shaft. Use a stone 20 or more inches in diameter, and be sure to get a good one. An Amherst is better than a Berea, for all purposes. If geared higher than two to one, it will run hard, and much less gear would not turn fast enough. It is the fast motion that cuts. One may find an excellent pair of cranks from some old bicycle; a friend gave me mine. One can grind anything. I use it more for grinding mowing machine knives than anything else. Try it and see how your wife will stand by with admiring gaze, and praise your ingenuity. W. D. WATSON.

Harrison County, O.

Value of Millet for Hay.

Many acres of millet are grown in this locality. I asked a farmer about it. He said, "Oh, millet makes lots of feed! I don't know what one can grow that will make so much per acre. But I never like to feed

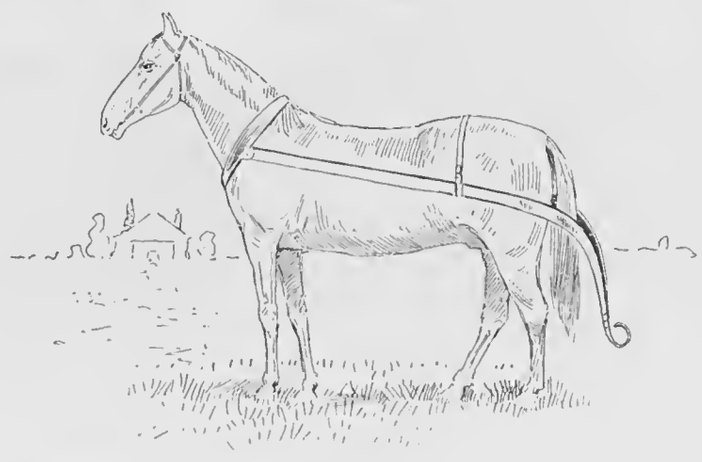


SIT DOWN AT THE GRINDSTONE. FIG. 226.

millet to horses; it excites the kidneys. If fed to horses, it must be cut very early to leave the starch in the stalk, and prevent the formation of the mass of seeds. I like it for cows and young cattle. It is far better than Timothy for cows, and is a vastly greater yielder."

Farmers like to sow it by June 1, in central Indiana. A sharp frost in the spring may kill it, and, if sown too late, it comes off too late for timely seeding to wheat, and the heavy dews and short, cool days of September, cure it very slowly, as its swath is often a foot deep. I like to break millet ground when I break for corn, if I can, without making the corn late; then harrow every week or two till the last week of May, and sow on a firm, clean seedbed. Last year, it was so dry that I sowed as above, through a shoe wheat drill, with the seed in the wheat box instead of the grass seed box, and it did the best of any I ever grew. The shoe parted the dust mulch, and the seed fell on the damp soil below. If sown and harrowed in, it would have mostly perished in the dry mulch.

One needs a tedder to cure it, as it is so fluffy and coarse; but if sown thickly, say, 1½ bushel per acre, it will not be coarse. Be sure to get German millet seed, not imported, and test it before seeding, as it is often stacked before thrashing, and if it heat much, it will not grow. I lost a small sowing absolutely



PROPOSED SINGLE-HORSE STEEL HARNESS. FIG. 227.

that way once. Since our improved fodder machines for harvesting and shredding have come in, we are not growing so much millet. E. H. COLLINS.

Central Indiana.

Roadmaking in Indiana.

I must protest against the advice of THE R. N.-Y. in a recent issue, about roadmaking. As I know farmers, they are practical men, and the roads of a country are in the best hands when at the command of the owners of the land. If a farmer has the ability to manage a farm successfully, none will be more interested or better prepared to manage the road that passes by it. And in the multitude of counsel, there is wisdom. It would, indeed, add much to our hardships if we had to pay all our road tax in money, and not nearly so much work, or so good work, could be done with it as the farmers themselves do in its stead. They have better teams, draw bigger loads, drive them along faster, and are not so particular about a little time, as those who make a living by teaming. All supervisors in this section will tell you that the farmers and land owners do the best and most work they get for the money, and the main roads leading into our little city, are far better than the streets of the city. There most of the road tax is paid in money, and the work is hired. The men employed are such as work on railroads and other corporate work, and their principal stock in trade is shirking. Such help is poor, the work done is poor and expensive.

Sometimes the trustee lets the work of ditching and grading by contract, and to the lowest bidder; but in most cases, the supervisor, with the aid of the taxpayers, will do more grading and better work for the money, in working out the land tax, etc. There is one grave error in the present law—the supervisor does not get wages enough. Better wages would compensate for more ability, and would cause better men to be willing to accept the position. The county officers get good wages for doing little by comparison. The law is very lame there. The trustee and supervisor are of the most importance to the taxpayers, should be our best men, and be paid fair wages for what they do. W. W. LATTA.

Noble County, Ind.

A Test for White Lead Paint.

The very general use of white lead as a paint, and the rather high cost of its manufacture, have given unscrupulous men ample chance to stock the market with worthless adulterations, and it is well to be provided with a cheap, reliable test. Pure white lead is known as a basic carbonate, being formed by the corrosive action of carbonic acid and water upon the metal, frequently assisted by animal and vegetable matter in process of decay. Its value as a paint is due to its durability as well as to its color. It never peels, if pure; and it is long before it tarnishes under normal conditions.

The two adulterants are barium sulphate and sulphate of lead. Both are hard to distinguish by sight alone from white lead, as they are of the same color. But they lack the smoothness and "body" of the latter. This would be a small matter, however if they proved satisfactory as paint. They crack and peel badly. Then the white lead or the oil is blamed, or the man thinks that he doesn't know how to use the brush.

Now for the test: Shake a tablespoonful of the suspected article into some benzine to get rid of the oil; benzine dissolves it. Strain through white blotting or filter paper When the benzine has evaporated from the mass, shake well in acetic acid (strong vinegar will answer). If it all dissolve, the white lead is pure. If there is any sediment, the white lead has been adulterated. The proportion of adulteration may be readily calculated by comparing the residue with the original amount taken. Some brands are wholly barium sulphate—worthless.

White lead is very poisonous, but its effects do not, generally, appear at once, the poison being cumulative in its action. Two good remedies are, very dilute sulphuric acid in small doses; and (safer), Epsom salts (sulphate of magnesia). These change the poisonous carbonate into harmless sulphate, which then passes out of the system. But with reasonable care in washing off any paint adhering to the skin, no danger from poisoning need occur. M. G. K.

Cornell University.

WHAT SAY?

COLD STORAGE IN A TUNNEL.—How would apples keep in a tunnel where cement rock has been removed and the mercury stands at about 48 degrees F. without much variation? Would potatoes keep at that temperature, without sprouting? J. B. C.

Akron, N. Y.

SINGLE-HORSE STEEL HARNESS.—I desire to submit for consideration an idea which I have for a single harness to be used without a whiffletree, for the purpose of cultivating among fruit trees, berry bushes, and even in the corn field. See Fig. 227 It is to be made from two bars of iron, one inch by 5-16 or ⅜-inch thick (according to the ground) with fastenings with hames, extending back with a curve behind the horse, until with a downward curve, they come together and are fastened by rivets or bolts, with a weld at the end to form a hook for attaching to the cultivator. The whole is to be held up by a strap over the hips of the horse, attached to the back strap. I have not put the above into practice, but intend to try it as soon as convenient. Let me add that the curve should be sufficiently high, and the downward curve far enough from the horse not to come in contact, or interfere, with the movement of the horse's hind legs. A. H. B.

Vienna, Va.

ORCHARD FRUITS FOR FAMILY AND MARKET

WHAT APPLES, PEARS, CHERRIES AND PLUMS TO PLANT.

PART II.

Market Orchard Lists.

APPLES.—For profit, there is very little encouragement to plant any but winter varieties of the apple. In some peculiar localities, where there is a steady local demand for summer and fall apples, it will be well to plant a very few; but the large markets are, usually, so flooded as to make early apples unprofitable to the producer. In such places, the following will be found among the best. Summer: Yellow Transparent, Williams, Fanny, Lowell and Oldenburg. Fall: Maiden Blush, Jefferis, Gravenstein and Wine. In western Ohio and northward, the two latter, if gathered early, may be kept some seasons into the early winter.

As to winter apples, it is useless to fight against the popular notions of the market. Quality has to give way to appearance. A red apple nearly always sells the best. It is the color that largely decides the buyer in favor of the Ben Davis and Baldwin, for both are so poor that I never eat them unless cooked, except, in case of necessity. In deciding which varieties to plant, this one idea must be kept in mind: those that will pay the best. The locality where the orchard is to be planted, also makes all difference. If J. C., who lives in northern Ohio, and others within the wider territory mentioned, comprising a large part of our country will plant the following varieties, and not wander off into a long list, although they be good ones, they will not be far out of the way. I could name a few other good kinds, but there should be enough of one variety to amount to something in order to attract buyers, or to make shipping convenient and profitable. Ben Davis, one-half; York Imperial, one-quarter; Jonathan, one-eighth; Stayman, one-eighth. The last one may not be known to many. It is a seedling of Winesap that has all the good qualities of that old standard, and is much better in habit of tree. After I had planted my apple orchard of the above varieties, the trees not being closer than 30 feet, I would put in as many more in every row running north and south as "fillers", using Missouri Pippin and Wagener. These will bear early, and pay for the whole orchard before their room is needed by the more permanent trees.

PEARS.—Profitable pear culture is not so common as we would like. Some very extensive pear growers have stated that Angoulême is the only kind that pays as a dwarf; but it is not planted so largely as formerly. For the general market, the Bartlett leads, and is preferred as a standard. Poor in quality as is the Keiffer, it is the "business" pear of America. The canners, hucksters and grocers like it, and, contrary to the opinion of the lover of good fruit, most of the consumers like it. As the tree is hardy and bears heavily, and the fruit may be handled almost like potatoes, the grower likes it. Among winter pears, the Lawrence has, so far, stood the test about the best. Therefore, the market pear grower will do well to plant about in the following proportion of standard trees, 25 feet apart, and fill in with Angoulême on dwarf stock, doubling the number in each row, or, plant standards 20 feet apart: Keiffer, one-half; Bartlett, one-fourth; Lawrence, one-fourth.

PEACHES.—The cultivation of the peach as a profitable enterprise is often quite doubtful, even within the limits where this fruit usually succeeds. I would recommend no one to go into the business without the most thorough investigation of the whole subject as locally applied. In the specially favored localities where failures are rare, nothing rash should be done; for the wisest planning, the most thorough work, and the closest economy, are not always attended by profitable results. The present season is an example of what crowded markets will do for the grower. Taking the experience of the best growers in the best sections, the following kinds are those that have given the best returns, and should be planted accordingly. They are given in order of ripening: Triumph, one-tenth; Bishop, one-twentieth; St. John, one twentieth; Mountain Rose, one-tenth; Family Favorite, one-tenth; Elberta, two-tenths; Oldmixon Free, two-tenths; Walker, one-tenth; Ringgold or Heath Cling (preferably the former), one-twentieth; Salway, one-twentieth.

PLUMS.—Commercial plum growing is a business which demands a knowledge of practical entomology as well as pomology; for, whoever will succeed must know how to fight the curculio, except on the Pacific slope where it does not exist, and in a few favored sections of the East, where its ravages are not serious. The oriental and native species are much more exempt than the European type, and, in some cases, are said not to be thinned enough by this enemy of the plum grower. Jarring seems to be the only successful means of fighting it.

On the Pacific side of the Rocky Mountains, all kinds of plums succeed, and many thousands of acres are there devoted to growing them for drying and for shipping in the fresh state. The popular varieties are: Agen (commonly called French Prune), Fellenberg. Tragedy, Pond (wrongly renamed Hungarian Prune), and Clyman. Where the European plums are grown in the East, the more profitable kinds are: Reine Claude, German Prune or true Quetsche, Fellenberg and Grand Duke. Of the Japanese type, Burbank, Berckmans and Abundance are three that are well tested and proved to be profitable. Among the native kinds, there are very many that can be depended on to bear under almost all ordinary circumstances. I have selected, and arranged in order of ripening, the following: Newman, Wild Goose, Deep Creek, Louisa, Hawkeye, Ocheeda, Moreman and Wayland. Each class should be planted where it succeeds best or in that proportion.

CHERRIES.—Cherry growing is too much neglected, especially in the Eastern States. The Pacific States furnish large quantities of the sweet varieties, of large size and good quality, but there are other sections nearer our great markets that might be made to produce many more than at present. If carefully grown, and packed in neat, small packages, they will bring good returns. The sour varieties are always in demand for kitchen use, and many are eaten in the fresh state. Among those which are known, after long years of trial, to be dependable, are the following: Morellos: Dyehouse, Richmond, Montmorency and English Morello. Dukes: May Duke, Late Duke, Eugenie and Hortense. Hearts: Tartarian, Black Eagle, Napoleon and Windsor. These should be planted in the different sections where each class is adaptable, and each variety in about equal proportions.

H. E. VAN DEMAN.

A SOUTHERN PEACH ORCHARD. CLEAN CULTURE AND GRASS. FIG. 228.

TO TREAT A SOUTHERN PEACH ORCHARD.

CLEAN CULTURE VS. GRASS GROWING.

1. Does clean culture of a peach orchard limit or promote wood growth? Some growers here allow grass to grow after the fruit is gathered, to check wood growth. The hay is cut and the stubble turned under to supply humus to the soil, which is sandy with a clay subsoil. 2. Would it damage peach trees in this warm section to break with a cultivator, the crust which forms after rains during winter, the object being to prevent washing in an orchard where clean cultivation is given? Our trees make too great a wood growth if rye, clover or such crops are grown among them, so I am trying clean cultivation from the start, expecting to supply nitrogen in chemical fertilizers, as the trees may need it. Soil washing during the winter is the problem that confronts me. How can I overcome it? C. H. S. J.

Tifton, Ga.

Illustrated By a Photograph.

1. Clean culture always promotes wood growth. It is far better to supply the proper plant food to peach orchards by the addition of fertilizers containing potash and phosphates than to turn under stubble to supply humus. I inclose a photograph of two orchards, planted at the same time, five years ago, on the same class of soil, and divided by the road. See Fig. 228. The one on the left received continued clean cultivation; grass was allowed to grow on that on the right. You can draw your own conclusions as to which system is better. 2. No damage is to be apprehended by breaking with a cultivator the crust which forms after rains during the winter. In my opinion, therefore, the system which C. H. S. J. intends to follow, namely, clean cultivation from the start, and the supply of the necessary plant food from chemical fertilizers, is the best. As regards the washing of the soil during the winter, this must be overcome by judicious plowing and in such a way that each row carries off its own proportion of storm water.

Georgia. P. J. BERCKMANS.

J. H. Hale Says Clean Culture.

Most certainly, thorough and clean culture promotes wood growth of peach trees. To allow grass to grow in an orchard, checks wood growth, and furnishes breeding places for curculio. The winter cultivation of peach trees in the latitude of Tifton, would be likely to be more injurious than beneficial; it might cause swelling of the buds earlier than would be safe for them. I should prevent soil washing in the winter by the sowing of wheat or rye in the fall; plowing it under early in March would be most satisfactory.

Connecticut.

The Practice in North Carolina.

Clean culture certainly promotes wood growth; but there comes a time when wood growth should be allowed to ripen, and cultivation should cease. I should cultivate a peach orchard in the best manner, but shallow up to the first week in July. But I should then do better than allow the natural grass to grow, for I should sow the orchard to cow peas, aided by a dressing of 300 pounds of a mixture of 500 pounds of acid phosphate to one part of muriate or high grade sulphate of potash per acre. This will give a heavy growth of pea vines. I should let these die upon the land, and remain all winter as a soil cover. The soil, in the South, should never be allowed to lie bare during the winter, for it will waste fertility faster than in summer cultivation. We have more rain than freezing, and the soil should have some kind of a cover. This the dead pea vines will give, and at the same time, will furnish nitrogen for a vigorous growth the next season. If you have an orchard be content with a good fruit crop and do not attempt to make a hay crop at the same time. Grow the trees for peaches, and grow the peas for the benefit of the peach trees. It would damage the soil, and therefore, damage the trees to work it during the winter. The dead pea vines will prevent the washing, and the cultivation would only increase it. You would far better get the nitrogen from the pea vines than from artificial fertilizers. You need to fear the lack of potash and phosphoric acid more than the excess of nitrogen. A rapid growth caused by the fixation of nitrogen in the absence of a balanced amount of potash may give trouble; but if the ration be balanced, as the cattle men say, the growth will be balanced. If you stop cultivation early in July, the mass of pea vines will be sufficient check and will cause the growth to ripen up well, so that its exuberance will do no damage. It is the winter washing, that you have to deal with, and the winter washing can be best prevented by a dense soil cover, and we know of no other way so effective. If you find that you are getting an excess of nitrogen by this treatment, you can then mow the peas and depend upon the stubble to stop the washing; but I would far rather keep the whole mass on the soil.

PROF. W. F. MASSEY.

From a Delaware Standpoint.

1. It seems to me that C. H. S. J. would get all and, in fact, really more growth than he wishes on his peach trees if he were to cultivate in any way after the early summer. To prevent washing, I should allow such grass to grow and die on the ground, and lie there till I was ready to begin cultivation in the spring. If the grass be cut for hay, that much vegetable matter is certainly taken from the soil; then, too, it is left in a somewhat bare condition, so that the winter rains would wash it more than they would if all the vegetation remained on the ground. I would wish young trees, not yet in bearing, to grow all they would, to make, say, from two to three feet of new wood each year. Those in bearing are making sufficient growth if they make 10 or 12 inches of new wood. When a tree makes too much wood, one won't get much fruit, and this must be checked by cutting back or by stopping cultivation earlier in the season. The latter allows the wood to ripen and develop more and stronger fruit buds, and a crop is more certain. When hay is cut and the stubble turned down, a new growth naturally commences, which is likely to be immature and tender. The same result may be expected if rye, clover or peas are turned under in the fall. Clean cultivation is all right if you don't get too much of it, and this will supply all the nitrogen that is needed by a bearing orchard. A young orchard may be hurried along by using artificial nitrogen, but I would not

use it on a bearing tree. It makes too much growth, too many leaves, and the fruit lacks color and flavor. Potash and phosphoric acid are what the bearing tree needs to help form the seed, develop the flesh, color the skin and harden the wood. We can get all the growth we wish here by cultivation, unless an orchard has been neglected, or has been allowed to overbear, in which case a crop of peas or Crimson clover will restore and furnish all the nitrogen needed, and I know the growth is much greater in Georgia than here.

2. I would not cultivate in any manner in winter, for I think that the soil would be more likely to wash. I would trim and clean the orchard, and as soon as the buds begin to swell and show signs of blooming, plow the ground as quickly as possible. Then harrow at least every week or 10 days, till the fruit is half grown. Then cease all cultivation, and let all the grass grow that will. Winter cultivation would not help anything, and might hasten early blooming, so the buds would be killed by frost. This would be my plan. CHAS. WRIGHT.

H. E. Van Deman Discusses the Matter.

1. Clean and long-continued culture surely promotes wood growth, because it prevents the escape of moisture from the soil. The stoppage of cultivation will check wood growth, and hasten the maturity of the tree for that season. The practice of allowing grass (chiefly Crab grass, in most sections), to grow after the trees have made a good growth in the summer, is all right. Cultivation up to August 1, in Georgia, is long enough, but it should be begun and be thorough from early spring—about April 1—until that time. I can see no benefit in cultivating when the tree is not growing, and, if one does his duty to the trees, they will have grown sufficiently by August 1, if the season has been good. In some parts of the country, as in northern Michigan, it is absolutely necessary to stop the growth rather early in the fall, to prevent a tender growth that will be injured by the cold of early winter. Sometimes, heading back with the knife is resorted to by the best peach growers there. In Georgia, this would not be needed. Where the autumns are very dry, as in some parts of the West, there is no danger of too late a growth, and there the continuation of cultivation might be of much benefit in retaining the moisture in the soil, and thus preventing injury to the trees by the cold of winter. I have often had trees there so enfeebled by lack of moisture in the latter part of the summer and fall, that they went into winter quarters in poor condition, and were unable properly to withstand the evaporating influence of the following winter without injury.

2. As C. H. S. J. finds washing of the light soil of that region one of his troubles, and wishes to prevent it, the growth of Crab grass in the fall is just the thing. I would leave it on for that reason, if for no other. I noticed the good effect of this in the big peach orchards at Olden, in southern Missouri, but they stopped cultivation too early in the season to suit my notion, and I have repeatedly said so to my friends who own and manage the Olden Fruit Farm. I noticed that Mr. Hale, in the management of his peach orchards in Connecticut, did as I have just suggested, and he told me that he does the same in Georgia. In California, I noticed that they had everything as clean as a pin in the winter, but they usually control the growth by irrigation, and have the soil just as moist or as dry as they desire. As the autumns are dry until the winter rains set in, the trees naturally stop growing early. Then, the lands are so level in those great valleys, that they do not wash much. I can't see how rye will induce too much growth, as it does not gather nitrogen from the air, but clover might do it if put in oftener than every other year. The same is true of cow peas, which are a very good crop for Georgia, in case the soil needs nitrogen. I would think it much cheaper to get nitrogen in this very cheap way, than to depend on the very expensive method of applying it in commercial fertilizers. Put on potash and phosphoric acid by this means, as it is absolutely necessary. The soil must have humus, and the clover or cow peas will furnish it, and so will the Crab grass. But the trees must not be overstimulated by too much nitrogen.

Virginia.

HOME TRADE IN SOUTHERN TOWNS.

On page 639, W. T. Simpson, of Pine Bluff, Ark., told us that he sells his produce right in his home town. Several readers have written to know how he developed this trade. Mr. Simpson answers as follows:

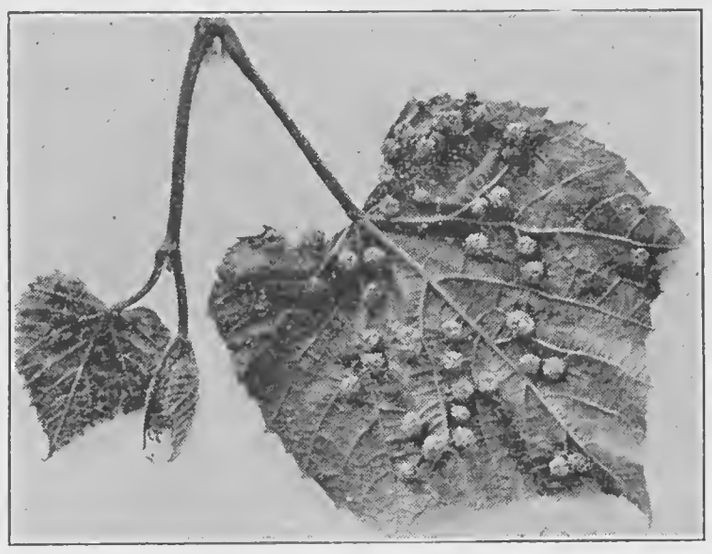
"I will tell you just how I did with the first cabbage that I ever raised for wholesale trade, and that will illustrate the idea that I carried out with berries and some other crops. Such a thing as selling a crate of home-raised cabbage had never been attempted here before. Before the cabbage were ready for sale, I had some nice crate material sawed out and stacked to dry, and when they were ready for market, I made new crates of the regular commercial size, and packed them full with first-class hard cabbage. I loaded up a two-mule wagon with crates piled up something as cotton bales are piled on a plantation wagon for market. I drove into the city and around the main streets of the place, and let the merchants have a chance to compare their stale, wilted stock with mine fresh cut and packed. Nearly every dealer in the city gave me his order for one or two crates. Their customers soon found out that there was a big difference in the eating qualities of stale and fresh cabbage and I did not have any trouble in selling as long as I had them. I have frequently raised more than would supply this market. I then send a man out on all the railroads to nearby towns, and solicit trade. After getting a customer I generally keep him from year to year, by using the same care to see that everything is as good as can be had of its kind."

Mr. Simpson stated that he used as fertilizer, cotton-hull ashes and cotton-seed meal. When asked whether he had ever used other fertilizer, he said:

"Yes, I have used nitrate of soda and several brands of complete commercial fertilizers in a small way; but they are not kept on sale here, and are difficult to obtain unless wanted in car-lots—that is, the price is too high in small lots on account of freight charges. I have not found any cheaper source of potash and phosphoric acid than cotton-hull ashes, and they are more satisfactory in every way than those plant foods in any other form that I have tried. The meal furnishes the most satisfactory source of nitrogen, and the cheapest at the same time. Of course, here we get meal and ashes from first hands, and they are much cheaper than after the railroads have handled them. The ashes are worth $23 per ton at the mill, and the meal $15 per ton. You can very readily see that I am using the cheapest, if not the best plant foods obtainable."

PLANT "STIMULANTS".

There seems to be a general opinion current among farmers that plants can be stimulated in the sense in which alcohol, for instance, stimulates the animal



WORK OF THE GRAPE PHYLLOXERA. FIG. 229.

system. But a moment's thought ought to convince any one to the contrary, since plants, unlike animals, have no nervous system upon which stimulants can take effect. Agricultural papers in many parts of the country, accept this false notion of plant life; and many of them are now soberly discussing the question whether this "stimulation" is not wearing out our farms upon which artificial fertilizers are being extensively applied. I think it is safe to say that this evil is entirely imaginary. The fertilizing elements of artificial manures are exactly the same in their nature and constitution as those in stable manure, or in other ordinary substances, such as muck, slaughter-house waste, sea weed, fish manure, etc., which are used in the ordinary way of farming. The only important difference in the manufactured article is that concentrated forms of material are used, and are made immediately available by the dissolving action of strong mineral acids.

I have been using artificial fertilizers of various brands for 30 years, in my market gardens and on my farm in much greater quantity than farmers commonly apply—rarely less than a ton per acre, and not infrequently much more; and the only effect noticeable is a constant improvement. Where I have had occasion to seed down portions of my gardens to grass, I have always found a fine and enduring fertility which calls the attention of many visitors, who think that I am top-dressing those fields heavily. There are no reasons why such experiences should not be common. There is absolutely no chemical difference except in the quantities required, and if a farmer had the means to separate the inert matter from his stable manure, before using it, he would then have almost precisely what he buys in the bags or barrels of fertilizer. There is nothing mysterious about the matter. A commercial or manufactured manure is simply and only a manure from which most of the worthless parts have been left out, and those which remain have been made quickly soluble by the use of a strong mineral acid—sulphuric acid or oil of vitriol, being that which is commonly used.

The only reason why any farmer who uses a commercial fertilizer gets the idea that his land is made poorer by fertilizers is, I think, because the free acid of the fertilizer acts, to some extent, upon the crude phosphatic and other matter which exists naturally in all good soils, and makes them so much more available that the crop gets hold of it at once. It is the same as it would be if all the manure of a single season could be at once utilized by the crop.

T. H. HOSKINS.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Life History of the Grape Phylloxera.

L. B. C., Mendota, Ill.—There appears to be a disease upon my own and my neighbors' Clinton grape vines, which results in pretty much defoliating the vines about the time the fruit begins to ripen. The leaves appear to be covered with a knobby excrescence which I suppose to be the cause. I inclose specimens, and would like to know the cause.

ANSWERED BY M. V. SLINGERLAND.

One of the diseased grape leaves is shown at Fig. 229. The under surface of the leaf bears many curious globular or cup-shaped galls, of a greenish-red or yellow color, with their outer surfaces somewhat uneven or knobby and slightly woolly. These galls are the work of that tiny foe known as the Grape Phylloxera (Phylloxera vastatrix). This little plant louse has attained much celebrity, and much attention has been paid to the study of its life history and habits; hundreds of memoirs have been published in France regarding it. The destruction it has wrought in France has been so great as to become a national calamity; and the government, at one time, appointed special agents to study it, and offered large sums of money as prizes to any one who should discover an efficient remedy for the pest. The vineyards in other European countries have, also, suffered severely from the insect. It is a native of America, and is common throughout the greater part of the United States and Canada; but our native grape vines seem to endure its attacks much better than European varieties. The insect has always existed on our wild vines, yet it was not until it had been introduced abroad, about 1859, and began to ravage the vineyards of the old world, that particular attention was drawn to it as a pest, or that anything definite was known of its habits.

This little foe has a very complicated and interesting life story. It appears in two destructive forms on the vine: One produces the galls shown on the leaf in the figure, and known as the gall-inhabiting form, and the other and more destructive form living on the rootlets and called the root-inhabiting form. The gall-producing form was first found in New York in 1854, and a few years later, the root-inhabiting form was discovered in France; several observers soon established the fact that the two were forms of but one species of plant-louse.

This year, the insect seems to have been unusually abundant in many sections, for we have received both the root and leaf forms several times. The galls begin to appear upon the leaves early in June. If a fresh gall be opened, it will be found to contain from one to four orange-colored lice, from 50 to 400 minute, shining, oval, whitish eggs, and, usually, a considerable number of young lice, but little larger than the eggs and of the same color. Soon the gall becomes overpopulated, and the surplus lice wander off through the partly-opened mouth or door of the gall on the upper side of the leaf, and they soon establish themselves either on the same leaf or on adjoining young leaves as shown at Fig. 229; the irritation occasioned by their punctures (for they are sucking insects) causes the formation of new galls, within which the lice remain. After a time, the older lice die, and the galls which they have inhabited open out and gradually become flattened and almost obliterated; hence it may happen that the galls on the older leaves on a vine will be empty, while those on the younger ones are swarming with occupants.

The galls are often very common on the Clinton grape and other varieties of the same type, and are, also, found to a greater or less extent on most cultivated sorts. The abundance of galls on the leaves is not an indication of the presence of the root-inhabiting form in destructive numbers, but, in fact, the reverse of this is usually true; while, on the other hand, the destructive abundance of the lice on the roots is, usually, accompanied by little appearance of the leaf galls. The Clinton grape, and certain other varieties, are most resistant to the root form, but are especially subject to the leaf form. There are several generations of the lice on the leaves during the sea-

son. With the approach of cold weather, the young lice seek other quarters, and many of them find their way to the roots of the vines, where they remain dormant until spring. By the end of September, the leaf-galls are, usually, deserted.

In the spring, the hibernating lice attack the rootlets, subsisting by suction, and their punctures result in abnormal swellings. These swellings eventually decay, which often also involves the adjacent tissue, thus driving the lice to fresh roots. With the multiplication of the root lice and their extension to all parts of the root system, the vine stops growing, the leaves become sickly and yellowish, and death finally results. While the work of the leaf form is quite noticeable and not uncommon, it rarely does much damage to the vine. The root form, however, is rarely seen, but is the real cause of most of the injury to the vines from the insect. The young lice which begin work on the roots in the spring, shed their skins, rapidly increase in size, and soon begin to deposit eggs. A series of subterranean generations of wingless female lice are then developed, which differ but little from the inhabitants of the leaf-galls. During the late summer and fall, some of these root lice give rise to winged females which escape through cracks in the soil on warm days, and fly to neighboring vines. These winged lice lay eggs in a day or two in groups of two to four in cracks in the bark on the old wood of the vine, and then die soon after. These eggs are of two sizes, the smaller and fewer in number yielding males in nine or ten days, and the larger eggs producing the females of the only sexed generation developed in the whole life round of the insect. In this last and sexed stage, the mouth-parts of both sexes are rudimentary, and no food at all is taken. The sexed insects are very minute, and resemble the newly-hatched louse of either the gall or root form. After the female is fertilized, her single egg rapidly increases in size until it fills the entire body of the mother, and is then laid within three or four days in the fall on old wood; this is known as the winter egg from which hatches in the spring the young louse that produces the leaf-galls.

Thus this Grape Phylloxera normally has a two-year life round, but this is not necessary to the existence of the species, for the root form may, and usually does, go on in successive broods year after year, the leaf form often rarely occurring on European vines. The young lice from the leaf galls may be taken from the galls, and easily colonized on the roots; but the reverse or the migration of the young directly from the roots to the leaves, has never been observed. The above complicated, yet interesting, life story of this tiny foe of the vineyardist, was obtained only after many years of painstaking research by American and French scientists.

In America, comparatively little has been done in a practical way in fighting this insect, because its injuries here are, usually, not serious. A simple, and the only sure method of combating the leaf form is to pick and burn the infested leaves as soon as they are noticed; no spray can reach the lice in their galls. Of late years, much progress has been made in checking the pest in Europe by the use of resistant American stocks on which to graft their susceptible varieties, and by the planting of vineyards in very sandy soils in which the lice do not seem to be able to work so easily. In some European vineyards, the root forms are also killed by submerging the land for several days, or by introducing bisulphide of carbon into the soil among the roots. The most practicable method, thus far, however, has been the use of our resistant varieties as stocks. Of our wild American vines, those of chief importance as sources of stocks are the Aestivalis, Riparia, and Labrusca, the first species with its cultivated varieties ranking first; the varieties derived from Riparia are quite resistant to the root-form, but are most subject of all vines to the attacks of leaf-gall lice; the Clinton, Taylor, Solonis, etc., are cultivated varieties of this wild species. The Fox grapes (Labrusca varieties), while more resistant than European grapes, are much inferior to the other American species in this respect (Isabella and Catawba, for example, are very subject to root lice, and the Concord is but little better).

Weevil Eaten Wheat as Food.

J. G. K., Buckners, Ky.—I have about 600 bushels of wheat of the 1895 crop, which is now full of white worms, and, also, has some weevils in it. Is this wheat good for flour, and what is the best method to utilize it? How can I destroy the weevil and web worm, as some call it? The wheat was extra fine, and in a good, dry granary; but we had an unusually hot summer. Will lime kill the weevils?

ANS.—An authority on grain insects has recently said: "In addition to the loss in weight occasioned by these insects, grain infested by them is unfit for human consumption, and has been known to cause serious illness. Neither is such grain desirable for food for stock. Horses, it has been experimentally proved, are injured by being fed with 'weevily' grain, and it is somewhat doubtful whether such material is fit even for swine. Poultry, however, feed upon it with impunity. 'Weeviled' grain is, also, unfit for seed stock, as its use is likely to be followed by a diminution in the yield of a crop." J. G. K. would thus better go into the chicken or turkey business, in which case it would not be necessary to kill the insects, but let them go towards a meat ration for the poultry. The insects can be killed by putting the grain in as tight a box or bin as possible, and then applying carbon bisulphide. Pour the liquid in shallow dishes, and put these about on the surface of the grain. The liquid rapidly volatilizes, and, being heavier than air, descends and permeates the mass of grain, and is sure death to all animal life therein. One pound of the liquid is sufficient to treat one ton, or even 100 bushels of grain. The substance is explosive, and should thus be handled like gunpowder. M. V. S.

Creosote Stains for Shingles.

H. C. G., Dundas, Canada.—We are preparing to shingle the roof of a large dwelling house, and are advised to dip the shingles in creosote. We wish, also, to stain them red, but our carpenter who has the contract knows nothing of either process.

ANS.—Creosote stains for shingles are sold in this country in nearly every store of any size dealing in paints. They may be had in any ordinary color, as red or green. In using this stain, the shingle should be dipped before laying, in order to produce the best results. . The oil is absorbed by the shingle, leaving a dull finish of any desired color. This stain is durable, and the colors usually selected are those which resemble weathering effects, such as are produced by time on all roofs; one color frequently used has some resemblance to moss. It is very doubtful whether the use of stain, oil or any kind of paint increases the durability in any way over an unpainted roof.

R. C. CARPENTER.

Bisulphide of Carbon for Grain Insects.

H. S. W., Little Utica, N. Y.—Our two bins of wheat and rye, this year's grain, early thrashed, are full of the little white worms that eat the grain, leaving a fine dust to denote their work. What to do to kill them has been printed in THE R. N.-Y., and we have hunted through all the back numbers, but the one we want has been mislaid. Will you print again, as soon as possible, the simplest and most effectual way of getting rid of the worms? They are in such numbers that, if they are not disposed of, they will destroy the grain.

ANS.—Bisulphide of carbon is what you want. Put it in a deep dish like a soup plate inside the bin on top of the grain. Then close the bin and make it as nearly air-tight as possible. If need be, put a blanket or quilt over the top. The bisulphide of carbon will evaporate. The fumes are heavier than air and will sink all through the grain and kill the insects. In order to have these fumes effective, the bin must be tight, so that no pure air can work in. Do not breathe the fumes and do not bring a flame of any sort near them. Mr. Slingerland has answered it more fully above.

What Vegetation for Shaded Places?

E. L. C., Cleveland, Ohio.—Some trees standing near an angle of my house cause such a dense shade that grass will not grow there. I tried some wild ferns this summer, but they languished and died. I would like to cover the ground with vegetation of some kind. Can you recommend something?

ANS.—In dry soils, or under trees, the weed, Common Wild Cinquefoil or Fivefinger (Potentilla Canadensis) flourishes admirably, and does not mind the lawn mower. It spreads rapidly, makes a soft carpet, and covers the soil as completely as any grass. Vinca minor—the Periwinkle or Myrtle of gardens—is an excellent vine for dry, shady places. The Wichuraiana rose delights in shady places, and isn't at all particular as to soils.

Decay of Quince; Strawberry-Raspberry.

G. S. C., Ashaway, R. I.—1. If you do not know, will you inquire through THE R. N.-Y. the cause of the decay in the blossom end of the quince? 2. Why does the Strawberry-raspberry bloom and set no fruit?

ANS.—1. THE R. N.-Y. requests information from those who have had experience. 2. It is due, we presume, to one or the other of two causes—imperfect flowers, or to the fact that the stigmas of the pistils, and the anthers of the stamens are not mature at the same time—dichogamy, botanists call it.

Fall Top-Dressing with Fish Compost.

W. H. P., New Jersey.—I have some fish compost that is quite strong. Can I use it to top-dress grass, without loss, this fall?

ANS.—Yes. Such compost is about as soluble as well-rotted manure. We should not broadcast it on steep land, but on an ordinary level, it may be applied at almost any time during the fall or winter.

The Age of Weed Seeds.

J. O. B., East Setauket, N. Y.—Does any one know how long weed seeds retain their vitality in the ground? Do some kinds retain their vitality longer than others?

ANS.—Yes, the longevity of weed and flower seeds—seeds of all kinds of plants, indeed—varies greatly. We have planted balsam seeds known to be over 20 years old, that germinated freely. The seeds of many kinds of wild radish, Shepherd's purse, Pepper grass, Wild mustard, Toad flax, and many of the grasses would seem to live almost indefinitely. This is shown where canals have been dug or other excavations made. The grove on the Rural Grounds was destroyed by the tornado of last year. It had been wood land for 100 years or more. The land is now covered wtih Sow thistle, Sonchus oleraceous botanically. During 20 years of familiarity with the grove, we had not seen a Sow thistle. There are other weeds besides that did not find favorable growth conditions while the land was densely shaded and the soil undisturbed.

A Ration for Dairy Cows.

J. E. D., Branchville, N. J.—What other feed is necessary to make a balanced ration for milk to sell, with what is known here as "corn feed" or "corn-starch feed"? It was bought at Chicago, at $9.50 per ton, by the car-load. I also have both corn fodder and husked stalks, all cured in shocks in the field cut quite green. Dried brewers' grains cost here about $11 per ton, winter wheat bran the same, spring bran a trifle less.

ANS.—What is known as a "balanced ration" for a dairy cow, contains a proportion of one part muscle-makers to 5½ parts of fat-formers. The foods named above have the following average composition:

	Muscle-makers.	Fat-Formers.	Pure fat.
Corn fodder	3	40	.9
Corn feed	4½	22	2½
Dried brewers' grains	14½	37	4¾
Wheat bran	11¾	44½	2½

These are average analyses, and, of course, sample lots may vary somewhat from these figures; but it is pretty safe to figure on the basis given above. Since you have nothing but stalks and corn fodder for roughage, the problem is simplified somewhat, since you have only to combine the grain foods so as to make the ratio. We should use wheat bran in preference to dried brewers' grains. For one thing, the bran has a more laxative effect on a cow, and you will need something of the sort with constipating foods like corn. If you could feed from a pound to a pound and a half per day of linseed-oil meal in place of part of the bran, you would have a much better ration. If you must use these mentioned feeds, however, we should advise a grain mixture of about five parts bran and three parts corn feed with all the corn fodder the cows will eat clean. The amount of grain should be determined by the yield of the cow and the profit. If you can cut and steam the stalks before feeding them, you will obtain more of their value. This is not, by any means, an ideal ration. You cannot make a first-class ration with corn fodder as a basis, without using some strong food like linseed meal.

Grinding Bones for Fertilizer.

L. M. N., West Kennebunk, Me.—I have a heavy Buhr stone grinder, and plenty of power. Would it pay me to buy bones at $10 per ton, after the tallow is taken out, and grind them for fertilizer? Do they have to go through an acid process or something similar before being ground; and if so, what is it, and how is it done?

ANS.—The bones are a good bargain at $10 per ton, provided you are able to grind them properly. The way to make the bones grind easily, is to steam them. On page 114 of THE R. N.-Y. for 1896, you will find an excellent account of the way a Massachusetts farmer manages bones. The steaming leaves them in excellent shape for grinding.

A "Bad Taste" in Butter.

H. H. S., Greenfield Hill, Conn.—I have started a little dairy. My butter has a peculiar taste for which I cannot account. Everything I have is sweet and clean. I have examined everything thoroughly, and have finally discovered that the trouble is in the milk. The cow's breath is very strong, and the milk smells as I begin to milk. Did you ever hear of a case like it? I never had anything like it before, and cannot account for it. The cows are in the best of pasture on a meadow. Is it something that they are getting, and what can I do to prevent the taste? My churn and worker are quite old, and, thinking that it might be in them, I have purchased new. I am positive that it is my cows. The cream has a taste as it sets, the same as when the cows eat onions, only it is a different odor. Is there anything I can do?

ANS.—The fact that H. H. S. detects the peculiar odor in the breath of the cows, and flavor in the newly-drawn milk, shows that the trouble lies in the cow or her feed, and not in any bacterial contamination of the milk or cream. Then it must be due either to some disordered or unhealthy state of the cows' stomachs or digestive process; or, more probably, to their eating some plant whose peculiar flavor is absorbed directly into the blood, hence affects the milk which is being secreted in the udder. This is very common. I would get them on another run of pasture for a few days. Flavors due to eating any weed will disappear very promptly when the cause is removed. It is, at least, not a difficult experiment.

If, as is, perhaps, the case, the flavor is due to overfeeding on rank, green, and, perhaps, frosted aftermath, which tends to undergo putrefactive changes in the cows' stomachs, I should expect it to disappear if they were only pastured for part of the day and had, in addition, a liberal allowance of dry food—dieting the cows, in fact. In either case, the matter would, probably, be helped by heating the cream to 155 or 160 degrees for a few minutes and then cooling quickly to a low temperature. Heat by setting the can of cream in hot water and stirring. Flavors of this kind are volatile, hence are driven off by heat. Finally, I would be rather surprised if the trouble do not disappear soon without any remedy or apparent cause, the only difficulty being that his private customers are likely to be gone before this occurs.

JARED VAN WAGENEN JR.

Tall Pickers for Columbian Raspberries.

G. M. F., LANCASTER, OHIO.—You ask for experiments with the Columbian raspberry. I have planted it alongside the Marlboro, Souhegan and Gregg, and find it a very hardy, prolific, exceptionally thrifty grower. In fact, that is the chief objection; the berries are so high that it takes tall pickers or a stool and a picker to do the work.

The Loudon Red Raspberry.

T. C. KEVITT, NEW JERSEY.—S. E. H., on page 624, says that the Loudon raspberry winterkilled. Two years ago, I bought from C. A. Green the true Loudon, which I have fruited now for two seasons. I can truthfully say that there can be no question of its hardiness in northern New Jersey. My field was set out in a bleak place on the north side of a stone wall, without the slightest protection. The young sets, as well as the old, have endured the past severe winter unharmed, the terminal buds breaking through with great vigor each spring, while Golden Queen and Cuthbert, in the same field, winterkilled. The Loudon is, beyond all question, the best red raspberry ever introduced.

Pears That Hold Leaves.

D. D. C., DAYTON, O.—I know of only four varieties of pears that hold their leaves until frost, viz., Keiffer, Garber, Lawrence and Forelle; synonym, Trout, because of its speckled skin. As no fruit can be fully developed as to quality unless the leaves remain on until the crop has been fully matured, it would seem proper for fruit growers to consider this leaf-holding characteristic in making their selections for orchard planting. Who can extend the list?

[The Forelle has not been generally planted. Ellwanger & Barry have several trees in their specimen orchard, but it is not in their catalogue.—EDS.]

Pears and Plums for Western New York.

J. S. WOODWARD, NIAGARA COUNTY, N. Y.—I cannot agree with the answer of THE R. N.-Y. to G. S., Niagara Falls, N. Y., on page 657. If I were to plant 1,000 plum trees, I would not put out a single Lombard, unless to be used for stock to top-work to something better, like Reine Claude or Grand Duke. My reasons: Of all the plums in the whole list of domestica, it is most subject to the black knot, and, although a very productive sort, it always sells for a low price. I have seen Fellenberg sell for six cents a pound and Lombard hard to peddle off at two by its side. I would much rather substitute Quackenboss for Lombard in the list.

And then, who can say what is meant when one recommends German Prune? Almost every German family that came to this country from the fatherland brought a few plums, or if at the proper time of year, a plum sprout, and each was a prune. So we have as many distinct German prunes as there are colors in a Dutchman's hair, and all German Prunes.

I was amused at a fair I attended this fall in Canada, to see the controversy that was waged over a half dozen or more plates of German Prunes, each unlike all the others, but the owner of each sure that his was *the* German Prune. Fellenberg generally sells for German Prune, and for the purpose of bringing the profit, is a good enough prune to fill the pocket. I would surely add to the list given, some one of the Damsons; Shropshire is good, but we have here a small Damson, which is very late, and always brings a good price, usually the highest price of the season, and is a very productive sort.

As to the list of pears, I would take but one or two exceptions. I cannot recommend Clairgeau, although a few years ago, I thought so much of this variety, that I planted quite a number. It is handsome and productive, and the tree is healthy, but its quality is too poor; we can't afford to put such pears into the market. Each barrel not only keeps out a barrel of good ones, but it does much worse; the quality is so poor that people won't eat them, and having bought a barrel or keg of them, they judge all other pears by these. So the Clairgeaus not only take the place of better pears, but shut such pears out of consumption.

I would say the same of the Keiffer. A few years ago, I sent a few kegs of this pear to a western city, and received $3 net per bushel crate. I have tried the same market each year since, but they don't take at all. It may be that such fruits as Clairgeau and Keiffer among pears, and the Ben Davis among apples, are better than no fruit; but every barrel of either put into the market, is a curse to the business of fruit growing. It may be that the individual grower can make money temporarily by growing these handsome, worthless fruits, but in the end, he is working a great injury to the whole fruit-growing class. We ought to pay more attention to the quality of the fruits we put on the market.

Fanny Apple in Illinois.

B. B., FARMINGDALE, ILL.—I notice Mr. Green's description of the Fanny apple, and now I am wondering whether mine is true; whether my eyes and taste differ so much from his; or yet, whether the soil and climate can make such a wide change in the character of the fruit. I know that Downing says, "Flesh white, a little stained next the skin." But he also says of Winter Sweet Paradise, "Core rather small," while here it is quite, or very, large and open, when the fruit assumes the oblong conical, shape—which it usually does here. But it is decidedly smaller when the apple is flat, or short cylindrical in shape. So that one must not take every item, of even so painstaking a man as Mr. Downing, too literally.

Here, Fanny has always shown a decidedly reddish-yellow color in flesh, when fully ripe. Further, I cannot understand how anybody can compare it with Fameuse in quality, as I cannot see any resemblance whatever. Fanny is very rich in flavor, while, I think, the Snow (as we call it here), is nearly insipid, in comparison. The only fault I could find with the eating quality of Fanny is that it lacks in juice, especially when fully mellowed. Mr. Green got his wood from Mr. Downing, so, of course, he has the variety true. I got mine of Mr. Green, and, of course, mine is true. This eliminates the first doubt, and makes the difference either personal or sectional. I will not have a personal difference with him, so let us call it sectional. I have in my notes regarding the tree, "Slow, but healthy growth. Head rather compact, roundish pyramidal. Limbs plenty, regular, of medium size, out and upreaching. Bark very dark, with very many kernels. Young wood brown. Leaves medium. Blooms rather late." Is this Fanny?

Keiffer Pears in England.

CHARLES FORSTER, NEW YORK CITY.—In my judgment, Keiffer pears would not sell well in England, as the quality is not good enough to command the price necessary to cover the expense attending European shipment. The French pears, as a rule, dominate the London market, and the London market distributes them. They are not, usually, sent to any other of the markets of the United Kingdom direct. These pears are, usually, of very fine character. Attempts have been made to ship the California Bartlett pears, which are superior to the French William pears. These shipments of Bartlett pears have been made in the cold chambers of the American Line running from here to Southampton, and, taking the business right through, it has not been successful. The California winter pears are shipped regularly from here in ordinary storage, no ice being used. These varieties consist of the Easter Beurre, Winter Nelis, Comice, P. Barry, and one or two others. Attempts have been made to ship the Clairgeau, but have not been generally satisfactory; occasionally a parcel would go in good shape.

The winter pears mentioned above usually arrive in very good condition, and if the market be not over-supplied from France, the sales are satisfactory. The business being regularly followed up for a number of years by some of the most enterprising California handlers here in New York, makes it probable that there has been more or less success attending it. The Keiffer pear would, undoubtedly, ship all right, and in my judgment, it should be shipped within a week or two after being picked unless it were decided to carry the pears in cold storage until spring, when they should be taken out like the California winter pears and exported. In exporting them, I should use boxes like the California box. These can be procured here in New York for about 12 cents each. It would be quite unnecessary to bind them with hoop iron.

I should like to see the experiment of shipping Keiffer pears tried, but this is not the season to do it as they are too high priced. Another year, with a heavier crop and fewer apples going, will be the time to inaugurate experiments of this kind. The English market would take them better than other markets, and the fruit business in the United Kingdom is handled by experienced and very reliable people.

"Cow Dung for Paint."

E. H. A., ITHACA, MICH.—Let A. A. K., page 626, use what he likes, I say that one coat of summer black oil, price and expense of spreading considered, is better than white lead and oil. My new barn looks well, and the material and work cost me about $15. The hired man's son did the job, and any boy can put this paint on. My instructions were not to kill time trying to spread it; put it on, and if it pulls, use a little gasoline. I don't care to argue or contradict, but it is a condition, not a theory, that confronts A. A. K. I inclose you a sliver taken from the south side of an old barn that has faced sun, rain and storm for years, and this sliver and barn say to me, "It is a good, cheap barn paint."

(Continued on next page).

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

Unsifted Coal Ashes.

Q., WATERTOWN, N. Y.—Some time since, I asked through the columns of THE R. N.-Y., if any of its readers had ever used coal ashes as a disintegrant of clay soils. Several have answered, but none who has ever resorted to the sifted ashes. I know that on such a soil the application of unsifted coal ashes is the very worst thing that can be done. One end of my garden was treated in this manner for several years. The result is that the soil has become a concrete, almost impervious to a pronged spade even. I am thinking of having it carted away and replaced with new soil. One of my neighbors who evidently believes in the available, recently graded up his front yard with unsifted coal ashes, sowing grass-seed over the grade. It is safe to say that he has the most disgraceful looking front yard in the city.

The Fanny Apple.

W. T. S., UWCHLAND, PA.—In THE R. N.-Y. of September 26, you speak of the Fanny apple, giving it high praise. The name and description are identical with an apple originated by Dr. John K. Eshelman of near Downingtown, Pa. Mr. Eshelman has been a prominent fruit man of eastern Pennsylvania for the last 50 years; and still markets from his fine orchard, much nice fruit, but nothing more attractive in its season than the Fanny apple, which, I think, he told me he named in honor of his wife. Charles Downing, probably, got scions of this apple from Mr. Eshelman, and propagated them, as he was accustomed to test all new fruits of which he heard.

Poisoning Cut Worms.

FRANK HODGMAN, KALAMAZOO CO., MICH.—In a recent communication, I called attention to the remarkable success of a neighbor in stopping the ravages of cut worms by the use of Paris-green mixed with bran and molasses, and also to the fact that it had proved a preventive of the ravages of the cabbage maggot. The man referred to was Mr. Albert Ewers, of the firm of Ewers & Bucklin, market gardeners. Since then, I have met his partner, Mr. Bucklin, and talked the matter over with him, particularly with reference to the destruction of birds. He says, "I watched them carefully, and I never saw a bird touch the poison. There were plenty of them on the cabbages, but they did not go on the ground to feed. We did not find a dead bird. If we had, it would have made no difference, for the poison was worth many times as much to us as the birds. It saved our crops, and the birds could not. Next spring, we shall get half a ton of bran, and molasses and Paris-green to go with it, and shall use it right along from the beginning of the season, as long as necessary."

It seems to me that its usefulness in stopping the ravages of the cabbage maggot is an important discovery, in the possibilities that it points toward in its use for other insect pests. For instance, in some parts of Michigan, the climbing cut worms have been very destructive. In the latest report of the Michigan Board of Agriculture, wool bands are recommended to prevent the worms climbing the trees. Why not put a ring of the poisoned bran and molasses about the base of the tree, and catch, not only the climbing cut worms, but every other climbing pest which will eat it? You might catch a lot of codling moths in that way, increase the market for bran, and, possibly, raise the price of wheat a trifle.

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The Business Hen,
The Nursery Book,
The New Potato Culture.

IT is October 6. The most brilliant flowers we have now are verbenas. The leaves are as fresh as in early summer, and the umbels of flowers as brilliant. The bed alluded to is one of scarlet verbenas—Henderson's Mammoth, the finest strain we have ever raised; finest in that the flowers are larger. Many prefer to have beds of verbenas, pelargoniums, etc., of one color. The writer's taste is not educated up to that view. He prefers clusters or beds of the same plant, but of all the colors that the plant produces. What is the opinion of our readers respecting this question?.....

THE Idaho pear tree at the Rural Grounds bore one pear of medium size and poor quality.....

THE new winter pear, Fred Baudry, is described as medium to large in size, oblong pyriform. The color is yellow with blotches of russet. The flesh is yellow, buttery, juicy, solid, with no evidence of rot. It has a distinct flavor, and the quality is regarded as from very good to best. It ripens a little after Josephine de Malines.....

OLIVIER DES SERRES is another new, late-keeping pear that is said to keep until March. It is of medium size, roundish, averaging larger than Josephine. Flesh tender, juicy and melting—very good to best.....

FAGUS SYLVATICA PURPUREA MAJOR (Dark Purple-leaved beech) is a stronger grower than Rivers's. It is, too, an erect and more rapid grower. The leaves are large, glossy and of a very dark purple.

OUR readers may recall what we said of the beautiful Rose-margined Purple-leaved beech, a leaf of which was pictured in THE R. N.-Y. of January 25, 1896. It was planted in a warm, southern exposure, and the delicately variegated leaves so burned that the little tree died. Perhaps, it would thrive in a cool, moist position.....

THE Ailanthus-leaved walnut is said to be of excellent quality, and the tree bears when young. The leaves are long and ornamental.....

FOUR LITTLE-KNOWN PINES.—In the early spring of 1887, we received from Ellwanger & Barry four different species of pine trees which are little known and rarely alluded to in print. They are Pinus ponderosa (the Heavy-wooded pine), P. Pallasiana, P. Jeffreyi (Jeffrey's pine), and Pinus Monspeliensis (Salzmann's pine). Ponderosa is a native of California and the Northwest, and perfectly hardy in Rochester, where there are specimens 50 feet in height. The Rural Grounds specimen is now 16 feet high, the growth having been retarded this year by last year's tornado. There are three leaves, about eight inches long, in a sheath. This tree, as well as the others, is growing in a very poor, sandy soil—we might say, sand and clay, for there is no soil. The proportion of branch to foliage is such that one sees more of the branches than the leaves. The chief beauty of the tree is the color of the leaves, which is a light steel green, making an effective contrast with Pallasiana, which has very dark foliage—the darkest of the set.

Pinus Pallasiana has two leaves to a sheath. It is a native of Siberia, growing about 50 feet high. The foliage conceals the branches effectively. It is 13 feet high, and a sturdy, commanding-looking tree.

Pinus Jeffreyi grows to a height of 150 feet in California. It has three leaves, nine inches long, to a sheath. It is more densely clothed with foliage than Ponderosa, less so than Pallasiana, and the color is intermediate between the two. It is 14 feet high.

Pinus Monspeliensis is a European species. The leaves are of the same color as Jeffreyi, two to the sheath, and seven inches long. The numerous branches are well covered with foliage. It is said to make a spreading and picturesque tree of great vigor and hardiness.

The four kinds are exceedingly hardy, and it is a question yet to be answered whether they would not prove of more value than the well-known Scotch and Austrian pines.....

NOT the least among the good things that may be said of the hardier magnolias, is the freshness and luxuriance of the foliage in late fall. We are writing October 7. The horsechestnuts are losing their leaves. What remains is half-dead-looking and dried up. So, too, the thorns are as naked as in midwinter. While in bloom, no shrubs or trees are more brilliant than the double-flowering thorns (Cratægus), such as Paul's, Coccinea and Alba. Well-established trees are a mass of color, be it red, rose or white, and the beautiful trusses are enduring. But the beauty of the thorns goes with their flowers, and in early autumn, they are among the first to remind one of the approach of winter. Not so the magnolias. We are looking, as we write, upon four magnolias, Soulangeana, Macrophylla, Auriculata and Hypoleuca. We have four distinct shades, the most decided contrast being between Macrophylla, the great leaves of which have a light green surface with a silvery back, and Soulangeana, the leaves of which are a dark green. Not one of the four whispers of winter. They still tell us of the verdure of the tropics.....

WE have told our friends all we know of Saghalin as a forage plant. Its close relative, Polygonum amplexicaule, deserves a word of praise as an ornamental, hardy, herbaceous plant. We prize flowers now, especially those borne by hardy plants that need no special care. P. amplexicaule is just that. It begins to bloom not until September 20, and it continues to bloom until most shrubs and trees have lost their leaves. The flowers are very small, it is true, but they are pure white, and borne in large compound racemes from four to ten inches long. They have an agreeable honey odor. As we have said, the leaves and stem of this Stem-clasping knotweed are relished by horses and cattle as much as those of either Saghalin (Sacaline) or Polygonum cuspidatum, and the plant spreads like wildfire. It will grow anywhere.....

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THE RURAL NEW-YORKER, NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

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SATURDAY, OCTOBER 24, 1896.

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⊙

E. S. CARMAN'S address, until next May, will be No. 5 West 82nd Street, New York.

⊙

HERE is a man with a large milk dairy. It pays him to sell a calf when four days old for $1.50. Here is another man like Mr. O. W. Mapes, with a small dairy. It pays him to give $1.50 for that calf, let one of his cows nurse it for a month, and thus make the $1.50 grow to $9. So long as these two men realize that point in a calf's life at which profit with them begins and ends, their milk will bring them the most money. When they begin to guess at it, they are likely to lose money. It is so in every trade or business. Those who do the most guessing take the most risk.

⊙

WE are sorry to see some of our contemporaries giving up the battle for Crimson clover. The fact that this clover has made but a feeble growth in dry seasons, and has failed to live through some hard winters, is enough to make some people discard it. That is a mistake. Crimson clover will pay for itself, in a fair season, even though every plant die in the spring. When it forms a thick mat over the soil before Thanksgiving, it has done its full duty. Let us learn to farm so as to feed Red clover to stock and Crimson clover to the soil. In other words, make the Red clover into hay, and use the Crimson as a "winter overcoat" for the soil to be plowed under in the spring. THE R. N.-Y. stands by Crimson clover. It is a valuable plant to feed to the soil.

⊙

MORE than a year ago, THE R. N.-Y. gave an account of a local fair held in the streets of Greeley, Col. We notice that these street fairs are becoming very popular throughout the country. The farmers of a community meet on the streets of their market town, and make a display of their products right from their wagons. This is like going back to the old-time country fair without the disreputable features that have crept into the large exhibitions of modern times. These street fairs are sure to bring neighbors and friends together. A friendly rivalry is created that is sure to result in an effort to improve stock or crops. Smaller farmers feel that they have a better chance to win a prize at such an exhibition. We believe that these street fairs are, on the whole, more useful to a community than the larger exhibitions.

⊙

ONE of the great railroads centering in New York, has just run one of its annual popular excursions to this city. Eight large trains were required, and a large part of the great number of passengers were farmers, or village people. Such trips will do them good. They will be broadened and educated by such outings, and most of them will go back to their homes better fitted to live useful lives, and more content with the quiet, restful life of the farm, away from the hurly-burley of life in the great city. It is curious what ideas some city people have regarding country people. One writer in a daily paper has made the astonishing discovery that the cartoons we often see representing the honest farmer, are not true to life. He has found that these excursionists are an intelligent appearing lot of people, that few of them wear the typical chin whiskers, that none of them has hay seed in his hair, and that while their clothes are not always of the very latest cut, they are all of good quality, and compare favorably with those worn by city people. Great head to discover such things! Of course, they open their eyes widely over some of the great and novel sights, our high buildings towering 300 feet in the air, and such unusual things. But we warrant that their eyes are no more widely opened than those of some city people who go to the country, and the stories that farmers can tell about the city innocents who have toyed with the frisky country bulls, affectionate yellow jackets, and other peculiar country institutions, will equal any of the city tales. Welcome to the farmer, the hope of the nation!

⊙

IT looked, at one time, as though the smaller fertilizer factories would be crowded out of business by the large concerns. Instead of that, we find new ones starting up near the smaller cities. They generally start with a capacity regulated chiefly by the number of dead horses and other animals found in the town or city. In fact, their chief trade lies in working up these animals, rendering the grease and mixing the bone and meat with potash to be used as a fertilizer. In some places, the choicest parts of the carcass are cooked, dried and ground for poultry feed. These local fertilizer factories are useful institutions, and so long as they limit operation to the handling of local carcasses, they are pretty safe from competition.

⊙

AN ignorant Italian in New Jersey recently shot a blue-jay. He was arrested, tried and fined $20, and in default of payment was sent to jail for 30 days. Then it was learned that the laws of New Jersey do not prohibit the killing of blue-jays, so that the man was not guilty of any crime. Two men were talking about this matter, and one of them said that the constable and justice ought to be punished for such an outrage. "Oh!" said the other, "It doesn't matter—he's only an ignorant Italian, anyway!" That is no way to talk. A man may be ignorant and a stranger, but that is no reason why his legal rights should be disregarded. One good way to manufacture an anarchist is to disregard the legal rights of a poor man!

⊙

ONE thing that has enabled the farmers of Oktibbeha County, Miss., to succeed so well at breeding cattle, is the fact that the State Agricultural College is located in that county. This college has, without doubt, been a help to nearby farmers. Its work has been of a practical nature. One of the first creameries established in the State was started there, and excellent experiments in growing fodder crops and feeding stock have been carried out. The college has attracted thousands of visitors from all over the State. All this has served to advertise Oktibbeha County, and farmers have been smart enough to take advantage of it. We doubt whether any agricultural college in this country has had more real influence in determining the character of the agriculture of its particular locality than this one in Mississippi.

⊙

THE past season seems to have been particularly favorable for the production of large or abnormal fruit. As stated two weeks ago, Mr. M. N. Cook, of Genesee County, N. Y., sent to the New York market a lot of Duchess pears, 124 of which filled a barrel. Mr. Cook tells us that these pears averaged 1½ pound each. They were selected from a lot of 30 barrels. He has never been able to grow such large pears before. Mr. W. F. Taber, of Dutchess County, N. Y., has a Concord grape vine which, since 1893, has made a wonderful showing with large bunches of grapes. Of this year's crop, he says:

> There was no greater weight than upon many other vines, there being 25 pounds; but the clusters were very much heavier, and the berries larger, many of them one inch in diameter. One cluster weighed 21 ounces, another 19 ounces, one pair 30 ounces, another pair 29 ounces, and all of those on one arm of the vine and within two feet of the head of the vine. I have considered the showing so remarkable that, to remove all doubt, I have had them photographed; three single and two double clusters full size, make a picture 16 by 22 inches.

Reports from the Hudson River district are that pears have shown remarkable differences from standard types this year. Bose pears have been exhibited in which the long, tapering stem had been filled out so that the fruit would almost pass for Buffum. Other varieties have been so changed in shape and color as to deceive judges at fruit exhibitions. In fact, this seems to have been a "record breaker" for strange behavior in fruits. We would like to see what cuttings from the vine of Mr. Taber would amount to.

THE apple crop throughout New England is said to be immense, and thousands of barrels of second grade fruit will be permitted to rot under the trees. The Boston Globe has advocated a "fruit mission" by means of which these apples might be sent to the city and distributed among the poor people. The plan is to raise money enough to buy barrels and bags, and carry them to the farmer's railroad station. The farmer is to fill these packages and put them on the cars. In most cases, the railroad companies will haul them for nothing, and in the city, they are distributed to the poor. These shipments have already begun, and the chances are that many car-loads that would, otherwise, be devoured by fungi, will now be eaten by humans. It is a noble charity, and will not be likely to interfere with the market for first-class fruit. In fact, it is an advertisement that will give good returns when better times appear.

⊙

SOME weeks ago, we told our readers how the council of the borough of Columbia, Pa., had passed a resolution prohibiting the sale of milk from cows that had not been tested by State veterinarians. It seemed to us like a ridiculous thing for the council to pass such a resolution, when they must have known that they could not enforce it. One of the members of the council is a subscriber of THE R. N.-Y. At last week's meeting, he had the secretary read what we said on page 612, and he thus describes the result:

> Our secretary read your editorial, much to the surprise of the council, and you will please see by the inclosed council proceedings that the ordinance relating to the sale of milk has been postponed indefinitely.

That is a diplomatic way of announcing that the whole thing was a ridiculous proceeding. These men took hold of the hot end of the poker, and held it longer than they should have done.

BREVITIES.

I ain't no hand to brag my children up
  Above all others, but I'll tell you now,
That little girl of ours does win the cup—
  In my estimation, anyhow.
I'll guarantee a dozen folks have said,
  "She looks jest like her mother"—don't it please
My wife to have 'em say so? She gits red
  As fire, her heart's so full she has to sneeze.
An' smart? Why, I'll bring folks to guarantee
  They never saw her beat—I've heard 'em say
In *that* respect she sorter favors *me*.
  Her smartness 'pears to trace right back, my way.
She don't weigh over 30 pounds, and yet,
  Her little fist can pound away our care.
You bring a million dollars and I'll bet
  That you can't buy that baby's smallest hair.

THE tramp is a beg bug.

WEED seeds seldom die of old age.

HOW many cans of human ensilage have you?

READ Mr. Woodward's article on fruits, page 706.

A KEIFFER pear is just as respectable a fruit as a quince.

Two sides of the "road working" question, pages 702 and 713.

HANDLE bisulphide of carbon as carefully as you would gunpowder.

YES, sir, cotton-seed meal is the most dangerous hog food that is known.

"CUT the young Wilder currant bushes back to five buds," says W. D. Barns.

READ about those cheap stock rations the Colorado farmers are feeding. Clover does it!

LOOK at the grindstone—page 702. A sprocket wheel and chain beats your wife's arm and back.

YOU don't sow wheat and reap chess. You don't reap the whirlwind after sowing "wind" with sense to it.

THE first hard frost nipped the life out of the cow peas, but the Crimson clover alongside is as green and fresh as need be.

WHERE is the market gardener who can buy potash and phosphoric acid cheaper than Mr. Simpson gets them, page 704?

Now is the time to kill the surplus rooster. He will make nice "fried chicken." Left to himself, he will produce legs rather than eggs.

TRY to get the best groceryman in your town to sell your milk for you. Advertise it in the town papers—that is, if you can take oath that it is absolutely clean and pure.

PROF. ROBERTS, of Cornell, writes that his present class in agriculture is nearly twice as large as any previous one. He expects a very large class in the short-term course.

THE English potato crop is said to be rotting badly. Wholesale prices in London are from $15 to $18 per ton. In Australia, the average wholesale price is 45 cents a bushel.

THAT is an interesting account of the Grape Phylloxera on page 704. It is a singular thing that while the insect is a native of this country, our American varieties of grapes are best suited to withstand its attacks.

YES, we know that the experts tell us that the Gulf States possess neither the food nor the climate needed to produce good dairy cows—but what about those Mississippi grade Jerseys? There they are—look at 'em!

MR. L. C. BREYFOGLE, of Indiana, sends us this little note: "Inclosed you will find a Crimson clover plant from seed sown August 7; it was dug yesterday, and the root was an even 18 inches long, without stretching the truth or the root."

SOME great scientist has discovered, after much experimenting, that the average woman has 57 per cent of the strength of the average man. According to that, your wife should do only about 37 per cent of the work of your family. We will guarantee that she does over 50 per cent of it.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

A WHOLESALE egg dealer tells me that the western refrigerator eggs come out of cold storage in better shape than the eastern ones. I asked him how he accounted for this difference, and he said that it is because the western eggs have thicker shells, which do not so readily permit the absorption of bad odors, and which better protect the contents. We all know how susceptible eggs are to taint, but it is a new idea that the different parts of the country furnish shells of a different thickness. Who has noticed anything of this?

‡ ‡ ‡

THE same dealer spoke of a shipper who had been sending in "strictly fresh" eggs, which were, probably, all fresh some time, but part of which were nothing but refrigerator eggs kept since summer, mixed with a few fresh ones. This shipper soon became so well known, that no one wanted his stock. About this time, my informant received a letter from another man in the same town, proposing to ship him fresh eggs. He wired him to send them on at once. They were identical in quality and style of package with those from the other shipper. Evidently, the same one was using a different name or getting some one else to ship his eggs. It's a poor plan to do business in such a way that one must change his name! It docsn't pay!

‡ ‡ ‡

A LARGE handler of butter says that receipts of dairy butter are constantly decreasing. Many owners of small dairies who formerly shipped dairy butter, have bought separators, and are making creamery butter. The holding of butter for months as was formerly donc, is becoming more and more unpopular. Butter is now wanted for immediate consumption, about the only holding that is popular with dealers being the putting into cold storage of the surplus when the supply exceeds the demand.

‡ ‡ ‡

I NOTICE that the street fruit stands and push carts are selling large quantities of Twenty-ounce apples. They seem to be very popular with this tradc. They are attractive in appearance because of their size and coloring, and their quality, though not of the best, suits the average customer. The price is so low this year that almost any one may eat apples, and I am glad to see the great American standby, the apple, so largely eaten. F. H. V.

APPLES IN WESTERN NEW YORK.

CULTIVATION, THINNING AND SPRAYING.

A couple of weeks ago, I was in the orchard of Woodward & Jaques, near Lockport, to which Mr. J. S. Woodward has so often referred before the Western New York Horticultural Society as apparent proof that even high cultivation does not always bring apples, and that tillage may have no advantage over pasturage. The orchard contains about 300 trees, mostly Baldwins, perhaps 35 years of age. It has always received good treatment in the way of manuring and tillage. Yet it has not borne fruit while other orchards around which had been pastured with sheep, bore good crops. The orchard, this season, however, was loaded with fine apples as I have never seen any orchard loaded before. We estimated the average yield per tree to be from 15 to 20 barrels. No wonder, then, that a large share of the trees were broken down under their load, and many entirely wrecked and ruined. On many of the trees, not a branch was left; on others, only one or two. Some of the branches had been saved by wiring, as shown at Fig. 230. Stout fence wire was wound tightly around two limbs leaning in opposite directions, and the two strands then twisted up by means of a stick placed between them in the center (see dotted lines), until the branches were drawn tightly together.

The effects of good cultivation were plainly to be seen in the enormous growth of the buckwheat, partially smothered by the fallen branches, in the fine color of the foliage and the strong wood growth, and in the good size of the fruit, even on these overloadcd trees. Perhaps the lesson of the effectiveness of cultivation has never been so impressively put before the people. The failures are invariably in the neglected orchards. All trees that have had any kind of attention, these years, are full of fruit.

FILLING VACANCIES.—After the apple harvest, and the cleaning up of the orchards, vacant spots will be a common thing. A large percentage of the older trees are so broken down, that the only thing to do with them, is to dig them up. The question came up as to what to plant to fill the vacant spots. In the Woodward and Jaques orchards there were, already, a few peach trees, planted three or four years ago in vacant spots. These trees are now ready to bear fruit. It would hardly be wise to set apple trees now that the old trees are so large. When the young trees come into full bearing, we may expect that the old ones are about used up. If peach trees be planted, and well cared for, they will soon grow up, and, under the protection of the larger trees all around, bear full and regular, and surely, profitable crops, and may last nearly until the old apple trees are past their age of usefulness.

THINNING THE FRUIT.—No doubt the damage to the trees resulting from breakage of branches might have been avoided by timely thinning. We may feel confidcnt that, by resorting to this, we may be able to prevent overbearing, to obtain annual instead of biennial crops, and to improve the fruit in size, color and flavor. But the question arises: Is it practicable with the apple? When apples are so cheap, can we afford to expend so much labor on the thinning process? If we undertake this at all, we shall have to do the job in the quickest and cheapest way, by shaking the fruit off, or striking into the trees with long poles, without regard to single specimens, letting fall what will fall, or leaving on what will hang. We cannot go over the whole tree to pick off the imperfect specimens, because this work would not pay for our high-priced labor.

There is also a limit, in some cases, to what may be called desirable size. This year, at least, the trees seem to be bound to produce an extraordinary yield. Reduce the number of specimens on a tree, and the latter will try to make up for it in extraordinary size of the specimens left on. Of many varieties, we do not care for overgrown fruit. This is notably the case with the Baldwins. Very large specimens will not keep well. For long keeping, give us the small and medium-sized apples. The overloaded Baldwin trees, this year, give us just about the right size.

THINNING THE TREES.—Another lesson that this year's crop should impress very forcibly upon our minds, is the need of a great deal more room for each

WIRING OVERLOADED APPLE TREES. FIG. 230.

individual tree than the planters of 30 or more years ago thought proper. Nearly all our older orchards were planted too thickly. Now the branches of adjacent trees interfere and overlap. It is hard work, and often almost impossible to move the ladders about the trees as required. This, however, is only one, and really, a minor disadvantage. The greater one, is the want of color in the apples that grow in the shadier portions of the trees. Even on Baldwins and other red-fruited trees which stand alone, we find dull or green apples on the under side of the branches. It needs the direct rays of the sun to paint a bright cheek on the apple. The colorless fruit is flavorless, too. Go where you may among the orchards of the State, and you will find that almost all the older orchards need a severe thinning of the trees. There can hardly be a better time for this work than after the harvest of this year's crop. Many of the trees are wrecked or sadly damaged. It is not likely that after so heavy a yield we are going to have a crop next year. Cut every other tree out of these orchard forests, and give to the remaining ones a chance to recruit, and to make the most of their enlarged opportunities in and after 1898.

SPRAYING.—This year's apple crop is, probably, a sad blow to the spraying enthusiasts, and also to the manufacturers of spraying machines. Sprayed or unsprayed, our apple trees have remained exempt from scab, etc., and the apples remarkably free from Codling worms. The Codling, undoubtedly, had been starved out, in many localities, by the repeated failures of the apple crop. Now we have few worms and many apples. The average ordinary grower seems inclined to make light of the spray question. Why go to the trouble of spraying, when apples grow just as well on the unsprayed as on the sprayed trees? This is the sentiment I find prevailing everywhere among those who are not fully informed as to the objects and aims of spraying. True, spraying may have shown no marked results this year. But, as Mr. Woodward told me, spraying is to be considered in the light of insurance. We simply provide for an emergency or accident. We do not expect that our house or barn will burn down. Still, we pay the small insurance fee to be on the safe side. If scab *do* come, or if insect enemies *do* attack our fruit, we save the latter, and have a good crop, perhaps, when other people have none, or poor stuff, at best. Our chance to make money is in bad fruit seasons, when scab and insects ruin the crops of those who have failed to spray. But as to the accumulative effect of spraying—little is to be seen on our apple crops this year.

Niagara County, N. Y. T. GREINER.

ALL SORTS.

ONE of the hardest things for farmers to realize, is the fact that some apparently dry substances like bran, hay or ordinary soil, contain 10 per cent or more of water. It does not seem possible that, in buying a ton of average Timothy hay, we pay for 250 pounds of pure water; yet it is true. A soil that seems to be nothing but dry dust at the surface, may be found to contain 15 per cent of water, if sampled to the depth of two feet. One of the simplest and most interesting experiments a farmer can make, is to determine the amount of water in various substances. To do it successfully, he must have a scale that will weigh to grains. Then take just a pound of soil, or bran, or hay, heat it to 212 degrees F. for a few hours, and then weigh it again. Keep weighing and heating at this temperature until you cannot make it weigh any less. You will be surprised to see how much water has been driven off by the heat. You will know that it must be water that has disappeared, for no other part of the substance would be driven away at that temperature. The Cornell Experiment Station (Ithaca, N. Y.) has just issued a bulletin (No. 120) by L. A. Clinton, which discusses the qucstion of moisture in the soil. We would like to have every one of our readers study it.

⊙

WE have been reading an account of a Western farmer who came to town with a load of oats, which he sold at six cents a bushel. He then went into a restaurant and bought a ham sandwich and a cup of coffee which cost 20 cents, so that his lunch represented 3⅓ bushels of oats. Granting that the figures are correct, we think that the farmer is to blame for eating up three bushels of his oats in that lunch. That farmer's wife could have made him a larger and better sandwich without spending one cent of cash. The ham, the butter and the bread could all have been produced at home. All the farmer had to do was to bring it with him, and the person who will charge more than five cents for a cup of good coffee has no business to deal with farmers. Don't give him your trade. Make him come down to a reasonable price. If that farmer had brought two sandwiches and a bottle of cold coffce or milk with him, he might have carried his 20 cents home either as cash or in the form of a present for his wife. We don't see why he should complain about his lunch, except at himself for keeping a useless middleman in the field!

BUSINESS BITS.

THERE are two ways of keeping stock warm. Onc is to keep the cold air out by keeping them in a warm building, another is to give them plenty of good food and water not too cold. Give them ice water to drink, and a good share of their food will be needed to take off the ehill. Warm their drinking water, and all that food will be saved and go toward making meat or milk. For warming stock water, the I X L heater has been popular. The U. S. Wind Engine and Pump Co., Batavia, Ill., have met the demand for something chcaper, by bringing out the United States heater. Write them about it.

THE Portland Mfg. Co., Portland, Mich., are now making Terriff's Perfect washing machine, and say that it is giving such general satisfaction that, even in these times of depression in trade, they are meeting with the greatest success. Their success is directly attributed to the fact that their machines are sold under a positive guarantee to wash as clean as can be done on the wash board, and the unqualified offer to refund the money if found not to be as represented. This position makes easy work for their agents, as every one is anxious to lighten the labor of wash day. Agents ought to find this pleasant and profitable work.

THE difficulty of disposing of fruit stones has, doubtless, made them a part of our pie system; the danger of their use has brought into existence the most necessary as well as the neatest and handiest of all kitchen utensils in the Enterprise Raisin and Grape Seeder, manufactured by the Enterprise Mfg. Co., of Philadelphia. This little machine fastens on the table, and is so simple a child can manage it, and seeds a pound of fruit a minute without waste. It never gets out of order and is very readily cleaned. A woman's time and patience are too valuable, though she be only your cook, to sit for hours preparing raisins and grapes by the old method, pinching the seeds out with her fingers, when you can, for a nominal sum, provide this modern time and labor saver.

IN speaking recently of Mr. Chipman's combination wire fence tool, we said it was not being advertised. Neither was it, but Mr. Chipman has sent us an advertisement this week. We also referred to it as a little tool, which Mr. Chipman thinks is misleading, and we don't know but it is. It is really a combination of four tools, a wire stretcher, a staple puller, a two-foot measure, and a wire cutter which cuts wire or briars or small brush or woven wire, like shears. We have referred to it again because we liked it so much in our own practice, and because the price is so low that we fear that Mr. Chipman will not be able to advertise it sufficiently to make its merits sufficiently known. He also offers to return the money to any one not satisfied. His address is, H. M. Chipman, Waterbury, Conn.

Women-make-the-Homes

WOMAN AND THE HOME

Homes make the Nation

TRIBUTE TO THE MOTHER.

To her care have been intrusted
All the heroes of all lands;
Still the fate of church and nation
Holds she in her slender hands.
Guiding willful feet and faltering
On through childhood's happy years,
On through youth with its temptations,
With its hopes. its doubts, its fears;
Cultivating all that's noble,
Gently chiding all that's wrong,
Till her children gather round her,
Men and women, pure and strong.
By the quiet ministrations,
In the little realm of home,
For the structure of the ages,
She hath laid the corner stone. B. D.

FROM THE KITCHEN WINDOW.

WHAT a long time it seems since I have talked with RURAL friends at my kitchen window! For the long summer days are over now, and the brilliant leaves of our Canadian maples are fluttering softly down on the still green, fresh grass. They leave the trees so bare and stark in the cold autumn sunlight, that one can hardly realize that there will ever be another resurrection! Through the stillness of this quiet corner sounds the shrill whistle of the engine, for since I last wrote, a new railroad has been opened through this locality, and we are now only 10 hours from NewYork. I suppose that many of THE RURAL readers have experienced the sensation caused by the passing of the first train near their homes! What possibilities it opens, especially if one is young and the world looks wide and alluring! The throb, throb of the locomotive, is music that is sweet to the youth to whom

All the world is young, lad,
And all the trees are green,
And every goose a swan, lad
And every lass a queen.

As Charles Kingsley so truly sang. What an influx of city friends, who never found you out before, because the road was a little long and stony, and they were not in want of a ride! How you ask the price, anxiously, of marketing by express or freight, your farm produce, and what a timing of watches to trains as they pass by, and severe comments when they are late! Then, at night, when the late express, with its electric headlight, comes puffing along, with lighted Pullman car, and a general hurry to make up time, it is as though we had been traveling, to know that the travelers pass this way.

It has been a never-to-be-forgotten season of apple picking—without precedent in many ways. Beginning in July, with the basket fruit, we are in the middle of October with fruit still ungathered. Other seasons, the first week sees our crop garnered, but continued rain and drizzle have kept the fruit too damp to put in barrels, and prices are so low that all profit goes to the steamboat company and the cooper, for even commissionmen realize but light returns. What fruit growers are to do, is a question not easily answered, for it is an occupation usurped by every farmer nowadays, and orchard planting goes on extensively among dairymen and grain growers, who, not content with producing what they can consume, glut the market with their apples, when going in with other produce. Never were apples so plentiful; they are scorned by every animal, such has been the surfeit, and how to dispose of them without waste, is a problem that interests the discouraged fruit-grower. Not only this, but in spite of props, the trees have broken down under their loads. Writers talk of thinning, but it would be the work of a whole season to go over such an orchard. Grapes hang on the vines ungathered except for such as are given away. And so a year of plenty is not quite an unmixed blessing, and we only fear that a dearth of fruit may follow the enormous bearing of this year.

The flower garden, from my kitchen window, is still bright. How faithful are the phlox and verbena! How royally beautiful in their purple and gold the very large pansies that the wet weather has evolved! Sweet peas and mignonette are still there to gather for those who are shut in away from the sight of such blossoms, and the English daisy blooms from among the leaves that have fallen upon it. I never admire zinnias, except when their more delicate companions are gone; then they show their brilliant coloring. Cupid sweet pea disappointed me as it did THE R. N.-Y.—and several guests remarked as to why I had my "dwarf peas among the flowers"—mistaking them for edible peas. But they have not even flowered freely, and the foliage is coarse and rough. So ends another floral delusion.

And I must leave the kitchen window now—with its witchery of autumn gleanings, and brilliant foliage—for the amateur cook tells me that guests have arrived. We are making up grapes into jam and jelly, and would rather stay here. Did you ever notice that you are often alone in a time of comparative leisure, but that if you just get into a job of extra work of some kind, your "dear 500 friends" will all want to see you at the same time or thereabouts? To make grape jam, we take off the skins and boil the pulp till the seeds can be skimmed off; then add the skins and sugar, and boil till thick. Children are generally fond of it, and it is a healthful preserve, minus the seeds. Just now a gleaner of apples has passed the windows, waving a bunch of golden rod and asters, and I think of the poem:

Who blanched my thistles blushing face,
And gave the winds the silver hair?
Set golden rod in every place,
And scattered asters everywhere?

And soon they, too, will be among the things of the past. ANNIE L. JACK.

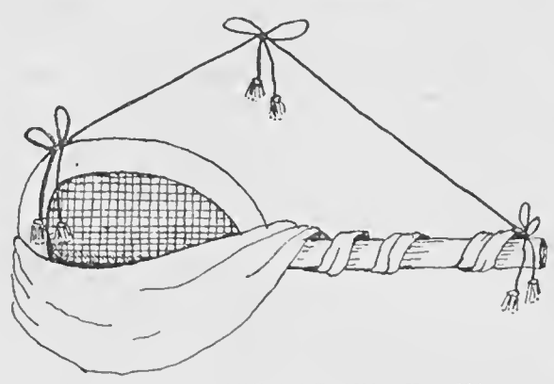
A CONTENTED LIFE.

MUCH has been said of the monotony of the life of the farmer's wife. It is even affirmed that more women are sent to insane asylums from this class than from any other. It may, however, be a disputed point, whether it is preferable to lose one's mind entirely in the country, or to have life in town a weariness to oneself and friends from nervous prostration. It is seldom that one finds the "golden mean", and lives contentedly, wherever it may be. Just run over in your mind the list of your acquaintances; how many may you call contented?

Said a doctor, recently, "I wouldn't give a cent for a contented person; if there is no ambition, there will be no progress." Yet the discontent, the unrest, the fruitless strivings to keep "in the swim", whether in town or country, have much to do with woman's health and happiness. One of the sweetest cases of a contented old age, was that of a woman of nearly 80 years. Born and brought up on a farm, for 45 years the wife of a country pastor, and spending her last days again on a quiet farm, from her invalid's room, she kept in touch with the world to the last. Papers and magazines lay on her table, letters from all over the United States were received and answered, and, instead of feeling that she and the walls of her room were all the world, she made her own self of little account while taking the whole world into her heart and sympathy.

Is not one reason that the farmer's wife does so often tire of her work and home, because she has not learned to keep her brain bright with fresh thoughts? Suppose that one cannot be on the "go", as some are; books and papers bring all the world into our home. While washing dishes, instead of fretting over the inevitable, why not think of the Armenians and their sufferings, or of Cuba and its struggle for independence, or plan to do some kind deed, or say some kind word to some one else? When at dairy work, recall the odd methods used in other lands, how, in one country, they churn by tying the milk in a skin, fastening it by a long strap to the pommel of a saddle, mounting the horse, and riding wildly about, the jarring and pounding of the skin on the ground causing the butter to come? In fact, keep the mind on something else than self and drudgery.

Another way for health and contentment is to know when to shirk. It is delightful to keep an immaculate house and all things else to correspond; but it is not easy to find help to do it, and it is better to learn what can be omitted and the housewife and mother keep her health. If odds and ends are kept picked up, and in place, instead of thrown down haphazard, rooms nicely dusted, clothes in sleeping rooms hung in their places every day, dishes of left-overs cleaned up and emptied instead of standing around in the pantry, work is very much helped. When a big day's work is on hand, let every little item go that is not needed, and catch up on the "off day." When tired and cross, a five minutes' rest in the big chair, with a book or paper to carry the mind away from work, will prove a tonic. A peep out of doors at the trees and grass, a little trip to see whether the sweet peas are growing well, or that bud on a favorite plant unfolded, will show you how beautiful life is after all.



A UNIQUE WALL POCKET. FIG. 231.

Even in winter, there is much to enjoy in studying the difference in the appearance of the trees without their summer dress; some have delicate branches and slender twigs, while others are sturdy and defiant in spite of the winter's storm, very much like some people we know.

One thing is certain, the housemother may dig and delve all her days, and never make a home that will satisfy the husband and children half so well as one less carefully kept where her own face reflects a contented and a rested mind. Surely "Godliness with contentment is great gain." MOLLIE WIGGINS.

VISITING AMONG FARMERS.

"WHY do we not have more visiting, spending the afternoon and taking tea?" was the question brought up before our ladies' aid society a few weeks since. The answers may help to solve the social side of the problem of farm life. More than one-half of these women are farmers' wives, and no one could distinguish them from the town women. "We have so many more friends. If I should spend an afternoon with each, it would take a large share of my time; but I can make several calls in one afternoon, have a pleasant chat, and see my friends. We do not have the time for gossip in this way."

Another woman said, "If I entertain the Ladies' Aid Society once a year, it's about all that I can do. I must read, and there is so much to look over if one knows what is going on in the world. I don't believe that people read as much years ago as they do now."

I know this to be a fact, that where one paper was taken 25 years ago, five or more are taken now. As an illustration, in my father's family, four periodicals were the greatest number that ever came to our home, and we were a fair sample of those about us; there was one each of religious, political and agricultural, and the county paper. In our home, we have from 12 to 20 different papers and magazines. We are not content with one agricultural paper alone, but have some 8 or 10, including horticultural. There are exceptions, but these days, you will find from 5 to 10 papers in nearly every farmer's home; each one has his favorite. The numerous home and housekeeping publications are frequently seen, as well as the more weighty literary publications.

Homes are made more pleasant by the entire house being thrown open and used. There are few company parlors nowadays; it takes time to keep them in order, but the tired housewife, resting in easy chair or couch, with the last paper or magazine, forgets her weariness in reading of the world's doings. And if a friend or neighbor comes in, they chat of what they have been reading more often than the gossip of the neighborhood.

Farmers and their families go to town more for society than formerly. There is not that wide difference between town and country people. The farmer's wife or daughter usually has her horse and carriage, and goes and comes at her own sweet will.

The cry that the farmer's wife has the hardest of lives is not true, as a general thing; life is usually what we make it. I believe in being kind and pleasant with one's neighbors; the less you have to do with some, the better. In the West, we had very few congenial neighbors; here it is different. We run in and out, go to town together, share our good things in the way of fruits, vegetables, ice cream, etc. If one requires help, the rest are ready to lend a hand. This is what I call an ideal social life among farmers. I have never known an instance where a farmer was driven from his home by isolation and loneliness. MRS. FRED. C. JOHNSON.

Illinois.

"CHARGE IT."

CAN there be any doubt as to the bad effect of the credit system, now so generally the custom between the family and the storekeeper, upon the financial condition of both, and, collectively, upon that of the nation? The sound old rule, "Pay as you go!" has come to be more ignored than obeyed, and the result is that debts are contracted which are never, or, at best, but tardily paid. Every person, old or young, ought to be too self-respecting to wear clothing or to eat food at the expense of others. I was trained by my father, never to buy any article for which I had not the money in hand to pay, and the strict observance of this habit has been the equivalent of wealth in keeping the mind free from the humiliation of debt. It has been a barrier to many foolish expenditures, and has kept the head "level" in the face of many temptations.

There is no pleasure in self indulgence at the expense of others, that can offset the stinging sense of obligation. There is so much that one can do without, if he will only take an inventory of his absolute needs. It is the universal pandering to wish and fancy, regardless of the just and prudent use of one's means, that brings about what we call "hard

times." People who go "on trust" at every turn, not only "enjoy" chronic "hard times," but they quickly lose their sense of honor about discharging obligations, and there is no loss quite equal to that of a loss of character. Whatever you do, practice the golden rule, pay as you go, and inculcate the doctrine into the minds of your children. It will endow them with, at least, one valuable possession. M. W. F.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Cape.

The model shown is made of tan broadcloth. Silk passementerie of a darker shade trims the seams of the yoke and the edges. The lining is of scarlet silk taffeta, with an interlining of light weight crinoline. This garment is circular in shape, with a center back seam; and is joined to a pointed yoke, which is

6869—Ladies' Cape.

cut in eight sections. The collar, close-fitting at the neck, rolls back with a stylish flare. Pattern No. 6869 is cut in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

ODDS AND ENDS.

TENNIS RACKET WALL POCKET.—A tennis racket, decorated with folds of satin or India silk, as shown in Fig. 231, makes a handsome wall pocket, and a decidedly handy receptacle for numerous articles. LOUISE DEW.

SEWING CARPET.—I have seen so many unsuccessful or bungling attempts made at binding, overcasting, etc., the edges of rag carpet, where it was necessary to cut a breadth in parts, that I feel moved to offer my method. It is rapidly done, and will keep the warp and woof securely together, whether cut lengthways or across. Sew, with strong thread on the sewing machine twice (with a small space between) on the line it is desired to cut. After the shears have done their work, it will be found, though the edges are raw, that there is no raveling. SWEET FERN.

PORCELAIN LINED KETTLES.—Enameled iron kettles are durable, provided they are properly cared for. Harry Snyder, of the Minnesota Experiment Station, tells housekeepers that the enamel is made from powdered glass, soda, lime and boric acid, forming a thin paste, which fuses and unites with the clean iron kettle, when the kettle is placed in a muffle furnace. The enamel is very similar to the glaze on dishes. When enameled kettles are used, sudden changes of temperature must be avoided. If hot water, or even cold water, is poured directly into the kettle, the enamel is very liable to crack, but if the water is heated in the kettle and the change is gradual, the enamel and iron expand and contract at the same rate and the kettle is not cracked. In short, when you use an enameled kettle, be careful not to subject it to sudden changes of temperature.

COOKING DRIED PLUMS.—Dried blue plums have the reputation of being almost too sour to eat, but cooked by the following original method, they are nearly as good as prunes: Put them over the fire in plenty of cold water, adding a little soda, stew one-half hour or longer, drain, cover with cold water, and cook about an hour; drain again and cover with a generous amount of sugar, then put on the back of the stove and let simmer some time. Add what moisture is needed. As all this takes some time, I usually prepare quite an amount, and can a portion for future use. SWEET FERN.

AS WE TEACH THEM.—Mrs. Brown was busy getting breakfast in the kitchen. Glancing through the sittingroom door, at the half-dressed little ones, she saw baby Royal put his little sister's shoe in the stove, and on going in, found that two new woolen stockings had shared the same fate. Yet only the night before, while tidying the rooms before supper, she had sent the little fellow again and again with scraps of paper or cloth, bits of thread and rolls of ravelings, to burn, and when he consigned these to the flames, she had called him, "Papa's good boy! He helps mamma make the house all pretty for papa!" Don't we expect too much of these wee ones in the way of discrimination?

MRS. L. H NILES.

A RELIC OF BARBARISM.—"Oh, but the birds they wear on hats are not real bird skins! They are made of hens' feathers and cotton batting!"

That is an argument in favor of wearing birds (?) on hats. Now if this is true, and I am not sure that it is, just think what an absurd, not to say, heathenish, practice it is! "Fashion" must be, not only barbaric, but childish as well. She constructs something of "hens' feathers and cotton batting", which resembles a dead bird—I never saw a bird on a hat that looked as though it was alive—and tender-hearted women decorate themselves with these productions. It would seem as though a woman who was really tender-hearted, and who had any idea of the fitness of things, would be shocked and disgusted at the thought of wearing the semblance of a dead creature on her person, even though she knew it to be merely a counterfeit. SUSAN B. ROBBINS.

DRESSING THE LITTLE MAN.—When our son was three years old, I remarked to a friend, "I am glad that I have only one boy."

"Why so?" asked she.

"I have always heard that boys were more easily dressed than girls," I replied, "and I do not find it so."

"What is the trouble?"

"Why, he is always tearing and soiling his dresses. He will climb over black logs, help his father clear land and plant garden, and he is always needing a dress mended or a clean one put on."

"Put him in pants," she advised.

"He's too young."

"Oh no! He is not. You will be greatly surprised to see how much easier it is to keep him clean."

I tried it; but there was another trouble. The button holes would tear out and buttons come off. Then I read in one of my papers of another and better plan. I bought Master Ralph two pairs of suspenders, and made him pretty blouse waists and pants like papa's. Now he looks neat all the time, and is our little man, almost five years old. The blouse waists are quite long, and at home, for every day, are tucked into his pants like a shirt, with suspenders over the waists. For best, they are worn under the waists.

MABEL H. MONSEY.

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"Pearl glass" is nothing.
"Index to Chimneys" is nothing.
"Macbeth" with the shape we make for your lamp is all.
We'll send you the Index; look out for the rest yourself.
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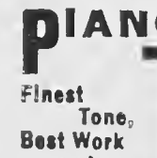

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THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

The Agent's Share.

Apparently, no one has yet started out to win those cash premiums November 14, or the weekly premiums which will go out now each Saturday.

On November 14, we will give the following premiums:

For First Largest Club, - -	$25.00
For Second Largest Club, - - -	15.00
For Third Largest Club, - -	5.00

Beginning this week, October 17, we will send $3 every Saturday night during this contest, to the agent who sends the largest club for the week, and an extra weekly premium of $3 will also be sent every Saturday night to the agent who has won no other weekly premium since August 15. That is, the first $3 will be open to every one; the second $3 is open to all who have won no other weekly premiums this season. All those who have won other weekly premiums are debarred from this second $3 premium.

Here are the names of the winners for last week:

$3—RONSON GERMAN..... Michigan.....6½ Yearly Subscriptions.
$3—E. M. RUSSELL..... .... Texas.....1¼ Yearly Subscriptions.

You see how easy they got $3. Will your name be among the winners next Saturday night?

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"CANNED SUNSHINE."

Rev. E. E. Hale recently wrote a short article with the above heading, in which he said:

Robert Stephenson, the inventor of the locomotive, was one day standing with an English gentleman on an eminence from which they could see a very distant train. Stephenson said to his friend, "What is it which is drawing that train along through the valley?" The gentleman replied, with a laugh: "Why, of course, it is one of your engines." "Ah, yes," said Stephenson, "but what makes my engine go?" And then he added, in a reverential tone, that the Lord God had, hundreds of thousands of years ago, packed away enough of His sunshine, in ferns and other products of prehistoric times, to heat the water from which rose the steam which pressed upon the piston which drove the wheels which bore the train along.

That is, certainly, a very beautiful fancy to say that coal is "canned sunshine." That is just what coal is, for the heat we get out of it by burning, is only the heat of the sun that was stored up in the growing plants ages ago.

Mr. Hale went on to say that, no matter how carefully a substance may be canned, it is never quite so good as the original. The only exceptions I know to this are the quince and the Keiffer pear, which are, certainly, better as ensilage than when fresh. Mr. Hale spoke of the thousands of invalids who shiver and fade through the winter at the North, boxed up in hot air. The only thing that keeps them alive is the "canned sunshine" or heat from the coal which was dug out of the ground. No man would stay in a heated room from choice when he could get out into bright sunshine, and so the question comes up, Would not these invalids be far better if we could take them right into the South, and let them stay outdoors in the fresh sunshine? Put them in colonies on some of those dry, southern uplands, where the warm sun shines all day long. They would be healthier and happier, and we don't think that it would cost so much to care for them as it does to burn the canned sunshine and get up an artificial heat. Many a well-to-do farmer in the North would do well to get hold of a southern farm while land is cheap, and use it for a place to sun the old folks and invalids during the cold winter. They would find it more to their taste to sit out on the piazza in a Georgia or Florida sun, than to "hug the stove" in Vermont or New York.

But what has all this to do with THE R. N.-Y.? Well, now—we are quite surprised to have you ask such a question as that! We thought that you would see right away that THE R. N.-Y. is a can for holding mental sunshine! Mental sunshine is thought and inspiration! That is what warms up a man's being, and starts his energies into action—like the heat under a steam boiler. You go to college and listen, right in the class room, to the inspiring words of a man who *knows* his subject. That is *fresh* mental sunshine. You sit down and read that lecture in cold type, and it is canned thought. A man wants his boy to go to an agricultural college to pick up fresh mental sunshine by coming right in contact with the men who think the thoughts! We understand what a difference there is between the direct rays of the sun and those same rays when passed through wood or coal, and put about us in the form of heat. It is just so with mental sunshine. Some men take all the warmth out of a thought by putting it on paper; others just clothe it up with vigor and magnetism so that your heart is drawn right to it, and you just can't help getting up steam over it.

Nearly 40 years ago, Lincoln and Douglas held a series of joint debates in Illinois over the question of an extension of slavery. Douglas was the better orator, and the immediate effect of his speeches was very great. With the thousands who actually *listened* to the words of the speakers, Douglas, probably, made the best impression. That was what you might call direct mental sunshine. For one man who could actually listen to these speeches, there were 100 who had to put up with "canned sunshine" in the form of a printed report. That was where Lincoln triumphed. His words "canned" better than those of his adversary. They read better in print, because the truth went with them into the printed page, and they were grouped so simply and clearly that they made "easy reading." Read the reports of those debates to-day, and you will be surprised to see how completely Lincoln outclassed Douglas as judged by the true facts of history. Lincoln's thoughts were designed for "canning", and that is why they have lived.

Now we want to say that we would like to make THE R. N.-Y. just like a first-class canning factory, where this "mental sunshine" can be put up in the best possible shape. We are not after words or ideas that please and interest for the moment only, but we are after words like Lincoln's, that were put together for canning purposes, so to speak, so that readers will study over them and keep them stored away for time of need. When you buy a can of peaches, you look at the brand. If the peaches are good, you look for that brand again before you buy. If the peaches are bad, you shun that brand as you would a dose of bad medicine. Now we want THE R. N.-Y. to be a brand that shall represent the best and surest quality of agricultural "mental sunshine." When people pick up this paper, we want them to understand that it contains canned goods that are soluble, sound and sensible. We sell 52 cans during the year, for one dollar, which is less than two cents each. Where can you buy THE R. N.-Y. brand of canned thought any cheaper? Answer that, please!

Now, just one thing more! Last week, on page 688, one of our Ohio friends tells us what blood in potatoes did for him. In the same letter, he says:

I am a regular reader of THE R. N.-Y., but not a subscriber. A neighbor takes two agricultural papers, and I take two, and we exchange. THE R. N.-Y. is the best of all. If neighbor ever stops, I shall add THE R. N.-Y. to my list.

We find that a good many of our readers are doing that. Many a paper does duty for several families. We know of some single papers that are carefully read by from 12 to 18 different persons. We want to say that, during the coming year, we shall print a good many articles that will *live*. It won't do to read them and then let some one else keep the paper. It is going to pay you to can some of these thoughts a second time, by putting them in a scrap book. Therefore, you want the paper *yourself*. Start now when you can have 15 months for $1!

CHEAP CATTLE RATIONS.

ARE ALFALFA AND SUGAR BEETS A "BALANCED RATION"?

I haven't heard of sugar beets being fed to either steers or sheep. Only a few are raised in this locality, and they are fed to milch cows. Feeders here, in most instances, buy sheep in the fall to feed through the winter; corn shipped in from Kansas or Nebraska forms the main grain feed. Wheat and barley are also used to some extent. Sheep are kept in corrals without sheds. They generally have to be dipped several times on account of scab. C. F. MASON.
Weld County, Col.

Where cattle are not fat enough for market direct from the range, they are fed on Alfalfa for four to six weeks, which puts them in fine shape without any grain. Oats and wheat are the only grains raised at this altitude, 5,560 feet above sea level. No sheep are allowed here, as they spoil the range for cattle and horses. Cattle winter on wild grasses, except in severe winters, when they are fed for a short time. Sheds are a rare thing, as our country is covered with evergreen trees, which protect stock from wind and rain. We never have any blizzards, as they do on the eastern side of the mountains. Cattle prices are very low, steers selling for $3 to $3.25. P. A. M.
Garfield County, Col.

It is true that steers from two to four years old have gained from 100 to 135 pounds, in about 100 days, on Alfalfa hay alone, the grass having been cut before it was in full bloom. I know of no sugar beets having been fed with Alfalfa in this vicinity; some beets have been fed with Alfalfa near Denver, but I am not familiar with the results. More than 100,000 lambs have been fed each year in this county for the last three years on Alfalfa hay and corn, the corn having been shipped in from Kansas and Nebraska. The lambs are shipped in from New Mexico, and gain from 30 to 45 pounds in from 100 to 120 days. That is, a lamb weighing from 40 to 50 pounds when received, weighs from 70 to 85 pounds when finished.
Larimer County, Col. J. B. S.

In regard to feeding steers and sheep on Alfalfa hay and sugar beets without grain, so far as sugar beets are concerned, I have had no experience with them. But it is a very common thing for feeders to fatten steers on Alfalfa hay. Four years ago, I fed six head of steers from November 1 until March 1, on Alfalfa hay and potatoes. I fed 100 pounds of potatoes morning and evening, and the butcher that dressed the steers said that they were as fine as any corn-fed beef he ever dressed. No sheep are fed in this part of the country. No grain is fed to fatten stock in this part of the State; they are generally turned in an open corral, with an open shed on the north, and fed all the hay they will eat.
Ouray County, Col. F. H. S.

Some bunches of steers have been fattened exclusively on Alfalfa hay, but the great majority so fed have been afterwards given corn, either in Kansas or Nebraska—finished up. Cattle can be taken off the ranges and very successfully fed through the winter on Alfalfa alone, but those fed on sugar beets lose very heavily in shipping. We now feed lambs mostly in open pens, without any other shelter than board fences surrounding the corrals. They eat about three pounds of hay per day, and after being so fed for a month, they are given oats or bran for another month, com-

(*Continued on next page*).

Miscellaneous Advertising.

Sometimes an apparently dead man may be revived—may be resuscitated. Sometimes it is often hard to tell whether the man is dead or alive. We hear of people who have been buried alive. A man must be completely dead before hope should be abandoned. It used to be true that when a man found he had consumption, he gave up immediately. Consumption was considered a necessarily fatal disease. It was considered incurable. As soon as it developed enough so that a physician could decide that it was really consumption, the patient was considered as good as dead. Years ago, Dr. Pierce found out that consumption was not incurable, that it was not necessarily fatal. He not only found this out, but he found out a way to cure consumption. He introduced his "Golden Medical Discovery." The "Discovery" will cure 98 per cent. of all cases of consumption if it is taken according to directions. Consumption is a disease of the blood. It is caused by impoverishment of the blood, and by the existence of disease-germs in the system. If the body is perfectly strong and healthy, and the blood perfectly pure, germs are easily thrown off. If the body is weak, if the tissues are incapable of much resistance, the germs find a resting place and develop. That's the way consumption begins.

The "Golden Medical Discovery" searches out the germs, forces them out of the system and cures consumption and other kindred diseases of the throat, bronchia and lungs. No doubt about it, no question about it. It has done it in hundreds and thousands of cases. The "Discovery" is sold at drug stores.

The People's Common Sense Medical Adviser, in plain English, or Medicine Simplified by R.V. Pierce, M. D., Chief Consulting Physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., 1008 pages, illustrated. 680,000 copies sold at $1.50. Now sent, paper-bound, ABSOLUTELY FREE on receipt of 21 one-cent stamps to pay for mailing *only*. Address the Author, as above.

Attention, Manufacturers!

FOR SALE.

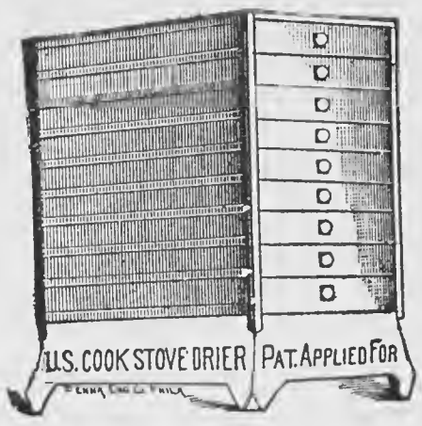
Letters Patent No. 463229 for a cheap and simple Cultivator, designed to perforate and pulverize soil, and expedite sprouting of seed under crust. Sure in work; better than Breed's Weeder. Nothing like it.
H. W. KRIEBEL, Pennsburg, Pa.

WANTED—Situation as head gardener. 15 years experience in greenhouse work, vegetable gardening, care of lawns, etc. Married. Joseph Wood, Madison, N. J.

Wanted—An Idea Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their $1,800 prize offer and list of two hundred inventions wanted.

U. S. Cook Stove Drier.

In many localities, fruit is an abundant crop this year. Choice fruit will, undoubtedly, command a fair price; but you must not put one inferior apple in the barrel for shipment. Mix choice and inferior fruit, and the whole will sell at the price of the poorest. The inferior stock would better be dried for future use or sale. There is, besides, a certain amount of fruit around almost every farm home, that goes to waste.



Why not gather this and dry it for use when needed? The U. S. Cook Stove Drier will be found a great convenience in this work. It may be set on top of the cook stove, and no extra fire is needed. The regular price is $7, but we have been able to get better and better rates every year, and can now send it and a year's subscription to THE R. N.-Y. for $5. There is no experiment in using these driers now. They have been used for years with perfect satisfaction.

THE RURAL NEW-YORKER, New York.

Cheap Cattle Rations.

(CONTINUED.)

mencing with a mere handful, and gradually increasing to a pound per head. Then their feed is changed to corn, barley or wheat, whichever is cheapest, from 1 to 1½ pound per head per day. Two feeds a day are given them until a month or so before shipment, when the grain is often given in three feeds. We usually commence feeding in November, and the lambs are sent to market in April and May. They are bought in New Mexico, the freight paid to the Missouri River, and we feed here in transit, paying, last year, $15 a car for the privilege. Our lambs cost us, with freight, nearly $1.30 per head, and they weigh from 50 to 60 pounds each. Last spring, the price received in the Chicago market ranged from $4.50 to $5.25 per 100 pounds. This gave us a very fair price for our Alfalfa hay—from $4 to $8 per ton—much more than we could have received for it in any other way. J. S M. C.

Larimer County, Col.

I am unable to find any one in this valley (the Animas) who has made any test as to fattening steers on anything except Alfalfa alone. Several with whom I talked, had fed milch cows on Alfalfa, with sugar beets and mangels, also on carrots with good success. Very few steers are fed in this neighborhood; the most of them are driven further south to the San Juan Valley, where hay is cheaper (from $2.50 to $3.25 per ton), and less snow falls in winter, there being very little snow there. Stock, in general, get very little care in this country, running in the mountains in the summer and being fed just enough to keep them alive through the winter. Very little grain is fed to stock, except oats to horses; some feed bran and brewers' grains to milch cows. There are no sheep wintered in this valley; a few are fed on the San Juan, 60 miles south of here. As far as I could learn, they are fed on clear Alfalfa.

La Plata County, Col. E. M. D.

"WORKING ROADS" IN N. Y. STATE.

Brookton, N. Y., Grange held an open session last January, the principal business of which was the reading and discussion of a paper on changing the method of working the roads, from the labor to the money system. The paper was by Mr. Mandeville, our road crank, and met with general approval. It was the consensus of opinion that, could all the electors of the town hear his arguments, the vote for a change of system would carry by a large majority.

Some of his points were particularly appreciated by his audience; as "How to raise the money", upon which Mr. Mandeville said, "We lay out, annually, on roads and bridges, in Tompkins County, about $40 per mile, or an aggregate of about $45,000. The bridge work, since the general adoption of iron bridges, cannot be improved, unless by buying in quantities, which could be done if the purchasing of all the bridges for the county was under one management. However, this saving would be small, by the side of that from putting the entire management of the roads of each town under one control, provided that the person was honest and capable. Here some of you may claim that my argument fails. You will say I cannot find the honest and capable man. I should not think of this objection if it had not been so often made. And every man that makes it is a living evidence of the falsity of the charge. He is an honest man, surely, or he would not be so anxious to get an honest man to fill a place of trust. So there is one honest man, and my experience is that there are a great many more.

"As to capability: while hardly a farmer in the county is skilled in building roads to-day, there is hardly one but could learn how. However, he would have to make that a business. We want expert labor everywhere now. Then with a gang of a half dozen men, and the proper teams and tools, he could do the road work for a town. One thousand days' labor, of men who are skilled in their work, would be better than 2,000 days of unskilled labor. Ten dollars a mile would, under such management, be ample to keep all the roads of Tompkins County in as good repair as now; $10 more, would be more than enough to do all the bridge work, leaving over $20,000 to devote to permanent work, enough to build 60 miles of $350 road with the present road tax. A careful estimate has been made of the cost of grading, draining and finishing a section of 10 miles of road in Tompkins County, which may be taken as a fair average; that is, from Ithaca to Slaterville Springs, and the cost is found to be less than $350 per mile.

"If we want to build roads faster, yet pay no more tax, we could cut off some of our useless expenditures. We could cut our poor rates and criminal expenses down one-half, and more, by shutting up the saloons. We could cut our election expenses in two, by having biennial elections; and, besides, make large savings in salaries and in the time taken in conducting the elections. Not that I object to our popular elections or to any necessary expense in carrying them on; but we all know that much money is used that is wasted, and worse; and their frequency is a nuisance. Frequent elections might have been necessary before the stability of republican institutions was understood. While the people were yet uncertain whether a servant would surrender up the power which had been delegated, it might have been well to have frequent accountings. But now, when the probability of a servant trying to retain power without warrant of law, is about as great as of a scion of British royalty coming over to set up a throne among us, rotation in office is 'worse than a crime; it is a blunder.'

"Aside from the wasted money of our frequent elections, it is injurious to our civil service to remove a man when he has learned how best to serve us. Save these wastes, which are real wastes, and be less afraid that money will be wasted in improving roads."

SECRETARY OF GRANGE.

EXPORT APPLES.

We have given frequent directions about the packing of apples for export. Numerous inquiries denote that more information is desired. Lawrence & Co., apple exporters, Boston, have arranged the information which we give below in a concise, handy form:

1. Apples for export should be evenly and tightly packed with sound fruit. Apples in the English markets are sold at auction, and the apples are dumped entirely out of the barrels in the presence of the buyers.

2. Apples that are best for export trade, are the hardest and best colored varieties, and only No. 1 stock should be shipped.

3. Apples for export should be packed in clean packages, well coopered, and the barrel should be neatly stenciled with the variety, grade of quality, and some shipping-mark; and the English law requiries the initials "U. S. A." to be stenciled on each barrel exported to England from the United States.

4. Apples for export should be shipped as soon as practicable after packing, and if held in storage for a considerable length of time, they should be entirely repacked before exporting.

5. Write to the exporter as far ahead as possible before shipping in order that he may have room on the steamer reserved for your apples.

6. Always mail him, the same day you ship your apples, the number of the car, and a complete list of varieties and shipping marks.

7. As soon as the apples are sold, the net proceeds are cabled to the importer, and a check for the same is mailed to the shippers the same day, which is generally from 10 to 15 days after the sailing of the steamer.

8. Apples are sold in Liverpool each Monday, Wednesday and Friday. Each sale day, the prices and the state of the market are cabled to the exporter, which news he regularly sends to his shippers.

A cable from Liverpool dated October 14, says that the market is active, and prices are steady. Baldwins were selling for $1.21 to $1.70, and Kings for $1.70 to $2.19.

CONDENSED CORRESPONDENCE.

OTSEGO COUNTY, N. Y.—Autumn in central New York, has been characterized by extreme dryness. Wells, springs, streams, and the like, are very low, and considerable sickness prevails, namely, colds and fever. For the past week or so, there has been much of cloudy weather, but little or no rain. The upshot of this is that corn and buckwheat do not cure out sufficiently in the fields to warrant their keeping if put under shelter. A few pieces of buckwheat have been drawn in and thrashed, though, and some corn has been husked; but the most of the latter work was done in the field, the corn stalks still being out. The corn crop is a good one, but buckwheat is nearly a failure. No fall plowing has been done, to speak of, and but few hop poles set preparatory to running the yards another year, chiefly because the ground is so dry. The hop crop proved to be better than was anticipated before picking time, but throughout the county, there is a falling off in the crop of about 40 per cent as compared with last year. The prices range low, and, while some of the growers conduct the business of hop growing so scientifically that they can make a living out of them at eight or nine cents a pound, so cheap are all kinds of material, generally speaking, the most of them attempt to raise so many hops, and are so extremely heedless as regards expenditures, that it looks doubtful whether they will be able to hold their heads above water much longer. F. O. S.

HORSES IN DECATUR COUNTY, IND.—There is no perceptible difference in horse breeding in the past five years. Many are breeding to Hackney who once bred to English Draught horses. As to care and handling, there is considerable improvement—better care and better feed. Horse breeders are not very hopeful for the future. R. G.

MARKETS.

BEANS AND PEAS.

Beans, Marrow, 1896, choice	1 55@1 60
Medium, 1895, choice	1 25@ —
Pea, 1896, choice	1 25@ —
Medium or Pea, common to good	1 10@1 20
White Kidney, 1895, choice	1 40@1 45
Red Kidney, 1895, choice	1 25@1 30
Red Kidney, common to good	1 10@1 25
Black Turtle soup, 1895	1 50@1 55
Yellow Eye 1895, choice	1 20@1 25
Lima, Cal., 1895 (60 lbs)	1 40@1 50
Green peas, Scotch, 1896, bbl., per bushel	75@ 77
Barrels, per bushel	85@ 87

BUTTER—NEW.

Creamery, Western, extras	19 @—
Western, firsts	17 @18
Western, seconds	14½@16
Western, thirds	12 @13
State, fancy	17 @18
Common to prime	11½@16½
State dairy, half-firkin tubs, fancy	17 @—
Firsts	15 @16
Seconds	13 @14
Welsh tubs, fancy	16 @16½
Welsh tubs, firsts	13 @16
Welsh tubs, seconds	11½@—
Tubs, thirds	10 @11
Western imitation creamery, firsts	12 @13
Seconds	9 @10
Western dairy, firsts	11 @12
Seconds	8½@ 9½
Thirds	7½@ 8
Factory, fancy	10 @10½
Factory, firsts	9 @ 9½
Factory, seconds	8 @ 8½
Factory, thirds	7 @ 7½
Old butter	6 @ 8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10 @ —
White, fancy	10 @ —
Choice	9¾@ —
Good to prime	9 @ 9½
Common to fair	7 @ 8½
Small, colored, fancy	10¼@—
Small, white, fancy	10 @10½
Small, good to choice	9 @ 9¾
Small, common to fair	7 @ 8½
Light skims, small, colored, choice	8 @ 8¼
Light skims, large, choice	7¾@ 8
Part skims, good to prime	5½@ 6¾
Part skims, common to fair	3½@ 4½
Full skims	2 @ 2½

EGGS.

Near-by, new laid, fancy, selected, per doz	22 @ 23
State, fresh gathered, average best	19 @ 20
Penn., country marks, average best	19 @ 20
State and Penn., fair to good	17½@ 18
Western, northerly sections, fancy	18 @ 18½
Western, fair to good	17 @ 18
Western refrigerator, prime, early pkd.	15½@ 16
Western refrigerator, fair to good	14½@ 15
Western, fair to good, per case	3 25 @4 00
Western dirties, per 30-doz case	3 00 @3 66
Western checks, per 30-doz case	2 25 @3 00

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	4⅞@ 5½
Choice, 1896, per lb	4⅜@ 4¾
Prime, 1896, per lb	4 @ 4¼
Common, per lb	2¾@ 3¾
1895, prime to choice, per lb	3½@ 4
1895, common to good, per lb	2 @ 3
N. C., sundried, 1896, sliced, fancy	2½@ 3½
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	— @—
Western, sundried, quarters, bbls	— @—
South-West'n, sundried, quarters, bbls.	4 @—
Southern, sundried, quarters, bbls	— @—
Southern, sundried, coarse cut bags	1¾@ 2½
Chopped, 1896, per lb	1⅜@ 1⅝
Cores and skins, 1896, per lb	1 @ 1⅛
Peaches, Sundried, 1896, peeled, per lb	6 @ 8
Cherries, 1895, per lb	8½@ 9
Cherries, 1896, per lb	9 @10
Blackberries, 1896, per lb	4 @ 4½
Raspberries, evaporated, 1896, per lb	14½@15
Huckleberries, 1896, per lb	6½@ 7
Plums, Southern Damson, 1895, per lb	— @—

GRASS SEED.

Clover, per 100 lb	6 50@ 9 00
Timothy	2 85@ 3 75

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 12@1 25
Baldwin, per bbl	1 00@ —
Culvert, per bbl	75@ 90
Gravenstein, per bbl	1 50@2 00
Fall Pippin, per bbl	1 12@1 37
Greening, per bbl	1 00@ —
Holland Pippin, per bbl	1 12@1 37
Ribston Pippin, per bbl	75@ 90
Oldenburg, per bbl	1 25@1 75
King, per bbl	1 25@1 37
Detroit Red, per bbl	1 25@1 37
Fameuse, per bbl	1 00@1 75
N. Spy, per bbl	1 00@1 25
Pound Sweet, per bbl	1 25@1 37
Nearby, open heads and common, per bbl	50@ 75
Crab, large, per bbl	75@2 25
Crab, small, per bbl	3 00@5 00
Cranberries, Cape Cod, fancy, per bbl	—@ —
Good to prime, per bbl	3 50@4 25
Defective, per bbl	2 50@3 25
Per crate	1 25@1 50
Jersey, per crate	1 00@1 25
Grapes, Up-River, black, per 24-lb carrier	40@ 50
Up-River, black, per small basket	6@ 7
Up-River, black, per large basket	10@ 12
West'n N. Y., Catawba, per small basket	8@ 9
West'n N. Y., Concord, per large basket	10@ 13
West'n N. Y., Delaware, per small bkt	11@ 15
West'n N. Y., Niagara, per small basket	10@ 14
West'n N. Y., Salem, per small basket	8@ 9
Wine grapes, black in bulk, per lb	1 @ 1½
Wine grapes, white, per lb	2 @ 2½
Wine grapes, red, per lb	1½@ 1¾
Peaches, Western Maryland, per carrier	75@1 50
Western Maryland, per crate	50@1 00
Western Maryland, per basket	40@ 75
Pears, Bartlett, per bbl	2 50@4 50
Bartlett, per keg	1 50@2 25
Bartlett, per box	1 50@2 00
Bose, per bbl	3 00@4 00
Clairgeau, per bbl	2 50@3 50
Duchess, per bbl	2 00@3 00
Anjou, per bbl	2 50@3 50
Seckel, per bbl	5 00@7 00
Seckel, per keg	2 00@3 00
Sheldon per bbl	3 00@3 50
Swan's Orange, per bbl	2 25@3 00
Keiffer, per bbl	2 50@3 25
Nearby cooking, per bbl	1 75@2 25
Quinces, choice bright, per bbl	2 75@ —
Fair to good, per bbl	2 00@2 50
Seconds, per bbl	1 50@1 75

GAME.

Quail, choice, large, per doz	2 00@2 25
Small, per doz	1 25@1 50
Woodcock, average, per pair	75@1 25
Partridges, nearby, per pair	1 00@ —
Western, undrawn, prime, per pair	80@ 90
Western, drawn, prime, per pair	60@ 75
Grouse, Western, prime, per pair	80@ 90
Grouse and partridges, inferior, per pair	30@ 50
English snipe, choice, per doz	1 75@2 25
Plover, golden, choice, per doz	1 75@2 25
Reedbirds, choice, per doz	50@ 60
Inferior, per doz	15@ 25
Blackbirds, per doz	15@ 20
Rabbits, per pair	30@ 40
Wild ducks, canvas, per pair	2 00@2 50
Red heads, per pair	1 00@1 75
Mallards, per pair	50@ 75
Blue wing, teal, per pair	40@ —
Teal, green wing, per pair	25@ 30
Common, per pair	20@ 25
Venison, frozen, prime saddles, per lb	23@ 26

GRAIN.

Wheat	76 @80
Rye	40 @46
Barley feeding	28 @50½
Barley malting	40 @50
Buckwheat, silver	38 @39
Buckwheat, Japan	38 @39
Corn	26 @33
Oats	19¼@31

HONEY.

State, white clover, comb, fancy, per lb	12½@13
Buckwheat, comb, per lb	8 @ 9
White clover, extracted, per lb	5 @ 5½
Buckwheat, extracted, per lb	4 @—
California, comb, fair to prime, per lb	—@—
Extracted, per lb	5½@ 6½
Southern, in bulk, per gallon	45 @50

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½@ 10
Fair to good, per lb	8½@ 9
Com. to med., per lb	7 @ 8
Small, per lb	5 @ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 10 to 25 lbs., per lb	8 @ 10
40 to 60 lbs., per lb	6½@ 7
60 to 80 lbs., per lb	5½@ 6
80 to 120 lbs, per lb	5 @ 5½
125 lbs and up, per lb	4 @ 5

NUTS.

Peanuts, Va., h. p., fancy, per lb	3¾@ 4
H. p., extra, per lb	3½@ 3½
Shelled, No. 1, per lb	4½@ —
No. 2, per lb	3¾@ 4
Spanish, shelled, No. 1, per lb	6½@ 6¾
No. 2, per lb	4¾@ 5
Pecans ungraded, per lb	4 @ 5
Chestnuts, northern, per bush of 60 lbs	4 00 @4 75
Hickorynuts, per bushel of 50 lbs	1 25 @1 75

POTATOES.

Long Island, in bulk, per bbl	1 25@1 50
State, per 180 lbs	1 00@1 12
Jersey, per sack	1 00@1 15
Jersey, per bbl	1 00@1 25
Sweets, Va., yellow, per bbl	75@ 90
Jersey, yellow, per d. h. bbl.	1 00@1 25
Vineland, per bbl	1 25@1 75

POULTRY—LIVE.

Spring chickens, per lb	7 @ 7½
Fowls, local, per lb	7½@ —
Western, per lb	7 @ 7½
Southwestern, per lb	7 @ —
Southern, per lb	7 @ —
Roosters, old, per lb	4 @ 4½
Turkeys, mixed, per lb	9 @ —
Ducks, local, per pair	65 @ 80
Western, per pair	60 @ 70
Southern, per pair	40 @ 50
Geese, local, per pair	1 12 @1 37
Western, per pair	1 12 @1 25
Southern, per pair	1 00 @1 12
Pigeons, old, per pair	20 @ —
Young, per pair	15 @ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10 @ 12
Young, dry-picked, per lb	10 @ 12
Young, scalded, per lb	9 @ 10
Young, inferior, per lb	5 @ 8
Spring chickens, Phil., selected, per lb	13 @ 14
Philadelphia, poor to good, per lb	9 @ 11
Pennsylvania, per lb	12 @ 15
Western, dry-picked, good to choice	8 @ 9
Western, dry-picked, inferior	5 @ 7½
Western, scalded, choice, large	7½@ 8
Western, ordinary, per lb	6 @ 7
Fowls, Western, dry-picked, choice	8 @ 8½
Scalded, choice, per lb	8 @ —
Old cocks, per lb	5½@ —
Spring ducks, Eastern, per lb	14 @ 15
Spring ducks, L. I., per lb	14 @ 15
Spring ducks, Penn. and Va., per lb	10 @ 12
Spring ducks, Western, per lb	8 @ 10
Old ducks, Western, per lb	7 @ 8
Spring geese, Eastern, per lb	14 @ 16
Squabs, tame, white, per doz	1 75 @2 00
Mixed lots, per doz	1 25 @1 50
Dark and poor, per doz	1 00 @1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00@2 50
Red, per 100	3 00@4 00
Carrots, per bbl	75@1 00
Cauliflower, L. I. and Jersey, per bbl	1 25@1 75
Celery, fancy, large, per doz	40@ —
Average, prime, per doz	20@ 30
Small, per doz	10@ 20
Cucumbers, per 100	2 00@3 50
Egg plant, Jersey, per bbl	50@ 75
Green corn, per 100	50@ 75
Lettuce, Boston, per doz	20@ 30
Local, per bbl	75@ —
Lima beans, Hackensack potato, per bag	1 00@1 25
Jersey flat, per bag	50@ 75
Onions, Eastern white, per bbl	2 00@3 00
Eastern red, per bbl	1 50@1 75
Eastern yellow, per bbl	1 25@1 50
Orange County white, per bag	1 00@2 50
Orange County yellow, per bag	50@1 12
Orange County, red, per bag	50@1 50
Jersey and Long Island yellow, per bbl	1 00@1 25
Jersey and Long Island red, per bbl	1 25@1 37
Jersey and Long Island white, per bbl	1 50@2 50
State and Western yellow, per bbl	1 00@1 12
State and Western red, per bbl	1 25@1 37
Pumpkins, per bbl	40@ 75
Red peppers, per bbl	1 00@1 50
Green peppers, Jersey, per bbl	40@ 75
Spinach, per bbl	—@ —
Squash, Marrow, per bbl	60@ 75
Hubbard, per bbl	75@1 00
String beans, Norfolk, per half bbl basket	60@ 75
Charleston, per bushel basket	50@ 65
Long Island, per bag	75@1 00
Tomatoes, ripe, per box	30@ 60
Green, per box	15@ 20
Turnips, Jersey and L. I. Russia, per bbl	50@ 65
Canada, per bbl	70@ 75

MILK AND CREAM.

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NOTES FROM "LUAVA."

THE cow peas grew steadily until October 9, when the frost killed the vines. On July 29, we planted rows of cow peas between the raspberry bushes. The vines are now nearly three feet long on the average, and cover the ground fairly well, though this variety grows upright like a bush bean. Blossoms formed 10 days ago. A single plant with the root as pulled up by hand, weighed exactly three ounces. These plants are 15 inches apart in the drill, and the drills average two feet apart—leaving out the space occupied by the raspberries. As we have said before, this variety came from North Carolina, and the seed we planted was of this year's early crop.

We also planted the Early Black cow pea in the sweet corn. This was done without special care, simply dropping the peas and scraping earth over them with the foot, but the peas have all grown. They are not as large as the vines in the raspberries, as the growing corn shaded them too much. The corn has now been cut, and the vines make a good showing on the ground. We estimate that the vines give a heavier growth on an equal space than Crimson clover sowed about the same time. As grown among the raspberries, the cow peas are far ahead of the Crimson clover sowed about the same time. It is hard to see how any manurial crop could make a heavier growth in two months than these peas have made. We shall let them lie on the ground all winter, and turn them under in the spring. Where early varieties of corn are grown so that the stalks may be cut early, we believe that the plan of planting cow peas at the last working is well worth trying. Of course, much depends upon the use that is to be made of the land after the corn, but where the field is to be left without a crop till spring, a good growth of cow peas will prove a valuable investment. Another year, we shall sow them between the rows of strawberries.

‡ ‡ ‡

WE planted five hills of Hubbard squash alongside the new asparagus bed. A handful of Mapes's vegetable fertilizer was put in each hill. These five hills have monopolized half the garden. There are 33 marketable squashes from them. The longest vine is 43 feet long, and has produced a big squash 35 feet away from the hill. It has been a perfect battle for the past month to keep the vines from running into the celery and choking it out. Though turned away repeatedly, the vines will veer around and make for the celery. One vine crawled into the Lima bean patch and climbed two poles, bending them both over. We are very fond of Hubbard squash at our house. The favorite way of cooking it is to split through the center, take out the seeds, and then bake in a hot oven. Thus cooked, it makes a fine substitute for sweet potatoes.

‡ ‡ ‡

WE have made a "strawberry barrel" somewhat after the plan given by Mr. Jenkins, on page 671. We took a linseed oil barrel and charred the inside. Then we bored 1½-inch holes four inches apart around the barrel, and in rows eight inches apart. The barrel was filled to the first row of holes, with rich earth with a little fertilizer worked into it. The plants were dug with a Richards's Transplanter and pushed through the holes from the inside, so that the large ball of earth stuck to the roots. The balls were so large and the holes so close together that it required close packing, but we think that we shall obtain better results than where the roots are shaken clean of earth and pushed through from the outside. In order to test the matter, we have put in one complete row with the roots shaken clean and spread out. The varieties used were Parker Earle and Atlantic. The latter variety is the strongest grower we have. From the habit of Parker Earle, we expect best results from that variety in this "barrel" culture. The new "vineless" strawberry ought to do well grown in this way, and we shall try it another year, if we can obtain enough plants from our single specimen. We shall put the holes four inches apart in both directions for this variety. The barrel, when filled, presents a novel appearance, and if painted white, would make a unique ornament for the lawn. H.

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TURKEYS AS HATCHERS.

THEY MAY BE TRAINED TO SIT AT ANY TIME AND USED FOR LONG PERIODS IN PLACE OF INCUBATORS.

PART II.

"Not all turkeys are willing to be forced to sit; still the restives are rare. When these birds are desired as sitting machines, they ought to be selected carefully. Breeders who intend to go in for them, should purchase one or more as needed, and give them a trial; those which do not give entire satisfaction can be fattened and sent to market, and will pay for the remainder. Above all others, may it be animated or artificial brooders, turkeys are the best; to brood with them is not so expensive as using either incubators or foster mothers, and gives much less trouble.

"In the country, a flock of turkeys, be it very large, costs nothing to keep. Mine are turned out on a lawn partly planted with wood, and they never get a handful of corn, or any meal, until severe winter sets in—that is, when the snow covers the ground. All are in excellent condition. At night, they come home, their crops always full, and are shut up in a stable, where they find their ideal perch—an old wheel planted on a stake a few feet from the ground. In our climate, the winters are not long, and rarely very severe. We may calculate to have to feed our turkeys during two months. The manure which they produce in great quantities the whole year 'round, pays amply for the expense of the food during that period, which is also the time we require their services for brooding. Thus the cost of feeding ought not to be taken into account; nevertheless, if we do, the food of four turkeys, which will cover 100 eggs, will not come to the cost of heating an incubator of the same capacity.

"As for the trouble, I do not think that it takes more labor to take the hens from the nest once a day than to turn, morning and evening, a quantity of eggs, clean the lamp, fill up the water, etc., without counting that the slightest neglect may expose the whole contents of the incubator. With turkeys, nothing like this is to be dreaded. Of mild and submissive disposition, they can be handled in any way, and seldom break any eggs intrusted to their care. They will brood with the same tenderness, all sorts of eggs, may they be of geese or of pheasants.

"Turkeys are very attentive mothers, and protect their chickens well. I never had one taken by vermin or birds of prey, which abound in the grounds around, because of the proximity of a forest; although my turkeys, with their young ones, are free to run where they like, and go, sometimes, 300 or 400 yards from the house. If they know each other, several may be allowed to run together without danger of fighting. These goodies will accept any change or addition of chickens, and brood the newcomers as tenderly as their own. I often saw turkeys whose chicks had been joined to others, adopt large chickens more than two months old which had been forsaken by the hen.

"Training turkeys to sit does not take away their laying qualities when they are properly managed. Therefore, allow them to lay their clutch of eggs after they have brooded and raised the early chickens. They will ask to sit immediately they have finished laying; you may let them, and have no fear of overworking."

In This Country.

Last spring, I, while at the Rhode Island Experiment Station, tried this scheme, and with complete success. But one young turkey was set, and as it was before the flock had laid, she, probably, had never laid an egg. Not then knowing that the use of spirits was not necessary, I did as this writer advises for three days. On the fourth day, the nest was uncovered and the hen allowed to go on or off as she chose. She kept closely to the nest, and soon after, 11 goose eggs were put under her; three of these were afterward tested out. At the proper time, six goslings were hatched and safely removed while she continued to sit. The nest was within a slatted front shed, so the turkey was under control when off the nest. Here she was very mild and submissive, although as wild as any domestic turkey when out in the field.

It seems that most people who have heard of the possibility of setting turkeys in this way, have either been skeptical that it is a fact, or have failed to put it to a test. A brief account of this practice, published last spring in the Reliable Poultry Journal, called out letters from two parties who had availed themselves of this knowledge. Mr. W. Enos Stevenson, Seary, Ark., wrote in May, 1896:

"Take turkey hens, three to ten years old, treat them kindly so as to have them very tame, and they can be trained to sit at any time. In the winter, make a nest in a barrel laid upon its side, or in a box of suitable size, warm six to ten china eggs so that they will be quite warm, and put them in the nest about dark; put the hen on and hang an old gunny sack or quilt over the opening so as to darken the nest. Feed very lightly for three days. Any one can tell the third day whether the turkey is broody enough to give her the eggs for incubation. If she is, give her from 20 to 30 eggs, according to her size. No, sir! No corn juice or grape juice for the turkey! Prohibition has full sway here! Turkeys, with proper care, can be depended upon to hold the nest for 10 weeks, but for best results, should not be made to work over six weeks. They are not good

(Continued on next page.)

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THE RURAL NEW-YORKER, NEW YORK.

Turkeys as Hatchers.

(CONTINUED.)

mothers for chicks on account of wandering too far away and not returning at night."

In a letter to the same editor dated July 1, 1895, C. H. A., of Pittsfield, Mass, says: "It has been really comical to see the look of doubt on the faces of people when told that we had turkeys sitting which had never laid any eggs. Too polite to dispute the statement, their looks plainly said, "Does he expect me to believe that story?"

"When I first read in an English poultry book of the French method of using turkeys to hatch and care for chickens, I had no incubator, and concluded to try the plan. Late in the fall, I sent out into the country and bought a late-hatched hen turkey for little money. In February, we prepared a box (with plenty of chaff over a layer of horse manure), that could be shut up to exclude the light. We did not give either wine or whisky, but in two or three weeks, she was sitting quietly on the china eggs, and when taken off the nest to be fed, would voluntarily return. I then filled the nest with hen eggs, removing them as soon as they began to pip, to keep the turkey from wanting to leave the nest, and putting in other eggs. After sitting three months, she was put in a yard with chickens for the rest of the summer. We put chickens of different ages with her, and she received them all with equal kindness. This year, we had two turkeys besides an incubator, and after hatching three sittings of eggs, we thought best to take them off the nest; but one watched her chance and went back on the nest till I filled it with eggs again; so I let her stay. The other is laying, and will be ready for work later if needed.

"They make careful, patient mothers, are equal in that respect to any hen, and it is a wonder that farmers do not make more use of them than they do."

Shall You Try It?

Surely, here is testimony enough to banish skepticism. Why not give the plan a trial? If the farmers that are thinking of buying an incubator with which to raise a few hundred chicks, will try turkeys, they will save money, and, probably, most of them will have better average results than if they depend upon an artificial hatcher. The greatest advantage of the incubator to the small raiser, is that it enables him to raise chickens out of season when he cannot get sitting hens in sufficient numbers; but here we have a living incubator that is safe and that can also be used out of season. The specialist who raises from 5,000 to 20,000 ducks per season (there are such), probably will not give up his artificial incubators and brooders, and attempt to do the work with turkeys. No, indeed! SAMUEL CUSHMAN.

SELLING SMALL PIGS.

I noted the questions of F. O. C., page 666, and was much interested in the replies from a Kansas standpoint. One reply strikes a point that makes me wonder why more is not made of it. Why is not winter or spring rye, sown in the spring, more frequently used? A second question comes up—no one mentions clover; it would certainly grow on the kind of land mentioned. Has it never been tried, sown with rye in the spring, or with fall-sown rye, and then hogging the mature rye?

Another point, F. O. C. must grow pigs just for the pleasure of it, or why should he sell them at 40 to 50 pounds weight? Has he ever counted what a pig has cost him when he first sees it? Here it is as hard to sell a shote of this size at a much higher rate than the price for stock hogs, or fat-hog price, and I believe that it is the same way in the West. My plan would be not to sell till they weigh 100 pounds or larger. If I could not keep them till they reached that weight, because the herd of sows required the room, I should cut down the number of sows, get a larger average per sow, and keep the pigs till they get larger. But aim to move one crop before the others require attention. I would expect them to reach the weight he mentions at weaning time. This is the way I look at the matter from an Ohio standpoint. JOHN M. JAMISON.

GOOD START FOR A YOUNG CALF.

In addition to the answers to the question printed on page 683, of last week's R. N.-Y., the following have been received.

The Calf Is Too Young.

I should abandon the plan proposed, as it has no merit whatever. The calf is entirely too young to be used for breeding purposes next spring, and much more will be lost than can possibly be gained. Even though the calf be made to become a breeder, the forced feeding system adopted, tends to carry it away from milk production toward beef, and I should not look for nearly as good dairy stock from an animal thus fed.

Wisconsin Exp. Sta. [PROF.] W. A. HENRY.

How To Make a Big Calf.

Our best success in raising calves has been after this manner: Take the calf from the cow as soon as dropped, feed it 12 pounds of milk from the dam at three feeds, and increase the quantity of milk gradually until, at the age of three weeks, the calf is getting 24 pounds per day, in two feeds—three for the same amount would be better. At this time, we substitute skim-milk for whole milk; put in one quart of skim-milk in place of the whole milk, and add for every pint of skim-milk, one teaspoonful of old process oil meal. The oil meal should be scalded and thoroughly mixed with milk. The skim-milk and oil meal are increased until, at the end of the fifth week, one-half is skim-milk. At seven weeks, the calf may be put on all skim-milk.

When three weeks old, the calf is taught to eat bran, and a handful of bright clover hay is placed within reach. So, at seven weeks the calf eats hay, bran and oil meal; the last is better mixed with bran. Now, a handful of whole oats is added. The milk should always be fed warm. Should the calf scour after oil meal is commenced, remove it for a couple of days, and decrease the quantity for a while. The grain feed should be increased until the calf is three months old, when it will get six quarts of bran, two quarts of whole oats, one-fourth pint oil meal, with all the bright clover hay it will eat, or grass, fed twice per day.

The grain ration at six months, depends on the calf; if in summer and on grass, it is not increased much, if any. If in winter, it may be increased so that the calf will get four quarts of bran, three quarts whole oats and one-third pint oil meal. If mixed with cut hay, it will be better. Beets, cabbage, turnips, or cooked potatoes may be added; they tone up the system and increase digestion. A change from hay to fodder, and grain to ensilage, is for the better. At all times, care should be taken that the calf does not get fat. It can be kept down in two ways—less feed or more exercise. A calf should always have plenty of the latter. While fat is objectionable in any dairy animal, we do not object to it so much in a heifer as in a bull. A heifer, when fresh, if of the right kind, will milk it away. A bull should be exercised each day by tread-power or leading.

It is wonderful how it improves a calf to curry it. It helps growth and digestion and improves the quality of the hair and skin. Our calves, when handled in this way, usually weigh from 750 to 850 pounds at 12 months. They have good bone and good muscle. Our bulls are ready for light service at 11 to 12 months of age. I would not use one younger, and our heifers are in perfect shape to breed at 15 months. Keep the calves clean and warm, handle them kindly and feed regularly on good food.

Columbus, O. W. B SMITH & SON.

Sweet Milk and Grain.

I would advise feeding new milk twice daily, about five quarts at a feed, increasing somewhat as the calf grows older. This should be accompanied by a grain ration of shelled corn and oats, mixed in equal parts; as much of this should be fed as the calf will clean up. A heaping handful of ground oil cake should be added to each feed of grain. Clover hay should be kept before him at all times. The milk ration should be continued until the calf is seven months old. Keep him in a light, dry, warm place, giving him plenty of exercise and water. These, I think, are the elements of rapid, vigorous growth, but care must be taken not to overfeed. I think that the calf may be brought to service by the latter part of next spring, but I hope that the mistake of allowing the bull to run with the cows will not be made. Moderate use will not injure him.

Galesburg, Ill. J. H. COOLIDGE JR.

HOG CHOLERA IN INDIANA.—The Indiana Station issues a leaflet stating that 580,260 hogs worth $3,250,000 died from disease in that State last year This loss was almost entirely due to cholera.

"The disease is well disseminated in the State this fall, and the season of greatest loss will soon be upon us. Every effort should be made to lessen its ravages as much as possible. An important factor in reducing the loss, is to provide proper shelter, as all hogs with only a mild attack, or having, apparently, made a recovery, may take a relapse if exposed to a cold rain or a sudden change to rough weather. There are thousands of hogs now in a condition to become affected with pneumonia, which would escape if given a little protection. Any shed which will keep off the rain and break the wind is sufficient. The floor should be dry, but little bedding is needed, and that renewed frequently. Burn all litter and bedding once a week. Keep the herd divided so that crowding is impossible. Remember a straw stack is the most unfavorable place that can be provided for sick hogs. The essentials in prevention are good food, pure water and clean, dry quarters."

Disease and death often lurk in a continuously-neglected cold, when it might be speedily eradicated with a few doses of Dr. D. Jayne's Expectorant.

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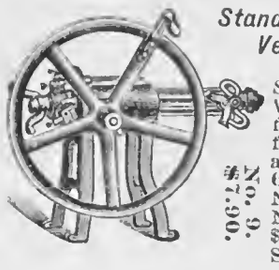

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—*Life.*

MOST persons who attend a horse race have chosen the better part.—*Boston Transcript.*

A CYCLIST may ride with a tireless air but we have yet to hear of any one riding very far with an airless tire.—*Bicycle World.*

"IF you don't give me a quarter," said little Willie, "I'm going to tell about you kissing sister." "But I hadn't even thought of kissing your sister," protested the young man. "You ain't?" said Willie, puzzled. "Then I wonder what she told me to say that to you for?"—*Indianapolis Journal.*

A LITTLE girl in Manchester reeently drank a pint of paraffin oil. The doctor thought she would die until one of her relatives hit upon a happy expedient. They slipped a yard of candle-wick down into the oil, lit the upper end and during the evening she lighted the room nicely and then went to bed all right.—*Weekly Telegraph.*

"ARE you a single man?" asked a lawyer of a stolid-looking German on the witness-stand. "Now you look oud," was the indignant reply, "bud don'd you try to make no shoke mit me yoost because I vas green. Do I look like I vas a double man? Do I look like I vas a Si'mese dwin? Huh! I vas no fool if I am not long in dis guntry!"—*Harper's Bazar.*

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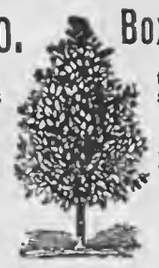

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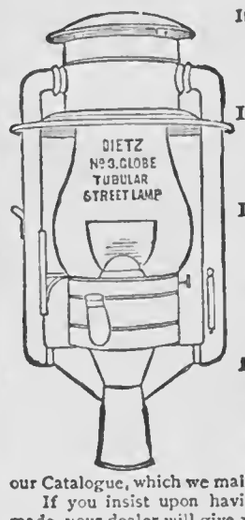

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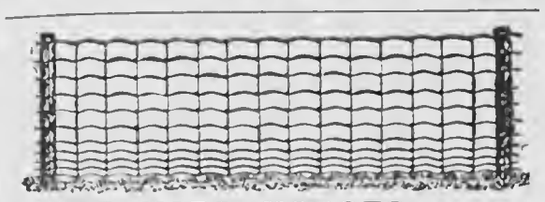
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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

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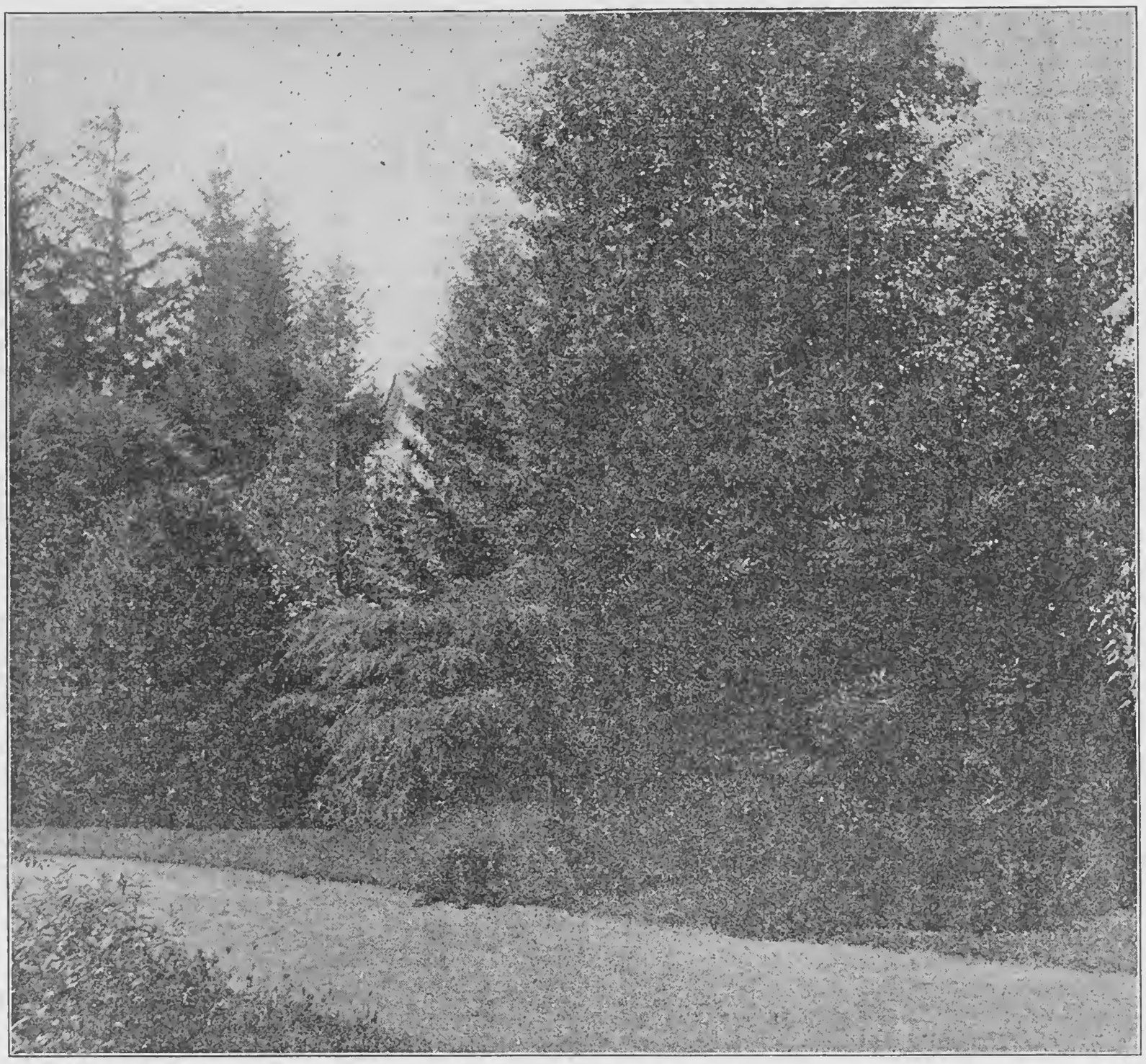
THE NEW JERSEY EXPERIMENT STATION.

VALUABLE WORK WITH A DAIRY HERD.

A "Hospital" for Sick Plants.

[EDITORIAL CORRESPONDENCE.]

One of the most interesting experiment stations in the country is the one located on the New Jersey Agricultural College farm at New Brunswick. The station director, Prof. E. B. Voorhees, is a very conservative man, and he does not print any reports of his experiments until he is sure of the facts. Instead of attempting a great number of small experiments, Prof. Voorhees has decided to concentrate the work upon a few more important problems that confront New Jersey farmers. This station does not make a specialty of tests of varieties, but rather takes the plant and tries to learn how to feed it, how to cure it in sickness, and how to protect it against insect enemies. In the horticultural department, an excellent selection of varieties of fruits and vegetables has been made for comparison, but the chief aim is to learn how the crop may be increased by irrigation, by feeding different combinations of fertilizer, or by differences in pruning or cultivation. The amount of fertilizer applied is accurately weighed. The crop and the growth of leaf and stem are, also, weighed and sampled for analysis so that accurate records of plant feeding may be kept.



FOUR CHOICE EVERGREENS. FROM A PHOTOGRAPH. FIG. 232. SEE PAGE 720.

Curing Sick Plants

Dr. B. D. Halsted of this station has a national reputation as a botanist. He has a five-acre plot known as the "plant hospital" in which he is cultivating all the rots, blights, scabs, mildews, and other plant diseases he can learn of, in the hope of obtaining remedies for them. For example, a part of this soil is so filled with potato scab that it is impossible to grow clean potatoes in it without using something *in the soil* to protect the potatoes. Some six years ago, it was proved that, if the seed potatoes were soaked in a solution of corrosive sublimate before planting, the germs of the scab existing on those potatoes would be destroyed, and the chances were that the crop would be smooth. This point was soon raised: "Suppose that the scab germs *are in the soil*, how is soaking the seed going to prevent their work?" This is a very important point, for some farmers have found that, with the best of soaking, they still had scabby potatoes. The trouble was that the scab germs were already in the soil. When the conditions were right, they developed and spread unless there was something right close at hand to destroy them just as the corrosive sublimate killed those on the seed. Turn back and read the article about "boils", on page 689, for an illustration of this scab treatment. You may kill the boil by outside application, but others will surely come unless you do something to strengthen and tone up the system. Some internal treatment is needed.

Years ago, before the corrosive sublimate was mentioned, THE R. N.-Y. found that sulphur would prevent or diminish scab in potatoes. Prof. Halsted has used sulphur on his scabby ground, and finds it a complete remedy for what we shall call "internal" scab. Years ago, in the spring after a winter of salt pork and beans, the whole family used to be troubled with "ring worm" and other face eruptions. We would use a salve to heal the skin, and sulphur and molasses to "purify the blood". Now, this potato scab is a "skin disease", and the results in this "plant hospital" show that, with corrosive sublimate solution on the seed pieces, and sulphur in the hill or drill, we may insure smooth potatoes. On parts of this "hospital" plot, the scabbiest potatoes that could be obtained have been left year after year, in order to give the worst possible conditions. Right in the worst of this "scab factory", smooth and clean potatoes are grown by the use of sulphur, while in rows on either side, the potatoes are so scabby that one can hardly tell what they are. This certainly seems to give the farmer a chance to master the scab problem.

On another part of the field, I noticed a "seeding" for blight and rot in the bean. Diseased vines had been fairly piled on a small area so that, next year, that soil will be full of the germs. Then they will grow beans on it again, and use their remedies to try to cure the disease. Prof. Voorhees tells me of a new way of preparing the Bordeaux Mixture that has given excellent satisfaction when used in this "plant hospital". Instead of using lime to neutralize the acid in the sulphate of copper, they use a solution of potash hydrate. This comes in cans and is readily soluble in water. It acts as well as the lime, is easier to mix, while the potash adds something in the way of fertility. There are dozens of other interesting experiments going on in this "plant hospital". The public will learn about them when they have been carried far enough to warrant some positive statements.

Experiments with a Dairy Herd.

The farm comprises nearly 100 acres and is chiefly devoted to growing forage for a herd of dairy cows. Prof. Voorhees believes that the dairy interests of New Jersey need attention. He has, therefore, undertaken to show how to produce pure, clean, rich milk at a reasonable profit. He has a milk trade of 200 quarts per day, and this trade is increasing without any attempt at advertising. Take a herd of 40 milch cows and go through the process from growing the feed to selling the milk, and one can see how many things the chemist, the botanist and the veterinarian can find out. What does the cow eat, and how much does she return in her manure? What changes take place in the milk, and how can we prevent such changes? How do different foods affect the flavor or composition of milk, and why? What effect does tuberculosis or other diseases have upon the cow and her product? What dairy crops can the New

Jersey farmer most economically raise? These and dozens of other questions are constantly coming up, and Prof. Voorhees has determined to try to answer some of them by studying the processes by which the fodder and grain are made into milk.

The larger part of the farm is devoted to growing fodder—chiefly corn, clover and small grain, cut when green. The ordinary "rotation" is something like this: Corn, with Crimson clover seeded in August, then fodder corn for soiling, followed by rye. The rye is cut green in the spring, and followed by oats and peas. These are cut green and followed by a seeding of clover and Timothy, which is cut twice and the land plowed for corn again. This gives seven green crops in four years. The greater part of these crops is cut and fed while green, but any of them may, if desired, be cut and cured for hay. This is not a hay and pasture dairy, however. It seems to be neither scientific nor sensible on 100-acre farms near large towns, to feed large quantities of hay, or waste large tracts of land as pasture. On this college farm, the cows have two acres for exercise, and exercise only. There is nothing growing there for them to eat—it is cheaper to raise the feed and bring it to them than to let them hunt for it. With ensilage and green forage produced on the farm, and grain bought on the basis of its feeding value, there will still be money in the dairy.

Prof. Voorhees has 15 acres of Crimson clover the sight of which would do a farmer good. It was sown in the corn, and covers the field with a perfect mat of green. Last year, the field was an old meadow. It was plowed and planted to corn, with a fair amount of fertilizer. At the last working, the Crimson clover was sown between the rows. Part of the corn was cut about August 1 for fodder, while the rest was cut a month later for stover and ensilage. Where the corn was cut early, the clover is nearly twice as heavy as the other. It is a great object-lesson showing the value of a month of sunshine as compared with a month of shade! It is proposed to keep these 15 acres in corn and Crimson clover year after year, using only bone and muriate of potash as fertilizer.

The seeding of Red clover in August has given a fine stand. When grown side by side with the Crimson, it is easy to see the points of superiority possessed by the Crimson. It grows faster during the cool weather. It sprouts quicker, and, between August and Christmas, will make a considerably heavier growth. The growing habits of Red and Crimson are as distinct as are those of Timothy and rye. These may be sown at the same time in the fall, and by Christmas the rye will have made a much heavier growth than the Timothy. That is its habit or nature, and in the same way, it is the habit of Crimson clover to make a quick growth during the fall. The most satisfactory way to use it is to start out with the understanding that, whether it live through the winter or not, it pays a good profit before Christmas. Prof. Voorhees has a field of rye with Crimson clover seeded in it. He hoped to be able to cut the rye for early feeding, and then have the Crimson grow up through it for another cutting, before plowing for fodder corn. The rye seems a little too thick to give the clover a fair chance.

Among other experiments under way in the barn, is one of feeding wide and narrow rations. Eight cows, as nearly alike as possible, are divided into two lots. They are fed the same roughage, but four of them receive a grain ration of corn meal and other grains that have a high per cent of fat-formers as compared with muscle-makers. The other cows are fed bran, linseed meal and other grains that are rich in muscle-makers and also in minerals. The feed and the milk are all carefully weighed, and the milk is also tested and analyzed. The manure is kept separated, and is to be used on two distinct plots of land as nearly alike as possible. These plots will be worked through the regular farm rotation, and accurate records will be made of the crops removed. This ought to measure something of the superiority of a manure from food selected chiefly for its "manurial value" or, rather, for its high analysis of minerals.

The milk is cooled as soon as taken from the cows, by passing it over a Star cooler. This cooling is done in a building near the stable, where the utensils are steamed. After cooling, the milk is carried to a spring house where it is bottled and then immersed in cold water until ready for delivery. The milk jars, with tight-fitting, waterproof paper covers, are used for this purpose.

"I want to tell you," said Prof. Voorhees, "how we use the Star cooler to Pasteurize the milk of our tuberculous cows!"

"So you have cows that are known to have consumption?"

"Yes, they are in a hospital by themselves; some of them have been there for years!"

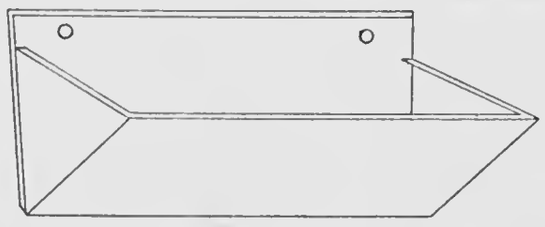
But this article is so long that I shall leave the story of the cows for next week. H. W. C.

WHAT THEY SAY.

A Few Pin Feathers.

The night lamp used by my friend to keep milk from freezing (see page 619), was just five inches in height. He bought it at a 10-cent counter in a novelty store. He says that he has sought high and low for another like it, but has been unable to find one. The nearest to that size that he can find is seven inches. He tells me that he intends to have a pan holder made of sheet iron. It will be 12 inches high and 8 in diameter, and he will paint it inside and out. He will then make a platform 20 inches square and 5 inches high, and cut a hole in the center large enough for the pan holder to slip through. This will raise the pan well above the lamp, and the hens can step up on the platform to drink. The pan holder will have six half-inch holes two inches above the bottom, and six more three inches below the top for ventilation. Only a very small flame is required to prevent milk or water from freezing in a reasonably warm poultryhouse. I shall have two of these contrivances made before winter comes on.

Fig. 233 shows the handiest little poultry feed trough I ever used. It is made of half or three-



A POULTRY FEED TROUGH. Fig. 233.

quarter inch stuff, and shaped like a wall pocket. I make them four inches deep, and not over four feet long. They are hung on two nails driven into the wall or side of the poultryhouse. They are just the thing to put grit in, and also wheat, oats and cracked corn when the weather is bad. Hang them so that the fowls can eat out of them conveniently; they can't very well get their feet into them and soil the feed.

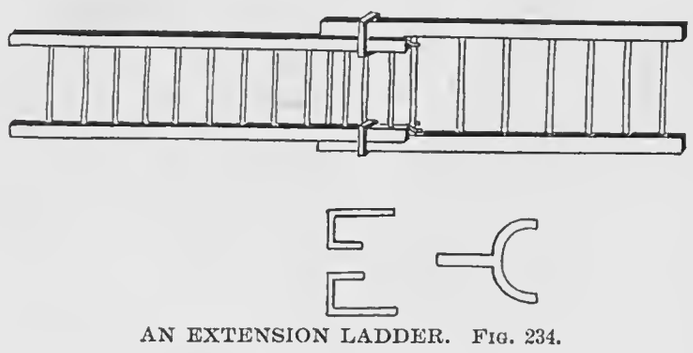
I have just been putting up some woven wire poultry fence, and it is not a job any one need hanker after. A roll of netting that was woven evenly and smooth is easily put up; but when you get one that was warped and twisted in the weaving, it is a difficult matter to put it up in respectable shape.

One of the best and cheapest poultry fences that can be put up is made as follows: Set the posts 12 feet apart. Close to the ground, nail a 4-inch board, just above it netting 18 inches wide, then another 4-inch board, 18 inches more of netting, another 4-inch board, and finish with 18-inch netting. That makes a fence 68 to 70 inches high, and not one fowl in a hundred will ever attempt to fly over it. Midway between the posts, put a 2-inch strip, nailing it to the boards, and stapling the netting to it, and you have a neat-appearing and very effective poultry fence. I prefer netting 18 inches in width because it is easily handled and can be put up straight and tight.

FRED GRUNDY.

An Extension Ladder.

How often I have seen men lift long, heavy ladders to reach high objects, and then, as like as not, not be able to reach the object on account of the ladder not being quite long enough. The following extension, or folding, ladder is very easily made, and is very handy for picking fruit, painting buildings, or any work which requires a long ladder. It consists of



AN EXTENSION LADDER. Fig. 234.

two single ladders, of any length desired—I think that 10 feet each make about the right length. The sides should be made of pine, 2 x 3 inches. The rounds or steps should be of seasoned hard wood. About two feet from the top of the bottom section, bolt two flat pieces of iron, 2 x 3 inches, the top part of the iron above the rounds far enough to admit the top section (see Fig. 234). These flat pieces of iron will keep the top from falling backwards. On the bottom of the top section, bolt two pieces the shape of a half circle, as shown in the figure. These will rest on the rounds of the bottom section at any desired place. The top section should be made just wide enough to fit nicely inside the bottom section. I can start up this ladder, and as I go up, push up the top to the desired height, place the half circle irons on a round, and I am ready to go to the very top with perfect safety. M. C. THOMAS.

Champaign County, O.

Red and Crimson Clovers.

We have had a corn-growing experience quite as marked as the one reported at Governor Morton's farm, on page 653, and, in my opinion, the success and failure are attributed to the same cause—nitrogen. The land is a sandy loam, and, in a dry season, suffers from lack of moisture. This season, rains have been copious. Three acres were bare of vegetation all winter; the other portion was well covered with Crimson clover. The seed used was R. N.-Y. and Leaming. The three acres I need not describe, as Mr. Cottrell did it completely in The R. N.-Y. of October 3. The clover part was so immense that I hesitate to attempt an account of it, for it is almost beyond belief. Much of it was 12 feet in height, and so completely loaded with ears and leaves that, in going between the straight rows, one could only see a very short way ahead. Everything was favorable for the light, dry soil—rain enough, and often more, from the time of planting to harvesting, and the heavy growth of clover turned under gave all the nitrogen the corn could use, continuously. I am of the opinion that more value grew upon one acre of the clover than upon five acres like that which was bare from August of last year to the June planting of last spring. I have tried many of the land-improving and forage crops, and have about settled on the clovers and corn. Feed Crimson clover to the soil, and Alsike, Medium and corn to well-eared-for, good cows, and they will hold us up. G. W. HUMPHREY.

Southeastern Massachusetts.

HOTBED CULTURE IN ARKANSAS.

WHAT ARE YOUR METHODS WITH HOTBEDS, AND WHAT CROPS ARE GROWN?

Lettuce and radishes are the principal crops grown through the winter, with, frequently, a crop of spinach. Ordinarily, we don't have continued cold weather here until about January 1, we have a cold snap when the temperature goes down to freezing and, sometimes, to 10 to 15 degrees below, but only at night, generally followed by mild weather for several days. After January 1, we generally have two or three light snows of two to four inches, sometimes as much as 16 inches, and which stay on the ground two weeks; but, ordinarily, it is all gone in two or three days. We usually have three or four nights during the winter when the temperature falls to zero, and a few times, a few degrees below. We have spells of a week to 10 days of comparatively mild weather, all through the winter, when we can strip the covers from all hardy plants, and give them a good airing and sunshine. We don't need artificial heat very often until January 1, but when we do need it, we need it mighty bad, and if we are not prepared for it, everything will be killed to the ground.

I plant lettuce and radishes in September—about the 15th, usually. I sow the lettuce in six-inch drills pretty thick. I sow, at that season, a non-heading variety, as Black Seeded Simpson or Grand Rapids. I let this grow up thick, and blanch, pull it up and clean off all dead leaves, and tie into five-cent bunches, sometimes into 10-cent ones when the market is bare. I find that this pays me twice as much per square yard as head lettuce, it is much easier raised, and most customers prefer it. I never saw it sold anywhere else in this shape, as it is generally cut and sold by measure; but leaving the roots on helps to keep it fresh. The bunches are washed and packed in a box, roots up. I keep several plantings coming on so that I can get plants of exactly the right size to set out in the beds from which the bunch lettuce is taken, and these plantings are head-lettuce partly.

I hardly ever have any artificial heat before January 1; when the temperature is likely to go to 32 degrees, I cover everything at night only. Later in the winter, some heat is kept up at all times, under the beds, but every mild day, the tops are removed a part of the day. If a cold snap comes on, of course, the top is left on day and night, and steam turned into the pipes on each side of the bed above the plants. These pipes are not used except in severe weather, and are kept ready for an emergency. The beds are very simple; 2x6's are laid on the ground, a layer of 1x6 oak lumber is used for the floor, six to seven inches of soil are put on this floor for growing crops; four runs of one-inch pipe go under the floor for bottom heat. The sides of the bed are 18 inches high on the south, 36 inches high on the north, and both sides are banked up with soil to near the top. Two runs of one-inch pipe go, one on each side, above the plants, to protect them in severe weather only.

Radishes are managed pretty much in the same way, but no crop that I have tried will pay so well as lettuce. Grown in this way, it looks as though it had been grown in the open ground in May. I have never had any disease to contend with, but I do have the grub worms all hunted out of the soil in the fall before planting. We usually sell lettuce and radishes from

these beds until the middle of April, when the open-ground lettuce comes on. The beds are then used for sprouting sweet potatoes, or are planted to cucumbers, which are a paying crop if the striped bug can be kept at bay. A part of these beds are used for starting cabbage, cauliflower, tomato plants, and all plants generally started in hotbeds in the North. I think that the business of winter gardening in the South is more profitable than in the North, and the amount of artificial heat required won't average half so much or half so long as there. But we must have it at times, during most years; about one year in ten, a crop of lettuce or cabbage will go through the winter all right, but it won't do to depend on.

W. T. SIMPSON.

ARE METAL WAGON WHEELS PROFITABLE?

This is an age of change and improvement. What answered the purpose a few years ago, in many cases, doesn't fill the bill now, owing to something better being adopted. This refers, not only to the mechanical world outside the farm, but to the farm as well. Broad-tire wagons are rapidly supplanting the narrow tires on the farm, and manufacturers, a few years ago, conceived the idea of making broad-tire wheels entirely of metal, and have advertised them freely in THE R. N.-Y. and other papers. I would like to ask the readers who are using them if they are a success, and can stand the wear and tear to which an ordinary wheel is subjected on farms, particularly rough ones. I write this because I have a near neighbor who bought a set, and he was highly pleased with them when he got them a year or two ago; but now, both fore wheels have collapsed, one hind wheel is out of repair, and the owner is sick of his bargain. What do THE R. N.-Y. readers say about it? M. H. C. GARDNER.

Orange County, N. Y.

Buy Only on a Guarantee.

Metal wheels have been but little used for hauling loads in this locality. I know of only two sets in use. The parties having them tell me that they are very much pleased with them, and after about one year's use, they show no signs of giving out. My own experience is limited to their use on potato planters. The spring of 1895, I bought a planter made in New Jersey, with metal wheels. Two persons were required to ride upon the machine when operating it. One of the wheels doubled soon after I commenced using it. This was straightened back, and did service the rest of the season, although the track it made was pretty crooked.

Having sold the planter, this season, I decided to try one made in Illinois; it also had metal wheels, and carried two persons when planting. They have stood up all right, but I notice that the rims or tires, which are four inches wide and rather thin, are quite badly bent, especially near the edges, caused, probably, by driving over stones. I judge that they would not be long lived if they were much used on rough roads. Used only upon the farm, they would, probably, last as long as the rest of the machine.

But I would not condemn all metal wheels because a few sets have given out, any more than I would stop using horses because there are a few ugly, bad dispositioned ones. It would not be just because a few sets or a single make has proved a failure, that all should be classed as frauds. Some of the manufacturers of the present day are running a mad race with their competitors, aiming to produce an article that they can sell a little cheaper, regardless of proper construction and the material used, if it only sells, and the purchaser does the experimenting. If I needed a set of wheels (and I would if I did not already have a wagon with wide tires), I should give my preference to the metal ones, provided that I could find a manufacturer willing to warrant them for a reasonable length of time; in my case, that would be five years. Let them take the chances on their products, not the farmer. L. D. GALE.

Chautauqua County, N. Y.

An Opinion From Indiana.

I have used a set of metal wagon wheels nearly a year. Some neighbors have been using them two years. Our ground is not rough or rocky. My wheels are 26 and 28 inches. Such wheels are very handy for a farm truck, they are so low. This is, however, a fault on rough or muddy roads. The tires are four-inch tread. In deep mud, these low wheels push the mud up ahead of them and will not rise over it. But one has no business going on to fields when muddy. Of course we all know that a small wheel lifts harder over a large obstruction like a stone or a woodchuck hole. My man says that they seem to "hit every stone along the road." For both farm use and road hauling, the ordinary 2½-inch tread wooden wheel is better than these small ones. I have a neighbor whose wheels are 34 and 36 inches, and he likes them very much; but he is not a hard user of a wagon. Our log haulers won't even try them; they say that they "won't bear nothin'". I have never seen a large iron wheel that I thought would bear 1,000 feet of logs, as these log men often haul. I know of one wagon that 100 bushels of wheat dished the wrong way, but didn't break it. I do not know one out of six farmers near here who would part with his truck wagon. But we put the iron wheels on our old wagons, and keep a wooden wheel wagon for the roads and similar purposes. E. H. COLLINS.

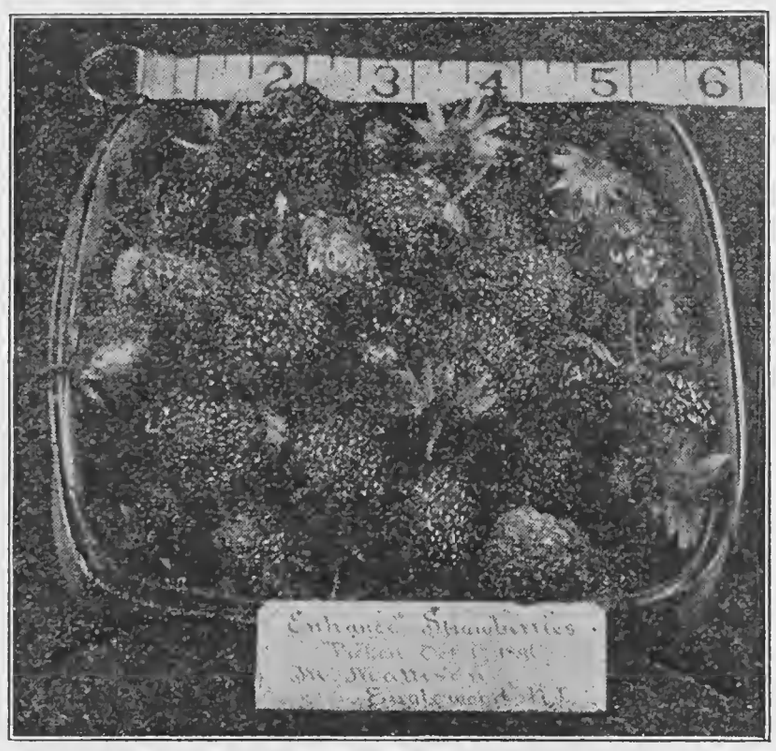
A Kansas Man Discusses Wheels.

There are two classes of metal wheels—the ones built on scientific principles, and the ones that are built solely to gull the farmer. Any metal wheel that has the spokes attached rigidly in a straight line in the hub, and riveted to the tire, is of the latter class. Any metal wheel with removable thimbles, and spokes hooked into steel disks around the thimble in two rows, or bracing fashion, will stand rough usage, as it is made to expand or contract as the temperature may be. For farm work, the latter wheels are much better than wooden wheels. For road work, the wooden wheels are, perhaps, the better, but the wider ones would not injure the road so much. The Farmer's Handy Wagon Company make the best metal wheel I have seen, and their wooden-wheel wagon with six-inch tires, is the handiest thing out.

CLARENCE J. NORTON.

Not Satisfactory on Hill Farms.

I bought a set of metal wheels two years ago; they were warranted for one year. Inside of a year, two of them broke down. I returned them to the maker, and received new wheels for them, after a long delay. One of the new wheels was so small in the hub that it broke the thimble skein on my wagon, and I have sent all over the United States to find one (boxing), that would fit, and been unable to find it. Now the new ones have broken down. They break the spokes off at the hub, and get loose in the tire. I am greatly pleased with low wheels and wide tires for farm wagons. I have had a new wagon made with wheels



STRAWBERRIES PICKED IN OCTOBER. FIG. 235.

HALF NATURAL SIZE. SEE DISCUSSION, PAGE 722.

of the same size as the metal wheels and tires of the same width, and use the tires from the metal wheels for the new wheels. The tires were worth about $2.50, but cost $20. This is my experience with metal wheels. FRANKLIN MOORE.

Sullivan County, N. Y.

"A GOOD CROP OF GRASS."

Some weeks ago, we gave an account of the large grass crop grown by Mr. Geo. M. Clark of Connecticut. On July 8, I saw seven-eighths of an acre of this grass which was then standing. The day following (July 9), this field was cut. On September 15, or 67 days later, the second crop was cut. Mr. Clark sent me the product of one square foot which was cut and dried by the stove. It contains 373 spires of grass, and weighed, when sent, 4¼ ounces. The longest Timothy in the package was three feet. There was a fair sprinkling of clover in it, and I noticed that the Red-top in this second growth was not so well developed as the Timothy. It seemed like a remarkable growth for grass to make in 67 days of second growth. Mr. Clark says that the total second crop from this seven-eighths of an acre weighed 6,665 pounds as it was put into the barn. The two crops of this year's cutting weighed eight tons and 1,145 pounds. This is the fourteenth crop that has been taken from the field—seven first crops and seven crops of rowen, and the two crops of each year have exceeded eight tons! That is a remarkable showing. It will pay to turn back and read over Mr. Clark's method of preparing the soil for the grass crop.

It will be remembered that Mr. Clark uses a small quantity of clover seed with the Red-top and Timothy. When asked when the clover usually makes its first appearance, he said:

"As to the first appearance of clover after sowing, that depends on the stand of Timothy and Red-top. The clover appeared in the field from which I cut that second-crop sample sent you, the fifth year, a little more the sixth and about the same the seventh as in the sixth. On another section of the field of four acres, the first appearance of the clover was in this, the sixth year. I wish only to add that, if the Timothy and Red-top stand were so poor that clover would appear the first or second year, I should immediately tear up and re-seed."

In a recent letter, Mr. Clark gives this experience with sorrel in his grass land:

"There was a section of my grass field sown last September in which quite an amount of sorrel appeared; it was on the four-acre section which was not so thoroughly cultivated. You will recollect that section was somewhat bunchy, and on some of it between the bunches filled in with sorrel, so much so, in some instances, that, at first, the sorrel seemed to cover the ground; but later, the Red-top and Timothy took possession. As soon as I cut the first crop, I sowed on 600 pounds of air-slaked lime. Three weeks later, my crop of sorrel was all dead, and the field is now free from sorrel.

"I wish to add further, that one reason why I tore this field up and re-seeded it, was that sorrel was altogether too plentiful, started first with the use of Peruvian guano; for five years, I fought that sorrel without avail. An adjoining section gave me some trouble. The sorrel in that field started with the use of a preparation of fish. I tried a ton of fine lime to the acre on this old grass field, covering the old growth of sorrel, and while the lime appears to injure its rise and progress, there is too much as yet to suit.

From these experiments, I concluded that, if sorrel is taken when young and treated to fine lime, it will end it. An adjoining landholder said that yard manure would soon kill sorrel; he tried it thoroughly, and found his field as red as a fox."

H. W. C.

SWAMP LANDS AND THEIR RECLAMATION.

PART II.

As mentioned in Part I., many of the swamp lands of Michigan lie but little below the level of the surrounding country, and are above the water-bearing strata, hence they are seldom, if ever, fed by springs. They are simply basins having an impervious subsoil which holds the surface water which falls or drains into them. Some were once lakes and ponds which have gradually filled up with decaying vegetable matter. We have plenty of them now in all stages of the process. Sometimes the surface of a lake has grown over with vegetation, making a soil several feet thick under which the water still remains, furnishing the conditions from which are caused the "sink holes" which have caused so much trouble and expense in building railroads and highways over them. Others were caused by the leaves damming the water courses, thus flooding the surrounding country. There are hundreds of old beaver dams within a day's ride of my residence, and it is wonderful to what an extent they have modified the topography of the country. I think that it is safe to say that, in the township in which I reside, there are 1,000 acres of swamp land made so by the work of beavers. Every natural water course had its series of dams, in consequence of which we have a series of swamps or marshes, each one level of itself, and at a different level from its neighbor, like the steps of an immense stairway.

It is a little remarkable that there is, almost without exception, a natural outlet from these basins where the water has, evidently, flowed at some time, even though the water surface in the basin is now far below the outlet. In general, these natural outlets may be utilized for the purpose of drainage. Some of our swamps have several different outlets, any or all of which may be used. In many of the smaller swamps, the water surface has receded so much below the natural outlet, that it is impracticable to use that outlet directly. In such cases, the drainage, if effected at all, must be either by raising the water mechanically so that it will flow away in the outlet, or else the water must be let out at the bottom. The first may always be done and is simply a question of expense, whether it will pay or not. The second plan may or may not work, depending on the character of the ground. If it will work at all, it is not, usually, very expensive. In those cases where sub-drainage or vertical drainage is practicable, the conditions are these: We find that the water is held in the basin by an impervious stratum of some kind, usually clay, underneath which is a pervious stratum,

usually sand or gravel, which will absorb or carry off the water if the opportunity is afforded. In such a case, all that is needed is to make a sufficient number of openings through into the pervious sub-stratum, and the drainage is effected.

I have drained about one-half acre on my place by making a single opening through the bottom. It receives the surface drainage from a considerable tract of land—not less than 40 acres. During the present wet year, this one opening has not been sufficient to carry the water away as quickly as it should have been done, and more than one-half the crop I had growing was spoiled. In drier seasons, the drainage has been ample. Previous to the drainage no crop could be raised there. The pond was so near the corner of the field, the surface in the corner being only two feet higher, that I determined to try digging a hole right in the corner, and did so. After going through about a foot of surface loam and five feet of impervious clay, a water-bearing stratum of coarse sand and gravel was struck. Thinking that it would make a good well for stock water, I curbed it with cement tile two feet in diameter, sinking them three feet into the sand. Then I ran a broad, open ditch along the line of the diagonal dead furrow to the center of the pond.

Before turning the water of the pond into the well, I had nearly three feet of water in the well, and it was a serious question in my mind, whether it would drain the pond at all; but it did easily. There was enough spare room in the sand to take all the water that came, and more, too, and has been ever since. Several times, heavy rains and melting snows have filled the pond above the top of the well, but the water has all been taken away within 48 hours. That is not quickly enough to get the water off from a growing crop, and I purpose, at some future time, to sink another well in the lowest ground, run several lines of tile into it, and arch the well over deep enough down so that the plow will not strike it. I might dig a hole and fill it with stone, as has often been done, but such a drain is pretty sure to get filled with silt, and stopped up sooner or later, and the stoppage is likely to come at a time when it can least be afforded. Every man who has a wet place on his farm, with no practical surface outlet for drainage, should try whether he cannot make a hole through the bottom of the basin, and let the water out that way. It will not, usually, cost much to try it, and it may prove a very profitable investment.

Kalamazoo County, Mich. F. HODGMAN.

Notes from the Rural Grounds.

FOUR GRAND EVERGREENS.

It is many years ago, friends—more years than many of our readers have lived—25—that the writer of these notes began to take an interest in ornamental trees and shrubs. It came about through our determination to have about our home—the Rural Grounds—all of the trees and shrubs which would thrive there. We thought, too, of variety. Our idea was to plant but one or two of a kind that we might study and enjoy during the entire growing season, the habits, the blooming periods, the notable characteristics of every one.

It has always seemed to us an almost inexcusable error that people who have the means and the disposition to surround their homes with trees and shrubs, that they so often fail to study the subject with a view of securing to themselves the most pleasure and instruction from those surroundings. So it occurs that we see in most collections the same plants, and many—too many—of a kind. Among spruces, we see, for the most part, the Norway spruce, the Hemlock, the Balsam fir, the Common Arbor-vitæ; among shrubs, weigelas, Japan quince, lilacs, Philadelphus, deutzias, spiræas and the like, often many plants of the same variety and those, too, which may be seen in almost any other grounds, whether public or private. The price of these standbys is, generally, lower than for rarer plants of the same species, and those who buy, without having studied the matter, are apt to regard the thriftiest and lowest priced plants as the best. All of us realize the necessity of variety in food, association, enjoyments, but we do not always realize that there is just as much necessity for variety in our hardy plants which are to be our constant companions for many years, or during our entire lives.

Near the Rural Grounds lived the late A. S. Fuller, recognized then, as at the time of his death, as one of our foremost arboricultural authorities. It was to him, more than to any other person, we are indebted for the advice which led us to consider *variety* as a very first consideration, and it was by him, for the most part, that we were guided in our first selection of hardy herbaceous plants, trees and shrubs. Later on we determined to plant *all* promising new plants, so that we might keep those which proved to be of real value, and destroy those of lesser value. It is true that we have destroyed a dozen where one has been retained. But we have, as the result of this selection, year after year, a collection that, at this time, we know not how to improve upon, and that gives us a hundred distinct kinds to study and enjoy from spring until fall, while, with a less varied collection, the pleasure of going from one plant to another and dwelling upon their peculiarities and changes during the season would be proportionately lessened. We have also studied diversity as well as variety, choosing those trees and shrubs which, whether evergreen or deciduous, were the most unlike, though, perhaps, of the same genus or even species.

It is too late now to transplant evergreens. But those of our friends who propose planting next spring, may well study the question of what kinds they would better select, having in view the most important considerations, viz., variety, diversity, hardiness, size, and a perfect adaptation or fitness for the places where they are to grow to mature size.

The view, Fig. 232, on our first page, shows a group of trees planted in the Rural Grounds about 22 years ago. They are the Oriental spruce (Picea orientalis), the tree to the right in the picture; the Pendulous hemlock (Tsuga Canadensis pendula), just to the left of the Oriental, and back of the dog, Alcock's spruce (Picea Alcocquiana), just behind the Pendulous hemlock and Oriental spruce—behind it is a tall maple, the top of which is cut off by the picture, and the Broad-leafed hemlock (Tsuga Canadensis macrophylla), directly to the left of the Pendulous hemlock.

The lamentable mistake we made, and one which every inexperienced planter is liable—we were about to write, sure—to make was in planting these trees too close together. The Alcock's spruce, Pendulous hemlock and Broad-leafed hemlock, already interfere. It is the choicest and most interesting group of evergreens we have, and our readers may easily imagine how much we have to regret—and the regret will never grow less, that the trees making the group were not planted much further apart.

The Oriental spruce is now about 18 feet high and 10 through the base. The lower branches rest upon the soil, and they are, as yet, as fully clothed with leaves as are the upper branches. The new cones of the tree are very small and quite resemble strawberries at a little distance, both in shape and color. It is a magnificent tree, showing a stronger contrast of light and shadow than any other spruce we know of, because of the deep and broad pockets or bays, a striking part of its habit.

Alcock's spruce is 25 feet high and 20 broad. Its habit is more that of the Blue spruce than of the Oriental. It is a majestic tree, and the difference between the color of the under part of the leaf which is a steel or bluish green, and the upper part of the leaf which is rather a dark green, gives it a beautifully changeable appearance while the wind blows.

The Broad-leafed hemlock is now 10 feet high by six feet broad. It is well suited to lawns of limited size. The leaves are much broader and darker than those of the Common hemlock. All are perfectly hardy at the Rural Grounds.

We have solicited the opinions of several distinguished horticulturists regarding these four trees, and we are glad of the opportunity of presenting them below:

From Josiah Hoopes.

The Oriental spruce (Picea orientalis) is one of the most valuable conifers in the entire list, hardy, reliable, free from disease, and grows rapidly when established. Alcock's spruce (Picea Alcoquiana) is very distinct and attractive, owing to the silvery glaucousness of the under side of the leaves. In Pennsylvania, it is entirely hardy, and may be recommended without reserve. Two forms of the Common hemlock, named respectively, Weeping (Tsuga Canadensis pendula) and Large-leaved (Tsuga Canadensis macrophylla), are worthy a place in our list of available ornamental trees. Indeed, they are both remarkably beautiful and very different from all other trees; the former on account of its graceful, drooping habit, and the latter for its rich, deep green color, compact habit of growth, and large foliage.

West Chester, Pa.

From W. A. Stiles.

The Weeping hemlock is, certainly, a very pretty, low-spreading shrub which, ultimately, makes a mass of beautiful green foliage. Individuals have varying habits. I have seen trees six or eight feet high which covered an area of 12 feet across. If you don't think the Oriental spruce (Picea orientalis) a good tree, go and look at some specimens in Prospect Park, Brooklyn, just beyond the entrance from Flatbush Avenue. They are much more elegant, and keep better furnished than any other spruce with the exception, perhaps, of our own White spruce; but this is a northern tree, and the leaves are not so close and fine. The prettiest spruce I know is a P. orientalis, in Flushing, 60 feet high. Alcock's spruce, as I know it, is a very handsome tree while young, but I think there may be better ones.

New York.

Mr. Dawson, the propagator of the Arnold Arboretum, writes to Mr. Stiles, the editor of Garden and Forest, that, while he can distinguish no botanical difference between the Broad-leaved hemlock and the type for garden purposes, the variety seems sufficiently distinct. The plants they have in the Arboretum hold their characters; that is, they have larger leaves and, therefore, darker and denser foliage. He doesn't see why it will not make a distinct tree for planting, perhaps better for a small lawn than the ordinary hemlock.

From Prof. J. L. Budd.

The conifers mentioned are not hardy here. Perhaps they would endure our winters if the heat, aridity of air, and often long-continued drought, were not too much for them. The conifers of eastern Colorado, the Black Hills and the section west of Lake Ontario, endure our conditions best. Just now, our Norway spruces, and Scotch and Austrian pines are, usually, in poor condition and often dead, as the result of our recent protracted drought, yet our field crops averaged well through the dry period, and many fine conifers are as bright as ever.

Iowa Agricultural College.

From Prof. L. H. Bailey.

All the trees which you mention are very good for lawn purposes. I especially like the Oriental spruce because of its habit of holding its lower limbs green and full for many years. In fact, I do not know of any spruce which is hardy in the North, which holds its lower limbs so long as this. The cultivated forms of our Common hemlock are always interesting, and people should grow them more than they do.

Cornell University.

From S. B. Parsons.

All of the evergreens you mention are most desirable as lawn trees, provided space will permit their use. The Oriental spruce requires considerable room to develop into a handsome tree; with this in view, there are few grander trees. The Weeping hemlock is the queen of its class—that is, of weeping evergreens. Alcock's spruce requires less space than the Oriental spruce; it is very symmetrical and dense. The Large-leaved hemlock is striking as a dark-foliaged evergreen. I should, certainly, plant this in a general collection. It is my opinion that none of these trees should be placed too near a dwelling.

Flushing, L. I.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Curious Results with the Tuberculin Test.

S., Rhode Island.—I was recently talking with a milk producer who was having his cows tested with tuberculin that very day, and he informed me that, if cows were tested once and did react and did not pass, the same cows, if tested again very soon, or within three months, would not react on the second test, and would pass all right, and that, if no one knew of the first test, they could be sold on the record of the second test. He said that, if he knew that his cows were to be tested by the State veterinarian on a certain date, say, 10 days ahead, he could hurry and get another veterinarian to test them immediately, and those that reacted—showed evidence of disease—would not react when the State expert tested them 10 days later. He could then sell the cows all right on the strength of the State veterinarian test. He said that, six months after the first test, the cows would react again on the second test. But they react slower, and it takes longer to take their temperature. He says that the test is worthless to the man that buys cows, provided the owner chooses to make it so by having a private test a short time previously.

ANS.—The first injection of tuberculin does confer a slight, temporary immunity, so that a second injection within a week or 10 days is frequently followed by a lower reaction, or, occasionally, by no reaction at all. In the majority of cases, however, the second test, even though made within five to ten days after the first, will be followed by a tuberculin reaction (*i. e.*, a rise in temperature of, at least, two degrees F.) sufficient to condemn the animal. It is only in about one case in eight or ten, that no reaction would result from a second test following too closely upon the first. I recently had occasion to make a State tuberculin test on two dairy herds comprising 85 cows. As a result of the test, I condemned and killed 49, all of which were tuberculous, as was shown by the autopsies. A private test made eight days before, on the same animals, gave 56 tuberculous reactions. While it is thus possible that a farmer might save an occasional tuberculous animal by preceding the State test by a private test, the number so saved would be so small that they would hardly warrant the trou-

ble and expense of privately testing the whole herd, besides running the risk of losing the compensation for his condemned animals by the attempted fraud, if discovered. A lower reaction does not always follow a second test. A considerable number of cases will give a higher reaction, even when the second test is made within a few days. Where accurate results are desired, a second test should not be made within three or four weeks. A certificate of health cannot safely be given to all cattle that do not show a reaction upon the first test, in herds that are extensively tuberculous. A few cases are liable to develop in such herds after the test, so that a subsequent test six to twelve months later, should be made before a certificate of health is given. In herds where there is little or no disease, the certificate of health can be given after the first test, with very little danger that a tuberculous animal will escape. F. L. KILBORNE.

Cocked Ankle in a Mare.

E. R., Lamartine, Pa.—I have a mare, five years old, that cocks up her hind ankles when she stands, after she is driven fast. She does not do it so much when she is worked at slow work. Can anything be done for it? Ought she be shod with a high heel or a low one?

ANS.—If either be used, it should be the high-heel shoe, which will relieve the tendons. Being a young mare, it would be much better to use her carefully for a year or two. By so doing, the ankles may become stronger, and the trouble disappear. If overdriven now, the trouble may become permanent. Bathe the ankles once daily with soap liniment, rubbing well in with the hand. F. L. K.

A Talk About Ducks.

M. J. B., Thomaston, Me.—1. Are bread and milk fed to the youngest ducks, cold or warm? Do stock ducks need grain or soft food, summer and winter? 3. Do they need shells or gravel? 4. Do they need an out-door run in winter? 5. How much space do 25 require in winter quarters? 6. Do they prefer the ground or bedding to sleep on? 7. Do they need water other than at eating time?

ANS.—1. They should be about blood warm, and just moistened with milk—never wet or sloppy. 2. Soft food twice daily; they may have a small amount of grain at noon. 3. By all means, keep plenty of shells and grit where they can get them at all times. For young ducks, mix a litle fine grit with their feed. 4. They should have out-door runs except in severe weather with snow on the ground. 5. Twenty-five breeding ducks should have a house about 13x25, with a three-foot walk for feeding, etc., in which are feed troughs with slatted partitions so that the ducks may put their heads through to eat, but cannot get into the trough. 6. Peat moss makes decidedly the best bedding for ducks I have ever tried. 7. In winter, they need water only at feeding times; but in summer, they should have water by them all the time.

J. E. S.

Ration for 100 Hens.

J. E., Chester County, Pa.—Will you kindly give me directions for feeding 100 hens through the winter? I would like the most economical ration capable of producing the best results in eggs. We have corn, and can procure bran, hominy meal, cerealine, and linseed meal. Would it pay to buy meat scraps or skim-milk from a creamery?

ANS.—For producing the most eggs at the least cost, I would make a ration as follows: For the morning feed, one part bran, one part hominy meal, one part oat feed (which J. E. does not mention but can, probably, get, as dealers usually keep it, where they keep hominy meal), one part meat scraps, four parts cut clover hay, and about one-half of one part of ground charcoal, mixed with skim-milk from the creamery if it can be bought right. If it should cause too much looseness of the bowels, use feeding flour in place of the bran. At noon, give what cut green bones they will eat readily. At night, give them whole grain, corn, oats, wheat, barley and buckwheat; as corn is, most likely, the cheapest, it may be used the most of the time, feeding the other grains for a change. As there is a large proportion of meat and cut bones in the ration, I think that corn will answer for the main feed as well as the other grains. If the meat and bones are not to be had, I would use wheat principally, and the other grains more than corn. J. E. STEVENSON.

Gas Tar on Shingle Roofs.

M. L., Little Falls, N. Y.—Is gas tar a good preparation for painting shingle roofs on barns? How is it thinned for applying?

ANS.—Gas tar makes a good paint for shingle roofs, preventing decay of the shingles and filling any small cracks that may be present. When applied to roofs that have commenced to leak slightly, it will frequently restore them so that water will be effectually turned. The gas tar may be thinned with gasoline. A small quantity should be thinned at a time, and spread on immediately with a kalsomine or whitewash brush. To about three quarts of gas tar, add enough gasoline to thin it to the proper consistency for spreading well, and it is ready to apply. Have it thin enough so that it will run readily, for, should it be too thick, it would fail to penetrate the cracks, and the work would not be a success.

One caution should be observed in the use of gasoline: Do not allow any fire or light to come near it, as the gas from it will be ignited, and a serious explosion would result. All lighted pipes or cigars must be dispensed with during the operation of thinning tar with gasoline. If it is not desired to use gasoline, then the tar may be heated in an iron kettle and spread upon the roof while hot. In thinning it by heat, do so at a distance from any building, and have a very slow fire. If the tar should come in contact with the fire, it would burn fiercely. L. A. C.

Anthony Waterer Spiræa.

M. J. M., New York.—Who sell the Anthony Waterer spiræa?

ANS.—Try Ellwanger & Barry, Rochester, N. Y.; The Storrs & Harrison Co., Painesville, O.; Henry A. Dreer, Philadelphia; Peter Henderson & Co., New York.

How to Kill Sassafras Sprouts.

W. A. M., Crownsville, Md.—What is the best method of getting rid of sassafras bushes or sprouts? I purchased a run-down farm two years ago, which had become overrun with them, and I have been fighting them by cutting them down, plowing them under, grubbing them out, and it all seems to increase the number instead of getting rid of them.

ANS.—It has never been my lot to engage in a square hand-to-hand fight with the sassafras on an extensive scale, but I have done so in a small way, and know others who have had it by the acre. Digging up and cutting down are about alike, futile. Even using salt and kerosene on the stubs at the surface of the ground, does not seem effective. The only sure way that I know, is to cut back all the bushes so that the sprouts that come will be low, and then turn in cattle or sheep, or both. They like to browse the tender branches, and will keep all the leaves nipped off as fast as they grow, if the matter is carefully handled. A yard may be made of the patch, where this is practicable, and the stock turned in at night. It is a common practice with many to turn out an infested field to the commons, where cattle run at large, and in a few years, the trees will, usually, be dead. But the treatment will not finish them in one year and, perhaps, not in two years. Where there are scattering sprouts in the fields that cannot be browsed, the plan of stripping the leaves off and clipping with a knife, has about the same effect, and is far better than cutting down to the ground. The latter plan was first given me by a neighbor in Kansas who had a fight with persimmon sprouts, and succeeded by stripping the leaves every time he passed by the place, and that was very often. Constant, clean defoliation is the secret of successful destruction of the sassafras, persimmon, and almost any other sprouting pest. H. E. V. D.

Millet Hay; How Much Food for Cows?

F. R. L., Hampden County, (No State).—1. If fed to horses, does millet hay affect the kidneys injuriously? Does it render the horses liable to founder? 2. I have 12 tons of fine hay mixed with Red clover (I have no Timothy hay); 12 tons of oat hay, 10 tons of millet, 20 tons of dried corn fodder, 50 tons of millet ensilage and 100 tons of corn ensilage. With corn meal and bran at $13, gluten at $17, linseed and cotton-seed meals at $21, Quaker oat feed at $14 per ton, oats at 32 cents per bushel, what need I feed to get a balanced ration for a herd of 20 cows in milk, and to keep three horses that will have but little work to do through the winter? I want to feed in the barn from October 15 to May 15. Can I increase my herd of cows, provided I feed more liberally of grain? How much more grain need be fed for an increase of three cows?

ANSWERED BY PROF. I. P. ROBERTS.

It is not safe to feed millet hay liberally to horses. The seeds not only are slightly poisonous, but the chaff may adhere to the coatings of the stomach and cause irritation. Our experience in feeding millet to horses in the western States, 30 years ago, was far from satisfactory. In the transition period between the wild and tame grasses, millets and Hungarian grass were made to fill the gap. They grew most luxuriantly in the warm climate and rich soil, but when the animals, particularly horses, were fed liberally upon them, a large number were affected by blind staggers caused from stomach trouble, and so many horses were injured or died that the cultivation of millet was largely abandoned and, so far as I know, has not been renewed.

The 54 tons of hay, including the corn fodder, and the 150 tons of ensilage, which should equal 50 tons of hay, make, in round numbers, about 100 tons of air-dried material. The 23 animals would require not far from 600 pounds per day, and the 100 tons would last them 333 days, while the period of winter feeding would be about 210 days. It would appear that 10 more cows could be safely added to the dairy.

It is impossible accurately to compound a ration with these materials, because the composition of the oat hay, particularly, the ensilage, millet hay and corn fodder is not known. These all vary widely according to the method of culture and the time of harvesting. Most cows in milk cannot be fed more than eight pounds per head per day of concentrated food to advantage. A few, of course, are able to use more than this economically, while it will be found that a few cannot even make an economical use of eight pounds per day. Mix two pounds of corn meal, two pounds of bran, one-half pound of linseed meal, one pound of cotton-seed meal and 1½ pound of Quaker oat feed. Other things being equal, we usually get the best results from feeding foods from which none of their valuable qualities has been removed. Linseed and cotton-seed meals are exceptions to this rule. This grain ration is narrow, but the coarse forage has an abundance of heat and energy producers to balance the ration, especially if the animals are in warm quarters.

I do not believe that it would be necessary to increase the grain ration above that which is given above, although as many as 10 cows were added to the present herd. After discovering the effect of an eight-pound concentrated ration, it would be well to raise it on some of the cows which were giving a large flow of milk, and note the results. In order to do this, the milk of the cows should be weighed twice daily and recorded.

Some years since, we were feeding a grain ration of about seven pounds per day per cow. We added one pound of bran to each ration per day, and noted the results. With milk at four cents per quart, $40 a ton for the extra bran fed was secured. Another pound was then added, and still the increase of product compared with the extra cost of the food was such as to indicate that a third pound of bran could be added. The results showed that the extra flow of milk was slightly more than equivalent in value for the cost of the bran. On this 10-pound ration, some of the cows appeared not to have reached their most profitable food limit, while some gave evidence of having passed it.

Descriptive Book of Fruits.

J. L. H., Shelbyville, Ind.—Is there a book published giving the varieties of fruits, their markings, color, vigor and hardiness?

ANS.—Downing's Fruits and Fruit Trees of America will give about all any one desires to know about fruits, with the exception of the very latest introductions which are not yet found in descriptive books. Bound in cloth, $5, prepaid from this office.

Making a Pasture on the Lake Shore.

Lakeside Farmer, Ontario, N. Y.—I find that, owing to the low level of Lake Ontario, several acres in front of my farm are now dry. The land is level and, at present, quite above the water. It is composed chiefly of quicksand blown and washed from high bluffs. There is a good deal of vegetable matter decomposed in it, however. None of it can be plowed before the time for setting tomatoes, because the water is then higher. Tomatoes do well on it, as do potatoes. Can you advise any grass that would grow there, and make good pasture for cattle? Do you know any that would be likely to survive the winter? Of a row of Saghalin growing there, about one-half was winterkilled, while some growing on high land proved quite hardy. Do you think that a complete fertilizer is necessary on such soil? If not, what element is more likely lacking.

ANS.—It will be difficult to get a satisfactory seeding of grass on the reclaimed land until you have put it in better condition by culture and fertilizer. It is most difficult to prescribe a course of treatment for such land without knowing more about it. From the description given, it is, without doubt, wet and cold during the early part of the season, dry during the summer, and wet and cold again early in the fall. The supply of humus, or organic matter, is deficient, and this is one of the first things to require attention before attempting permanent pasture.

If dry enough so that you can do so, plow at once and sow rye, harrow in lightly and roll the ground well. As soon as dry in the spring, plow the rye under. Then plant either to corn or potatoes. If to corn, use some commercial fertilizer relatively rich in phosphoric acid. If to potatoes, use a fertilizer with a high grade of potash. Whichever crop is planted, give it the most intensive culture. It is this frequent culture which will do more toward fitting the soil for grasses than anything else. By the stirring of the soil, it is aërated, plant food is set free, nitrification will go on rapidly, the soil underneath will be compacted, which will enable it better to hold moisture during the summer. At the last cultivation, which should be about the middle of July, sow Crimson clover seed at the rate of 10 pounds per acre, and cultivate it in with some fine-tooth implement. By the time the crop is harvested, the Crimson clover should have made such a growth that there will be a mat of green over the entire field. Should the Crimson clover fail, sow rye in the fall. Let this remain on the ground during the winter. The Crimson clover will, probably, die in the spring, but it will already have served its purpose, and when plowed under, will add nitrogen and humus to the soil. Fit the land as early as possible in the spring and sow two bushels of Red-top (Agrostis vulgaris) seed, one peck of clover seed, and one peck of Timothy seed to the acre. The Red-top will, no doubt, give the best results, as it will grow and make a strong sod where the ground is wet, is able to endure winter freezing, and if the clover and Timothy should both fail, enough Red-top would have been sown to cover the ground. During the summer, give a light top-dressing of barn manure.

Should the water come so near the surface of the field that a crop of potatoes or corn could not be raised with any profit, then all that can be done is to fit as well as possible, and sow the grass seed as recommended above. L. A. C.

Ripe Enhance Strawberries in October.

M. M., ENGLEWOOD, N. J.—C. W. C., Sac City, Ia., in THE R. N.-Y., of October 10, says, "Who ever had the pleasure of eating strawberries in September?" Well, we have, and also the pleasure of eating them in October, and picking quarts of them right here in old New Jersey two miles from the Hudson River, right in sight of the broad Atlantic, and only a few miles north of the Rural Grounds. As proof of it, I send you a photograph (see Fig. 235, page 719) of them, reduced one-half size. We are also picking them October 7 and 8 These are the Enhance. We picked plenty of Beder Wood in September, and these were mostly grown from two-year-old plants.

These plants grew a big crop in June and July, and now the plants of Enhance are filled with ripe and green fruit and flowers, which, by the way, were very much disturbed by the first killing frost which occurred October 8. But this morning, October 10, there is still much ripe fruit concealed beneath the leaves. This, to my mind, proves that two crops of berries can be grown in a moist season, or every season, by irrigation, and I believe that strawberry growing, in the coming generation, will be done in a more scientific way, to meet the ever-crying demand from that plant, Water! Water! Water! The situation will be selected right, and artificial methods will be used, and more intelligence will be at the command of the future berry grower. A majority of these berries measured over one inch in diameter, worth, in Englewood, $2 per quart.

Late Berries in Indiana.

A. W. R., WOLCOTTVILLE, IND.—I wish to tell C. W. C. of our strawberries. I have one bed of three-fourths acre, which has fruited two seasons. After fruiting in June, it was burned over and cultivated. This, with the rainy weather, produced a most vigorous growth of vines. The first of September, we began picking berries, one or two quarts at a time, increasing till, one day, we picked 12 quarts. The last were picked October 7, four quarts. We picked in all 60 quarts; the varieties were Beder Wood, Jessie, and Cumberland.

Strawberry Shortcake in October.

J. W. G., HUBBARDSTON, MICH.—I think that I can beat C. W. C. I had strawberries in September, also in October, grown in the open field. From four rows of Enhance, about 100 feet long, October 4, we picked two quarts; October 7, one quart; October 11, one quart, and October 16, three quarts—nice, large, fresh berries, and more to ripen. How is this, a good, large shortcake October 16?

The Crawford an "Everbearer."

G. B., MILAN, O.—I never had ripe strawberries in September before, and would like to ask if others have, and the cause. I have often made the assertion that I could ripen strawberries 12 months in the year. Commencing with last April, I have picked ripe strawberries every month until the present time. I picked some fine ones a few days ago. With berries in all stages, from buds just peeping out, to nearly full-grown berries with plants in the dormant state which I can force into bloom in a short time, I hope to be able to accomplish the above assertion.

The reason for C. W. C.'s plants bearing the second crop was, no doubt, owing to one or both causes—that his plants bore but little in the spring or received a check from weeds or drought, thus remaining dormant a few weeks; this would bring some varieties into fruit to some extent. All varieties are not influenced alike; the Crawford, for instance, is about the only one which I can fruit successfully throughout the summer months, while almost any variety may be fruited under glass throughout the entire winter. I have a few plants of the Crawford which fruited all through the summer months of 1895; these plants I marked with stakes, and they are doing the same this season. Some plants have as high as three to five clusters of 10 to 15 berries to the cluster. They are in hill culture. I have them covered with glass, and hope to pick some fine ones later on. I am propagating from seeds and runners from these plants. If I can get a perpetual bearer, then I will have the market by the ear.

Protecting Young Trees with Wire Cloth.

C. W. S., VERMONT.—Mr. T. L. Kinney, of Grand Isle County, Vt., wraps his young fruit trees with a strip of ordinary wire cloth, such as is used for window screens. The wire cloth takes the place of tarred paper, and should be tied loosely around the base of the tree so as to protect it 10 or 12 inches above the ground. The wire cloth keeps the mice and rabbits from girdling the trees in winter, and prevents the moth from depositing her eggs from which the borer grubs hatch in the summer. The wire cloth remains around the tree all the year, but the twine which holds it in position should be loosened each year to allow the tree to expand without injury to the bark. This is a much better method than using tarred paper, as the bark of the tree is exposed to the sunshine and rain the same as the rest of the stem above. This may be a well-known method, but I have never before seen it adopted.

R. N.-Y.—This method is quite commonly used for rabbits, poultry netting being used as well as the other.

"Keiffer Pears in England."

GEO. A. COCHRANE, BOSTON, MASS.—I should say that the chances are very poor for shipping Keiffer pears to England, more especially this year, as prices are good with us. They get a great many pears on the other side, from France and other nearby countries; still some do go from here. The best way to do would be to get up some boxes about the sizes that the Californians use in packing their fruit, and make the experiment. Nothing but the very finest selected fruit should be sent, and it should be wrapped in paper the same as the Californians do. If it is not a fine eating pear, there is no use sending it.

"Curing" Hay.

J. N., SHELDON, VT.—I was pleased to read J. C. Senger's article on dried grass or hay, and of his way of stating the necessity of thorough spreading. There is, evidently, a life principle in grass that should escape, just as it is necessary for the animal heat of slaughtered animals to escape before curing. It is well known that when animals are slaughtered in very cold weather and frozen hard outside, closing the pores, and preventing the escape of the animal heat, the meat will taint. So will grass mold in the mow if this life principle is not given a chance to escape.

The English farmers say that they cannot make a prime article of hay in barns; it must be stacked out-of-doors. Circumstances have given me a chance to try stacking hay, and more than a half dozen barns of different size and boarding, and I have found my best hay in single-boarded barns with wide cracks between the boards. This is not an experience of a single year, but of more than 50 years. I owned a farm that was formerly in two farms, and had two sets of buildings; from the lower barns, we drew the hay as needed. As an example of how well hay will keep in a single-boarded barn, when cut in season and properly cured, in one instance it remained 12 years. A neighbor piled a lot of pumpkins on the barn floor. I was looking over them and could not find one from which the rats had not eaten the seeds. I told my oldest boy how the rats had served the pumpkins, and he would better draw the hay to the home barn, as the rats and mice might have honeycombed the mow. But the mow was intact, just as bright and sweet as the day it was put in the barn.

Seed Wheat Per Acre.

J. M. JAMISON, O.—For 12 years, I have grown crops of wheat ranging from 10 bushels to 39 bushels per acre, leaving out this year, which was so near a complete failure that I did not harvest the crop. The 10-bushel-per-acre crop was grown on thin clay land without any manure or commercial fertilizer. Part of the land needed tile drainage badly. Crops ranging from 22 bushels to 39 bushels per acre were grown on land that had been well tile drained, corn following clover, and the wheat following corn. The clover sod was top-dressed with barnyard manure, 20 loads per acre, and in one or two instances, 150 pounds of commercial fertilizer per acre were used. But the 39 bushels per acre was grown after corn following clover. The two previous crops of wheat, in a regular three-year rotation, were 25 and 26 bushels per acre.

Each year, before breaking the clover sod, it had been top-dressed with barnyard manure, 20 loads per acre. This field has never had a pound of commercial fertilizer on it. It is what may be termed White-oak land. Part of it is black soil, and the whole of it is underlaid with stiff, red clay. Fifteen years

(Continued on next page).

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ago, it was the most sterile and uncertain field on the farm for a crop. Previous to that time, it had never produced over eight bushels of wheat per acre. For one of the first crops I have grown on it, I sowed but a very small fraction over one bushel of wheat per acre. For the largest crop, I aimed to sow 1¼ bushel per acre. This has been the amount I have sown, as nearly as possible, for a number of years up to this year. I sowed, this year, on the field mentioned, a greater part of 1½ bushel per acre. On the first plot drilled, I found that I did not get on as much as I desired, so I drilled it over, and got nearly 1¾ bushel per acre on it. One reason I seeded so heavily this year, was that the wheat was of this year's crop, and I feared that a considerable amount would not grow. It appears to have germinated well, and is now, October 7, making a good showing.

Farmers here sow from 1¼ to 1½ bushel per acre, 1½ bushel being about the average. We have grown the Fultz variety for years. The grains are not so large as those of some other varieties, hence not so much seed is required.

As was stated last spring, another trial was made to find out whether sulphur will prevent potatoes from rotting. After the seed pieces were lightly covered with soil, at the rate of 400 pounds to the acre of powdered sulphur was strewn in the trenches of about half. We have now—October 13—dug all of our potatoes, and as there is scarcely a rotten one among them, we are again unable to throw any additional light upon the question.....

Mr. O. M. Richardson, of Canton, Me., sends us several pears grown from seed by one of his neighbors. The seedling tree has not failed to bear a full crop in six years, and it is very hardy and vigorous. Except that the pears are more pyriform, and the stem set more obliquely, we could not tell it from Seckel. We are fairly confident that any good judge of pears would say that they were Seckels if he ate them with his eyes shut. So, too, we think that he would not question its being a Seckel, unless his attention were called to the slight differences we have mentioned.....

The European Sycamore maple is, doubtless, familiar to many of our readers. There is a variegated variety of this that has given us great satisfaction. It was planted in the Rural Grounds about 22 years ago, and is now 25 feet high. It is a close-growing tree, and its general habit is all that one would ask. We have always had this fault to find with the Silver maples, as with the Maiden-hair or Gingko tree, the Phellodendron, or Chinese Cork tree, the Tulip tree and others, viz., that they do not assume a compact form suitable for grounds of limited area.

The variegated variety of the European Sycamore maple to which we would now call the attention of our readers, is the Tricolor-leaved Sycamore maple. It *holds* its variegation during its entire season of leafage, and it holds it conspicuously. The color of the leaves in the early season is dark green, yellow and a rosy red, not very pronounced. Later, the leaves are yellow and green; but no two leaves are variegated alike. Some are nearly all green with, it may be, an irregular band or splash of yellow; some are nearly all yellow; some are peppered, so to say, with green upon a yellow ground, and others are peppered and splashed with yellow upon a green ground. One enjoys making a collection of these dissimilarly marked leaves, and our friends who visit us never fail to express surprise that the same variety produces leaves so strikingly unlike in markings. It is perfectly hardy at the Rural Grounds, and is, among this class of medium-sized trees, one of the choicest we know of for grounds of one acre and more .....

The Minnewaski blackberry has friends. The late A. J. Caywood, in whose grounds in Ulster County it originated, could not say enough in its favor. Certain it is that *in* his grounds it was exceedingly productive of large berries, of a jet black color, and of a quality as good as that of the Erie or Lawton. Our respected friend, T. T. Lyon, of Michigan, reports that it is of doubtful value as a commercial variety, though of vigorous growth. It is not sufficiently productive.

Here is a friend, also from Michigan, J. C. Haven, who says that he bought a few plants in 1892, and set them in a bleak situation on the east bank of Grass Lake, in order to test the hardiness of the variety. They have done exceedingly well, and seem to be perfectly hardy. He does not allude to the productiveness of the plants.....

Speaking of the short life of the Lombardy poplar, because it is so subject to borers, Henry Hicks, of Westbury, L. I., writes us that he kills them in a simple way. He opens the entrance to the hole with a penknife, injects a few drops of carbon bisulphide, and then plugs up the hole at once with putty. Borers in all other infested trees might, of course, be treated in the same way.....

Mr. S. T. Walker, of Forest Grove, Ore., a sweet pea specialist, writes us that, for a time, the new dwarf pea, Cupid, "outbloomed everything." After a heavy rain of a few days, many of the plants blighted and were in part or wholly killed. He concludes from this that it may have a weak constitution, as Cupid was the only one among 100 varieties to be so affected.....

An agreeable surprise among new flowers is the California violet, a small plant of which was sent to us last spring, by H. A. Dreer, of Philadelphia. It is now a little round clump over two feet in diameter, and nearly a foot high, the leaves being large, dark green and healthy. What pleases us most about this violet, is that it is bearing many flowers now (October 9) after we have had several stinging frosts. The flowers are of goodly size—nearly an inch across—of a purplish violet color, and extremely fragrant. The stems are long and strong, so that the flowers may the more effectively be used for bouquets. We do not know whether the plant is hardy or not.....

To Jan. 1, 1898, for $1.00.

You must have a neighbor who wants The R. N.-Y. Now is the time to interest him. Send us his dollar, and he will get the paper to January 1, 1898, and you may have a choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

Miscellaneous Advertising.

In writing to advertisers, please always mention The Rural New-Yorker.

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any longer from

Asthma

It is needless.

Never mind if you have "tried everything" and failed. Never mind if you feel discouraged and hopeless. Never mind if your case has seemed incurable. **Try once more** and you will never regret it. We will tell you frankly if we can't help you.

"This is one of the happiest summers I have seen in 30 years. No asthma, sleep good good appetite, and work hard—why not be happy after so many years' suffering with that terrible asthma? My family doctor says, 'What a miracle'!"
THOS. J. BRADBURN.
Rose, N. Y.

WRITE TO

Dr. Hayes, Buffalo, N. Y.

FOR PARTICULARS

A Companion For Dark Hours

worth having is a

Dietz Crystal Lantern

Equipped with side lift, heavy square tubes, strong joints, glass oil pot; clean and never leaking; shows when oil is needed; heavy wire guard, best globe and burner, securely locked down; a typical **DIETZ LANTERN.**

Do not allow your dealer to sell you a cheap article of some other make. Insist on having a **DIETZ.** Established 1840.

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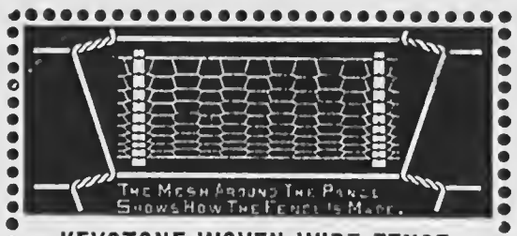

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Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.

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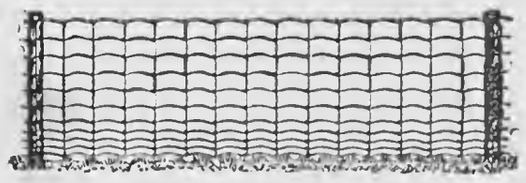

A Campaign of Education

For ten years we have carried it on, and with wonderful success.

Competitors at first scoffed at our claim, that elasticity was absolutely necessary in a wire fence. Now they are tumbling over one another to prove they have it. No matter if it is all bunched in one panel, it's a move in the right direction.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

INFORMATION GOLD!
Worth It's Weight in

For your name and address on a postal card, we will tell you how to make the **best wire fence on earth, horse-high, bull-strong and pig-tight,** at the actual wholesale cost of wire.
Kitselman Bros. Box B. **Ridgeville, Ind.**

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FOUR COURSES IN AGRICULTURE.

Two Winter Courses begin January 4, 1897; Regular and Special begin September 26, 1897. For Announcement address
I. P. ROBERTS, Director, Ithaca, N. Y.

FOR WINTER WHEAT you should use a complete fertilizer, one which will **PRODUCE THAT STRONG GROWTH OF ROOT** so necessary to enable the plant to stand the rigors of winter. The residum left in the soil **WILL HELP THE CROP** through the coming season and insure a good catch of grass. We recommend a line which meets every requirement. **Cleveland Dryer Co., Cleveland, Ohio.**

Do You Want a Watch?

WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

Offer No. 200.

Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all the greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

Offer No. 201.

Elgin or Waltham Watch—Men's Size, $10.

No. 201 is a gold filled open face case, dust proof; guaranteed to wear like solid gold for 15 years. The movement is seven jewels, stem wind and set, and contains all the latest improvements. Sent delivery guaranteed by registered mail for $10. Hunting case, $3 extra.

Offer No. 202.

Waltham Watch—Men's Size, $13.50.

The American Watch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.

Ladies' Gold Filled Waltham or Elgin Watch, $13.50

No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

"Crescent Street."

Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only).....$52.90
No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case..... 37.00
No. 205. Crescent Street. Gold filled, 15-year. Hunting or Open Face case..... 33.25
No. 206. Crescent Street, 2-ounce Coin Silver. Hunting or Open Face case..... 27.85
No. 207. Crescent Street, Solid Nickel Silver, Open Face dust-proof case..... 25.00

Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

THE RURAL NEW-YORKER, NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line.
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We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.
Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, OCTOBER 31, 1896.

PLEASE ANSWER THIS.

To what extent has the rise in the price of wheat helped you or the farmers in your township or county? What proportion of the crop remains on hand? What is the price in your market as compared with the price on September 1? Will the increased price amount to enough to pay your taxes or mortgage interest?

⊙

WHAT CAN I DO?

Who are you? If you are a man with eyes, ears, legs and tongue of average capacity, you can secure a new subscription for THE R. N.-Y.

WHAT GOOD WILL IT DO ME?

Why, you may retain the usual commission, or take your choice of the following books:

	Price, Cloth.
First Lessons in Agriculture	$1.00
American Grape Training	.75
The New Potato Culture	.75
The Business Hen	.75

Your work will count. Read "Single Strands" on page 728.

⊙

IT might be well for apple growers to consider the suggestion contained in Mr. Green's article on the next page, in regard to markets for apples in the South. There may be many parts of the country where apples are not grown, but will be needed, and these may furnish a much better market than the great cities, or the European markets, to which the bulk of apples seem to be tending. Investigate some of these before shipping!

⊙

THE R. N.-Y. has given a description of the great chestnut orchard of H. M. Engle, at Marietta, Pa. Mr. Engle sends us this report of this year's prospect:

So far as tree growth in the forest is concerned, it is a success. Their bearing habit is also quite satisfactory, but the past few years, the weevil has been unusually destructive. Should they continue thus, or get worse, chestnut culture on sprout land would be discouraging. On planted trees away from chestnut timber land, we find very little damage from this cause.

It will be remembered that Mr. Engle's orchard is on "sprout land". The wild chestnut trees were cut off, and improved varieties were grafted on the sprouts which grew from the stumps. It will be very unfortunate if an insect is able to offset, by its destructive work, the many advantages of this method.

⊙

MR. HODGMAN'S articles on swamp lands lead us to refer again to the vast quantities of plant-food that are held in swamps, marshes and other low places. These spots have, for many years, received the leachings from the higher ground that surrounds them, and this soluble fertility has been stored away for future use just as a barrel of earth under an ash "leach" would hold the potash that washed out by water. Yet, as they stand, these low places are of no value to agriculture. Nothing but coarse and worthless vegetation will grow there, because the soil is too wet and sour. Acidity and dampness stand in the swamp like dogs in the manger, and keep useful plants from feeding upon the plant-food that has been stolen out of their own feeding place. The swamp must be dried and "sweetened" before it can work for the farmer. One way to do it is to haul the "muck" or swamp-soil out upon dry ground, mix it with lime, potash and bone, put it in piles and start it into a ferment. In that way, you may make it equal to manure, ton for ton. Another, and better, way is to go down into the swamp and drain off the water. Dry it out and work air-slaked lime into the surface soil. Take the crops to the soil, instead of taking the soil to the crop. A five-acre swamp that is capable of drainage, is also capable of producing as large a crop as any 10-acre upland field on your farm. Get up fresh courage by going down into the swamp. You may be thankful that Nature has held out a hand in that low place in which to catch a part of the fertilizer and manure your neighbor puts on his hills.

⊙

DURING the past few weeks, the price of wheat has been slowly rising. On several occasions, it has gone up with a jump and, to-day, the price in New York is about 15 cents per bushel above the recorded price two months ago. The price has also risen in the English markets in consequence of reported shortage in the Indian crop. So far as public statistics may be relied on, it seems likely that the last total wheat crop of the world is considerably less than the previous one, and there will, evidently, be a demand from England and India for all the wheat and flour this country can spare. It is not safe yet to estimate as to the probable course of prices. Far more satisfactory estimates can be made after the election. Just at present, some one is making money out of wheat. To what extent is the farmer helped by the increase in price? That is the question which most concerns us, and we welcome the actual figures from any of our wheat-growing readers to show whether this extra price has brought extra money into their pockets. We shall be pleased to receive accurate reports from individuals.

⊙

ON pages 730 and 731, we present a symposium from some of the winners in the dairy contest at the New York State Fair. They tell us how their butter was made, and describe the cows and the feed that produced the milk. We call particular attention to Mr. Van Alstyne's note. His butter scored 100, and he gives us in detail the operations required to duplicate it. Mr. Johnson, whose butter won one of the prizes, also tells us how he proceeds to obtain good customers. Among other forms of advertising, the following, much enlarged, is distributed through the towns nearby:

THIS BUTTER

Is made at East Schuyler, N. Y., by the "Separator Process," under our own supervision. To be genuine, "J" must be plainly stamped in the butter on top of each package. We have pure water and aim at the strictest cleanliness in its manufacture. If it pleases you, order another package of

.....

who ha.... the exclusive sale of our butter. If you wish to return this package, thoroughly cleanse it.

If at any time you do not find our butter at the usual place, write to us at once, and we will either inform you where you can get it, or bring it to you.

This is put on every jar of butter, and also used on a card. Farmers might well use more printer's ink in these forms. The first thing, of course, is to make an article that you can honestly talk about. Having done that, a good supply of attractive advertising matter, well placed, will be pretty sure to attract trade.

⊙

FARMERS must not think that their business is the only one that has suffered of late years from low prices and heavy cost of transportation. A New England manufacturer recently told us that he pays $22 for a car-load of coal, while the freight on the car is $80. In other words, it costs nearly four times the actual value of the fuel to haul it from the mines. This man's product formerly sold at 12 cents a pound or over. Now, it must be sold at five cents. In order to save the awful cost of fuel, he is going back to the old-time custom of utilizing the power of the stream that supplies water to his factory, and has put in water wheels which, in the rainy seasons, can develop 300 horse-power. A farmer with a running stream or a swamp on his farm, may follow this manufacturer's example, and use the now wasted water power to enable him to double the producing capacity of his best fields.

⊙

IN 1875, there were, in this country, 43,951,000 people. At that time, each individual required 11.90 pounds of raw cotton, 5.38 bushels of wheat, 18.66 bushels of corn, 43.6 pounds of sugar, 7.08 pounds of coffee, 1.44 pound of tea, and 6.71 gallons of malt liquor. In other words, that was the per capita consumption, or the total of these articles used during the year divided by the total population. In 1895, the population had increased to 69,753,000, while the individual requirement was 22.48 pounds of raw cotton, 4 54 bushels of wheat, 16.98 bushels of corn, 62.6 pounds of sugar, 9.22 pounds of coffee, 1.38 pound of tea, and 14 95 gallons of malt liquors. Thus the average citizen is eating more sugar, using more cotton, drinking more coffee and liquor, and eating less wheat and corn than he did 20 years ago. The decrease in the consumption of flour and meal is, we think, partly accounted for in the increased use of the "cereal" preparations and potatoes. We observe that most families of our acquaintance eat less bread than they formerly did.

⊙

ABOUT a year ago, M. Crawford told us that he expected to be able to fruit strawberries every month in the year. It is evident, from the notes on page 722, that some of our friends are learning how to make the strawberry plant work right up to the time of frost, in the open ground. Years ago, it was thought that 30 days was a long fruiting season for strawberries. The remaining 335 days of the plant's year were devoted to "rest and recreation." Now it seems that people are learning better, and with new varieties and new methods of culture, we shall be able to make the plants do double duty. That is right. When the manufacturer is obliged to harness the water that flows under his mill, or to sift the smoke that issues from his chimney, and the farmer must go to the neglected swamp for fertility, the fruit grower may well study to make his strawberry vines bear a second crop. The strawberry is about the only crop that is never "out of season". It will sell at any time.

⊙

THE Breeder's Gazette makes the following list of "educational exhibits" provided by the Illinois Board of Agriculture at the last Illinois State Fair:

The Petrified Woman.
A Circus with Oriental "Dancing" Girls.
Largest Den of Snakes in the World.
Oriental "Dances" and other attractions.
"He, She, or It" (with nude view for 10 cents extra—"purely for scientific purposes").
Black Africa.
Snide-jewelry vender.
Wild Jim, the Texas Cowboy.
Twentieth Century "Dancing" Girls, and the Lady with the Horse's Mane.
Living Pictures.
The Lion-Clawed Mexican Wild Man, and the Wild Double Woman.

At the same fair, the board invited the Christian Endeavor Society to hold a convention on the ground! We are glad to learn that this society denounced these indecent exhibits, and put itself on record as hostile to the fair while thus managed. It is high time for self-respecting people to take a hand in this matter, and boycott all fairs that give "freaks and fakirs" the choice of positions. Farmers can get along without these exhibitions! Down with them!

⊙

BREVITIES.

The watcher in the desert—far removed
From old-time home and friends—with thoughts that bring
But saddened memories of forms beloved
Which closely to imagination cling,
The farmer in the lonely hillside glen,
The sailor on the vast, unmeasured sea,
These lonely ones—denied the sight of men—
Turn to the stars for hope and sympathy.
For, from those calm and tender eyes of night—
God's windows—shines a message clear and true
From friends and loved ones standing in the sight
Of one who guides them all their journey through.
And so, to lonely ones—faint hearted, sore,
On desert, farm or on the restless sea,
The silent, steadfast stars will evermore
Give hope and comfort from their mystery.

How is the grass seeding?

A STONY hillside will put a metal wheel on its mettle.

THE tobacco-eating habit leads a man to *littery chewing.*

DOES your fall lawn look forlorn? Brighten it up a little!

WHAT is handsomer than an oak leaf after the first biting frost?

READ Prof. Roberts's article on feeding cows—page 721. Think it over.

WHAT incubator maker will guarantee uniform heat all through his machine?

WE believe that forest leaves used in the stable, will leave the manure richer.

ADVICE to the potato planter: "Don't give up the skip." Raise a corn stalk on it.

"YES," said the scales, as they weighed the old hen, "I am great on fowl tips."

OUR readers are beginning to tell us why they keep certain breeds of live stock. Let's have a full statement!

SEE what the little beavers have done in Mr. Hodgman's country—page 719. Wonder if any of *your* work is going to show in after years!

MR. GALE, page 719, thinks the manufacturer should take the risk of breakdown of his goods. He should, certainly, assume a fair share of it

WE believe that a shipment of Keiffer pears to England, unless they were distinctly marked, "for canning", would give American pears a bad black eye.

THIS season has been a great "starter" for Crimson clover. The little tubercles on the roots will cure the consumption of nitrogen by previous crops.

FOR many years, Sir J. B. Lawes has made annual estimates of the wheat crop of the world. This year, he seems to be of the opinion that prices must continue to improve.

READ the hog reports on page 729. One man says that the amount of "try" for improvement is not very noticeable. Another thinks that it is better to use the Berkshire than to try to "reorganize" the Poland-China.

THAT is a curious fact about the tuberculin test mentioned on page 720. A second test, within a few weeks of the first one, will not cause a reaction in some cows. This, certainly, does not indicate that the tuberculin starts "latent germs into active life."

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

FRUIT handlers here seem to like to handle the Keiffer pear because it keeps so well; they say that it will keep all winter if it has half a chance, which gives it a great advantage over some other varieties. One expert told me that no other variety is so good for canning, not even the Bartlett. But he says that there is a big difference in Keiffers; they must be well grown and well matured to be good, even for canning. Keiffers are selling with the low priced varieties.

‡ ‡ ‡

AN English fruit dealer told me that he would be able to handle a great many more American apples if he could depend on getting what his customers wanted. They are particular about varieties, wanting mostly the fine, red kinds. Then, too, there is such a variation in the methods of sorting and packing! The man who does this work uniformly and well, and puts up the varieties that the English market demands, will have a good outlet for his fruit every year, glut or no glut.

‡ ‡ ‡

STILL receivers complain that a great deal of insufficiently fattened poultry is sent in. It is poor business policy. Corn is too cheap to give any one an excuse for doing it. Skin and bones always sell for low prices. Soup meat is mostly bones, and those who buy it do so because it is cheap. Don't send bones to market! Put some of that cheap corn on them first! It'll pay you to do it!

‡ ‡ ‡

As cold weather comes on, shippers of vegetables and fruits should use more care in protecting their goods from frost. Every year, in the late fall and early winter, I see hundreds of barrels of onions, potatoes, apples and other stuff, which have been practically ruined by freezing. Loss and disappointment are sure to result if proper precautions be not taken.

‡ ‡ ‡

THAT this has been a good season for cauliflower, the fine stock in market abundantly proves. The heads are of large size, very even, solid and white. The price is reasonable, too, for such a choice vegetable. The Snowball seems to be the leading variety. A large part of the receipts come from Long Island.

‡ ‡ ‡

I SAW some very fine-looking eggs in a commission house, and inquired the price. It was named—something below the quoted price for fresh laid. "But you ought to get more," I said. "Oh, no; these are not strictly fresh laid! They are good eggs, and might pass for fresh, but they are not, and we don't sell them for such." Such frankness is as refreshing as it is rare.

‡ ‡ ‡

BEFORE the fresh vegetables from the North are out of the market, one sees those from the South ready, not only to take their places, but to crowd them out. Already green peas and string beans are coming from Charleston and Norfolk, cucumbers and egg plant from Florida, and other vegetables from various places. Florida will soon begin sending strawberries, and many other fruits and vegetables will soon be here. Ours is a perpetual market. F. H. V.

A STRIKING EXHIBIT OF APPLES.

MADE BY THE GENEVA EXPERIMENT STATION.

By far the most attractive part of the American Institute Fair at Madison Square Garden, was the show of fruits and flowers which, with weekly changes, lasted during nearly the entire month of October. But the most notable of this part, was the display of fruits, especially apples, made by the Geneva Experiment Station; that of apples has, probably, never been excelled, if, indeed, it has ever been equaled. It was the best educational exhibit of its kind that I have ever seen. The superintendent of the fruit department, Mr. E. G. Fowler, said that it was the grandest show that he had ever seen.

The collection comprised 225 varieties. They were not such overgrown specimens as we sometimes see at fairs, but were selected as being typical of the different varieties in shape, size, color and general characteristics. It was intended as an educational exhibit. Among the whole number, it was almost impossible to find a single imperfect specimen. Many of the varieties were of little known kinds, like the Ronk, which are being tested. Some of these are proving valuable, others are not. Among older kinds, many were so fair and perfect, as hardly to be recognized as old acquaintances. I haven't seen such Esopus Spitzenburgs in a long time—large, fair and highly colored, just such specimens as were grown years ago when the apple grower didn't have to wage a continual warfare against insects and fungi. The Northern Spys would hardly be recognized as such, by the growers of many of those we see in market, so fair, smooth and well colored were they. The Green Newtown Pippin was a model, and if the growers could only export such specimens as these, the old-time prestige of this variety would be regained. Mr. Fowler called especial attention to Downing's Winter Maiden's Blush, a most beautiful apple, and one whose looks do not belie its quality. Rome Beauty is another variety, which he says is well worthy of more extended cultivation.

And all this perfection is an illustration of what may be gained by good, intelligent culture and thorough spraying. The ground in the orchards was stirred frequently with the harrow, and Crimson clover has been sown on, at least, a portion of it. The trees on which these apples grew were sprayed five times, and the results ought to convince any one that spraying pays. Some contend that it has not shown so much benefit the past season; but this has been an exceptional season in many ways, and there may not have been so great a need for it this year. Still, the orchardist who persists in spraying every year is bound to win in the long run.

Of grapes, the showing was only of the newer types, no attempt being made to display the older, well-known varieties. It included about 40 different kinds, and the appearance and quality betokened the same careful culture that marked the display of apples.

A curious-looking fruit was the Japan Russet pear. Its shape and general appearance were much that of a Russet apple, except that the stem was longer and more slender. It is not of good quality for eating, but is used for crossing to obtain new seedlings. Madame Von Siebold and Daimyo were other pears in this class that are being tested.

A number of new quinces which are being tried, varied greatly in appearance. The D'Alger and Sweet Winter were the most striking, the latter said to be a very promising variety.

One could but wish that a catalogue of these different fruits might have been provided, giving their characteristics, and enabling one to learn more of them than could be done by simply looking at them. The quality, season, etc., were all left to be discovered as best one might, when, really, these are the most important considerations. Perhaps these will be embodied in a bulletin giving the details of culture and treatment, so that all may be enabled to profit by these painstaking efforts. F. H. V.

A TALK ABOUT COLD STORAGE.

I have recently had a talk with the manager of a cold storage house at Olney, Ill. Here are some of the facts learned from him:

No system of cold storage in which ice is used, or where an attempt is made to keep the rooms at an even temperature by ventilation or other methods of this kind, is successful. The only successful method of refrigeration is by steam power and ammonia, the same method as that employed in the manufacture of ice, and the same as that used in all large cities in breweries. Mr. Olney has constructed his building about 150 x 100 feet, at an expense of $12,000 for the building alone. The engines and other machinery cost $38,000; but this plant is larger and more expensive than ordinary, since it is used for the manufacture of ice in addition to the cold storage. The cold storage house is, in fact, an afterthought, and an attachment to the ice-making department.

A cold storage house of a capacity of 10,000 barrels of apples, would require a 15-horse power engine, and the total cost for building and fully equipping, would be $25,000. It will be seen that it will not be profitable for any fruit grower to build cold storage houses for his own fruit alone, unless he is a very large grower; but a company could organize that might be made profitable, where several fruit growers could join together, and put up a building of this kind.

Mr. Olney's building is constructed with a solid brick wall, 18 inches thick. On the inside of this wall, he attaches 2x4 studding, leaving a four-inch space, which is filled with mineral wool (mineral wool is simply the waste of blast furnaces, on which a fierce flow of steam is applied when in a molten state, which transforms the waste into something like wool). This is a cheap production, and he tells me that he would place it between the studdings of a dwelling were he constructing one, for the purpose of keeping out cold, rats and other vermin. This studding is first covered with matched maple boards, over which is tacked building paper; over this paper, is another course of maple boards. On to this, more 2x4 scantlings are nailed, but this time, flatwise, leaving a two-inch space, which is also filled with mineral wool. Over this middle board, boards are again nailed, and over these boards two coatings of waterproof building paper, then another sheathing of maple boards. Mr. Olney states that the paper and wood of such a building should have no odor. Pine lumber would scent butter or apples stored in such a building.

The temperature for storing apples is kept at 33 degrees without any variation night or day, month in and month out. Into this building, he can put a soft, ripe apple in October, and take it out a year from that date without its having changed its condition a particle. He stored his apples six feet deep, solid, over the entire room, without any barrels or other packages. It is necessary that the building should be erected on a thoroughly scientific plan, and nothing must be cheated or slighted, for a slight defect will render success impossible.

Mr. Olney recommends that apple growers place a portion, at least, of their first-class apples in cold storage until next April or June. If there is no large city with cold storage near by, one can arrange with commission houses at almost any large city to store apples in cold storage. The cost at Rochester is 45 cents per barrel for cold storage until June 1, 40 cents until April.

Mr. Olney thinks that southern markets will be better than European markets this year for apples; for this reason, it might be well to store at Pittsburgh, Baltimore or Richmond, or some of the southern points, in cold storage.

Apples can be kept in cold storage in barrels or in bulk equally well. When barrels of apples are kept in cold storage several months, they will shrink, which necessitates, when necessary to ship, the removal of one head, and the addition of a few apples to supply the shortage occasioned by shrinkage. This a commission house will look after, if one so arrange. Apples kept in cold storage will not keep very long after being removed, especially if removed after warm weather; therefore, they should be shipped at once to the market on removing. The European market, at present, is depressed, owing to the large shipments.

A season, like this, of large crops, and scarcity of money, necessitates a thorough investigation of the producer as to what is necessary to do. The conclusion is that, in such a season, it is unwise to attempt to force fruit upon the market as soon as it is picked. At this season, everybody is attempting to make a sale, and the result is that the market is demoralized; cold storage would seem to be the remedy. There is no doubt that Bartlett, Duchess and other varieties of pears should be placed in cold storage, where they can be kept at least a year in perfect condition. Buyers of fruit pursue this course, and this is the method by which they secure their largest profits.

Mr. Olney would not ship to Europe in any event before December or January, since he considers the weather previous to that date too warm for such a long shipment. Further than this, the European local supply is enough early in the season, without the large amounts sent in by distant producers, who are not well informed. CHARLES A. GREEN.

BUSINESS BITS.

Do you want work at $10 a week and expenses paid? If you do, and are willing to work, send your address to THE RURAL NEW-YORKER.

RIDLEYS' big department store offer to send their Fashion Magazine to R. N.-Y. readers, free, in their advertisement on last page. They promptly fill all mail orders so that country people have an opportunity to "shop" in New York City, and get latest styles and fashions. The address is Edward Ridley & Sons, 321 Grand Street, New York.

THE Farmer's Handy Wagon Company, Saginaw, Mich., have set aside a number of gift wagons, and so arranged that No. 367 S will be entitled to one free. In their advertisement in THE R. N.-Y. of October 17, we misplaced the figures and made it read 376 S. As the error was ours, we hope No. 376 S will not hold the company responsible, as No. 367 S is the one entitled to it.

THE Smalley Mfg. Co., Manitowoc, Wis., have issued a series of pamphlets describing and illustrating the farm machinery made by the company. There are feed and ensilage cutters, drag and circular saws, horse powers, corn shredders, etc. They also have one pamphlet on the "Model Round Silo and How to Build It." These booklets will be mailed free, postpaid, to any farmer applying for them.

MESSRS. HEEBNER & SONS, of Lansdale, Pa., have perfected a machine that will *crush* and cut corn fodder. This is a different machine from the shredders so commonly sold. The stalks are cut into short pieces and then run through a cylinder which smashes and crushes them into a soft, easily-handled mass. It is easy to see that such treatment will increase the feeding value of stalks, because it will avoid wastes, since the stock can eat more. One great value of ensilage is that it is eaten up clean—there are no hard stalks left in the mangers. Crushed fodder is almost as readily eaten as ensilage. Heebner & Sons also make tread-powers, thrashers and ensilage cutters.

IT has been well said that it is cheaper to keep heat in animal bodies with boards or paper than with hay or grain. This demonstrated truth put in this homely way, set many people thinking, and barns, stables, piggeries, and henhouses through which the winter winds formerly whistled, are now tightly boarded and lined with felt or building paper. The P & B Ruberoid roofing is used largely for this purpose, as well as for roofing. The basis of this roofing is a strong wool felt, and it is said to be absolutely acid, alkali and waterproof. One great advantage of this roofing is that it requires no skilled labor either to put it on or repair it after being damaged by an accident of any kind. It is made by the Standard Paint Co., 2 Liberty Street, New York.

WOMAN AND THE HOME

Women make the Homes — Homes make the Nation

INDIAN SUMMER.

With the dying of the autumn come the "Indian summer" days;
O'er all the purple hillsides, hangs a tender veil of haze,
The warmth of golden sunrise, the splendor and the glow
Of "Indian summer" sunset, like no others that we know.

A backward glance of summer, no, 'tis not the summer day,
This richness and this splendor never glows from closing May;
'Tis the frosty, cool September, 'tis the summer's brightest hours,
Caught and 'prisoned in these brief days, like distilled perfume of flowers.

The quiet of each perfect day, that glows from sun to sun,
Is like some spot along the brook, where deep, still waters run;
Yet the silent forests echo accompanying sounds of sport,
The deep-mouthed baying of the hounds, and firearms' report.

As we bask in tropic splendor of the "Indian summer" day,
A truant thought will wander, to the beauty passed away;
The tender green of springtime, summer roses drenched with dews,
And the later gorgeous coloring of the brilliant autumn hues.

The mosses and the graceful ferns still lend a touch of green,
While russet leaf and somber tints, give background to the scene;
Yet there's something indescribable, the hush, the mellow light,
The calm like that which lingers 'round a soul prepared for flight.

"Indian summer" splendor, though we must let you go,
Still in the heart we'll cherish your beauty and your glow,
As the memory of some friendship that cheered us on through life,
Whose love has e'en outlasted earth's jealousies and strife.

—*Belle H. Gardner.*

HAVE WE KEPT IN STEP WITH OUR HUSBANDS?

AS time rolls along, and we note the improvement in the manner of doing farm work, and the vast improvement in the machinery used in doing that work, in the last 40 years or so, it would seem interesting to note whether there has been as much improvement in housekeeping, and the manner of living, in that time. Many things now done by machinery, were done by hand then. Washing machines were few and far between in farm houses, the pounding barrel and its clumsy pestle filling that place to the best of their ability, though the heavy, watersoaked barrel, smaller at the top than at the bottom did not look like a suitable thing for a woman to lift or handle. Wringers were still to be invented. Kerosene, with all its convenience, comfort, usefulness and danger was on the eve of reaching us. Whatever work the housewife did before daylight or after dark, was by the light of the tallow dip or molded candle. Meat was prepared, for sausage or mince pies, by chopping in a wooden bowl, with a knife with one wide blade. Coffee came green from the grocery, was roasted in the stove oven and ground, a little at a time, in a small handmill. Also pepper, cinnamon, cloves, etc., were prepared in the same manner and mill at home.

Preserving fruit, vegetables and meat in air-tight cans began about this time; the farmer's wife, before this, put up so many gallons of preserves, half sugar, half fruit, cooked until very rich and thick, and put in a cool, dark, dry place, so many gallons of pickles, sweet and sour, a quantity of jelly and apple butter. The rest of the fruit was to be dried. All sorts of contrivances were arranged for increasing the capacity of the stoves and fireplaces as driers, and, as the womenfolks worked with aching arms and blistered fingers, the flies feasted and multiplied without let or hindrance, as screens were not in fashion.

Sewing by hand, in a neat and substantial manner, was only a common accomplishment in those days, and, even after the sewing machines came, it was many years before they were generally used in the farm homes. Then, if Johnnie chanced to break a stitch in his trousers, while playing ball, the garment did not dissolve into its original parts, without a moment's warning; but thread was thread, and the stitches lasted with the garment. Women who did tailoring for families went from house to house, not only doing the sewing needed, but taking the place of the local page in the county paper of to-day. For many years after some of these inventions had been in use, the farmer's wife continued to knit all of the stockings and mittens for her family, often doing a few extra pairs, if she were uncommonly deft, to trade with the pack peddler when he came along bending under his heavy load. Now these articles may be bought already knitted, for very little more than the yarn is worth, and that exacting, nerve-straining work is no longer necessary. Now knitted underwear takes the place of the stiff, uncomfortable cotton cloth, is cheaper, and much easier to wash.

The flour-sifter, egg-beater, tins with removable bottoms, double boilers, jelly press, the improved stoves with reservoirs and other hot water arrangements, the gasoline and kerosene stoves, and alcohol burners, the light, smooth granite ware, the asbestos plate and baking powder, make cooking very different work; and though some of our modern dishes are fearfully and wonderfully compounded, and should astonish even the modern stomach, we venture to say, on the whole, that farmers in general are living in a more healthful way than they used to do.

Pork and various dishes containing corn meal are not so commonly used as they were, and where pork is used by the farmer, it is often of tender age and raised on sweet apples and clover in a clean pasture, instead of the old way of stuffing older animals with corn until very fat, while kept without exercise in a cold, dirty pen.

Fruit, in abundance, is used both winter and summer, the women filling many cans with vegetables and, sometimes, with meat, with which to fill in any lack in the fresh supplies. The cereals are used simply cooked, with a dressing of sugar and cream. The latter, by the way, has been pronounced by eminent physicians better than cod liver oil in nutritious qualities. A great variety of both vegetables and fruits are raised, so that one need never be at a loss in having an appetizing variety.

The old-fashioned winter quarters for poultry, where the poor hen, not only did not produce eggs, but just endured a miserable existence during the winter months, have been condemned, and a more humane treatment given for which the family have the thanks of the poultry in the form of a well-filled egg basket and a comfortable table supply.

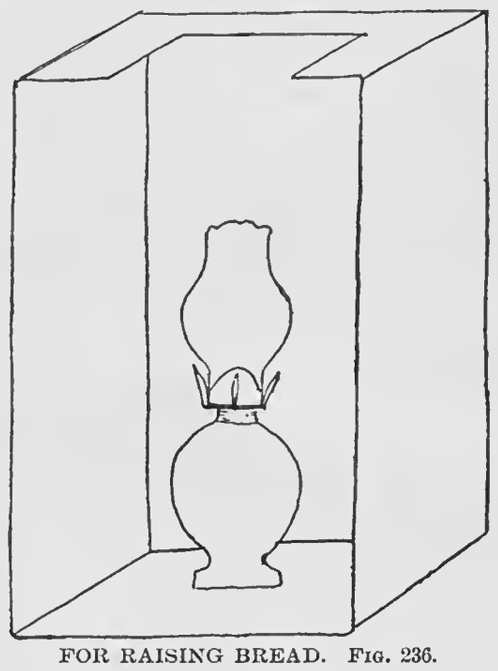
The housewife has been relieved of the dairy work which took so much of her mother's and grandmother's time. The men, having taken butter-making in hand, have learned that it pays to make it a business the year 'round, and not have it an incidental, often an accidental, along with the other work, as it must needs be when carried on by a woman who had much housework and small children to look after. With most of us, also, more attention is given to convenience and purity of water supply, thus lightening labor and increasing health.

The houses are built more and more convenient, with some ideas of light, ventilation and comfortable chambers. Chambers used, too often, to come where it happened, people sometimes saying that it toughened children to sleep in a cold room, though it often took the children half of the night to warm their beds enough to sleep comfortably during the other half. Now such hardening is not considered wise, but useless exposure. Rubbers are now provided for children to keep their feet dry and ward off consumption, their eyes are cared for, and their teeth. In fact, in looking the matter over thoroughly, I think the children fortunate who are beginning life about the year 1896.

CLARA T. SISSON.

A TRIO OF HELPS.

WHEN the fire is out in the kitchen stove, and it is too warm elsewhere in the house for fire, yet not warm enough to raise yeast, it is well to have about the house some contrivance that will overcome the difficulty. A very simple device that I have used a long time, with most satisfactory results, is shown at Fig. 236. Take a cracker box or a similar one from which one side has been removed; in one of its narrowest sides, saw out a piece six inches square, set up the box so that this will be on top. Place a pan of water over the aperture, and the vessel containing the yeast sponge over the water. Put a small lamp in the box, and its



FOR RAISING BREAD. FIG. 236.

heat will keep the water warm all night, and raise the sponge beautifully.

In a sick room, this will be found invaluable, as the kettle of water can be kept hot all night with the night lamp, the box making an excellent shade for the lamp. The mother who has her babies' food to prepare through the night, can place it by her bed side, and have the water all ready without having to keep Master Baby waiting, when he wakes in the middle of the night with the conviction that he is being starved to death, and proceeds to inform the entire neighborhood of the fact.

If the outside of the box be unsightly, cover it with cretonne, or stain with some dark color. Any lamp may be used, provided the top of the chimney do not reach the top of the box by an inch or so; this would shut up the flame and cause the wick to smoke and be disagreeable. The box has been christened, by a grateful mother to whom I gave one, the good Brownie.

An excellent cover for barrels, pans, buckets, open cooking vessels and dozens of other things can be made thus: Put a piece of telegraph or similar wire very loosely around the barrel or vessel to be covered, and twist the two ends of wire together so as to form a handle about an inch long. The wire hoop thus formed should then be laid on a piece of cheese-cloth or heavier cloth, and the material cut an inch larger all around, than the hoop; the edge of the cloth should then be turned over the wire and sewed to it neatly all around. The wire being larger around than the article to be covered, acts as a slight weight, holding the cloth firmly against the edge of the barrel or vessel, effectually barring the passage of insects or dust. It is light, easily removed, and particularly useful to cover boiling vessels of jellies, preserves, etc., where rapid evaporation of water is desired.

Where is the house without its empty spools and missing door knobs? Here is a way to substitute one for the other. Put a screw through the hole in an empty spool, taking care that it be three-quarters of an inch longer than the spool; then with the screw-driver, put them somewhere near the place of the missing knob. Paint or gild the spool, and tie around it a pretty bow of ribbon with short ends. You will find this both useful and ornamental. [Spools may also be used to advantage for hanging clothes, if one have no closet hooks.—EDS.]

M. LANE GRIFFIN.

A GASOLINE EXPLOSION.

THE gasoline stove is a great invention. In the summer, there need be no overheating of the house with a coal cook stove. Turn a screw, light a match, wait 30 seconds, put on the water and have it boiling within four minutes—that's great; turn off the fire, and stop the heat when the meal is ready—that's greater. But there are drawbacks. The daily papers seemed to make a specialty of reporting gasoline accidents last summer.

One likes to be reasonably safe, and the stove on hand was of the "drip-cup" style, requiring one to generate sufficient gas to start it, and then doing a deal of sputtering when starting. So it was condemned in family council, and the "newest thing out" with all the embellishments and safety devices was invested in. Then we were happy. It couldn't blow up—the agent said so. It was of the anarchist type—generated its own gas. No fussing about it. Now let the paper report its accidents, we were safe. We could eat, drink and be merry.

But—there are drawbacks. The five-gallon gasoline can was kept in the woodshed, eight feet from the kitchen. That is safe, because the insurance man said so. It couldn't go off unless some one took a light into the room while gas was escaping. As none of the family has a desire to go "off", there was no danger from this source. But the gasoline went, went on its own hook and without a light to blaze the way, until furnished by itself when it got started.

The time was just after daylight—no tramps around. On account of illness in the family, a nurse was sitting up in a bedroom, and I lay asleep on a lounge in the next room. The remainder of the family was asleep, and by no possibility was a light taken near the woodshed. Suddenly, there was an explosion of escaped gas, and by the time I reached the spot, the shed was a mass of flame on the inside. The can had not exploded in the midst of the fire, but it was generating gas at a wonderful rate. With the aid of a long pole, I dragged the can out of the flame, and set it on the ground. It did not explode. Incidentally, I mention that three hogsheads of water, left providentially at the kitchen door, made it possible to save the building, and thus the home was saved. But what went wrong with that gasoline?

ALVA AGEE.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Basque.

This basque is specially designed to meet the requirements of ladies who have grown stout, the pointed outline of the lower edge, the double under-arm

6878—Stout Ladies' Basque

gores, and the long pointed revers conducing to give a slender appearance to the stoutest figure. Nut-brown mohair is the material represented, small round pearl buttons with buttonholes closing the front edges. The pointed revers and coat collar are finished with stitched edges in tailor-style. Pattern No. 6878 may be had in sizes for 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure.

A CHEERFUL FACE.

It is easy enough to be pleasant
When life flows by like a song,
But the man worth while, is the one who will smile
When everything goes dead wrong.

NOTICE the little word "will"! It stands for an effort. How much better for all, when we do force ourselves to be smiling and pleasant, no matter what our inclinations! I had this idea brought to me very forcibly, a few years ago, when my little boy of five years suffered an accident to one of his hands, making it necessary to keep it bandaged for several weeks, and to amuse him in the house. Very often, I found him watching me. Once in a while, he would say, "What is the matter, mamma?" Then I found out that I wore a sour and displeased expression, and he, poor, sensitive little fellow, thought that he was in some way to blame for it.

Since that, I have tried very hard—the greater the difficulty, to make an effort in proportion—to wear a cheerful face. And I find that the whole family have passed through most troubles more easily when they were certain of finding one face to reflect all the good cheer possible to be found. I wish that poem could be fastened up on every kitchen door—yes, and every barn door, too, for men are rather more in need of such reminders than are women. How often the mood the good man happens to be in, will set the keynote for the whole family, either for gloom or sunshine. MARY BURWELL.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best**—*Adv.*

PRINTED PATCHWORK.

Small as I am, I've a mission below—
A mission that widens and grows as I grow,
'Tis to let alone cider and brandy and gin;
'Tis to keep well away from these potions of sin.

'Tis to make myself noble and manly and true;
'Tis to touch no tobacco, not smoke and not chew
That unhealthful weed that true women detest,
And all people know is a filthy old pest.

'Tis to say unto all what I say unto you,
Let these things alone if you would be true.
They are foes to all virtue, and lead down to shame.
Shun drink and tobacco, and keep your good name.

Cold water that comes from the well is my drink,
The healthiest, purest, and sweetest, I think;
It never makes drunkards, it never brings woe—
I'll praise it and drink it wherever I go.

—*Ella Wheeler Wilcox.*

....AN OLD SAYING: "Never tell your troubles; you only take up the time of the man who is waiting to tell you his."

....PHILLIPS BROOKS: "Truth is vague and helpless until men believe it. Men are weak and frivolous till they believe in Truth."

....ATCHISON GLOBE: "A woman is a bride as long as she puts away her choicest preserves for her husband instead of for the minister."

....DR. PARKHURST IN LADIES' HOME JOURNAL: "Whatever may be the reason for clerical backwardness, the pulpit always has to follow when the pew gets its face intelligently to the front."

....MARY H. KROUT IN INTER-OCEAN: "It is not the brave, the generous, and the noble who are sticklers for retrogression, for the abridgement of the liberty of any human being, male or female. Being brave, they have nothing to fear from competition; being generous, they are willing to divide the rewards of well-doing even with women; and being noble, they perceive that the race can only advance through the growth of enlightenment, and this must be retarded so long as one-half the race is kept in ignorance and subjection; so long as there remains an iota of intellectual, financial, educational, or political inequality between the sexes."

THOROUGHNESS.—We were talking of household duties, of thoroughness, and the satisfaction yielded by even the simplest tasks when exquisitely performed.

"I have two dear old aunts, who have lived alone together for 30 years;" remarked my friend, and her demureness led me to suspect that the line of argument was about to change its base. "They made me a visit once," she continued, "and finding me without help in the kitchen, insisted upon assuming charge of the dishwashing. They used to scrape the plates carefully, wipe them off with newspaper, wash them in soapsuds, rinse them, scald them, and then polish them with the towel."

"Just the way we used to do in the army," said the head of the house, without glancing up from the rarebit he was concocting. "Only," and he peered critically into the chafing dish, "we used to stop with the newspaper."

P. T. PRIMROSE.

Miscellaneous Advertising.

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to wash as clean as can be done on the **washboard** and with much more ease. This applies to **Terriff's Perfect Washing Machine** which will be sent on trial at wholesale price; if not satisfactory money refunded. **Agents Wanted.** For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

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There is no other way to enjoy your lamp and avoid expense.

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By using our (stove pipe) RADIATOR. With its 120 Cross Tubes, ONE stove or furnace does the work of TWO. Drop postal for proofs from prominent men.
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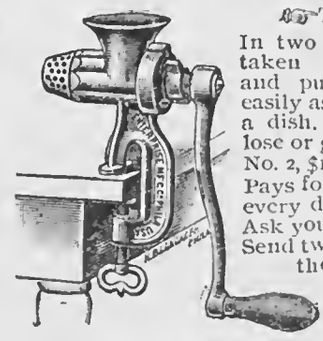
Any kind of meat, cooked or uncooked, for sausage, hash or mince-meat; lobster and chicken for salad; tripe, codfish, etc., with the

Enterprise NEW MEAT CHOPPER



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In two pieces—can be taken apart, cleaned and put together as easily as you can wash a dish. No parts to lose or get out of order. No. 2, $1.75; No. 4, $2.25. Pays for itself. Useful every day in the year. Ask your dealer. Send two 2c stamps for the "Enterprising Housekeeper," 200 recipes.

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Finest Tone, Best Work and Materials. **EMERSON** Sold and Rented, Moderate Prices, Easy Terms.
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We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

The Agent's Share.

The share all goes to the agents these times. We get none. Here are the winners last week:

$3—J. D. WOOLSTON..... New York..... 2 Yearly Subscriptions.
$3—H. C. WEBB..... .... Wisconsin..... 1 Yearly Subscription.

Mr. Woolston collects $2, and gets his commission and $3 in cash; Mr. Webb collects $1, and gets his commission and $3 in cash. You could have done better than this. Of course you could, but you did not! The same opportunity is open for you next week. Then you see how easy those cash prizes will go November 14.

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"SINGLE STRANDS."

When I was a boy, I worked, at one time, in a rope-walk. Possibly, you never saw a rope-walk. There were plenty of them, in New England, 25 years ago. It is a long, low building where rope is made. At one end was a big wheel which turned two spindles. The men had great bundles of hemp wound around their waists, and they walked slowly backward pulling out enough of the hemp to make a small rope as they went. The end of this was fastened to the spindle, and that, of course, twisted the rope as fast as they walked. They went the length of the building, fastened their rope, and then came back and started over again. That went on day after day. My job was to turn that wheel, and I earned three cents an hour for doing it. It was my arm that put the twist into the rope and gave the hemp strength by organizing it and bringing it together.

Now, in the next town, was a big rope-walk where ship cables were made. There a great steam engine did the twisting, and made a cable as large as a tree, and strong enough to hold the largest ship. Sometimes, when orders were crowding, the owner of the great factory would send to our little shop and buy up all the small rope we had twisted. He would take a dozen or 20 of these little ones and let his great engine twist them into a ship cable. I used to think, as they left the shop, that it was my strength that was twisted into that rope, but all that was forgotten when the paper advertised, "*Watson's Ship Cables—Best in the World!*"

One day, there came an account of a fearful storm at sea. A great ship, with sails disabled and rudder broken, was driven by the wind right to the rocky shore. There was only one hope of living. "*Throw out the anchor!*" roared the captain. "*If it will catch on the bottom, Watson's cable will hold us!*" So out went the heavy anchor. It dragged for a moment, and then it caught on a rock and held fast. And all through that awful night, the storm roared and beat and tore at the ship, but Watson's cable held true to the anchor, and though the angry waves beat themselves into foam upon the cruel rocks, the ship was saved, and in the morning the wind gave it up and the storm crept back whipped and disappointed. How the papers did praise "Watson's cable" for that performance, and I have no doubt that Watson himself sat in his office and thought himself a great man, though he did not put an ounce of his physical energy into that rope.

But *I did*. It was my little arm that put the twist into that small rope. The steam engine finished it, perhaps, but the human force that saved that ship was the muscle in my arm. I doubt whether I could have lifted 125 pounds in those days, but when the force in my arm was organized by twisting hundreds of strands of hemp together, it became so powerful that the mighty wind could not break it!

But not one of those sailors had even a thought for the little boy "turning wheel" in Dimon's rope walk. Watson was their man. I did the work and received three cents an hour for doing it. Watson gave his name to the rope and made a fortune, and also got his name into all the papers. That experience might have made an Anarchist out of me if life had not convinced me of one thing, and that is that the world needs true followers a good deal more than it needs leaders. We need more honest privates who will grow up into generals. We need people to twist up the single strands of life and to put a good honest twist in, too, so that those whose business it is to make these strands into a big cable, will know that there is no rotten hemp or slack rope in it. That is the cable that will hold the American Union true to its anchor—the Constitution. Let the three-cents-an-hour man or boy put the best of his muscle into his work, so that the force of it will lift him up into a better job. I learned, one day, that the great Watson himself once turned a wheel and turned it so well that it lifted him to the top. The single stranders! They are the people who are making history every day in the year.

And now, of course, comes a word of business! The great cable that holds THE R. N.-Y. away from the rocks, is our subscription list. Thousands of people are twisting strands that go into this cable. Here is a man who sends his own subscription. That is a single strand. Another gets two neighbors to unite with him. Of course, that little rope is more than three times as strong as the single strand, because it is twisted together. Another may send 10 or 20, or more, but all these strands and ropes go into the big cable.

Some of these single stranders may say, "Oh, well, there will be plenty of big clubs! I guess I won't try to get neighbor Jones this year!" Now don't say that! We want your little rope! We appreciate your humble work just as highly as we do that of the great "Watsons," who put in big ropes in the shape of large clubs of subscriptions. We can pay you more than three cents per hour, too! Come now, ye single stranders! Come to the front! Make your rope-walk extend to your neighbor's farm, and twist his name right in with your own when you renew! We need that new strand in our cable! You are the man to put it there! Start up the wheel! Go ahead!

CROP AND MARKET NOTES.

Gov. Morton has appointed Dr. G. Howard Davison, Millbrook, and Lyman P. Haviland, Camden, N. Y., trustees of the Geneva Experiment Station.

The success attending the initial live stock show at Madison Square Garden last fall was such that the second will be held at the same place, November 23 to 28. Many thousands of dollars are offered as premiums on Short-horn, Hereford, Aberdeen-Angus, Jersey, Guernsey, Holstein-Friesian and Ayrshire cattle; Shropshire, South Down, Hampshire Down, Cotswold and Dorset sheep, ponies, etc. Entries close November 7. Entries may be made and information obtained of Frank W. Sanger, Madison Square Garden, New York City.

The Board of Examiners of Horseshoers met at New York last week, selected Dr. Thos. Quinn, New York, chairman; Chas. W. Kirk, Albany, secretary, and Thos. Carroll, New York, treasurer. The other two members of the board are Robt. Keenan of Brooklyn and Homer A. Gove, Rochester. The board was appointed in accordance with Chapter 271, Laws of 1896. All horseshoers in cities of over 50,000 who have not registered from the signing of the bill by the Governor in April last until the present time, will be compelled to pass an examination before this board. Applications for examination will be furnished by the secretary.

CONDENSED CORRESPONDENCE.

SUSSEX COUNTY, N. J.—Hay was a light crop in this vicinity, but plenty of fodder corn was harvested in its place. Most of it will be fed dry as there are but few silos. Fall pasture is plenty. But little winter grain was sown. Buckwheat yielded largely. Apples are a large crop, being well colored and free from scab. A few sales have been made from 40 to 60 cents per barrel, buyers furnishing barrels and packing the fruit. Most growers are preparing to hold the crop believing that prices will be better later in the season. A. E. R.

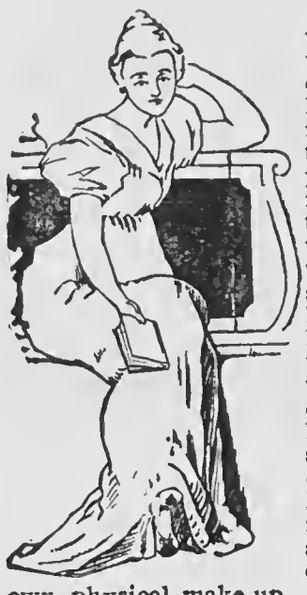
STEUBEN COUNTY, N. Y.—The dairy, in this part of the county, has been improved 20 per cent in the past 10 years, which is due, first, to better feeding and better care, second, to better breeding. My feed has changed some since I commenced farming seven years ago; the feed then was pasture, hay and straw, with grain in spring. It is now pasture, with oats and peas to feed as soon as the pastures begin to fail. Also a grain ration which is kept up till the next June; corn fodder, hay and straw, with the grain, are the winter feed. We raise most of the grain, which consists of oats, peas and corn. I think that buckwheat middlings is the cheapest feed to buy; it is $9 per ton. S. E. H.

SULLIVAN COUNTY, N. Y.—There is some registered dairy stock in this part of the country, but not much. The most improvement has been in feeding and stabling; but there is plenty of room in that line for more. What cows I have, go six or seven miles for service, and that is not as good as I wish. Most of the milk is sold to creameries. I find that those that have the best cows and give them the best care, all read good farm papers. There are five silos within a circle of 10 miles. Bran is the cheapest feed to buy, but peas and oats cut the feed bill with some of the farmers, and they will sow more next year. G. F. D.

COLLINGSWORTH COUNTY, TEXAS.—Wheat is now worth 50 cents, oats 25 cents, cotton 6½ to 6¾ cents. Less wheat will be put in this fall than usual, on account of it being too dry to prepare the land. This is a stock country, but the production of Millo maize, Kaffir corn and cotton is proving successful. E. M. R.

CHEMUNG COUNTY, N. Y.—I think that the dairy cow of to-day will average one-third more butter than she did 10 years ago. It is partly due to improved breeding, and partly to better feeding and care. In the last 10 years, many farmers have crossed their cows with purebred Jersey bulls, and some were crossed with Guernseys. I think that the Guernseys are the better; they are more hardy, give more milk and very nearly as good milk. Corn is worth 35 cents, rye 30, oats 20 to 25, buckwheat 20, potatoes 25 to 30, apples 50 cents per barrel. A. H. N.

Miscellaneous Advertising.



The book of woman's life is divided into three chapters: Girlhood, womanhood, motherhood. At the time when a young girl passes into womanhood—turning the leaf as we may say between the first and second chapters of her existence—a little care and thoughtfulness will double her chances of future happiness and save many hours of suffering. Every young woman should have an intelligent understanding of her own physical make-up. Half-knowledge which is little better than pure ignorance, opens the way to an untold amount of pain and wretchedness.

Few women realize the influence exerted on their bodily and mental well-being by the special organism of their sex. It is hard for them to believe that the little drain which goes on from day to day is sufficient to sap away the very life forces. Yet it is so. The weakness, exhaustion, melancholy; the periodical prostration and sometimes almost torture has no other cause, two-thirds of the time, than the abnormal unhealthy condition of the generative organs. Strangely enough even doctors often fail to recognize the truth, For this condition there is no other remedy in the world so helpful and certain as Dr. Pierce's Favorite Prescription. It restores health and vigor to the feminine functions and renewed vitality to the entire body. It heals inflammation, stops discharges, strengthens the ligaments and builds up the internal tissues which cannot be reached by "local treatment." It is of inestimable value to young women and to prospective mothers, greatly lessening the pains and perils of childbirth if taken during pregnancy. During the "change of life" it is invaluable.

Dr. Pierce's great book, "The People's Common Sense Medical Adviser," has 1008 pages, profusely illustrated. Over 90 pages are devoted to woman's diseases with suggestions for home-treatment. It will be sent *free* by World's Dispensary Medical Association, 663 Main Street, Buffalo, N. Y., on receipt of 21 one-cent stamps to cover cost of mailing *only*.

Poor Blood

When a horse is poor in flesh, a new harness won't give him strength. If a house is cold new furniture won't warm it. If your strength is easily exhausted; work a burden; nerves weak; digestion poor; muscles soft; if you are pale and worn out, the trouble is with the blood. It is not so much IMPURE blood as POOR blood. Pills won't make this blood rich; nor will bitters, nor iron tonics, any more than a new harness will give strength to the horse, or new furniture will make a house warm. For poor blood you want something that will make rich blood.

SCOTT'S EMULSION of Cod-liver Oil with Hypophosphites is the best remedy in the world for enriching the blood.

We have prepared a book telling you more about the subject. Sent Free.
For sale by all druggists at 50c. & $1.00.

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The Rural New-Yorker, New York.

Are You Keeping

COWS FOR PROFIT

NOT AMUSEMENT—add to your knowledge the knowledge of others, and you will do better and have in greater measure the pleasure and profit of success The readers of THE RURAL NEW-YORKER are progressive, and not content to rest with only the knowledge gained of their own experience, and we are pleased to have made such arrangements with the publishers of *Hoard's Dairyman*, published at Fort Atkinson, Wis., preëminently the Leading Dairy Journal of the country, that enables us to offer both

Hoard's Dairyman

AND

The Rural New-Yorker

ONE YEAR FOR $1.70.

There is no journal in the world that furnishes so large an array of dairy facts, figures and experiences. Edited by W. D Hoard and practical dairy farmers from all over the country. There is no journal comparing with it on the information it gives concerning the breeding and feeding of dairy cattle and the handling, manufacturing and marketing of their product. Don't miss this offer. *Hoard's Dairyman* is a 20-page weekly, and regular subscription price is $1 per year.

All who take advantage of this offer will receive both to January 1, 1898. The rest of 1896 FREE.

NURSERY BOOK.

BY L. H. BAILEY.

We have a limited number of the Nursery Book, in paper binding, at 50 cents. When this edition is exhausted, we shall have no more at this price, as in the future it will be bound only in cloth, at $1. As the 50-cent edition is limited, we guarantee to fill orders only while it lasts. The opportunity is offered now for the last time, to get the Nursery Book for 50 cents.

THE RURAL NEW-YORKER, NEW YORK.

We Make HIGH GRADE WAGONS and Sell

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With us the Farmer's Cash is better than the dealer's credit.
Wholesale Prices to all.
Ship anywhere for examination before sale. Save the dealer's profit by buying from the Manufacturers.
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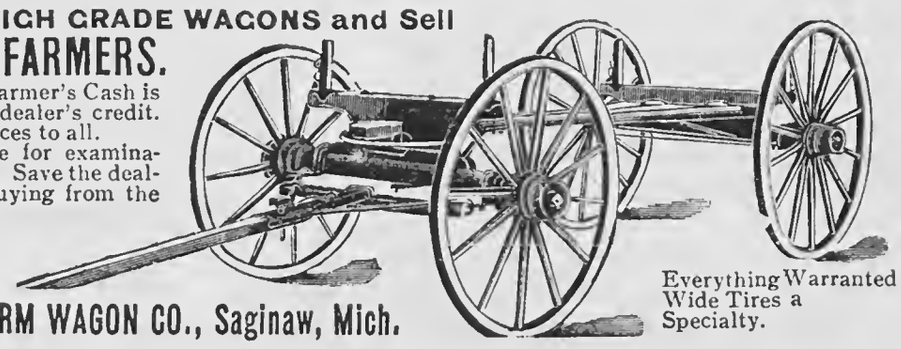

Everything Warranted
Wide Tires a Specialty.

MICHIGAN FARM WAGON CO., Saginaw, Mich.

THE WESTERN HOG CROP.

How does the hog crop in your sectlon compare with that of last year? If smaller, what causes the decrease? What breeds are mostly raised? What special changes in hog breeding and feeding have taken place in your section for the last few years?

I find, probably, 20 to 30 per cent less hogs owing to cholera last year, and a poor crop of pigs this year. Poland-China is the principal breed. Some are changing to Chester Whites or Jerseys, and say that they will raise pigs better than Poland-Chinas. M. L.

Iowa.

I think that there is a greater per cent of hogs raised this year than last. Everybody purchased all the sows possible, therefore, raised lots of pigs because sows were cheap, and it was a good time to go into the business. I am afraid that they will be cheap the coming winter. Only two breeds of hogs are raised here, you might say—Berkshires and Poland-Chinas; the latter predominate, and are getting to be all the go in the West. I have a cross between the two, and use a purebred Berkshire boar. The latter comes to maturity quicker than the Poland, and the light hog is the one that brings the top price. But the Poland makes a larger hog at the end of 12 months, therefore, brings more money. Our main feed here is corn and clover or Blue grass. All cattle feeders have hogs to follow cattle; in that way, they do not require much corn, but fatten fast on hot mush. I presume that half of the hogs in this country are fed that way, for this is a great country for cattle feeding, especially through the winter. Those that raise pure breeds to sell for breeding stock, have special feeds, but that has nothing to do with the main crop of pork. One thing I have learned is not to keep a brood sow fat to farrow pigs, for the pigs will be poor and puny. I lost two sows last spring which would weigh 300 pounds apiece; one farrowed the pigs all right, but died with the milk fever. The other died before farrowing. C. A. D.

Cass County, Mo.

Taken as a whole, there is not much difference in the hog crop compared with last year. Some farmers have suffered loss of pigs from cholera, but that is confined to a few farms. Good attention is paid to hog raising, from year to year. Prices, though sometimes low, average well in comparison with other stock. When losses occur, the herd is soon replaced. Poland-Chinas, Berkshires and Chester Whites, with an occasional Jersey Red, are used by careful breeders in the order named. Most farmers still use crosses. The most popular of these is Poland-China boars on Berkshire sows. The Polands have been so long bred for the show ring, and so much stress has been put on their fattening qualities, that, as a rule, the sows are less prolific than formerly, and are much more liable to overlay their pigs. The Berkshires, not being so fat and soft, and much more active, make better mothers. There are more herds of pure, large Berkshires now than ever before, and the demand for breeding stock is not yet supplied. The thought seems to be that it is better to use Berkshires for mothers than to try to reorganize the Poland-Chinas. I don't know how widespread this feeling is, but it certainly is on the increase in my immediate vicinity. Chester Whites have many friends, but most feeders want hogs that will mature sooner. The 500-pound hog has had his day. Most go to market now at 150 to 300 pounds. Those who give most attention to breeding are recognizing that less corn and more oats, wheat and shorts should be fed, but the majority of farmers still feed nothing but corn with pasture. The increase of clover growing gives better pasture than formerly, and the per cent of mortality has materially decreased within recent years. On the whole, hogs are better bred, better fed and better housed than ever before, and breeders and feeders are less disposed to complain about the results.

Ridge Farm, Ill. J. M. H.

The hog crop is somewhat smaller this year than last—one-third less. Some farmers lost nearly all their pigs at the time of farrowing; the cause, some think, was feeding the sows too much corn. I think that the extreme changes in the weather we had last spring had considerable to do with it. The Poland-China is the leading breed, and has been for a number of years; but it seems now not to be doing so well. I have neighbors that have been paying big prices for breeders, and are having very poor success with their pigs. A good many farmers are now crossing their Poland-Chinas with Chester Whites with good success; the first cross seems to give a better hog than the full bloods on either side. I have been raising the O. I. C. for the last six or eight years, and for a good, strong, healthy hog, I think that they are among the best. Farmers are giving hog raising more special care the past few years, taking better care of their sows at farrowing time, and they have better pens. The most of the hogs are fed with cattle; the large farmers nearly all feed steers, and have their hogs follow the steers. A good many hogs are raised and fed by farmers who are in the milk business. F. G. M.

Polo, Ill.

The hog crop this year, so far as I have noticed, is about the same as last, but lower in price. Buyers are paying only from 2½ to 3 cents per pound. Chester Whites predominate in this section. No changes of any account have taken place here in regard to breeding and feeding of swine. H. J. E.

Geauga County, O.

As to the quantity of hogs, I think that there is a shortage of 20 to 30 per cent, owing, first, to so much loss from disease; still there was not so much sickness in 1895 as in 1894; second, the price has been so low, especially the past year, that farmers have not taken the care to raise and save the young pigs. The present price is $2.50 per 100 pounds. Poland-China is the prevailing breed—a few Chester Whites, or, rather, crosses. I don't think that care is being taken to breed pure, choice stock; many think that the Poland-Chinas are being bred too fine, and are losing vitality, hence are the cause of so much disease, and have been using, what I call, neighborhood sires. I even tried it myself, to my own disadvantage, I am thinking. Hogs are fed much the same as for many years past, mainly corn and water to the fattening ones, with some ground barley, rye and mill feed for the sows and pigs. The better class of farmers feed on a floor, while the "ne'er-do-wells" still feed in the mud. G. W. H.

Iowa.

The hog crop will be larger in this section, owing to summer prices ruling low. A great many hogs are on hand yet. The principal breeds are Berkshire and Poland-China. There are no special changes in breeding that I know of, but a great deal in feeding—more clover and small grain are being used, at a much less expense. This, we think, is the way to produce cheap pork. E. T. J.

Boonville, Ind.

Spring pigs are scarcer than a year ago; the severe March weather, in many instances, killed whole litters. But for this, there would be but little change. Poland-Chinas and Chester Whites are the breeds used. No change has been made in handling farm products here. When the average farmer is questioned about a change, the stereotyped reply is, "Well, it's about like this, you see: I'll let the other fellow try it, and if it work, then may be I will try it." I usually find that the amount of try they work in, in the course of a year, is not noticeable. G. E. K.

Carey, O.

The hog crop of this part of Indiana is larger than it was last year, on account of last year's abundant crop of corn, and its low price. Several different breeds of hogs are in use—Poland-China, Berkshire, Jersey Red and Chester White are the breeds chiefly in use, Poland-China rather predominating. One notable change in the feeding of hogs is, that now, probably, more than half of the hogs are fed and fattened during the spring and summer months, while a few years ago, they were mostly fattened during the fall and winter. One of my neighbors and his boys now feed and sell two car-loads each summer, and one car-load in winter, and say that it is no more trouble to feed two car-loads in summer than one in winter. These neighbors are making, by their industry and economy, quite a success at farming and stock raising. J. C. A.

Washington, Ind.

The hog crop of this section is not materially different from that of last year. Hogs have been healthy, and have had no disease to contend with. Poland-China, probably, predominates, although it cannot be said that we have any distinct breeds, but rather, an aimless mixture of several breeds, and a large percentage of common scrub stock. Our hog raisers have been slowly (when convenient) grading up a little in the last few years; but it has been in a hap-hazard way, without any particular aim in view. As to feeding, we have tried very little of anything except ear corn. Within the last two years, we have planted cow peas, and a number of farmers have turned hogs and cattle into the fields to do their own harvesting. This seems to be a cheap and convenient way to feed, and, also, seems to be quite successful. C. H. C.

Clsne, Ill.

The hog crop in this section is short—far below normal. The reduction came last year, and continues in about the same condition this year as last. Farmers reduced their stock about one-third last fall, to meet the shortage, and are, therefore, well prepared, with the increase of the acreage of corn planted for fodder, which promises well, and the better condition of the grain crop, to meet the exigencies of the case. There seems to be a general consent among the farmers that the silo is a good thing, but the lack of funds with many, and of energy in others, and of skepticism in a few, prevent their materialization to any great extent, as but three have been built this year, within a radius of three miles, to my knowledge. There are, at present, within this circle, nine or ten, all but one having been built within two or three years. C. L. S.

Lewis County, N. Y.

MARKETS.

SATURDAY, OCTOBER 24, 1896.

BUTTER—NEW.

Creamery, Western, extras	20	@	—
Western, firsts	18	@	19
Western, seconds	15½	@	17
Western, thirds	12½	@	13½
State, fancy	19½	@	20
Common to prime	12½	@	19
State dairy, half-firkin tubs, fancy	17	@	18
Firsts	15	@	16
Seconds	13	@	14
Welsh tubs, fancy	17	@	17½
Welsh tubs, firsts	13	@	16
Welsh tubs, seconds	13	@	—
Tubs, thirds	11	@	12
Western imitation creamery, firsts	12	@	13½
Seconds	10	@	11
Western dairy, firsts	11	@	12
Seconds	9	@	10
Thirds	8	@	8½
Factory, fancy	10	@	10½
Factory, firsts	9	@	9½
Factory, seconds	8	@	8½
Factory, thirds	7	@	7½
Old butter	5	@	8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10	@	10½
White, fancy	10	@	10½
Choice	9¾	@	9¾
Good to prime	9	@	9½
Common to fair	7	@	8½
Small, colored, fancy	10¼	@	—
Small, white, fancy	10	@	10½
Small, good to choice	9	@	9¾
Small, common to fair	7	@	8½
Light skims, small, colored, choice	8	@	8¼
Light skims, large, choice	7¾	@	8
Part skims, good to prime	5½	@	6¾
Part skims, common to fair	3½	@	4½
Full skims	2	@	2½

EGGS

Near-by, new laid, fancy, selected, per doz	22	@	23
State, fresh gathered, average best	20	@	—
Penn., country marks, average best	20	@	—
State and Penn., fair to good	18½	@	19
Western, northerly sections, fancy	19	@	—
Western, fair to good	17	@	18¼
Western refrigerator, prime, early pkd.	15	@	16
Western refrigerator, fair to good	14½	@	15
Western limed, choice	15	@	—
Western, fair to good, per case	3 25	@	4 00
Western dirties, per 30-doz case	3 00	@	3 40
Western checks, per 30-doz case	2 50	@	3 30

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1	12@	1 37
Baldwin, per bbl	1	00@	1 12
Culvert, per bbl		75@	90
Gravenstein, per bbl	1	50@	1 75
Fall Pippin, per bbl	1	12@	1 37
Greening, per bbl	1	00@	—
Holland Pippin, per bbl	1	12@	1 37
Ribston Pippin, per bbl		75@	90
Oldenburg, per bbl	1	25@	1 75
King, per bbl	1	25@	1 50
Detroit Red, per bbl	1	25@	1 37
Famouse, per bbl	1	00@	1 75
N. Spy, per bbl	1	00@	1 25
Pound Sweet, per bbl	1	25@	1 37
Nearby, open heads and common, per bbl		50@	75
Crab, large, per bbl	1	00@	2 25
Crab, small, per bbl	3	00@	5 00
Cranberries, Cape Cod, extra large, per bbl	5	00@	5 50
Fancy, per bbl	4	25@	4 50
Good to prime, per bbl	3	50@	4 00
Defective, per bbl	2	50@	3 25
Per crate	1	25@	1 50
Jersey, per crate	1	00@	1 25
Grapes, Up-River, black, per 25-lb carrier		30@	60
Up-River, black, per small basket		6@	7
Up-River, black, per large basket		10@	11
West'n N. Y., Catawba, per small basket		6@	7
West'n N. Y., Concord, per large basket		10@	12
West'n N. Y., Delaware, per small bkt		10@	12
West'n N. Y., Niagara, per small basket		10@	12
West'n N. Y., Salem, per small basket		6@	7
Wine grapes, black in bulk, per lb	1	@	1½
Wine grapes, white, per lb	2	@	2¼
Wine grapes, red, per lb		1½@	1¾
Pears, Bartlett, per bbl	2	00@	4 50
Bartlett, per keg	1	00@	2 25
Bartlett, per box	1	50@	2 00
Bosc, per bbl	3	00@	4 00
Clairgeau, per bbl	2	50@	3 50
Duchess, per bbl	2	00@	3 00
Anjou, per bbl	2	50@	3 50
Seckel, per bbl	5	00@	6 00
Seckel, per keg	2	00@	3 00
Sheldon, per bbl	3	00@	3 50
Swan's Orange, per bbl	2	25@	3 00
Kieffer, per bbl	2	00@	3 00
Nearby cooking, per bbl	1	75@	2 25
Quinces, choice bright, per bbl	2	25@	2 50
Fair to good, per bbl	1	00@	2 00
Seconds, per bbl		50@	75

GAME.

Quail, choice, large, per doz	2	00@	2 25
Small, per doz	1	25@	1 50
Woodcock, average, per pair		75@	1 25
Partridges, nearby, per pair		80@	90
Western, undrawn, prime, per pair		70@	80
Western, drawn, prime, per pair		50@	60
Grouse, Western, prime, per pair		90@	1 00
Grouse and partridges, inferior, per pair		30@	40
English snipe, choice, per doz	1	75@	2 25
Plover, golden, choice, per doz	1	75@	2 25
Blackbirds, per doz		15@	20
Rabbits, per pair		30@	35
Wild ducks, canvas, per pair	2	00@	2 50
Red heads, per pair	1	00@	1 75
Mallards, per pair		50@	75
Blue wing, teal, per pair		40@	—
Teal, green wing, per pair		25@	30
Common, per pair		20@	25
Venison, frozen, prime saddles, per lb		23@	26

GRAIN.

Wheat	76	@80
Rye	38	@44
Barley feeding	28	@54
Barley malting	43	@50
Buckwheat, silver	38	@39
Buckwheat, Japan	38	@39
Corn	26	@33
Oats	19¼	@31

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9	@	—
Fair to good, per lb	8	@	8½
Com. to med., per lb	6½	@	7½
Small, per lb	4½	@	6
Buttermilks	5	@	6
Grassers	4	@	5
Pork, country dressed, 10 to 25 lbs., per lb	8	@	10
40 to 60 lbs., per lb	6½	@	7
60 to 80 lbs., per lb	5½	@	6
80 to 120 lbs, per lb	5	@	5½
125 lbs and up, per lb	4	@	5

POTATOES.

Long Island, in bulk, per bbl	1	25@	1 50
State, per 180 lbs	1	00@	1 12
Jersey, per sack	1	00@	1 15
Jersey, per bbl	1	00@	1 25
Sweets, Va., yellow, per bbl		70@	85
Jersey, yellow, per d. h. bbl	1	00@	1 25
Vineland, per bbl	1	25@	1 50

POULTRY—LIVE.

Spring chickens, per lb	6	@	7
Fowls, local, per lb	7	@	8
Western, per lb	7	@	7½
Southwestern, per lb	7	@	—
Southern, per lb	7	@	—
Roosters, old, per lb	4	@	4½
Turkeys, mixed, per lb	7	@	9
Ducks, local, per pair	65	@	80
Western, per pair	60	@	75
Southern, per pair	40	@	50
Geese, local, per pair	1 25	@	1 50
Western, per pair	1 12	@	1 37
Southern, per pair	1 00	@	1 12
Pigeons, old, per pair	20	@	—
Young, per pair	15	@	—

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10	@	12
Young, dry-picked, per lb	10	@	12½
Young, scalded, per lb	9	@	10
Young, inferior, per lb	5	@	8
Spring chickens, Phil., selected, per lb	13	@	15
Philadelphia, poor to good, per lb	9	@	12
Western, dry-picked, good to choice	8	@	9
Western, dry-picked, inferior	5	@	8
Western, scalded, choice, large	7½	@	8½
Western, ordinary, per lb	6	@	7
Fowls, Western, dry-picked, choice	8	@	—
Scalded, choice, per lb	8	@	—
Old cocks, per lb	5½	@	6
Spring ducks, Eastern, per lb	15	@	15½
Spring ducks, L. I., per lb	15	@	15½
Spring ducks, Penn. and Va., per lb	10	@	13
Spring ducks, Western, per lb	10	@	12
Old ducks, Western, per lb	7	@	9
Spring geese, Eastern, per lb	14	@	15
Squabs, tame, white, per doz	1 75	@	2 00
Mixed lots, per doz	1 25	@	1 50
Dark and poor, per doz	1 00	@	1 25

VEGETABLES.

Cabbage, L. I., per 100	2	00@	2 50
Red, per 100	3	00@	3 50
Carrots, per bbl		60@	75
Cauliflower, L. I. and Jersey, per bbl		75@	1 00
Celery, fancy, large, per doz		40@	—
Average, prime, per doz		20@	30
Small, per doz		10@	20
Cucumbers, per 100	2	00@	3 50
Egg plant, Jersey, per bbl		50@	1 00
Florida, per crate	1	50@	3 00
Green corn, per 100		50@	1 50
Lettuce, Boston, per doz		—@	—
Local, per bbl		—@	—
Lima beans, Hackensack potato, per bag	1	00@	1 75
Jersey flat, per bag		50@	75
Onions, Eastern white, per bbl	2	50@	3 50
Eastern red, per bbl	1	50@	1 75
Eastern yellow, per bbl	1	25@	1 50
Orange County white, per bag	1	00@	2 50
Orange County yellow, per bag		75@	1 12
Orange County, red, per bag		75@	1 50
Jersey and Long Island yellow, per bbl	1	00@	1 25
Jersey and Long Island red, per bbl	1	25@	1 37
Jersey and Long Island white, per bbl	1	50@	2 50
State and Western yellow, per bbl	1	00@	1 12
State and Western red, per bbl	1	25@	1 37
Pumpkins, per bbl		40@	75
Red peppers, per bbl	1	00@	1 50
Green peppers, Jersey, per bbl		40@	1 00
Spinach, per bbl		—@	—
Squash, Marrow, per bbl		60@	75
Hubbard, per bbl		75@	—
String beans, Norfolk, per half bbl basket	1	00@	2 50
Charleston, green, per bushel basket	1	00@	2 00
Charleston, wax, per bushel basket	1	00@	2 00
Tomatoes, ripe, per box		25@	50
Green, per box		15@	25
Turnips, Jersey and L. I. Russia, per bbl		50@	70
Canada, per bbl		65@	70

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The total daily supply has been 20,142 cans of milk, 154 cans of condensed milk and 357 cans of cream. The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

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HOW PRIZE BUTTER IS MADE.

WINNERS AT NEW YORK STATE FAIR.

There was close competition in the dairy awards at the last N. Y. State Fair. In order to learn something about how prize butter is made, THE R. N.-Y. sent the following questions to the winners:

What breed of cows do you keep?
What were they fed?
Was the cream separated or not?
Was a "starter" used?
At what age was the cream churned?
Will you give us an account of what, in your opinion, were the most important operations in making the butter?

Some of their replies follow:

Butter that Scored 100.

While I aim to, and do make butter that sells above the highest market price at all times, I realize that, when butter is to travel nearly 200 miles and then score 100 at the hands of an expert, a very difficult task is before me, and I do some things that are not practicable to do every day. I personally scored the butter on exhibition, after the judge had done his work, and with one or two exceptions, it was butter that would have ranked "extra" on any market.

I selected five of the freshest cows (not over four weeks in lactation) and for a week before the butter was made, fed them four pounds a day each, of wheat bran and corn meal, equal parts; they also ran in the best of pasture. Aside from this, the method described below was the same as we follow from day to day. It is obvious that it would be impossible always to have *all fresh* cows, and not always economical to feed just those two grains, when others can be bought for less money that will give us a better balanced ration, more milk and fat, and a fine article of butter.

My cows are part purebred Jerseys; some high grade Jerseys, and about half of the herd, the progeny of both the above from a purebred Guernsey sire, which, to my mind, gives me the typical dairy cow. The five were an average of the above.

The night's milk is run over an aërator, which reduces the temperature to 60 degrees; then placed on an ordinary cellar bottom and the next morning heated to 75 degrees in a hot water bath, and run into a De Laval separator, immediately after the morning's milk has gone through at the normal temperature. The cream is run so as to contain from 35 per cent to 40 per cent of butter fat, and as it leaves the separator, is passed over an aërator filled with ice water, which reduces it *below* 60 degrees. After standing a couple of hours in a cool place, it is placed in a "John Boyd" vat and a "starter" added, made from skim-milk of the day before, from a fresh cow. This is churned the day following, or about 24 hours after separation, at a temperature between 56 and 58 degrees.

The butter is washed as soon as it reaches the granular state, with water as warm as will not cause the granules to become massed together. I think that too cold water has a tendency, as has too much washing, to injure the flavor. Usually it receives two washings. About an ounce to the pound of salt is added in the churn, then spaded in with a fork, the churn revolved two or three times, and then allowed to stand for about an hour, when the butter is put on the worker and slightly worked, and packed immediately. I use the "Glen City" salt, made at Watkins, N. Y.

The perfect score as to flavor, I attribute to the freshness of the cows, and their feed first, and the manner of ripening second. In my experience, no one thing has contributed so much to a uniform article at all times and under all conditions, and does as much in the private dairy to reduce the making of butter to an "exact science" as the "John Boyd" vat and "starter." These, in brief, are the main points.

EDWARD VAN ALSTYNE.

Kinderhook, N. Y.

Jerseys with Pasture Only.

The butter I had on exhibition at the State Fair, was made from Jersey cows. The milk, as soon as drawn, was set in cold spring water, in long tin cans 20 inches deep. The water runs from the spring into a long, deep vat in my milk-house. I let the milk set 24 hours before skimming. The cream is taken from the cans with a dipper, and is then ripened.

The most important part in butter-making, in my opinion, is cleanliness in the milking and the handling of the milk and cream. One should take a great deal of pains in keeping the surroundings sweet and clean, so that there will be no foul odors that will contaminate the milk. F. G. DAVIS.

Mohawk, N. Y.

A Homemade Starter.

This creamery has the milk of about 300 cows, mostly Jerseys and grades, and "Delaware County Jerseys" rank very high as butter producers. The feed consists of bran, shorts, and gluten meal, and the rich, juicy grasses from these hills. We separate, with a Sharpless Russian separator, and run a 35-per cent cream. We used a homemade starter. We take the cream one morning, and churn it the next, so that it is about 22 hours old. It is cooled to 62 degrees as soon as possible after coming from the separator, and kept as nearly as possible at that temperature. When ready for the churn, it is quite thick, and has a velvety appearance, and a very pleasant acid flavor, which experience only can detect. We use a common box churn, and stop churning when the butter granules are about the size of wheat kernels. We churn at a temperature of 56 degrees. The buttermilk is then drawn off, the butter washed in two waters, then drained, and salted in the churn, using 1¼ ounce of salt to one pound of butter. It is then worked in a National butter worker and packed immediately.

The most important point, in my estimation, is in properly ripening the cream, and churning it at the proper stage. The next is in churning at a low temperature, stopping the churn at the proper time, and keeping the butter cold. A very important point, also, is in the working. If worked too little, it will be streaked; if too much, the butter globules will be broken, giving the butter a salvy appearance. Absolute cleanliness is of great importance in either dairy or creamery. My butter was first exhibited at the State Fair, at Syracuse, in 1894, and it then scored 100 points, and won the first prize of $50.

G. W. BOMASKEY.

Davenport Center Creamery, N. Y.

Jerseys, Bran and a "Starter."

Our Jerseys were fed grass and wheat bran—about eight quarts apiece of the latter per day. The cream was separated once a day, being careful not to warm it above 80 degrees before separating. It was then placed in ice water, held 24 hours, and then put in a ripening vat, and about four quarts of buttermilk used for a starter. It was then warmed to 60 degrees and held 24 hours before it was churned, which would make the cream 48 hours old.

I have about eight patrons, one herd of Holsteins, and the rest mixed lots, and the cream from which the butter was made was from the milk of all these cows mixed together and ripened, as I have stated, and all churned together. The tub that was entered as creamery was packed first, then the jar that was entered as private dairy, and then the prints. How there could be so much difference in the score, I cannot tell, when it was all from one churning.

Oswego Falls, N. Y. C. C. WILCOX.

A Holstein Dairy.

Our cows are chiefly Holstein-Friesians with a few Jersey grades. The feed while making the prize butter, was meal, middlings and shorts, equal parts, four quarts twice a day for each cow. I fed them sweet corn fresh cut from the field after picking the best ears for market, and this is what I intend to do for my herd the year 'round when I can get the corn. The grain ration they always get. I have a well-filled silo filled with Leaming corn, as I consider it better for ensilage than sweet corn. We use a creamery. The cows are well bedded, milked carefully and cleanly, getting the milk into the creamery just as soon as possible after it is drawn. No starter was used. The cream was 24 hours old, and churned as soon as ripe in a barrel churn, using Genesee salt at the rate of nearly an ounce to the pound of butter. In making butter for my customers, we salt to suit their individual tastes, as nearly as possible. L. B. BABCOCK.

Fulton, N. Y.

"Clean Jersey Cows."

Our cows ran in pasture and were milked in the stable. At each milking, each had a feed of about three pounds of wheat bran and middlings, mixed. We use a DeLaval separator, mix the morning's and evening's cream the following morning, add a starter, ripen at a temperature of about 68 degrees, and churn at 60 to 62 degrees when the first mess of cream is 48 hours old. We weigh every mess of milk and every churning of butter when it is taken from the churn. It is then salted, one ounce of Worcester salt to the pound. Our exhibit was

(Continued on next page.)

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THE SMALLEY MFG. CO., Manitowoc, Wis.

How Prize Butter is Made.

(CONTINUED.)

taken from a churning of 25 pounds of butter, made from 411 pounds of milk. This is a trifle over six pounds to 100 pounds of milk. The stable is cleaned every day, and sprinkled with plaster to absorb odors. No smoking is allowed at the stable or dairy room.

Clean Jersey cows, brushed at each milking, neat milkers, pure water, and perfect cleanliness are essential for the making of a high grade of butter. The creamery separator removes loads of cow hair and filth that never should have found its way into the milk. I have my doubts about its removing the flavor that the milk has taken from this filth.

Troy, Pa. AUSTIN LEONARD.

"The Old Dash Churn."

The butter that won the prize at the New York State Fair was made in the old way, with a stone churn and dash. The milk was set in open pans, the cream churned from milk set four days, skimmed twice a day, as we had calves to feed. The cream was placed in the churn each time when skimmed, and no addition of cream was made from one morning, but was churned the next morning. The cream was stirred each time an addition was made.

In my opinion, the most important operation in making good butter is cleanliness, and giving good attention to the milk in every particular, from the time it is taken from the cow, until the butter is churned, salted and worked. I wash the milk clean from the butter and salt it, allowing about three ounces of salt to a pound of butter, work in the salt, let stand for about 12 hours, then work it until the brine is mostly out, then pack. The only objection to the package shown at the State Fair was the flavor, and that was because it was new; it was perfect in every other particular. I do not color the butter, as the color is perfect, made so by the cows. I keep but two cows, grade Short-horn and Ayrshire. The cream was not separated. The cows were fed grass and wheat bran. A "starter" was not used. The cream was about 24 hours old when churned. A great deal is said about making butter, and some things said unnecessarily; but I stood with those that use a creamery and separator, and a "starter", and make a great talk about it, and even swell into their coats and vests with great pride; but I am only a woman and, of course, old-fashioned, at least, make butter that way, as I make it in a butter bowl, and use a ladle. But I do not fear to place it side by side with any one's else.

Fulton, N. Y. MRS. THOMAS COLES.

Good Creamery Practice.

Twenty-eight patrons furnish the milk for our creamery. The cows are grades, Short-horns, Jerseys, and Holsteins. About half the cows were fed a light feed of bran, hominy meal, and wheat middlings. The largest dairy had about two pounds cotton-seed meal each per day, with green corn fodder twice a day. The other dairies had no other feed except what they got from the pasture. The milk, after being brought to the factory, is strained into a weigh can, and a sample of each patron's milk is taken every morning, and put into a jar with a number corresponding to a number after his name. Then at the end of the week, samples are taken and tested with the Babcock tester, and every one receives his pay according to the amount of butter fat he furnishes. We have taken the milk on the test plan for two years, and it gives good satisfaction.

From the weigh can, the milk is run into a receiving vat; from there through a Larkey heater, where it is heated to 80 degrees F. and run through a separator. The cream is then put into long cooler pails and set into a large wooden vat, and after we get through separating, a stream of water at 52 degrees F. is kept running around it until the next morning. The cream is then (being slightly acid) put into one of the Vermont Farm Machine Co.'s improved square-box churns, that runs 40 revolutions per minute; one-fourth ounce of butter color is then added for every six coolers of cream, and the cream is churned for 2½ hours. We don't care to churn any quicker. The butter now is in a granular form about as large as wheat kernels. The buttermilk is drawn off and the butter thoroughly washed in the churn, then taken out and spread on the butterworker and salted one ounce to the pound, working just enough to get the salt evenly through it. The butter is now ready for packing into 5-pound, 10-pound, 20-pound, 30-pound or 50-pound spruce tubs, or made into prints, just as our customers order. No starter is used.

In my opinion, the most important requisite in making butter is cleanliness, and the right care of the cream.

East Freetown, N. Y. W. H. CALDWELL.

Scrupulous Cleanliness Needed.

My cows are registered Jerseys, 45 in number. The feed is pasture, with a grain ration consisting of bran, four parts; oil meal, one part; corn meal, one part. The cream was separated with a Baby, No. 3, separator, operated by steam power. No starter was used. The cream was ripened in a vat arranged with a water bath, whereby the temperature can be perfectly controlled. The cream was churned at 36 hours from the separator. Scrupulous cleanliness in every operation, from the cow to the package, and great care as to temperature, I believe the most important points in producing fancy butter. We run a heavy cream, and churn at low temperature. GEO. W. SISSON JR.

Potsdam, N. Y.

No Feed but Clover Pasture.

The prize butter was made from the milk of five cows, one Devon, the others purebred Jerseys. They were in clover pasture and had no other feed. The milk was kept in a No. 2 O. K. creamery. No "starter" was used. The cream was churned in a Davis swing churn, about 48 hours after being drawn.

The buttermilk was drawn off, butter washed in cold water, taken from the churn, weighed and salted with one ounce of salt to every pound of butter. The salt was worked lightly into the butter, which was allowed to stand a few hours before a final working and packing ELLEN K. THORNE.

Skaneateles, N. Y.

"Starter" Gave Smaller Yield.

My dairy is composed of natives and Jersey grades. I milk 25 cows, keep a Jersey bull and raise my cows. I feed mixed hay—clover and Timothy—morning and noon, and corn fodder at night during the winter. I feed mixed winter feed, morning and night, the year 'round. The cows run in pasture during summer, and I feed some green feed in the fall. I use a separator of 600 pounds' capacity, and run the separator and churn by steam. I have used the separator three years. Have never used a starter to my satisfaction; have tried it several times, but have not had as good a yield of butter from the milk. I use a barrel churn, and churn the cream every day from May 15 to September 15, and the rest of the season every other day. I cool the cream during warm weather, to about 55 or 60 degrees, stir and mix thoroughly and churn when slightly acid, at about 55 degrees in summer and 60 in winter.

Cleanliness and pure water and care of the cream are the most important points in good buttermaking. I wash the butter in the churn, and salt and work on the butterworker. During the summer, I let the butter stand on the worker overnight in a good, cool cellar, and in winter, pack after standing on the worker about one hour. I salt one ounce to the pound. The butter is all put up in gallon and one-half-gallon jars, and delivered direct to the consumer at 25 cents per pound the year 'round. I feed the skim-milk to calves and Cheshire pigs. SEYMOUR P. JOHNSON.

East Schuyler, N. Y.

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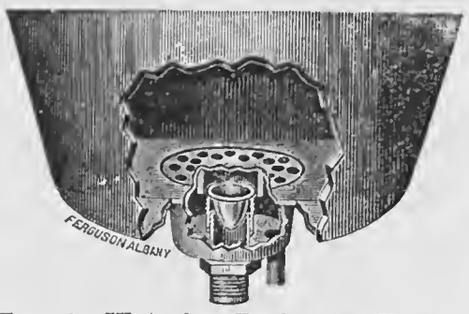

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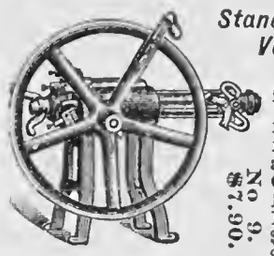

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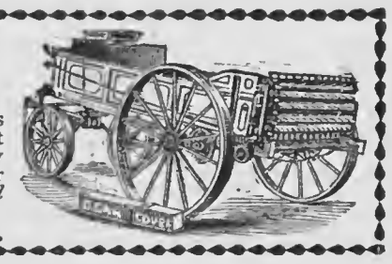

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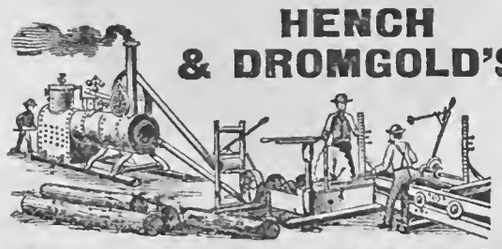
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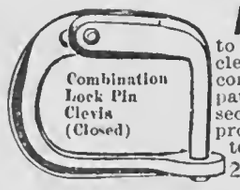

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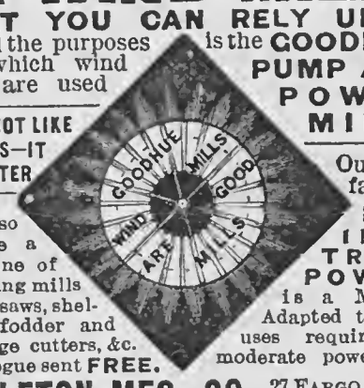

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2441. NEW YORK, NOVEMBER 7, 1896. $1.00 PER YEAR.

A LONG ISLAND POTATO FIELD.

LARGE YIELD OF CARMAN NO. 1.

How Long Islanders Handle the Crop.

The pictures on this page are made from photographs taken in the potato field of Mr. E. Pidgeon, of Northport, L. I. "Long Island potatoes" always rank high in the New York market. The light soil at the east end of the island, and the fact that chemical fertilizers are used almost exclusively, enable farmers to produce potatoes of the highest quality and this has given this region its reputation as a potato-growing section.

Mr. Pidgeon's field was in corn last year. As will be seen in the picture, the field is level and smooth. Over the fence, at Fig. 238 will be seen a sample of this season's corn crop. Most Long Island farmers use all their stable manure on the sod for corn, as this crop seems best adapted to using manure. Long Island is a good "corn country", for THE R. N.-Y. grew its immense crop of 130 bushels to the acre on this island. Corn stubble, when it is well worked over, makes a fine seed bed for potatoes. Early this season, Mr. P. gave the entire field a spread of stable manure. This is contrary to the usual practice except upon very light soils. This manure was plowed under, and the field was then thoroughly worked with an iron-tooth harrow. This simple preparation would not answer for heavier soils intended for potatoes, but one advantage of light, open soils is that less working is required to fit them for the seed. The variety used was Carman No. 1. The seed was selected from home-grown stock, the original being purchased in 1895 from Dr. Jabez Fisher, who told us last spring how he grew 600 bushels per acre of this variety.

The seed was cut with the Aspinwall potato cutter, and planted with the Aspinwall planter. Our picture shows this machine at work. The "cutter", as most of our readers know, is really a slicer which comes down upon the whole potato and cuts or slices it into sections of uniform size. The picture gives a good idea of the planter at work. With these two machines, a farmer is able to rush the crop in at the most favorable opportunity—planting seven or eight acres per day instead of covering only one as would be the case if all cutting and dropping were done by hand. It is quite an advantage to have the ground in just the right condition, and you cannot expect to keep it right over three days without new cultivation. This planting was done on April 18, and 700 pounds per acre of chemical fertilizer were used with the machine.

Twice, before the potatoes broke through the ground, the whole field was worked with the weeder. This early work with weeder or harrow is one of the greatest labor-saving methods that potato growers have taken up. Millions of little weeds are killed by this early cultivating, and this breaking of the upper surface of the soil holds the moisture just where it will do the most good to the plants. As soon as the plants broke through the ground, they were worked over once more with the weeder, and then they were hoed by hand. At this stage of the game, the Colorado potato beetles came to the front and did so much damage that Mr. P. says that they were obliged to go through and hand pick the beetles. This, we think, was an unnecessary expense. We don't believe that the potato beetle has yet been hatched that can stand before a charge of Paris-green driven out of a Leggett gun, or out of a good sprayer.

PLANTING CARMAN POTATOES ON A LONG ISLAND FARM. FIG. 237.

DIGGING CARMAN POTATOES ON A LONG ISLAND FARM. FIG. 238.

The potatoes were cultivated three times with the Hudson wheel cultivator. When last used, the vines were quite large and nearly ready to bloom. At this time, the vines were hilled slightly. Speaking of this, Mr. P. says: "It is my plan always to plant potatoes quite deep, and keep the surface of the ground as nearly level as possible, excepting the last time the cultivator is run through them."

On September 10, or 145 days from planting, digging was started. The picture shows how this was done. The potatoes were plowed out with a pronged potato plow, and it was, probably, necessary to go over the

field with a harrow and pull out the tubers that were covered. The Carman No. 1 yielded at the rate of 475 bushels to the acre—all of good size with very few so small as to be unmarketable. In the same field, were grown State of Maine, Carman No. 3, Early Rose and Green Mountain, but none of them yielded as heavily as Carman No. 1.

In a general way, this is a brief outline of the methods employed to produce the famous "Long Island" potatoes. The majority of growers would not use any manure, but would use more fertilizer. Let us suppose that Mr. P. had sowed Crimson clover in the corn in August, 1895, and secured a fair catch. If it made a fair growth up to Christmas, there would have been no need of using the manure, and it would have been available for other crops. The chances are more than even that the use of the stable manure made that hand hoeing necessary by bringing grass and weed seeds into the field. In Delaware, farmers have found that Crimson clover cleans the land by preventing the sprouting of weed seeds. We also think that it would pay to give this field a more thorough working before planting. Our observation has been that, where large quantities of chemical fertilizers are used, we have usually found farmers too careless about the preparation of the soil, just as we have often found them careless about the saving of stable manure. Where fertilizers are heavily used, tillage should be increased, for we must look to a thorough working of the soil to give much of the opening and loosening effect that is produced by manure.

We will add that the usual plan with Long Island farmers is to follow the potatoes with small grain, and a seeding with Timothy, with clover added in the spring. This grass is cut two or three years, and the ground then plowed for corn. It would, doubtless, pay them to follow Mr. Clark's plan, and leave out the grain.

SOUTHERN PEACH TREES AT THE NORTH.

WILL THEY PROVE HARDY?

When peach trees from the South are planted in latitudes north of New York, is their health often seriously impaired by the change in climate, soil, etc.? Are they, like animals, subject to particular disorders during acclimatization after being transferred from one locality to another?

Not Conclusive Evidence.

The only experience I have had in planting peach trees from the South in latitudes north of New York, was in the year 1892, when about 50 peach trees from Delaware were planted at our experiment station. The trees made a poor growth during the season, and though well covered during the winter of 1892-'93, but two of them came out alive in the spring of 1893, both Crawford's Early. These two trees underwent a miserable existence for three seasons thereafter, and though well covered every winter, were badly worsted, and were finally removed, as they were considered hopeless. How much of this failure was due to the southern birthplace of the trees, I would not undertake to say; but I think it far more probable that the failure resulted from the dry summer and autumn following the planting. E. S. GOFF.

Wisconsin Experiment Station.

No "Yellows" in Southern Trees.

For some years, I have been annually bringing thousands of peach trees from Georgia, not only for my own planting in Connecticut, but also to supply a portion of my nursery trade throughout the northern States. I have done this to insure establishing an orchard free from the yellows, and so far, while escaping the yellows, I have never noted any lack of vigor or healthfulness in the trees in any other particulars. My own opinion, based on a good many years of tree planting, is that, so far as well-known, tested varieties are concerned, it matters little with their vigor or hardiness where they are originally propagated. A Baldwin apple tree, or an Oldmixon peach propagated in Canada, New York, Virginia, or Georgia, if propagated under like conditions, will do just as well in Connecticut as a tree originally propagated here, and as we are pretty sure to start free from the Yellows by using southern-grown peach trees, I think that we are safe in advising their planting in preference to any others. J. H. HALE.

Connecticut.

Valuable Experience in Canada.

I have such trees planted, from Texas, New Jersey, Alabama, Missouri, Connecticut, Ohio, Michigan, New York, Illinois, and several different locations in Canada. I can see no difference in regard to their hardiness on account of location. There is, often, a great difference in the vitality of the trees procured from different sections; this is owing to the way in which the trees have been grown and the new wood ripened. If the trees have been grown on very rich land, they grow too late in the fall, and do not ripen their wood in good shape. Such trees are not likely to do well, no matter where they have been grown.

When trees are grown in the North, and left to stand in the nursery row, they are often injured by the severe cold of winter, and sometimes, by a coating of ice on top of the snow. When injured by the former, the portion of the tree most liable to be hurt is the trunk a few inches above ground to, or nearly to, the branches. If you examine a tree thus injured, in the spring, you will find that portion quite dry, and the wood more or less discolored, while near the root and the branches, it is not injured. If peach trees are procured in the fall, no matter whether they come from the North or South, they should be heeled in on a high, dry soil, put in at an angle of about 45 degrees, and covered up half way on the branches. The packages should be opened, the trees spread out and the soil well filled in among the roots and tramped quite firm. Care should be taken to keep the roots from drying while out of the ground, and well protected from frost. When trees are thus handled, there will be few failures, as they will not be exposed to extreme changes.

To sum up, peach trees should be grown on moderately rich soil, well cultivated early in the season (to encourage early growth), and cultivation discontinued about mid-summer to ripen the wood. If grown south, they must be protected from sun scald during winter, and if grown north, from sun scald and severe cold. If the tree can be kept in good condition through the winter, no matter where grown, it will be all right when planted and acclimated perfectly in one summer.

Leamington, Canada. W. W. HILBORN.

One Point in their Favor.

Our experience with peach trees grown south of New Jersey has been limited. We have set trees grown in the State of Delaware, only during the past three or four years. These have made as vigorous and healthy a growth, as those grown in northern New Jersey or central New York. As yet, they show no signs of weakness or tendency to disease. The crucial test of a peach tree, as, in fact, of all kinds of fruit trees, comes the season after having borne a heavy crop of fruit. From present appearances, our Delaware-grown trees seem as likely to endure this test as those grown elsewhere. We have also noticed a point in their favor. Last winter was unusually hard on trees in the northern nurseries. Most of those we set from central New York, although severely pruned, started near the ground; while those from Delaware made a good growth the whole length of the tree, thus indicating that the severity of the cold weather last winter had weakened the buds at the North, and had not affected those trees that were grown in the South. W. D. BARNS & SON.

Orange County, N. Y.

T. T. Lyon's Impression.

Although I have received, and have had growing upon the experiment station premises here, during the last eight or ten years, peach trees from Missouri, Georgia, Texas, and other southern States, alternating with others received from various eastern, western and northern localities, I have been unable, so far, to discover any differences among them, in vigor, health or productiveness, in any way traceable to the change of climate or locality. Some 30 or 40 years ago, while living in eastern Michigan, I received (in scion) a large number of varieties of apples, from the extreme South, which were grafted in an orchard containing 200 or 300 varieties of our well-known eastern and northern varieties. I have never known one of these southern varieties to be injured from climatic causes, even under conditions which sadly decimated our Baldwins, Roxburys and other eastern varieties. From both experience and observation, I have acquired the impression, not to say conviction, that, through a more perfect ripening or other cause, the protracted warmth of the southern seasons is conducive to hardiness rather than otherwise.

Michigan.

Too Tender for the "Cold North."

My experience with planting peach and other fruit trees, also forest trees, is that such trees, nursery-grown in more southern latitudes, are not nearly as safe for planting at any considerable distance further north than where grown, or where the winter's cold is more intense, or where soil and climatic conditions are materially different. They are more frequently severely injured or killed outright in the first or second winter after being planted, than the same varieties nursery-grown near by in similar soil and climate. Even though the first winter or two after they are planted, be mild and favorable, they seldom become so thrifty and healthy. I have seen trees of Oldenburg apple, which is about the hardiest variety I know, that were brought from central Illinois, and set in southern Minnesota, that were killed to the snow line the first winter after planting, when home-grown trees of the same age and variety, did not show any injury. The peach, being scarcely hardy in New York, I think, could be safely advanced but a short distance further north at any one time, and trees produced in States further south, would be very much more likely to have their health seriously impaired by such a change.

The only correct principle for acclimating trees or plants to a colder region, is to produce them from seeds matured in the most northern limits where they succeed, and advance them very slowly through selection of seed from the hardiest and best adapted. It is true that Black walnut, catalpa and some fruit trees procured from southern nurseries, if they are not too severely injured in the first and second winter after planting, do appear to get more hardy, and endure the climate better in after years. To procure trees for orchard planting that have been propagated and raised near home, is always a safe rule, and if always followed, we would have healthier and better orchards at a great saving of cost in money.

Minnesota. J. S. HARRIS.

BLOODED POTATOES IN THE WEST.

Like C. H. D., in THE R. N.-Y. of October 17, I invested, in March, 1895, in some "blooded potatoes," paying $2 for a half-peck of Carman No. 3, and $1 for four pounds of Carman No. 1. I did not, like C. H. D., tell my neighbors of the cost, for I feared that they would laugh at me. I now have in my cellar, as the result of my venture, 150 bushels of Carmans that are perfect beauties in every respect. I could easily dispose of them at $1 per bushel to any one who sees them, though potatoes on the market are but 25 and 30 cents. Twenty-one of the largest made a half bushel. I tested them this year alongside of the other leading new sorts, and here is the result:

NUMBER OF BUSHELS PER ACRE BY EXACT MEASUREMENT.

Carman No. 3 (14 rows).		Carman No. 1 (16 rows).	
Best row, at the rate of	500	Best row, at the rate of	420
Average of all	424	Average of all	368
Livingston's Banner (8 rows).		R. N.-Y. No. 2 (2 rows).	
Best row	500	Best row	340
Average of all	409	Average of all	340
Mammoth Rose (3 rows).		Irish Daisy (1 row)	120
Best row	500	Burpee's Great Divide (1 r.)	240
Average of all	424	Salzer's Hundredfold (1 r.)	160

The test was as impartial and thorough as we could make it, and the ground and potatoes were accurately measured. The seed was planted in June, in well-prepared ground, which was low and rich, but had never been fertilized. The rows were opened three feet apart, with a lister, and the potatoes were covered with a "planker". All culture was by means of a Z. Breed weeder, once a week, or oftener, till the vines were across the rows.

As to quality, the Carman No. 1 stands first, with the No. 3 a close second. Of the others, the Banner and R. N.-Y. No. 2 would come next, followed by the Mammoth Rose. The remaining ones are of poor quality with me; they may do better elsewhere. The first five on the list are all very smooth, large and handsome in appearance, and would sell anywhere on their looks, even before being tested to bring out the point of extra quality.

There has been some dispute in THE R. N.-Y. concerning the Banner, some claiming it to be identical with the Carman No. 3. With me, it closely resembles THE R. N.-Y. No. 2 in size, shape, and quality, but has a slight advantage in yield. In manner of growth, it looks the same. The Carmans seem to be as near perfect potatoes as we have, and will prove a grand bonanza to potato growers. HENRY FIELD.

Page County, Iowa.

ONE WOMAN'S POULTRYHOUSE.

PRACTICAL, IDEAL, CHEAP.

The proud day at last came when the pullets of last fall had paid for the original cost of stock, appliances, fences, feed, etc., and had credit enough to pay for two new houses, if need were. For the first time, a chance to have a house that should not be a makeshift! But it must not cost one cent more than necessity compelled! With lumber high, and labor higher, the expense was sure to be heavy enough.

This expense, however, was cut down as much as possible by making the house small, and putting the rest of the space usually inclosed into a scratching shed. A 6x8-foot house gives only about two square feet to each of 25 fowls; but with a 12-foot shed adjoining, the space per fowl is increased to five square feet. And surely they will thrive better with the fresh air which this insures, than if they were allotted the same space within close walls!

The house itself is but three feet high at the back, seven feet at the front. This gives a fine pitch to the roof, and seems to break the force of blasts of wind to a wonderful degree. It faces nearly east, and the well pitched shed catches all the sunshine there is going until some time after noon, while the single window at the south gives sunshine for the rest of the day. The door is under the shed, at the front, and, opening outward, helps break the wind when it

is east, as quite often with us. There is a shutter for the window, opening downward, to be raised on very cold nights, for the purpose of preventing heat radiation. The door will stand open throughout the day, all winter, unless we see very good reasons for changing our belief in fresh air for poultry. The house was placed 12 feet from the barn, so that both should help to form the shed, lumber being needed only for back and roof thereof.

"But, alas for the calculations of woman! Even with every care to make the dimensions to fit the common lengths of lumber, 12, 14 and 16 feet, there was some waste in cutting the stuff for the sloping sides, and the steep pitch made the roof take so much more than the 6x8 floor, that the lumber figured on as enough gave out, and the second supply brought the bill up to $7.80. The work was 2¼ days instead of the 1½ day which seemed ample to allow for building so small a house, and the labor bill swelled to $4, a total of $11 80. Thus, with all new stuff, and all work hired, we have a house for 25 fowls, with a board floor, new roosting platforms, etc., for about $12. It is nearly ideal, according to our present light, and has cost just about half what is generally conceded to be the average cost for a good house. It is not double walled, but the intention is to cover the matched sheathing with roofing paper, which will add, perhaps, $2 to the cost as above given.

The house is made up, not on studding, but on shingle lath (1 x 2-inch), and is in sections, to allow of removal if the case demand this. Only a small and low house could be built so light, but this promises to be quite strong enough for all the demands upon it. The roosting platform is removable, it being laid upon low horses; the roosts will be swung from the roof, for trial, at least. The platform does not touch the wall at any point. The sheathing, ⅛-inch thick, is dressed on one side, and this, placed inside, makes a smooth wall, more easily kept free from vermin.

At first sight, this hardly seems to touch those wonderful $5 poultry houses described last winter; but when we consider the amount of room, the greater warmth of the roosting and laying room, and the fact that the materials form only two-thirds of the cost, as given, it will be apparent that a house may be built of new, clean stuff reasonably cheap, if one has but another building to abut against, and can do his own work. A strong woman could build this house for herself.

MYRA V. NORYS.

SOME POULTRY NOTES.

Canker in Fowls.—During an illness, last winter, when I could not give my hens the usual amount of attention, they contracted a disease which, I suppose, was canker. A black spot appeared on comb or wattles, or both, and when it spread no further, the fowl usually got over it; but in too many cases, it extended to the eyes or mouth, and then it was usually fatal. We could not get medicines at a moment's notice, even had I known what to order. But a bottle of liniment had been prepared for a lame horse, consisting of one part oil of amber, one part oil of spike and two parts of hens' oil; this was dropped on the sore places on the fowls' heads, and if the application was made soon enough, the cure was rapid and certain. Some cases were cured where the disease had become somewhat advanced, but the recovery was slow and tedious, and, unless the birds were very valuable, they were not worth the trouble. The disease seemed very contagious, and, I think, came home with a pen of birds from a poultry show, as they were the first to show its presence in the flock.

Two First Crosses.—I have raised a considerable number of crossbred birds this year, and am much pleased with the Leghorn-Plymouth-Rock crosses. The cross between Barred Rocks and Brown Leghorns has produced a lot of pullets of great beauty. They are very uniform in color, looking like very dark Plymouth Rocks. They are larger than the Leghorns, but not quite so large, perhaps, as purebred Rocks. The cross between Leghorns and White P. Rocks, produced a trifle larger birds, which were quite light in color, reddish-brown and white being the predominating colors, though a few have some gray with faint bars. The pullets from both crosses are a little in advance of the purebred Leghorn pullets, which surprises me. There was not a black chick in the flock.

White Against Barred P. Rocks.—My White P. Rocks were hatched only three days earlier than the Barred, but they weigh from three-quarters of a pound to a pound more. All were hatched and reared with hens. The Barred birds suffered a little from gapes, and this may have retarded their growth. The White P. Rocks are such beauties—yellow legs and beaks, snow white plumage and red combs, wattles and ear lobes. One can almost see them grow. They are great ramblers, rarely waiting to be fed, but up and off in search of the great variety of food which Nature provides so generously in summer. The hens are good layers of fine, large eggs, and the young stock are very easily prepared for market, as the pin feathers are large and white, and leave no disfiguring black marks.

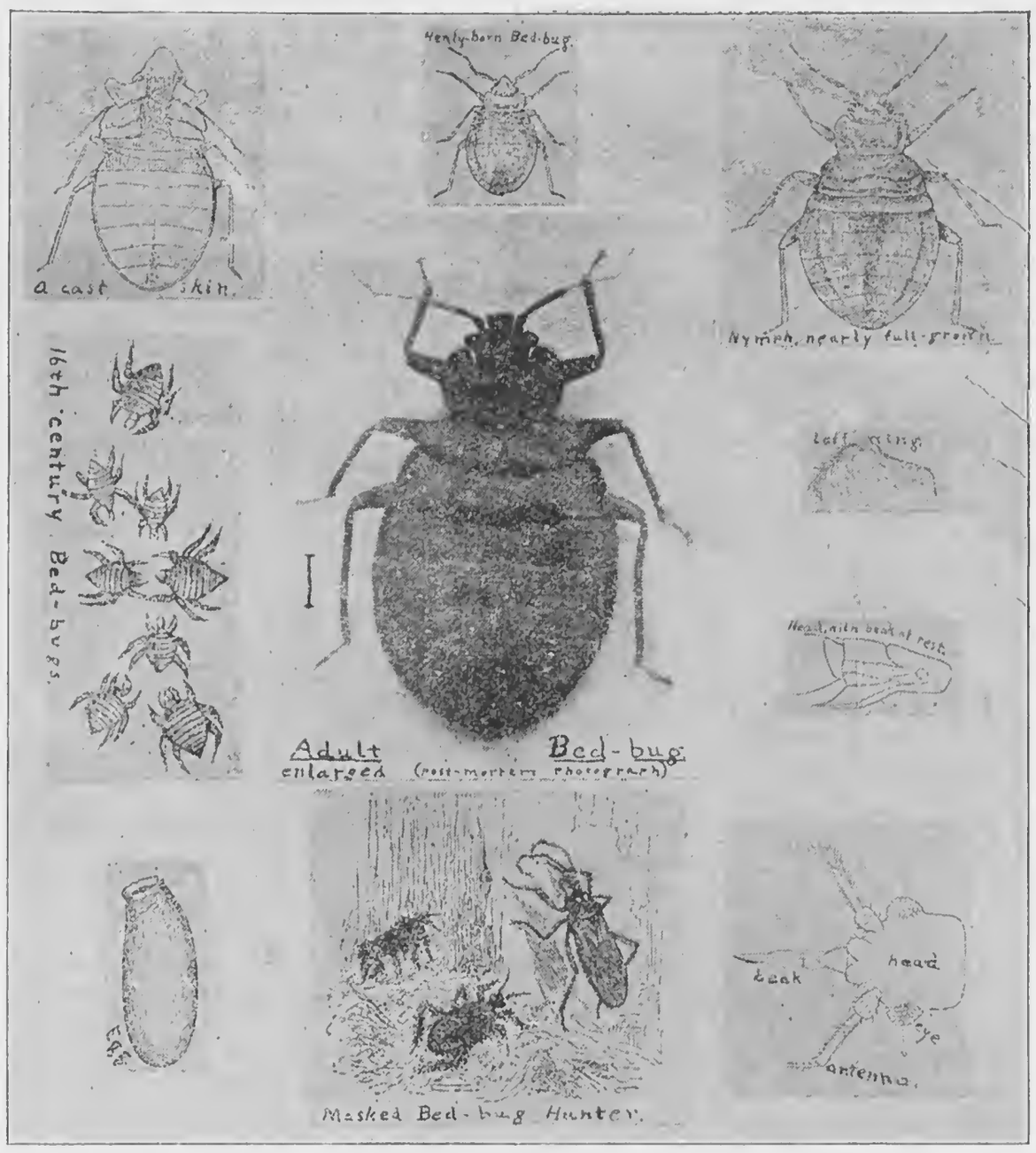
The Leghorns.—"Going back on the Brownies?" do you ask? Not by any means. They were my "first love", and I can't help thinking that a pair of high-scoring Rose Comb Brown Leghorns are about the prettiest sight which the feathered tribe can offer. The pullets look so dainty, and peer here and there for food in such a coquettish fashion! The young cockerels, too, are such dudes. Every feather exactly where it should be, rich in color and faultless in shape, and if they do have black pin feathers in broiler time, so do many breeds which do not develop half so rapidly for, at six weeks old, they weigh more than a Brahma of the same age, which is little more than an unshapely bundle of bones at that period.

Pekin Bantams.—I raised a lot of these little birds this year, and they are the most fun of all. They took all the premiums at the county fair, not to mention taking captive the hearts of all who have visited them on "their native heath". One flock of seven late chicks occupy a box in the house nights and on rainy days. It took two of them to weigh 1½ ounce when nearly a week old. They are the dearest little pets, as tame as kittens, and almost as playful. If there was absolutely no profit in the poultry business, I believe that it would pay for the pleasure of noting the peculiarities of different breeds, especially for women and all persons who spend the greater part of their time indoors.

S. A. LITTLE.

Improved Stock.—Our dairy stock has been improved 15 per cent the past 10 years. Farmers, quite generally, are crossing with the Jersey. One hundred pounds of butter from the old-time cow were considered a fair yield; now we have cows that make 300 to 350 pounds per cow. The improvement is due both to improved blood and improved feeding.

Adrian, N. Y. O. B.



THE BEDBUG FROM ALL POINTS OF VIEW. Fig. 239.

See Woman and the Home, Page 742.

THE NEW JERSEY EXPERIMENT STATION.

TREATMENT OF CONSUMPTIVE COWS.

[Editorial Correspondence.]

Part II.

As was stated last week, there is a good herd of milch cows at the station farm. The greater part of them are strong, hearty grades with Ayrshire, Jersey, Short-horn and Holstein blood showing. There is now at the head of the herd a fine Guernsey bull, and several Guernsey cows from the herd of the late Silas Betts have been recently added. A number of grade Guernsey heifers are growing up, and I understand that Prof. Voorhees expects to develop a good working dairy by breeding the Guernsey bull to the best grade cows in the herd.

The first testing for tuberculosis was done in 1893. In the summer of 1895, it was found that seven cows in the herd responded to the tuberculin test. Ordinarily, these cows would have been killed at once, but it was thought best to keep them, in the hope of learning something about this terrible disease that would be useful to dairymen. Accordingly, these seven cows, with one that did not react, and, therefore, was presumed to be healthy, were put by themselves in a "cow hospital", removed from the rest of the herd, in order that the following questions might fairly be asked:

1. What is the effect of repeating the tuberculin test upon consumptive cows? Will it increase the disease or diminish it?

2. What is the effect of repeating it upon a healthy animal?

3. What are the chances of infection? Will a healthy cow contract the disease by being in contact with cows that have responded to the test?

4. What is the influence of food, air, temperature, etc., upon the degree with which they respond to the test?

I saw the cows in the "hospital"—which is a small barn or shed—light, airy and dry, with a yard around it giving ample room for exercise. The cows have now been in this place about 16 months. They were large animals of Ayrshire and Holstein grades, apparently, and seemed as sound, rugged and healthy as any animals on the place. I doubt if any veterinarians could have found anything the matter with them from any external examination, yet all but one responded to the tuberculin test last year. They are all in sound health and vigor, and their milk production is normal, both in quantity and quality.

Since they were put into this hospital, tuberculin has been freely used on all. One of the cows gave a marked reaction when first put in, but after repeated injections, she failed to respond. She was killed October 24, 1895, and her lungs were carefully examined. It was found that part of the tubercles had been covered by a connective tissue. The cow was, evidently, in better health than before.

Another cow which responded to the repeated tests, finally grew sick, and was killed in August of this year. Her lungs gave no evidence of any rapid spread of the disease, though there was no such tendency to heal as was observed in the other cow. It was thought that this cow's sickness was due to some trouble aside from the disease of the lungs. At this time, after 16 months in the "hospital," three of the cows do not now respond to the test at all. One of these is the originally healthy cow. She has been all this time with the other "consumptives," has been repeatedly tested, and is still sound. The other two cows originally responded to the test, but after repeated injections, have ceased to do so.

These are the facts about the cows. Prof. Voorhees is conservative, and says that it is premature to speak yet about any "cure" or of the curative effects of frequent injections of tuberculin. At the same time, here are the cows, fat and hearty, and giving good yields of rich milk. There has, certainly, been no particular development of the disease since they were separated from the rest of the herd. Prof. Voorhees says that he does not know of any medicine or special food that could be given these cows in the hope of curing them. They have had the same food that is given the other cattle, with clean quarters and plenty of pure air and sunlight.

The bacteriologist of the station has failed to find any of the germs of consumption in the milk from these cows, but in order to make doubly sure, this milk is all Pasteurized before using it. It is Pasteurized in the Star cooler. This cooler is a fluted, hollow metal case, something the shape of a double washboard. The milk is permitted to run or trickle down over the outside flutes or ridges, while inside flows a stream of cold water. In this way, a thin sheet of milk flows along with nothing but a thin metal between it and a body of nearly ice-cold water. To turn this into a Pasteurizer, they shut off the cold water, put on another pipe or hose, and turn in hot water at a temperature of 170 degrees. The milk, as soon as it comes from the cows, is run over this hot metal, and is thus raised to about 154 degrees, at which temperature the germs of consumption are destroyed. As soon as possible after this, the cold water is again turned into the cooler, and the "Pasteurized" milk run over it. Thus treated, it is perfectly safe to use. If put at once into bottles and kept on ice or in cold water, it will keep sweet for days, and will not have the unpleasant taste noticed in milk that is boiled or heated to 212 degrees.

We have had many questions about "Pasteurizing" and how it may be done. In a few words, it means heating the milk to a temperature between 150 and 156 degrees, and at once cooling it. This plan of using the Star cooler as arranged by Prof. Voorhees, is the simplest plan of Pasteurizing of which I have ever heard.

Prof. Voorhees will, doubtless, give all the details of this interesting experiment in a forthcoming bulletin. One needs but to look at those strong and hearty "consumptives," to realize what an injury may be done to a farmer by killing every cow that responds to the tuberculin test, without any regard to any physical examination. These seven cows might all have been killed when they were first tested; yet here they are, several of them better than they were then. It is, probably, a wise thing to test all our cows with tuberculin, but not every cow that responds should be killed. A large proportion of those that have been killed might have given healthful milk, and died of old age if they had simply been taken out of the herd and treated as these cows at New Brunswick have been cared for. H. W. C.

A MILKING MACHINE AT LAST?

THE HUMAN HAND IN METAL.

Have a look at your own hand. It is the best milking machine ever heard of. Any other milking machine, to be a success, must strive to imitate the work of the hand. This imitation can only hope to have two points of superiority. It will not get tired, and the power back of it will not be troubled with the laze that sometimes gets into the bones of the hired man.

Notice what you do when you milk! You slightly open your fingers and raise the hand against the udder. As the teat fills with milk, you squeeze it out with a downward stroke of the hand and a pressure of all the fingers and the thumb. Unconsciously, your fingers play a little as you squeeze so that the pressure rolls along the teat something like a roller. This principle of squeezing and then letting go for a grip higher up, is the true principle of milking, and a milking machine, to succeed, must imitate it as closely as joints and rods of metal can be made to do. Most of the milking machines thus far introduced, have taken a calf as their model, and tried to take the milk out of the udder by suction. These machines have failed. They took a poor model, for the calf is the worst milker that can be put on a cow. The machine that comes nearest to the human hand is the "lactator" which is shown at Fig. 240. Prof. F. W. Woll, of the Wisconsin Experiment Station, visited a dairy in Sweden where this machine is used. He describes the farm in Hoard's Dairyman, and our picture is reëngraved from an illustration in that paper.

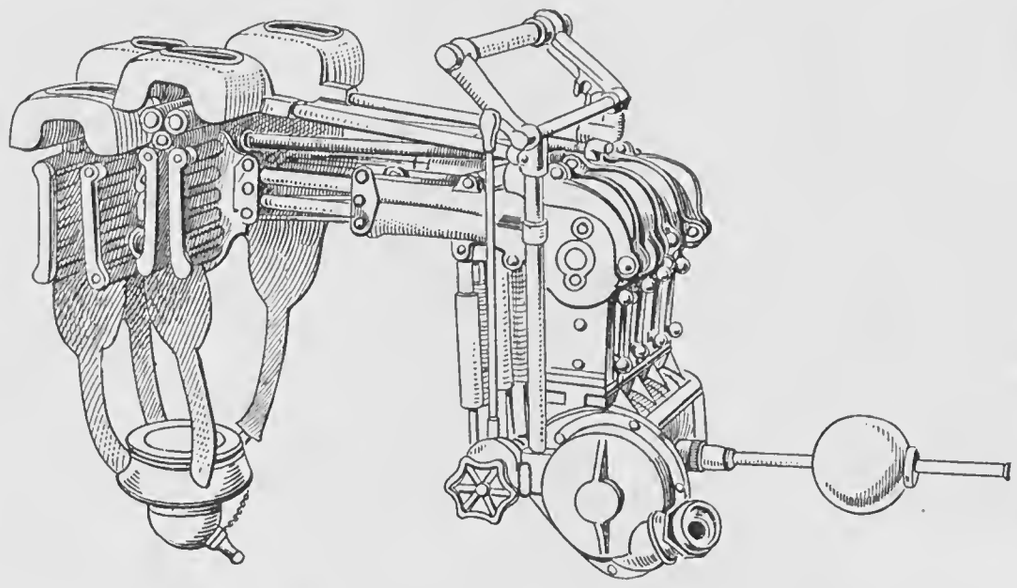
It is a very complicated machine, and Prof. Woll was told that it comprised 1,000 different parts. Back on page 500, we had an account of the working of this machine, and we may repeat it here:

"The milking is done by two special 'organs', or a pair of cylindrical rubber rollers, that catch the teat at the root; thus shutting off the milk therein. The rollers then move downwards to the lower part of the teat, whence the milk is squeezed out by two plates moving parallel with each other. The function of the rollers is rendered possible by a hold above—the so-called roof that is regularly moved against the udder, whereby a slight thrust is given the udder, something like knocks that the calf gives when sucking, which facilitates the descending of the milk in the teats as well as the secretion of the milk in the vesicles of the udder."

The machine is made of aluminium, and weighs about 15½ pounds. It is held on the cow by means of a harness or strap running over her back. The axis, when turned, works the arms, shown in the picture, up and down, and also gives a squeeze or pressure when desired. You will notice at the top of each arm two pieces of rubber. As the machine works, these pieces push up against the udder, and then close around the upper part of the teat. Then two rollers that nearly meet around the teat close up and move down, squeezing the milk out. It is about like a man milking with both hands on one teat. With his left hand, he holds tightly around the upper part of the teat while, with his right hand, he squeezes the milk out. The machine is worked from a shaft that runs over the heads of the cows connecting by cord or belt with each machine. An engine of two-horse power provides the force for milking 10 cows. The power on this Swedish farm is provided by electricity.

Prof. Woll says that the "lactator" brings out the milk at the rate of about a quart per minute—which is very slow milking. Ten machines are used for 100 cows, and two men attend to the milking. As the milk is squeezed out, it runs into a small bowl, the bottom of which is closed by a rubber ball. As the bowl fills, of course, this ball rises, and the milk runs into a tube through which it is sucked or pumped through rubber tubes to cans which hang above and in front of the cows.

None of the machines has been sold yet. The inventor, DeLaval, is still working to perfect it, and it will not be given to the trade until it has been fully tested. It is, evidently, a very complicated machine, yet its work is very simple, and after seeing it in operation, Prof. Woll is hopeful that, with slight modifications and improvements, the machine will adapt itself to ordinary farm operations. There is nothing about the work of the machine that can injure a cow. Machines that work by wind suction might do so, but in this operation, we have really the same effect as that produced by hand milking.



"THE LACTATOR". FIG. 240.

THE MOST PRACTICAL MILKING MACHINE YET DEVISED.

In closing his article, Prof. Woll makes this statement: "Whether the lactator will do what it promises to, and will prove the boon to the dairyman that its friends believe, it is, of course, yet too early to say. With all the skepticism which I could muster during my visit, I could not discover any vitally important objection or criticism concerning the machine. Still the problem has, seemingly, been solved before, without the expected results having materialized, and so it is well to withhold judgment, as to the lactator, until it has been tried under the varied conditions of a number of dairy farms. Such trials will be made in the near future, and the outcome will be watched with intense interest by dairymen in all parts of the world."

PHOSPHORIC ACID AND LIME FOR CLOVER.

I have read, with much interest, the articles upon the use of fertilizers, and especially, the one on October 17 has been of more than usual interest to me. I have, for a number of years, been trying experiments to decide on what kinds of fertilizers, when, how, and where to apply them, and their profitableness for my own soil, and use. Some of these have proved rather costly, and the experience gained reminds one of the old proverb, "but fools will learn," etc. This is a neighborhood where large quantities of commercial fertilizers are used, and my especial interest in the October 17 article upon growing clover with phosphoric acid, arises from a belief quite prevalent among us here that clover does not do well after an application of acid phosphate. About eight or ten years ago, my attention was called by a neighbor, a good farmer and close observer, to what he claimed was the ease, that clover did not flourish on those farms where acid phosphates were used most liberally, but would, and did grow and do well following applications of ground bone. Together we cited over the neighboring farms with which we both were familiar, and the facts seemed to sustain his claims. Since then, my own observation tends to confirm his view.

If clover flourishes after bone, and not after acid rock, it would seem that it must be the acid that acted to prevent its growth, yet how, I confess that I am not able to understand, as sulphate of lime (land plaster) as I understand the residue of an acid rock to be, has always been considered a promoter of clover growth, unless there be an excess of acid. In a recent visit to a section where lime is practically the only extra fertilizer used, I found the field much better set with clover than at home, where we use phosphates in great variety—but no lime.

If there be anything in this acid theory, it may explain, in some measure, why the floats in which the phosphoric acid was not quite so readily available, yet made a good growth, though later. It would be interesting, if the experiment were continued through another season, to determine this point. One fact is certain, that we do not here now raise as heavy crops of clover as were raised when I was a boy, when lime and barnyard manure were the fertilizers used. Our hay crops are, usually, fully up to, if not above, those I remember; but there is not the same proportion of clover. One question I would like answered in THE R. N.-Y., is, Would an application of lime upon, or soon after, a dressing of ground bone, act to render the phosphoric acid therein contained available?

Chester County, Pa. T. SHARPLESS.

R. N.-Y.—Last year, on page 770, we began a series of articles on the use of lime at the Rhode Island Experiment Station, which we think answer these questions. On sour or acid soils, it is found that clover does not thrive. On the Rhode Island farm, it was impossible to grow clover until enough air-slaked lime was used to neutralize the acid. When this was done, excellent crops of clover were produced. The use of lime, with bone, would not render the phosphoric acid insoluble. We will try to explain *why* in the next few weeks.

THE NEW HORSESHOERS' LAW.

The evident purpose of the new law requiring horseshoers to be licensed in cities of this State, of over 50,000 inhabitants, is to prevent incompetent men from shoeing horses in the larger cities. It is a well-known fact that a large percentage of the lamenesses of horses, especially in the cities, is due wholly or in part to the mutilation of the hoof and improper shoeing by incompetent blacksmiths. Even at the best, every shoeing is an injury to the horse's foot, so that the better the operation the less the injury.

Horseshoers, as a class, are wedded to a number of traditional practices long handed down from generation to generation, that are directly opposed to the preservation of the foot in its natural, healthy condition. They do not consider the shoeing complete and workmanlike unless they have sliced away the greater portion of the frog; carved out the sole until it will readily yield to the pressure of the thumb; "opened up the heels," and rasped off the protecting covering from the lower half or two-thirds of the wall by cutting the hoof down to fit their idea of a shoe, instead of making a shoe to fit the foot. The result is that, instead of leaving the feet as nearly as possible in the condition in which Nature made them to withstand the wear and tear of use, they are robbed of their natural cushion and protecting covering, and so weakened as to be subject to concussion, bruises and contraction.

The more ignorant the blacksmith, the more tenaciously he adheres to his traditional creed, and the less amenable is he to any suggestions as to a more rational and less destructive method of shoeing. I would not be understood as saying that all blacksmiths are of the class described. There is, occasionally, a progressive horseshoer who is endeavoring to improve his profession, and is studying to improve the methods of shoeing.

The application of the law was, probably, confined to the cities because it is there that improper shoeing works the greater injury. The hard, unyielding city pavements, and the more rapid pace at which the city horse is driven, require a strong foot, properly shod, to withstand the concussion. From 50 to 70 per cent of the horses in our cities are lame in one or more of their feet. A large percentage of these lamenesses could be prevented, and will be avoided as soon as only competent workmen, who understand the proper methods of shoeing, are allowed to shoe our horses.

Every horseman realizes the force of the old aphorism, "no foot, no horse." Is it not time, then, that some step should be taken to correct the many evils of poor shoeing, in order not only to increase the usefulness of the horse, but to relieve him of much unnecessary suffering? I believe that the law is a move

in the right direction, and that it should be gradually extended until it includes all horseshoers of the State. F. L. KILBORNE.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

The Hardy Pear.

J. R. T., New York.—What do you know about the Hardy pear? What are its defects? Is it productive? I have it only as a dwarf, but it is hardy, vigorous, and out of a dozen varieties, holds its leaves better than any except Duchess, and seems to be as vigorous. It has only begun to bear; the first crop was only a half dozen. It is not mentioned on your lists of profitable varieties. What is the trouble with it? The skin is thin, but not more so than Sheldon. I am thinking of putting out an orchard of standards, as recommended by Mr. Hoyt for apples, say, 13 feet apart each way, quincunx planting, alternate rows of Seckel and Anjou or Bosc. Would you recommend it, and would you select two other varieties?

ANS.—We know nothing to be said against the Hardy pear, except that it is not of the *best* quality. The tree is a vigorous grower, whether as a standard or on quince. Yes, we fully approve of Mr. Hoyt's plan. Howell and Frederick Clapp we would suggest in addition to the list.

Peaches for Pennsylvania.

B. K. A., New Providence, Pa.—I would like to plant a peach orchard of about 100 trees. What varieties should I plant to range from the earliest to the latest? I also wish to plant a strawberry bed of those mentioned in THE R. N.-Y. for different States. Would they answer for this locality? I want them for home market.

ANS.—Peaches maturing earlier than Hale's, are not grown as much as formerly on account of rot. Mountain Rose is, probably, the earliest reliable peach now grown, followed by Oldmixon, Stump, Reeves, Late Crawford, Smock and Salway. Other varieties might be added, but the above constitute the bulk of our planting, and I know of none (tested here) that I would recommend to plant except for trial. It is difficult to choose the best strawberries, since all the tested varieties have been both praised and rejected. Successful strawberry growing depends more on their management than on the variety. H. M. ENGLE.

Root-Grafted Apple Trees.

J. L. M., Wintersville, Ind.—What are the advantages in root-grafted apple trees over budded stock?

ANS.—To grow apple trees successfully from grafted apple roots, requires considerable experience. Experienced nurserymen often fail in securing a good stand from grafted roots; therefore, they practice budding more generally every year. Perhaps the greatest inducement for nurserymen to plant grafted apple roots is that they can graft them during the leisure of winter, thus keeping men employed who would otherwise be idle. A novice might succeed with these grafted roots, or he might not. At present, the price of first-class apple trees suitable for planting in orchards is as low as they possibly can be produced. It would seem to be unwise to take the chances in planting that which is so uncertain in results. Grafted apple roots, in order to succeed well, should be planted early in the spring, on rich soil that does not bake or harden. On stiff, clayey soil, they will not succeed. They should be planted deep so that only one bud appears above ground. The soil should be packed about them as closely as about cuttings, and they must receive careful culture, the first year especially. CHAS. A. GREEN.

More About Apple Jelly.

L. J., Winsor, R. I.—J. Bollinger has told us how to make cider jelly from the pomace. Can equally good jelly be made from the cider that comes from the first pressing, as from pomace worked over?

ANS.—No, it is not so good; it is more rank and of a very dark red color, while the jelly from pomace worked over is of a light color, and of a very mild flavor. However, more than two-thirds of the cider made at this mill this season, has been boiled down to jelly. Cider barrels have been so expensive this season, that farmers refused to buy, and had the product boiled down so as to require less storage room. It is my opinion that many more things on the farm might be boiled down, and a greater profit might be the result. J. BOLLINGER.

Something About Dahlias.

R. P. N., Brooklyn, N. Y.—Do dahlias need poor soil to keep them from going entirely to foliage? Are they subject to blight? If they need poor soil, would it be safest to use sand or ashes to make a clay soil more friable? Dahlias have not done well in my vicinity. What are the finest white, yellow, pink and maroon double and single varieties? What is the name of the variegated maroon and white double, also the names of the variegated yellow and red?

ANS.—Dahlia roots should be planted in a deep, rich soil to do their best. They are rapid growers, and need plenty of food. Beauty, Marguerite Bruant and Snowdrift are all fine white kinds; Miss Dodd, Fanny Purchase and Duke of Edinburg, yellow; A. D. Livoni, Helen Potter, Marguerite, pink; George Rawlins, Prince Bismarck, maroon. Among single dahlias, we would select Edelweissfalter, white; John Hummerston, yellow; Miss Ramsbottom, pink; John Cowan, maroon. The variegated yellow and red might be one of a dozen different kinds. Hercules is the best we know of among the large-flowered double.

Silo or Shredder for the Corn.

O. H. L., Ira, N. Y.—Which would be the better way to handle my corn crop: To cut it, ears and stalks, into a tight place, or to have it husked and shredded by machinery? It will cost three cents per bushel to husk and have the stalks shredded, and $5.50 per day for the use of an ensilage cutter and engine, with two men furnished. The corn was ripe when cut. Would such corn keep well cut, and would a space 12 x 12 x 12 feet hold six acres of good corn? I should have to board up such a room from my barn floor. I milk a winter dairy, and if the corn cut, ears and all, would not hurt, it seems as though it would be better disposed of in that way, than to husk, feed the fodder whole, and have the ears ground. I expect to build a silo the coming year.

ANS.—If you cut your corn for the silo, it means that you must go to the expense of constructing an air-tight room from your barn floor. If the corn was thoroughly ripe when cut, the stalks have now dried out considerably, and if cut and put into a silo, would need a most thorough wetting down to secure proper packing and fermentation. Six acres of good corn should have given you, at least, 12 tons per acre or 72 tons in all. A room 12 x 12 x 12 will contain 1,728 cubic feet. One cubic foot of ensilage weighs 40 pounds, making the contents of your room only a little more than 34 tons, not large enough to hold the corn from six acres, if the yield is good. Your best plan now would be to have your stalks shredded. Prepared in this way, you would get just as much value out of them as to cut for ensilage. The expense will be less, and the feeding value just as great. L. A. CLINTON.

Clover Growing in Indiana.

A. H. R., Bloomington, Ind.—I have a piece of land that I wish to plow this fall and seed to clover in the spring. Can I get a crop of hay and a crop of seed the first season without killing it out? Some say that it will kill it if I cut the crop the first year.

ANS.—I judge that you mean to sow Medium clover, as it furnishes two crops a year, while English gives us one. In either case, clover is not usually sown by itself, that is, without a sheltering crop of wheat, oats or rye. The reason is that weeds often smother it. Another reason is that a crop of oats and clover can occupy the land with better results to the clover than for a crop of weeds and clover to grow together, and the oats are worth something. In either case, sown with oats next spring, or by itself, no crop can, usually, be taken from the clover the first year, unless it is a rainy season, because it does not grow rank enough. Some careless people get some pasture from it the first fall. Cutting it, if rank, for seed seldom pays, as it does not, commonly, fill well enough, though I have seen it cut with profit for seed. It is often cut for hay if rank. I cut part of mine, this year, for hay, sown in wheat last spring. It does not materially hurt it to cut it the first year, as it is a biennial. The only thing to guard against in pasturing or cutting the first year, is not to weaken the plant too much. The danger is not so much in weakening vitality, as in preventing it from developing an aftermath which may lop down and protect it from winter weather. A field of young clover pastured and tramped till the soil is hard and naked, is nearly sure to suffer from freezing out.

Central Indiana. E. H. COLLINS.

Unripe Corn; Crimson and Red Clovers.

R. J., Shortsville, N. Y.—What is the comparative value of unripe corn, some in the milk and a little past, for milch cows? I planted quite largely of ensilage corn, and as I am not ready to build a silo, I am feeding it cut up short, and have enough to feed all winter. The cows eat it well, and do well on it, and it occurs to me that it might pay to raise it to feed in that way. One silo was built here last fall, and another this fall. A good part of the corn has gone in in the same unripe condition. Many of our farmers are in favor of the silo, and will build as fast as they are able. The octagonal form is preferred to the round, as it is cheaply built and is a perfect success. My experiments with oats and peas for fall feed, are quite satisfactory, but give not quite so good results as the unripe corn. August sowing of clover is a grand success so far, for both Crimson and Red clover cover the ground. If it go through the winter, we shall sow more of it. In what respect is the Crimson better than the Red?

ANS.—Such unripe stalks are worth, for feeding, about 70 per cent as much as mature stalks—that is, where the corn is just ready to cut for grain. We have some bad reports from those who have used this unripe corn in the silo. The ensilage from it is likely to contain more acid than that made from more mature corn. A large amount of such corn fodder is grown to help out the pasture in August, but most of it is fed green. The Crimson clover is superior to the Red in the fact that it grows faster during the fall, and gives a much heavier crop by the following May, and thus gives a chance to get the good effects of a clover crop between two others, while, with Red clover, one must wait two years before getting back into the grain or root crops. We do not find the Crimson so good for hay as the Red, and we would pasture it or plow it all under. "Feed it to the soil", and feed Red clover to the stock.

Old Tariffs and New.

C. P. N., Wayland, N. J.—What is the duty on potatoes, wool, eggs and hay under the Wilson bill, and what was it under the McKinley bill?

ANS.—The duty on potatoes under the McKinley law, was 25 cents per bushel of 60 pounds; under the present law, it is 15 cents. Unwashed wool, under the old law, paid a duty according to classification from 11 cents per pound upward; now, unwashed wool is admitted free of duty. Eggs formerly paid five cents per dozen, now they pay three. Hay now pays $2 per ton, formerly, it paid $4.

A Compost of House Refuse.

G. S. P., Bethel, Pa.—I made a compost of refuse from the kitchen and the garden, for one year. Night soil has been mixed with it frequently during the spring and summer. What is its value as a fertilizer for vegetables? What shall I add to make it complete? Would you advise me to add ground bone which costs $2 per 100 pounds?

ANS.—It would be impossible for any one to give more than a guess at such a question. It is safe to say that such a compost is about as valuable as well-rotted stable manure. It, probably, needs both potash and phosphoric acid to give it the proper "balance". The bone alone will not be enough, but we would also add muriate of potash—about one pound of this to four pounds of the bone. Probably 200 pounds of bone and 50 of muriate will be enough for the compost you have.

Swamp Muck and Manure.

J. R., Derby, B. C.—How can I make manure out of swamp muck?

ANS.—What is "swamp muck", and how does it differ from manure? Both are derived from decayed vegetation. When an animal eats hay and grain, a portion is used for the purpose of life and growth; the rest is voided as manure—broken and crushed and partly dissolved by the acids of digestion. After further rotting or fermenting, this is used as plant food—we call it manure. Muck also comes from vegetable matter. Coarse and rank plants that grow in damp places, forest leaves and other vegetation form what we call "muck". In this case, the plants do not pass through an animal's system, but go through natural, though slower proeesses of decay.

The manure from animals fed upon grain ought to be richer than muck, for we know that wet-soil plants are not as nutritious as those grown upon the uplands. This is not always true, however, for there is less water in well-dried muck, and we must remember that it not only contains the plant food in the plants from which it was made, but it has also acted as a sort of sponge to retain some of the fertility that was washed down from the surrounding higher land.

Muck differs very widely in its composition, but the following average of 21 samples may be considered fair as compared with average stable manure:

	POUNDS IN THE TON.			
	Water.	Nitrogen.	Phos. acid.	Potash.
Muck.....	1,240	16	2	0
Average manure...	1,500	10	5	13

Thus we see that muck dug out of the swamp contains less water than average manure, that it contains more nitrogen, less phosphoric acid and no potash. But this is not the only difference. The nitrogen in the muck is not so available as that in the manure. The muck is also sour—so full of acid that ordinary cultivated plants could not obtain the plant food in it just as it is taken from the swamp. In order to make it as good as manure, we must "sweeten" it or correct that acid, make the nitrogen more available, and add potash and phosphoric acid. In other words, we must "cook" the muck and season it.

The best way to do this is to make a compost heap. Haul out the muck and start a heap as large as you want. Spread the first loads over the whole surface about a foot deep. Then put on enough quick lime to make the whole surface white. If you can get good wood ashes, you may leave out the lime and use the ashes instead. Then put on more muck, more lime or ashes, and so build the pile up. In a short time, heat will start inside the pile, and the whole thing will be thoroughly fermented or "cooked". During the winter, you should fork the pile all over twice. Begin at one end and move the whole pile—throwing it back so that the whole is worked over.

But why not make the muck better than the manure while you are about it? Your manure would be much better if you could mix 100 pounds of bone and 30 pounds of muriate of potash with every ton, because then you would have more potash and phosphoric acid. The muck needs these substances more than the manure does. If wood ashes are to be obtained, use all you can afford—you can't use too much—and mix them thoroughly with the muck. The lime in the ashes will answer for "sweetening" the muck. If you cannot obtain ashes, use the lime alone, and as the pile is made up, use two parts of fine ground bone and one part muriate of potash, so that about 40 pounds of the mixture will be added to each ton of muck. If this be well mixed and worked over, you will certainly have a pile of compost of better quality, ton for ton, than good stable manure.

Another "Strawberry Barrel."

N. R., SYRACUSE, N. Y.—I have a strawberry barrel on trial whose circumferenee is 70 inches. The lower row of holes, about four inches apart, is two inehes above its lower head, or four inehes above the lower end of the staves. Then a like row was plaeed four inehes below its top. The remaining spaee (26 inehes) was divided for three rows of holes, as equal as the iron hoops would permit, and the holes bored alternately. I think 1¼-ineh holes the most desirable size, so that one can conveniently push the tops (after removing a portion of the leaves) through instead of the roots, thus leaving more or less earth upon the plants. I intend to arrange another barrel in the spring, and purpose to plaee the plants still eloser together. This plan of growing strawberries is well worthy of a trial. I desire an ornamental suecess rather than a large yield of fruit.

Those Second-Crop Strawberries.

A. W. R., WOLCOTTVILLE, IND.—In the spring of 1893, I took a very poor pieee of ground, which was noted for never raising a erop of anything, hoping by manuring heavily with barnyard manure, and thorough eultivation, to raise a erop of onions. Of eourse, the onions were a failure. The next spring, I coated it heavily with manure, and also applied 400 pounds of eommereial fertilizer (Lake Erie fish guano), and set the three-fourths aere to strawberries. I cultivated them thoroughly, and they went into the winter without a gap in the rows, or a weed to be seen. I then mulehed them with straw, and in the spring they came out looking fine. We pieked, that year, 2,250 quarts, which I thought fairly good when we eonsider the late frost in May, whieh froze all the first blossoms. The erop was eontraeted to one dealer at 10 eents per quart.

After fruiting, the vines were mowed, and after drying a few days and forking the mulch over loosely, fire was set for the purpose of destroying disease and insects; the whole pateh was burned black and bare. The next day, I harrowed very thoroughly with a spike-tooth harrow, and eultivated between the rows. I then applied 100 bushels of ashes, and continued cultivation during the fall, which was very dry. There was only an occasional second-erop berry, though the plants made a fine growth. This year, we pieked 3,000 quarts from this pateh. The treatment, after pieking, was praetieally the same as last year, with the exeeption of the fertilizers. The season was extremely wet while the plants were making the new growth, and I think that this is the main eause of the second erop berries. I don't think that it would pay to work for seeond-erop berries, though we would have market for them at a good priee.

I have one patch of one acre, set last year, whieh I am earrying over; this pateh had very few seeond berries. I also have one aere set last spring, and hope that priees will be larger than this year.

The McIntosh Apple Under Comparison.

H. E. VAN DEMAN, VIRGINIA.—The opinion which I gave some weeks ago, as to the quality of the McIntosh apple, has given rise to eonsiderable diseussion, and it may be that I am wrong in thinking it inferior in this regard. Perhaps it might be proper for me to explain my understanding of what constitutes good quality in an apple. As "tastes differ," as E. C. B. says, on page 691, what may please one, might not another. Some like sweet apples and other fruits, and others prefer those whieh are tart, or even sour. But for an apple to be really good, in my estimation, it must be rieh, aromatie, spiey, free from astringeney, juiey, and fine grained, that is, not eoarse in texture. Sueh an apple is heavy in weight, and will make good eider. As examples, I will name Grimes Golden, Esopus, Swaar, Winesap, Fall Pippin, Gravenstein, Jefferis and Mother. There are others whieh I think of high quality, but are of lighter weight and more delicate flesh, such as Primate, Jonathan and Yellow Bellflower. Many would eall Red Astraehan, Fameuse and Smith of very good quality, and so they are for cooking when sugar is added; but they are what I call "thin," although the natural flavor is very pleasant.

Some apples have an astringent taste—a sort of final "twang" that makes one want a drink of water to get rid of it, like Baldwin and Pennock. An apple to be at its best, should be ripe, and if, when it gets so, it is often full of brown speeks, or dry and mealy, I want to look for something better. McIntosh, whieh is "de innoeent eause ob all dis trouble," is rather pleasant in flavor, but it is not rich, or even tolerably so. Perhaps, the speeimens I have examined were not eharacteristie, but I ealled their general eharaeter poor. I am sorry and surprised to notiee that J. S. W. says that it is not productive, for, at Dr. Hoskins's plaee in northern Vermont, and elsewhere, I have seen the trees loaded. All that I am striving for in praising one variety and deerying another, is to get the best fruits in the hands of our people, beeause they deserve them.

The Vineless Yam.

ALVA AGEE, OHIO.—I grow a few aeres of Jersey sweet potatoes every year, and this season I was beguiled into trying the Vineless yam. One experiment often proves nothing, and the queer behavior of these plants, probably, should argue nothing against their worth; but up to date—and it is past the date for respectable sweet potatoes to be out—these yams have wholly lost sight of their objeet in life. They grew more top than was justifiable in a strietly vineless plant, and since that time, they have done nothing but hold their own. As they, like most things in their beginning, had little to start upon, "holding their own" has little in it worthy of remark. They have made little effort toward provision for reproduction another year, and the variety promises to beeome extinct unless others' sueeess is greater than mine with these plants. I am told that this is a valuable variety, but, at least another year's experiment is needed before there is evidence that it dotes on my soil and eulture. Jerseys do nicely, though there was overmuch vine growth this wet season.

Alcohol for Regulating Incubators.

J. W. M., QUINCY, ILL.—Warmth is the first essential to sueeessful ineubation, and its proper applieation and regulation in the egg ehamber is an item of the utmost importanee. No ineubator will hatch well if the temperature be not kept at a uniform degree, and manufaeturers, as well as those using the ineubators, have found this to be a matter of great importance. Three-fourths of the ineubators that are sold go to farmers and persons who are engaged in some business that will not permit of their spending much time with hatchers and brooders; it, therefore, devolves upon the regulator to guard the lives of several hundred chieks, and proteet them from extremes of heat and cold. It is, therefore, neeessary that only such material be used in its construetion, as will be affeeted by the slightest variation in temperature, and operate with the greatest degree of accuraey at all times.

In a reeent R. N.-Y., there was printed an artiele headed, "A Good Ineubator. How to Choose and Buy It. What Is It For?" by H. E. Moss, referring to ineubator regulators, whieh is caleulated to prejudice the minds of those using incubators against any regulators that operate by the expansion and contraetion of alcohol or mercury. I have been interested in artifieial ineubation for 14 years, and personally know that Mr. Moss started in the poultry business not over 18 months ago. I think that when he has been in the business as long as I, he will learn a little bit more about it. There are several reliable firms of high standing, that manufacture No. 1 good maehines, that are giving exeellent satisfaction throughout the entire country, that are using this style of regulator. I ean say, from personal observation, that they possess features of merit that are not eontained in any thermostatie regulator that has eome under my notice.

I have tried every deviee of regulation on the market at the present time, and there is nothing that works as aeeurately and eontrols the temperature during all kinds of weather, as the one where mercury and aleohol are used. The very faet that mereury and alcohol are more suseeptible to heat and eold than metal or rubber, is suffieient evidenee that, if properly applied, the temperature in the egg ehamber ean be held to any degree with greater preeision than would be possible with either the rubber or metal bars. One great advantage is that the degree of heat in the egg ehamber is registered in the eapillary tube on the outside of the maehine; this is important espeeially at the latter stage of the hateh, when the young ehickens are sprawling about over the egg ehamber, eonstantly displaeing the thermometer so that it beeomes neeessary to open the door of the hateher in order to determine the degree of temperature, whieh, at this eritieal period, is liable to have a fatal result. Another feature that is worthy of mention, is the faet that no amount of erowding of the ehieks against the bulb eontaining the alcohol and quieksilver will effect it, which eannot be said of a regulator that depends upon the delicate adjustment of a thermostatic bar, to open and close the damper.

Song Birds and Sentiment.

J. A. W., AMESBURY, MASS.—I agree with B. T. W., when he says that the proteetion of song birds is a matter of sentiment only. You say that robins eat a great variety of worms. Perhaps they do, but they do not eat enough of them to benefit the farmer any. There are always enough worms and inseets to destroy a erop, after the birds have

(Continued on next page).

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CAR-LOAD after car-load of **Rogers' Fresh-Dug Dansville Trees** are now going to RURAL READERS. BRIGHT, WELL-ROOTED, THRIFTY Trees, that will make many a man smile when he sees them, for it's a pleasure to handle and plant our Fresh-Dug Dansville Trees. There are more left for you, and we're ready for your order. Prompt shipment, safe arrival, and successful fall planting guaranteed. ROGERS NURSERIES, DANSVILLE, N. Y.

TRIUMPH The only Yellow Freestone PEACH Ripening with Amsden.

The Latest and Largest Yellow Freestone PEACH, **EMPEROR**

MERCER The only Sure-Bearing, Non-Rotting CHERRY.

For full descriptions send for Catalogue (10c.) We will send our *Beautifully Illus. Catalogue* with the Col'd Plates of the 3 Wonderful New Fruits, and 1 Emperor Peach June Bud by mail, postpaid, for 10c. JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

eaten all they want. The farmer must kill the worms and insects himself, and it costs no more to kill them all than it does to kill two-thirds of them. The man who depends upon the birds to rid his crops of insects, will, like the man who depends upon prayer to make them grow, have a very slim harvest.

No one dislikes to kill a bird more than I, but I feel justified in doing it when the success of my operations for getting a living, depend upon such a course. When birds become a pest, I fail to see why it is any more cruel to kill them than it is to kill cut worms and potato beetles. I dislike to kill anything, even a squash bug, which is my greatest insect enemy; but as it, like the monopolist, lives upon the labor of others, I feel justified in putting it out of the way. I kill no animals, birds or fishes for fun, neither do I kill any for food, for I believe that such savage customs should not be practiced by civilized people. There is enough in the vegetable kingdom to feed all the people in the world, and I have no doubt that they would be better in both health and morals if they would cease their cannibalism, and live on cereals, fruits and vegetables.

Metal Wheels for Wagons.

E. B. W., NEWTON, IA.—These wheels have been used in this community, but a short time, so that we cannot decide as to their durability. I asked a neighbor who has used a set for two years, what he thought of them, and he expressed himself as well pleased.

"Are they as strong and durable as wooden wheels?"

"I think so," he said, "though one of mine got broken. It was the tire that broke or came unwelded. It did not seem to have been welded very well in the first place, and I have had to get it fixed two or three times, and now some of the spokes are loose and rattle. I think, though, that the wheel was hurt in a runaway we had in the orchard, so I cannot say that the wheel was originally weak. Since I got mine, I have seen some in the implement stores that I like better. I believe that the later wheels are better than the first ones put out. The low-wheeled wagons are exceedingly handy, and are a good thing to have on the farm."

More Prize Butter.

MRS. H. A. L., WEEDSPORT, N. Y.—My cows are three high-grade Jerseys, pastured in an old pasture, but got into the oat stubble, which injured the flavor of the butter. Had they been kept out of the stubble, my butter would have been perfect, for it was in every other respect. The cows had no grain. The milk was set in pans, remaining until the cream was ready to skim, always taking the cream from the milk while sweet. I let the cream remain in cream jar until ripe, or ready to churn, stirring every time I added any, and oftener if I thought proper. I churned in a dash churn; 1½ ounce of Worcester salt, to the pound of butter was used. When the butter was churned, I took it up in a butter bowl, and with a ladle pressed out the butter milk, being careful not to disturb the grain of the butter. Twice working is my rule, and then pack in a jar. The most important thing is keeping the milk and cream in proper condition, and at the right temperature.

A Queer Accident.

ALVA AGEE, OHIO.—A neighbor, weighing 240 pounds, drives a substantial team of grays to a heavy farm wagon. Coming from the village the other day with his wagon minus the bed, he was sitting on the rear axle. Two boys on horseback, racing their horses in a reckless way, came up behind the wagon, and one of the horses, having very little more sense than its rider, did not turn aside but tried to vault over the wagon and man. It landed on the hind wheel, its head went down in front, a somersault was turned directly over the neighbor, and the horse came down crosswise the coupling pole, crashing it to the ground. My neighbor crawled out from beneath the prostrate animal and the rear axle of the wagon, off which he had been tipped by the crash, and his first utterance was a demand upon the boy that he pay him 75 cents for the broken coupling pole. I harbor no intention of tacking a moral on this story—it is merely a plain recital of facts.

To Jan. 1, 1898, $1.00.

You must have a neighbor who wants THE R. N.-Y. Now is the time to interest him. Send us his dollar, and he will get the paper to January 1, 1898, and you may have a choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

THERE are four shrubs that make up, by their showy fruit in late autumn, for their shortcomings in the way of flowers, and these four shrubs, when planted in groups near one another, or intermingled, are at this time and later, exceedingly attractive. One is the Snowberry (Symphoricarpus racemosus) which bears large, snow-white berries in racemes. Another is the Indian currant or Red-fruited Symphoricarpus, which bears smaller, pink berries in long spikes. A third is the Matrimony vine or bush (Lyceum Barbarum). This bears scarlet or orange-red oblong berries, half an inch or more long. It is an excellent vine for covering walls where a thick mat of verdure is desired, and where few others would thrive. The last is the berberry or barberry (Berberis) which bears oblong berries of a bright crimson color which are retained all winter. There is a variety known as Thunberg's barberry that is desirable on account of its dwarf habit and the rich, brilliant colors the foliage assumes in the fall....

AMONG many favorable reports of the Carman No. 3 potato, we select this for publication because it comes from Missouri (F. A. Bruner, Clinton).

I have just dug my potatoes, Carman No. 3. From one small potato planted, I dug 36 fine potatoes, all larger than the one I planted. They weighed 12½ pounds, making a peck.....

A FRIEND, J. C. Wood, of Alpino, Mich., writes us that he cut a medium-sized Carman No. 3 into 20 pieces, one eye in each piece, and one eye to every hill. He dug an even bushel of "nice, large, smooth potatoes."

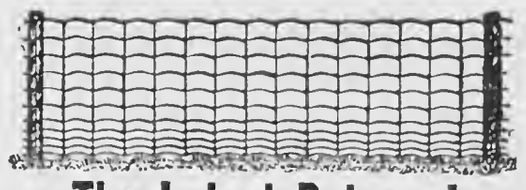
The rest were cut two eyes to a piece, but these did not yield so well. All had ordinary cultivation in new land .....

MENTION was made of a red-fleshed apple which, when cooked, might well be mistaken for cranberry sauce.

Mr. J. H. Funk, of Boyertown, Pa., sends us a rather small apple the skin of which is a bright yellow, while the flesh is as red as that of a Black Mexican watermelon. The apple keeps well, and the quality is very good. The tree is a vigorous grower and bears well.....

MR. P. EMERSON, Wyoming, Del., the introducer of the Ridgeley chestnut, sends us a few nuts, the result of a cross between the Chinquapin, a dwarf tree, (Castanea nana) and our American Sweet chestnut, Castanea Americana. The Chinquapin tree grows not over 10 feet high. The hybrid nut of Mr. Emerson is about one-third larger than the ordinary chestnut, and of fine quality.....

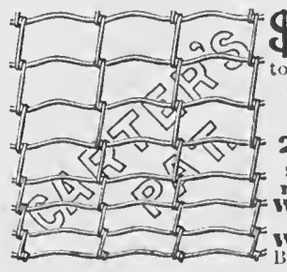
AGAIN, we are favored with a specimen of the Missouri Mammoth quince, first noticed in THE R. N.-Y. of December 28, 1895, page 859. This one measures 15 inches in circumference either way, and is quite shapely for so large a quince, and of a bright yellow color. In quality, it seems much like the Orange. It was sent by Mr. William Mustard, of Ripple, Ind., who says that it is one of over 250 bushels that grew on 67 trees, 11 years from the graft. "There are many more in the orchard," he says, "equal to this, and some that are sacked are larger and better shaped. The soil is rich. It is cultivated and a little salt and a mulch are given in the fall when cold weather sets in. The branches are cut back every spring.....



The Latest Returns!

Though incomplete, show that every State has surely gone for the **PAGE.** Where it was well known there was practically no opposition, and as it is a "stayer," this settles the question for several terms.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



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to weave your own fence of **Coiled Hard Steel Spring Wire,** 52 inches high, at **25 Cts. per Rod.**
$20 buys wire for **100 rod fence. Agents Wanted** Catalogue Free.
CARTER Wire Fence Mach. Co.
Box 30 **Mt. Sterling, O.**

NO TAR — QUARTER OF CENTURY OLD.
FAY'S MANILLA ROOFING.
CHEAP STRONG **WATER PROOF,** Not affected by gases.
No RUST nor RATTLE. *Outlasts tin or iron.*
A Durable Substitute for Plaster on walls.
Water Proof Sheathing of same material, the best and cheapest in the market. Write for samples, &c.
The FAY MANILLA ROOFING CO., CAMDEN, N.J.

PROTECT YOUR STOCK, AND KEEP THEM WARM AND COMFORTABLE THIS WINTER.

P & B RUBEROID ROOFING

IS THE BEST IN THE MARKET.
STRONG, DURABLE AND ABSOLUTELY WATER AND AIR TIGHT.
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NO TAR! NO PAPER!

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Two Winter Courses begin January 4, 1897; Regular and Special begin September 26, 1897. For Announcement address
I. P. ROBERTS, Director, Ithaca, N. Y.

Cloud of Witnesses No. 2.

We expect you to believe these people. When the first "Cloud of Witnesses" was published, thousands upon thousands of replies demonstrated that sufferers from Asthma, Catarrh, Bronchitis and Colds were reasonable persons and open to conviction. Are *you* open to conviction? We *know* that **Hyomei,** the new and wonderful Australian **"Dry-Air"** treatment, comprised in

Booth's "Hyomei" Pocket Inhaler Outfit, by mail, $1.00,

relieves 99 out of every 100 people who try it, and **cures** 99 out of every 100 who use it conscientiously and according to directions. Here are the indorsements of living men and women *whom you* **must** *believe.* The letters on their face have the stamp of sincerity as well as gratitude.

Bronchitis.

New York, Aug. 26, 1896.

My Dear Sir: I am very loath as a minister to give an endorsement to a patented article, but I feel it but just to you to say that I have used your Hyomei for Bronchitis with perfect success. I had a chronic cold last winter which stubbornly resisted every remedy for seven weeks. Your Hyomei gave me relief in one day, and enabled me to fill all my subsequent lecture dates with satisfaction.

(Rev.) **Thomas Dixon, Jr.,**
Pastor People's Church.

Clifton Forge, Va., May 14, 1896.

Dear Sir: The patient for whom I ordered Booth's Hyomei Pocket Inhaler, and who was suffering from Purulent Bronchitis, expectorating large quantities of purulent, offensive sputum, made a perfect recovery, and is now a healthy, robust young man.

R. S. Wiley, M.D.

Catarrh.

Newry, S. C., Aug. 12, 1896.

Dear Sir: I have used your Pocket Inhaler for Catarrh of the head and throat, and it has benefitted me wonderfully. I think there is nothing that equals it. I believe it is all that you claim it to be. I can highly recommend it to any one suffering from any kind of Catarrh. **W. W. Veal.**

Colds.

Lyceum Theatre,
London, Sept. 6, 1896.

Dear Sir: It is quite true that I am using the Hyomei Pocket Inhaler and I have the greatest pleasure in strongly recommending it.

Faithfully yours, **Henry Irving.**

Asthma.

New Haven, Conn., May 5, 1896.

I have given Hyomei a thorough test during the past winter, consequently I have been able to go to bed and sleep without being disturbed by my old enemy, Asthma. Hyomei should be in every home in the land. **L. A. Kimberley,**
P. O. Box 1102.

Catarrhal Deafness.

23 Marshall St.,
Hartford, Conn., May 1, 1896.

I am doing wonders in the way of relieving cases of Catarrhal Deafness with your Hyomei. I have also cured several cases of throat troubles caused by Catarrh, which their physicians failed to relieve. The Sealer of Weights and Measures had a sore throat most of the time, caused by chemicals which he used. I cured his throat and he has been the means of selling about 20 Outfits.

J. B. Stone.

La Grippe.

The author of the $1,000 prize story "Titus" says:

Staten Island, March 6, 1896.

I have used Booth's Hyomei Pocket Inhaler in my family and find it invaluable as a preventive of Grippe, to break up colds, etc. I have used it to alleviate the painful cough and soreness resulting from measles with *perfect success.*

Florence M. Kingsley.

Hyomei is a purely vegetable antiseptic, and destroys the germs which cause disease in the respiratory organs. The air, charged with **Hyomei,** is inhaled at the mouth, and, after permeating the minutest air-cells, is exhaled through the nose. It is aromatic, delightful to inhale, and gives immediate relief. It is highly recommended by physcians, clergymen, public speakers, and thousands who have been helped and cured.

Pocket Inhaler Outfit, Complete by Mail, $1.00, to any part of the United States; for foreign countries, add $1.00 postage; outfit consists of pocket inhaler, made of deodorized hard rubber, a bottle of **Hyomei,** a dropper, and full directions for using. If you are *still* skeptical, send your address; my pamphlet shall prove that **Hyomei** cures. Are you open to conviction? Extra bottles of Hyomei inhalant by mail, or at druggists, 50 cents. Hyomei Balm, for all skin diseases, by mail, 25 cents. Your druggist has Hyomei or can get it for you if you insist. Don't accept a substitute.

London Office:
11 Farringdon Ave., E. C.

R. T. BOOTH, 23 East 20th St., New York.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
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Corner Chambers and Pearl Streets, New York.

SATURDAY, NOVEMBER 7, 1896.

WE hope that the women folks will not think unkindly of us for printing "The Biography of a Bedbug" in their department this week. Prof. Slingerland has written a very interesting article about our bloodthirsty nocturnal friend, and as we read it, we will all doubtless hope to be delivered from its jaws. Prof. Slingerland's article will be entirely new to 99 per cent of our readers. Let us all rejoice with him that the bedbug has no wings.

⊙

IF some of the men who advocate the immediate killing of every cow that responds to the tubercrulin test, would make a journey to the New Jersey Experiment Station, they would be silent for a long time. They would find there strong and rugged animals that responded to this test, yet are likely to die of old age. They are giving pure, rich and healthful milk, and are, on the whole, in better health than when first tested. Such cows are living examples of the folly of killing all animals that respond to this fine and delicate test. At the same time this experiment about upsets the theory that the tubercrulin stimulates or increases the disease in an animal that is well cared for.

⊙

THE doctors certainly fail to agree in the discussion of southern-grown peach trees, on page 734. T. T. Lyon is about the best American authority on pomological matters, and he is, apparently, well convinced that the Southern season is conducive to hardiness. Mr. Hilborn's testimony is also valuable. We have known of a number of trees brought from the South that acted much like the ones described by Mr. Goff. Many of them, planted in the spring, were dead by August, and no one seems to know just what was the matter with them. Of course, it would not be fair to condemn southern-grown stock from a few such cases, and for that reason we would like to gather all the real testimony we can. This is a case where a mere opinion might do injury. Actual facts should decide the matter.

⊙

A SAMPLE of green corn fodder sown very thick and cut about the middle of August, contained over 93½ per cent of water. One hundred pounds of such fodder contained only half a pound of muscle-makers, three pounds of fat-formers, and about 1¼ ounce of fat. A large cow would need to eat 500 pounds of such fodder in a day to secure her necessary food. Ordinary milk contains twice as much dry matter as is found in such stalks. Of course, this was unusually poor fodder, yet of the best green corn, a cow would need to eat over 150 pounds per day to obtain the needed muscle-makers for her daily ration. One great value of cotton-seed meal is that it "balances" a soiling ration by providing these muscle-makers in a concentrated form, and correcting a tendency to looseness of the bowels caused by heavy feeding of green, unripe corn.

⊙

ONE of the most interesting things in the line of experiments in American horticulture is the "plant hospital" at the New Jersey Station, which was referred to last week. There is nothing like it anywhere, for in this case, there has been a systematic effort to provide a breeding place for disease. That gives the very best opportunity for studying the effects of fungicides for, if a plant can be carried in safety through a season when surrounded by the germs of disease, we can feel very sure that the treatment employed will prove effective almost anywhere. Many experiments with fungicides have not proved conclusive because there has not been any wide contrast between the treated and untreated portions of soil. On the soil of this "plant hospital", there can be no doubt about results, for the conditions are all favorable to the spread of disease. No wonder that seedsmen and wide-awake farmers are beginning to take an interest in this "hospital" in the hope of finding something that will cure the patients growing in their own fields.

⊙

As stated on page 734, we have observed that farmers who use large quantities of fertilizers are not generally as careful as they should be in preparing the ground before planting. There seems to be an impression that high-grade fertilizers are so soluble that all one needs to do is to harrow them into a plowed field. It is a mistake to let this idea interfere with the demand for thorough tillage. One great advantage in using manure, is the fact that it expands and opens the soil so that water, sun and air may readily enter it. Its very bulk is an advantage for this reason, even though this "bulk" be made up of substances that contain but little plant-food. In one sense, aëration is almost as helpful to the soil as it is to milk. Now when fertilizers are used without frequent "green" or bulk manuring, tillage must take the place of the manure in opening up the soil for the air and sun. Instead of merely plowing and harrowing to prepare the seed bed, the fertilizer farmer should give his soil twice the working deemed sufficient for a manured field.

⊙

LAST year, a Massachusetts farmer gave us a new way of figuring the cost of growing a bushel of potatoes. He used a ton or more of high-grade fertilizer to the acre, and did much of the work by hand. After digging the potatoes, he sowed Timothy and cut two or three crops. He claimed to be able to sell the grass standing in the field for $10 per ton, which would average $25 per acre each year. He added the cost of fertilizer, labor, seed, cost of seeding with Timothy and rent of land for three years. From this he deducted $50, which was the money received, without expense for the grass. The balance, he said, represented the actual cost of the potatoes, and by dividing it by the number of bushels, he got at the actual cost per bushel. A few weeks ago, Mr. Norton of Kansas, told us that he sowed millet at the last working of the potatoes, and cut a crop of millet hay of such value that, deducting it from the actual expense of growing the potatoes, 10 acres cost only $54.25. It seems to us that these methods of figuring are legitimate enough. The successful fertilizer farmers crowd three or four years' supply of fertilizer upon their money crop, like potatoes, fruit or truck. The grass that follows the potato crop is grown, practically, without further cost, and may fairly be credited against the expense of preparing the potato crop. In Mr. Norton's plan, the millet does not injure the potatoes. In fact, during a damp season, this quick-growing crop would take up the moisture and, possibly, prevent rot. A dense crop of millet that could be cut and taken off would surely be better than the usual crop of weeds. Crimson clover might be used in place of the millet.

⊙

It seems that we are likely to have a milking machine that will give, at least, fairly good results. The plan of pumping or sucking the milk from the cow in imitation of the calf's method of milking, is likely to be abandoned, and a light machine that will do the work of the human hand will, doubtless, in time, take the place of many human milkers. It is fair to ask whether the introduction of this machine will really benefit the small farmer. It is easy to see that such a machine will be of great service to the owner of a large herd. Let a man put 100 cows in a long shed with an engine to run 20 of these machines. He will save the wages of, at least, six milkers. In former times, when hay was the chief winter cow food, these extra men would have been needed to cut and handle and feed out the bulky fodder. Now the silo has changed all this, and on some large dairy farms, it is necessary to take up other lines of work in order to keep the milkers busy. The milking machine will save money for these extensive dairymen, and it will tend to increase the size of the dairies. The saving in the cost of labor will concentrate the business of milk production just as improved machinery in other enterprises has taken work from smaller concerns and given it to the larger establishments which could raise the capital needed to utilize the machinery. We think that a similar result will follow the introduction of this milking machine. The fact that milk must now be drawn entirely by hand power, gives the dairyman with a small herd a fair chance to compete with his larger neighbor, because the latter's capital is powerless to cheapen the cost of milking. Once provide the monied man with a machine for doing this work, and the poor man's chance for competition is gone, for the hand that has lost in so many contests with machinery, cannot hope to compete with metal and rubber fingers on a milking machine. It may be said that the introduction of the separator has not injured the business of the small dairyman. We are not so sure about that, and in any event, the comparison of the effects of separator or milking machine is not a fair one, for the latter will require far more power and capital than the former.

⊙

THERE are many good people who were greatly wrought up over the troubles of the Armenians who have been so cruelly persecuted by the outrageous Turks. Thousands of dollars were sent over the water to aid them, and the entire Christian world sent prayers and sympathy to suffering Armenia. It is now possible to come to closer range with these sufferers, as we learn from this note:

Persons needing help on the farm or in the kitchen, might do well to obtain the services of some of the Armenian refugees who have just landed at New York. As a class, they are sober, intelligent and industrious; and they are willing to work for small wages while learning the language. Almost all are men, as few women escaped. A number of the men are willing to take places to do housework, however, if such places offer.

ALICE STONE BLACKWELL.

Col. Holland, of the Salvation Army in this city, has charge of these refugees, and wishes to find homes for them. They have come to America as our forefathers did, seeking liberty and the right to worship God as conscience dictates. It is comparatively easy to sympathize with people who are thousands of miles away. Now, "The Greeks are at your door!" Let us make these Armenians into true Americans.

⊙

BREVITIES.

MRS. HEN TALKS.

Come hither, Mr. Shiftless Man, and list to me, I beg!
Cut! Cut! Ker! Dar! Cut! Translate that! It means, "I've laid an egg!"
And furthermore, that sentence gives—as you will quickly see,
In choicest Leghorn rhetoric, my egg's true pedigree.
Cut! That means *C*, clean house and nest—with whitewash dazzling bright,
Another *Cut!* That stands for corn fed sparingly at night.
Ker! There's a *K* for kerosene for lice and mites that sit
Beneath the roosts and in the night turn comfort into "nit",
And *Dar!* That stands for double dose of muscle-makers strong.
So balance up my ration if you'd hear my laying song.
And *Cut!* again for capable, not shiftless, management.
Bring on a *man* of any age and I will pay his rent,
And buy an organ for his wife and for his boy a wheel,
And keep the ship of home afloat upon an even keel.
Cut! Cut! Ker! Dar! Cut! Mr. Man—get these words down by heart.
Just put them into practice, sir, and I will do my part.

BOIL 'em down.

USE the door mat.

MAKE hay while the wind blows.

READ how Mr. Norton saves steps, page 741.

MANURE from muck—read the article on page 737.

GIVE us more discussion about your favorite breed.

KICKING is a bad cow disease to bring into your herd.

LET the reform of the dog question begin with chloroform.

DR. KILBORNE explains the new Horseshoer's law, page 736.

DON'T love a dollar so well that the love of it fits like a collar.

Too many looks inside the pot will spoil the broth as like as not.

YOU'LL find "Among the Marketmen" on page 745. Don't miss reading it!

WHEN bones can be steamed and ground fine, it is not necessary to use acid on them.

"MY pigs are hogs from the time they are farrowed," says the Berkshire man on page 746.

WANTED (The worst kind)! The life history and true habits of the insects that infest poultry!

IT is a steep climb from a scrub to a high grade. It takes a pure male to make the difference.

A MAN doesn't blacken his character every time he polishes his shoes. It is no disgrace to be neat.

A SCRUB is a double taxer. You are taxed for keeping her, and she taxes your pocketbook to keep her in food.

THINK of that 19-year-old Jersey cow still doing profitable work in the dairy—page 746. There's an honorable record for you.

ONE of the prize winners at the New York State Fair says that he did not know what "starter" meant until asked if he used one.

THE surplus rooster gives a scare crow. That is, its crow ought to scare you at the thought of the useless food going down its throat.

UP to October 15, this country sent 368,643 barrels of apples abroad as compared with 29,042 barrels in the same season last year. That accounts for some of the gold that has lately been coming back to us.

WHEN a 200-pound man in perfect health can't earn money enough to pay his board, and a 90-pound woman earns enough to support an entire family, is there something lacking in the man or something extra in the woman?

YOU try to eat with a sore tooth in your mouth, for a month, and see what your family have to say about your temper, at the end of the time. That horse may have a sore tooth. Perhaps it's a bad tooth that makes the cow "fall off." Look it up!

IN the article on strawberry growing, page 669, we made an error in saying that the Marshall strawberry yielded only 1,000 quarts per acre. This should have read 10,000. The statement was an injustice to a fine variety. Mr. Tice says that he would discard any variety that would not yield 5,000 quarts.

A CONNECTICUT friend sends us the following advice as to the best way to prevent hard times:

Always pay spot cash,
And never get trusted;
It prevents any crash,
And you can't be busted.

Our readers will now want to know how to get "spot cash" without any spots on it.

NOTES FROM AMERICAN INSTITUTE FAIR.

NUTS, GRAPES AND VEGETABLES.

One feature of the American Institute Fair that attracted much attention was the display of nuts made by Parrys' Pomona Nurseries, Parry, N. J. It comprised 18 varieties of chestnuts, French, American Black, Persian, English Madeira and Japan walnuts, hickory nuts, pecans, filberts and butternuts. It showed the advance that has been made in nut growing, and the interest manifested by visitors in the exhibit, showed that the public are anxious to learn about the subject. The size of several of the varieties of chestnuts was a revelation to many. The quality of the nuts was left to the imagination, as "hands off" was the injunction. Yet some not having the fear of wormy chestnuts before their eyes, had sadly depleted the collection, the superintendent saying that visitors would steal them in spite of everything.

Of the Japan chestnuts, the following, given in the order of their ripening, are recommended by the firm: Alpha, said to be the earliest chestnut known, is described as an upright, vigorous grower, coming into bearing at three years of age, and being very productive. Nuts large, four inches around, and two to three in a burr. It ripens September 5 to 10 without frost. Beta is an upright, vigorous grower, bearing at two to three years of age, very productive. Nuts large in size, two to three to the burr, ripening September 10 to 15, at the Pomona Nurseries. Early Reliance is of low, dwarf spreading habit, beginning to bear immediately, one-year grafts being frequently loaded. Nuts large, four inches in circumference, three to five nuts to the burr. The tree is said to be enormously productive, the nuts smooth, bright, uniform, attractive, ripening September 18 to 20. Success is given as larger than any of the others, tree an upright, vigorous grower, very productive. Nuts ripen September 20 to 23, but nothing is said as to their quality. Parry's Superb is very highly praised, both in tree and fruit, and is recommended as a very valuable market sort. Giant is said to bear nuts measuring six inches in circumference, and running two to a burr. Tree a vigorous, upright grower, very productive; nuts smooth, dark and attractive. "The largest known chestnut."

The Spanish chestnut is described as a handsome, round-headed tree of rapid, spreading growth, that yields abundantly of large nuts of good quality, hence a desirable ornamental tree or profitable for market. Ridgeley is described as a large variety of the Spanish chestnut from Delaware, very productive and of good quality. Numbo and Paragon are both highly praised. The Native Sweet is placed at the end of the list, but is described as being unsurpassed for sweetness and quality.

The Japan walnut is very highly recommended. It is claimed to be as hardy as the oak, leaves of immense size and of a charming shade of green. The nuts are produced in abundance, in clusters of 15 or 20; they have shells thicker than those of the Persian walnut, but not so thick as the Black walnut. Meat sweet, of the best quality, flavor like a butternut, but less oily and much superior. The trees are vigorous, of a handsome form, and need no pruning; they mature early, and bear young. The trees named are well worthy the attention of farmers. This country is paying for imported nuts something like $2,000,000 per year, the larger part of which should be kept at home.

A superb collection of grapes, comprising nearly 100 varieties, was shown by C. C. Corby of Montclair, N. J. Among them was a new seedling which gives great promise. Ellwanger & Barry with a magnificent collection of 75 varieties, had to take second place this time, something unusual. E. & J. C. Williams of Montclair, had some fine specimens on exhibition, though having a smaller number of varieties. D. M. Dunning, of Auburn, N. Y., captured everything in the way of premiums on hothouse grapes.

There was a large and varied display of vegetables. Of greatest general interest, were those shown by what are known as the vacant lot farmers. These are grown, to a large extent, by the unemployed poor of the city, who have thus been aided to help themselves, and to learn, by practical experience, the independence that comes to the tiller of the soil. The exhibit showed that they were successful in producing, not only fine specimens of all the common vegetables, but many of those not commonly grown here, like sweet potatoes and peanuts. And the winner of the largest number of prizes was a woman.

One collection of vegetables showed the advantages of coöperation. It was made by the Riverhead Town Agricultural Society. Probably no single individual could begin to make such a collection, but united effort made a big and a fine showing. J. M. Thorburn & Co., also had a large collection, comprising almost every garden vegetable, both seasonable and unseasonable. Peter Henderson & Co., made some very attractive special exhibits, the most noticeable among them being a representation of a market wagon loaded with Snowball cauliflowers, all of the finest and whitest, and facing outward. It was a fine sight, and was really a work of art. It was arranged by Mr. Julius Heinrich, the man who had charge of their exhibit at the Columbian Exposition.

Stephen Hoyt's Sons exhibited a collection of ornamental trees and shrubs. There were three collections of potatoes, comprising 130 or more varieties each, conspicuous among them being the Carmans and Rural New-Yorker No. 2. The best part of the fair was the show of fruits, vegetables and flowers, and these were greatly appreciated by the visitors. F. H. V.

WHAT THEY SAY.

APPLES FROM WYOMING. — Two specimens of a variety of apple came to-day (October 18), from G. W. B., of Sheridan, Wyoming, for name, with the request to reply through THE R. N.-Y., as, "Many western readers would be glad to know the name of this apple that keeps well into mid-summer, and does well otherwise." It is Ben Davis, but the specimens are remarkably small for that variety, (less than two inches diameter), although not smaller than I have seen it in Maine, northern Michigan, and elsewhere in the extreme North, and in high altitudes. At Salida, Colorado, at an altitude of 7,100 feet, I found it bearing about such specimens as those from Wyoming. This proves, not only the remarkable adaptability of the Ben Davis, but the wide range of variation in size, color, flavor and season that climate will produce. I had this fact displayed in the exhibit of the Division of Pomology, in the Government Building, at the Columbian Exposition in 1893, by a set of typical varietal variations, and with this same variety. The models were made by that famous artist, Col. G. B. Brackett, of Iowa, whose work as a fruit modeler, I have never seen equaled.

H. E. VAN DEMAN.

An Improved Combination Machine.

The close times have set me to contriving all manners of ways to help me out, and by sowing German millet seed in my potatoes when I laid them by, I succeeded in producing potatoes at two cents per bushel. But it is of a labor-saving machine that I desire to write. I have had the Moore Company, of New Jersey, make me a special roller with two seeders attached, and I can now roll my land, sow clover and flaxseed, and draw a nine-foot harrow behind the roller, all at one job, thus saving two trips with the hand seeder and one trip with the harrow. By taking out the middle pulley of the roller, and attaching the weeder behind the roller, I can roll my potatoes and weed them all at once. A V-shaped lever attached to the weeder and over the roller box, enables me to put my weight on it and lift the weeder clear of the ground. In listed corn, I can run the roller and draw the harrow all at once, two 1,500-pound horses doing the work easily. When potato tops are small, my boy can drive and ride on the roller, while myself and man hold two Planet Jr. cultivators behind, thus rolling, cultivating and pulverizing all at once. A meadow can be rolled and two kinds of grass seed sown at once, or dry fertilizer and grass seed. The Moore Company write me that they are constructing a roller with two seeders, for Prof. Voorhees, of the New Jersey Station, that will sow grass seed and wet chemical fertilizers all at one job. The seeders will never clog, and will sow anything from shelled corn to dry road dust.

CLARENCE J. NORTON.

Kansas.

WHAT SAY?

WHAT IS MILK FEVER?—I had the misfortune to lose a cow that was taken sick shortly after calving. The veterinary called the attack "milk fever." I lost a mare that was taken sick almost immediately after foaling, and the veterinary called that "acute indigestion." I did not regard the diagnosis as correct either time. The next time I have a beast attacked under such circumstances, I shall ask the veterinary thoroughly to disinfect the generative tract, making sure, at the same time, that no portion of the afterbirth or membranes is retained. I shall do this because it seems to me that these cases are of the same nature as those that are known under the name of puerperal fever in lying-in women. If no improvement follow in a reasonable time, I shall not let the animal suffer as those two did. I am not a veterinary, and may, therefore, be wrong in my conclusions. I should be pleased to learn from any reliable source what are the post-mortem appearances discovered after such cases. To me, it seems as though the best preventive must consist in the most scrupulous and thorough antiseptic precautions against infection. For, if my suspicion be well-founded, the disease is of microbial origin; the germ, or germs, that serve as its essential cause, entering the system by way of the open surface left after the detachment of the afterbirth, having first, however, probably infected the usual discharge, in which they would multiply, under the favorable conditions that it affords, with frightful rapidity. The only hope of cure in a genuine case would rest upon prompt and appropriate treatment. W. O. E.

WHAT AILS THE APPLE ORCHARD? — I have an orchard of 60 apple trees, of about 40 varieties, set 35x40 feet, 19 years ago. It bore a full crop about eight or ten years ago, and aside from that, has not borne more than the equivalent of one good crop in the 19 years. It has been fed with ashes, clover and stable manure, and well pruned and sprayed. Part of the soil is sandy loam, and part clay loam. The trees are thrifty, yet I do not think that it is making an excessive growth. It is well drained. Possibly it receives too much nitrogen. At least, I shall apply no more stable manure until I take a few good crops from it. What can I do to start it to producing? It ought to yield 200 barrels per annum, instead of that many pecks or less, as it now does. F.

Ohio.

WHAT AILS THESE PULLETS.—My early pullets are affected with a strange disease. When first taken, scabby sores break out on one side of the head and comb, the eye on that side closes, but there is no discharge. The mouth inside then becomes swollen and is coated with a thick, yellow coating about the color of sulphur which can be skinned or pulled off and has a very offensive odor. They then begin to discharge from the mouth a white, foamy substance that is also offensive, and the same foamy discharge comes from both eyes, and the nose is stopped up but is dry. The throat is also swollen and sore and they can't eat or drink. That's as far as a case has gone. There's only about one day to each stage of the worst affected case we have. The 10x16-foot house they roost in is built of heavy poles, and is very open. I built it for all the ventilation possible. The roosts are 18 inches high, and about 75 pullets roost there and have ever since they could first sit on a pole. The house is cleaned every morning, and it's as clean as a yard.

Americus, Ga. J. J. M. G.

BUSINESS BITS.

Do your own repairing. But you cannot do it without a kit of tools. Just look up the offer of Heeseu Bros. & Co., Tecumseh, Mich., in this issue. It seems to us that these tools, and the articles that go with them, ought to pay for themselves in any family in a short time.

FLORISTS and others in need of moss and holly for the holiday trade, will be interested in "Vaughan's Green Circular". The circular gives some valuable ideas about moss. The circular is issued by Vaughan's Seed Store, 86 Randolph Street, Chicago, Ill., and 14 Barclay Street, New York.

WHERE the conditions are just right, the hydraulic ram is a most economical means of forcing water where you want it. If you don't know whether it would work or not with your conditions, write C. & A. Hodgkins Co., Marlborough, N. H. They will also give you estimates for putting it in.

THE National Association of Exhibitors of Live Stock will hold their second annual exhibition of live stock at Madison Square Garden, New York, November 23-28. This show will embrace all sorts of live stock, and since the Chicago Fat Stock Show has been given up, the New York exhibition ranks at the head of all American stock shows.

THE Nordyke & Marmon Co., 270 Day Street, Indianapolis, Ind., make a cob-meal grinding outfit especially adapted for farm and custom grinding. The mill is fitted with genuine French buhr stones, and will grind, coarse or fine, cob meal, mixed feed or any grain for stock, also the finest of table corn meal, buckwheat, rye and Graham flour for family use. This firm have been building flour mills and feed mills for 50 years, and have won a world-wide reputation for first-class machinery. They will send "Book on Mills" and sample of meal free if you send your name and address.

THE best mutton sheep come from countries where roots are largely fed. A root is nearly nine-tenths water, but so are fruits, and we all know how useful fruit is in a human ration. Sheep crave "succulence" in their food. It stimulates the appetite, increases the natural secretions, regulates the bowels to a nicety, and aids greatly in the consumption, digestion and assimilation of other foods, and finally promotes the general health of the animal. It is safe to say that root growing would have been greatly extended by this time, but for the difficulty of reducing the roots to a condition to be fed economically and safely. The Bauner root cutter, made by O. E. Thompson & Sons, Ypsilanti, Mich., is to root culture what the ensilage cutter is to the corn crop. It changes the whole aspect of farming in many places, because it gives increased value to a good crop. Look it up.

T. B. TERRY writes his experience with the Dietz lamp in dark nights, to Practical Farmer, as follows: "I do not like to drive in a very dark night. When I must, I want a lamp that will light the road ahead of me, so that I can see about as well as in the daytime. This Dietz lamp is dark in the rear, so it does not trouble your eyes, and can be attached to the center of the dashboard for two horses, or on the left side for one horse. Then I sit on the left side, and drive in the blackest night with safety and comfort. There is no straining of the eyes. I can see teams coming better by sitting on the left side, and having the lamp on the same side. If I sit on the right side, the shadow cast by the horse bothers me. In a dark night, there is no trouble in lighting the whole width of the road from fence to fence, 100 feet or more ahead, except in the shadow of the horse. This testimony is entirely unsolicited. I saw their advertisement several years ago, bought a lamp, and like it."

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE BIOGRAPHY OF A BEDBUG.

ILLUSTRATED FROM LIFE.

PART I.

Perhaps no insect has a wider acquaintance than the bedbug. It is a cosmopolitan insect, and almost every one has heard about it. Yet in spite of all this, a few questions will soon develop the fact that most people have very vague ideas regarding these much-abused and detested insects; and I suspect, furthermore, that one would be surprised to find so many persons who really never saw or smelled the genuine article—a live bedbug, And how few of us ever had any definite ideas as to the story of a bedbug's life, how it grows, multiplies, etc.!

When it was suggested, a few weeks ago, that I prepare an illustrated biography of a bedbug, I was at a loss to know what to do, for I had never yet had the pleasure of his majesty's intimate acquaintance, except to attend one or two post-mortem examinations of some mutilated and pickled (in alcohol) corpses. I felt that I must meet the creature so as to write from experience; and, of course, no biography would be complete unless illustrated by a lifelike likeness of the subject. For days, and nights, too, for that matter, the question uppermost in my mind was, Where, when, and under what conditions are we to meet? Fate was kind (?), however, for during a recent trip about the State, I received a midnight call from about 25 members of one bedbug family. The result was, much blood lost, many of the enemy slain, actual experience to write from, and one adult member of the family had to undergo the, probably, unique experience of being the first bedbug to "sit for his photograph. In his last will and testament, this bedbug bequeathed to each reader of this biography, a copy of this lifelike likeness as shown in the center of Fig. 239.

The "native heath" or original home of the subject of this sketch, has never been ascertained; it is, probably, southeastern Europe, and the neighboring Asiatic and African countries. From the writings of the ancient Greeks, Aristophanes, Pliny, and Aristotle, it is evident that they were acquainted with the bedbug, which they called "Koris"; I have not yet seen any accounts of the discovery of "mummy" bedbugs to authenticate their Egyptian origin. The ancient Romans called the creatures "Cimex", and when Linnæus scientifically christened the bedbug over 125 years ago, he used the Roman word as a surname, giving us the name Cimex lectularia, the given name being derived from the Latin word for couch or bed, referring to the locality in which we most often meet the insect. The origin of the modern common name—"bedbug"—is obscure; previous to the Nineteenth Century it seems to have been called in English, first "wall louse," and then "*the* bug". In the quaint old volume, dated 1634, from which were taken the pictures of the Sixteenth Century bedbugs, shown in Fig. 239, there is evidence that the insect had begun work in England as early as 1503; it, doubtless, reached America soon after extensive settlements were made.

What is a bedbug, and whom does it number among its near relatives? Its six legs tell us that it is an insect. Other peculiarities in its makeup and life history cause it to be classed among the true bugs, most of which live upon liquid food alone; their mouth parts being especially adapted for sucking, instead of biting, as do the beetles and caterpillars. Some of its nearest relatives in the insect world, are the well-known Chinch-bug, and the Squash bug. The trite and vulgar saying: "The bedbug has no wings at all, but gets there just the same," is not quite strictly true as regards the wings, for on each side of the body, just above the base of the second pair of legs, one can see, in Fig. 239, a rudimentary or greatly abbreviated front wing; there are no traces of the hind wings left. Fortunately for our comfort and peace of mind, these wings are quite useless for flight. It is a curious fact, however, that there are some species of these true bugs which, usually, have these imperfectly developed wings like the bedbug, but which, occasionally yield individual specimens with fully developed wings. Now, as the bedbug is one of these unfinished forms, the question arises whether it ever has, or whether it ever will assume the fully winged condition. Imagine a flying bedbug! "That such a disgusting insect should add to its resources the power of flight, whereby it might become increasingly annoying by settling on the bodies of respectable citizens as they walk the streets, and by regarding every open window as an invitation to enter, would immensely increase the loathing with which it is now regarded in respectable society, and it is a comfort to know that no record exists of flying bedbugs having ever been met in this country. There have been reports that such specimens have been seen somewhere in the eastern countries, but there appears to be no authentic record of any such occurrence; still such a thing is a possibility, though a most remote one."

They have, undoubtedly, descended from prehistoric ancestors which could fly. Having at some period in the remote past, chosen to attach itself to the most migratory animal in the world, and thereby gaining all the advantage of man's artificial as well as natural means of locomotion, it would seem that a winged form is not now a matter of such prime importance to it as to wild species that do not possess these extra advantages. Therefore, the mere fact of the insect having chosen this parasitic life, probably militates against its ever again occurring as a flying animal.

There is but little, externally, to distinguish the fathers from the mothers among the bedbugs; the former are, usually, smaller and narrower. All, both young and old, have a peculiar odor, which has brought into use the word "bedbuggy" as descriptive of a certain class of odors; dead bedbugs have no odor. This odor is produced by the continued secretion of a volatile, colorless, oily fluid from glands situated under a little flap of skin on the underside of the body between the points of attachment on the second and third pairs of legs; in the baby bugs, these glands are said to open on the back of the thorax. The odor is of a compound nature, and it is said that a keen-scented person will detect, underlying the more disagreeable elements, the scent of a freshly-cut cucumber. The disagreeableness of the odor is not due to any peculiarities in a bedbug's nightly menu, for many of the true bugs (the "stink-bugs"), that are pure vegetarians, exhale a precisely similar odor. Usually, this odor has a protecting function, but it would seem that the bedbug derives but little protection therefrom, for, apart from its presence being thus plainly advertised to man, its other enemies, as we shall see later, are not deterred from devouring it.

The obscure habits of bedbugs caused their true origin to remain, for a long time, unknown. During the first 2,000 years of the recorded history of this insect, their presence was accounted for by a recourse to that common refuge of ignorance, the doctrine of spontaneous generation. In Aristotle's time, it was believed that bugs originated from the sweat of animals, and the artist of the Sixteenth Century bedbugs shown in Fig. 239 (date, 1634), strongly asserted that the creatures arose from juices which exude from wood, and from putrefying moisture around beds. He also mentions a current popular belief that new bugs arise, hydra-like, from the crushed remains of other bugs; thus, when one was crushed, two were created! Scientists laugh at these ideas to-day, yet there are many who have no more correct ideas of a bedbug's life-story than did the ancients. M. V. SLINGERLAND.

BY THE WAY.

IT may be a source of comfort to some mothers, who have daily to listen to remarks derogatory to the home cuisine, and hear comparisons drawn between their cooking and "his" mother's, that, some day, they will have their innings, when their sons tell their wives, "Nothing ever tasted half as good as the pie my mother made." Or, if you have not the chance to get even that way, be sure that your cuisine is good enough for any one, then, like Samantha Allen, you can rise to the occasion and calmly tell Josiah, when he hints that mebby the Widder Bump's nut cakes are a leetle mite better than hers, that, if the Widder Bump can make better nut cakes than she can, which, give her plenty of sour cream and eggs and other ingredients, she don't believe for a minute she can, she should be glad to see them. At any rate, running down other folks's nut cakes, won't make hers any better or worse.

A certain clergyman in Hartford, Conn., was continually saying, "Why is it nothing tastes as it used to do? I would give anything to have a certain steamed pudding my mother used to make. I never tired of it." This clergyman, fortunately, had a sensible wife who was not at all jealous of her mother-in-law's accomplishments; on the contrary, she encouraged her lord and master to talk about them, and always ended the discussion by saying, "When your mother comes to visit us, we will ask her to make one." Of course, she knew in her heart that her husband brought a healthy boy's appetite to his mother's table, and what seemed delicious then, might not be at all the same to him now. But she bided her time. The mother-in-law came and was delighted to be asked to make one of those long-desired puddings. The minister's wife could hardly keep from smiling when she heard of what it was made. But, as she remembered that large family of hungry boys and girls, and not so very much money to provide 365 dinners, she did not wonder that she had to "rack her brains" for something to fill "the aching void."

This was the pudding: Remove all the crust from a square loaf of bread, stick as many raisins in as possible, steam three hours, and eat with a sauce of molasses and butter melted together.

"My dear," said the minister, as the dessert was placed upon the table, "What is this?"

"Why, don't you know?" said his mother. "You ought to, I am sure, chimed in his wife. "Hardly a day passes that he does not wish that he could have one of your puddings." And then it looked so funny, and tasted more so, and they looked at each other and burst into a hearty laugh. It is safe to say that no further reference was made to that particular pudding his mother used to make. SARAH ISHAM COIT.

WASHING BLANKETS.

WHEN we remember how many blankets are made harsh and disagreeable by washing, we do not wonder that housekeepers are not willing to consign them to the washtub as long as they look clean. Still it is a fact that they should be washed frequently, whether they seem badly soiled or not; for one will often be surprised at the amount of dirt an apparently clean blanket will contain. Excellent results may be obtained with very little labor, by observing the following directions, and your blankets will be soft and fleecy as long as they last.

Select a bright sunshiny day for this work, so that they will dry quickly and without streaks, and if a gentle breeze be blowing, so much the better.

When Jenny Lind Sang In Castle Garden

The scenes of unparalleled enthusiasm when people went almost music-mad, the wonderful audience of thousands, the hundreds listening in row-boats: all are graphically described in the November Ladies' Home Journal by a famous eye-witness. The great scenes shown in pictures made by De Thulstrup. The first of a series of "Great Personal Events."

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

Make a good suds of warm, soft water and Ivory soap; wash one blanket at a time, rubbing the spots between the hands, then pass through the wringer into the second suds, which should be of the same temperature as the first. Sometimes a third suds is necessary to make it perfectly clean; then rinse until every trace of soap is removed, and hang on the line, taking care to shake it well to remove the wrinkles. Throw just enough of it over the line to hold it, and pin it smoothly and securely. When it is perfectly dry, fold evenly and lay it away. The secret of success lies in the use of soft water and good soap, and in doing the work quickly, never allowing the blanket to soak in the water. Every water used should be of the same temperature, and the soap put into it, instead of rubbing it directly upon the blanket. E. C.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Work Dress 6893.

French flannel in Persian effects made this neat and serviceable work dress, which consists of a waist and skirt, both of which are furnished in this one pattern. The collar, cuffs and belt are of

6893—Ladies' Work Dress.

wine-colored velvet. Gathers at the neck dispose the pretty fulness on each side of the box-plait, through which button-holes are worked to close in the center front. The back is gathered at the top and joined to a yoke lining with straight lower edge, the pointed yoke being placed over the gathers and firmly stitched down, thus insuring a durable finish. A rolling collar of velvet completes the neck. The full sleeves are finished with deep velvet cuffs that close with buttons at the wrists. The fulness at the waist line is adjusted by gathers which are sewed to a straight belt. The skirt, provided with a front gore, has straight full sides and back which are gathered in a double shirring from each side of the front. The closing is at the left side of the front gore and a useful pocket may be inserted in the right seam. Button-holes are worked in the belt at evenly spaced distances to correspond with flat buttons sewed on the belt of the waist, thus securing a perfect adjustment of skirt and waist. An ornamental belt of velvet or ribbon will conceal the joining, or the garment may be worn with a neat leather belt in tan, white or black. Made in washable fabrics, the dress may be laundered with ease, a feature that recommends it to thrifty housekeepers. To make this dress in the medium size, will require nine yards of 36-inch wide material. The pattern, No. 6893, may be had in sizes for 32, 34, 36, 38, 40 and 42 inches bust measure.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best**—*Adv.*

"IT."

MANY of the games with which we are familiar in the United States, are well known throughout Great Britain and on the Continent. But among the most amusing and most popular of English games is one of which we know little or nothing, says Emma J. Gray, in Harper's Round Table. It is dignified by the two-lettered name, "It."

This is altogether suitable for the parlor, and may be played by everybody if we will except the very young people. It creates roars of laughter, on account of the funny mistakes made by the questioners. "It" is a great mystery, and the longer it is played, the greater mystery often it becomes. Only those understanding this game may remain in the room. All others must leave; there is no alternative. One of the party, unfamiliar with the game, is then selected to return, and must, by questioning those in the parlor, learn what "it" is. When he knows "it," he, too, must remain behind, and some one else is selected to fill his place. In this way, the game is carried on, until each one, in turn, comes in and finds out the secret.

"It" is really the person who sits at your left, but, before this is discovered, usually much amusement is made. The game is played in the following way:

All in the parlor must sit in a circle, and must not change their positions. When the player is called in, he is told to ask a question of whomsoever he may please, and the person must correctly answer. For example—"Is 'it' white?" As everybody present is white, the answer is necessarily "Yes."

The questioner then asks another person, "Is 'it' thin?" and if the person to the left of the person thus questioned is thin, the answer is again, "Yes." Perhaps this question may be repeated, and some one else is asked, "Do you also think "it" is thin?" and if this person has some one for a left-hand neighbor who is very stout, of course, he answers "No."

And thus the questioner is mystified, and must continue question after question. For a long time, he may think "it" is a thing. Therefore, a good question to put would be, "Is 'it' alive?" And then he might ask, "Is 'it' in this room?" Then he might try complexion, and again would be mystified, for if he asked, "Is "it" a brunette?" and the reply being "Yes," his next question, "Has 'it' dark eyes?" would, perhaps, have for answer, "No"; and, "Has 'it' light hair?" "Yes." And so the secret seems harder than ever.

A good way is to ask the same questions over and over, and try to locate "it" in that way. But the questioner should not easily be discouraged. A few points may be given to him, such as some of the above. The players would better announce "It" as a trick game."

ODDS AND ENDS.

HICKORY-NUT MACAROONS.—My mother has a most excellent recipe which, I hope, is not too late. These macaroons are quite noted, and deserve the favor they have won. They are really finer than almond macaroons. If directions be followed, toothsome success is inevitable. Put up in dainty boxes, they make a pretty remembrance, especially for gentlemen:

Beat the whites of two eggs very stiff. Into this stiff froth, beat one cupful of powdered sugar. Then add one cupful of nut meats, finely chopped. Line a pan with heavy white paper, greased with beef suet. Drop with a teaspoon, not too close. Bake 20 minutes in a moderate oven. Delicious! Cautions: The macaroons will not be a success unless the whites of the eggs be beaten to the stiffest possible froth. Beef suet is best for greasing the paper. The paper must be heavy. Do not use thin or tissue paper, as is usually done. The oven must not be too slow. When done, allow the macaroons to cool a trifle, to harden slightly, then slip on to a china plate. ANNA HINRICHS.

THE BEST STIMULANT.—The bicycle could not have made its appearance at a more opportune moment, says Susan S. Fessenden in the Ladies' World. Everything that tends to produce more healthful bodies will create more normal desires and appetites, and reduce abnormal craving for stimulants. What temptation to resort to artificial stimulus has the person who can enjoy the inspiration of a ride through the bracing air, filling the lungs, setting the blood to coursing through the veins, giving life a charm that discounts the devitalizing narcotics and debauching stimulants? In this new mechanical friend, the rising generation has, in some degree, an offset to the depraved hereditary cravings and weakened will power engendered by a generation of smokers and drinkers. Let us rejoice over each one of the hundreds of thousands of bicycles that find purchasers every year.

'Macbeth" means toughness of glass, when applied to lamp-chimneys; perfection of draft besides, if you get the Number made for your lamp. Let us send you the Index.
Geo A Macbeth Co
Pittsburgh Pa

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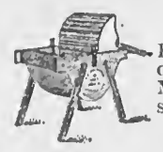
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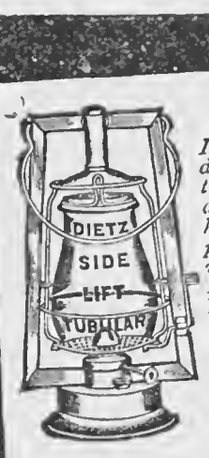
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Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

A Little Child With a Little Cold.
That's all!
What of it?
Little colds when neglected grow to large diseases and
Ayer's Cherry Pectoral
CURES COLDS.

THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we wil return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

The Agent's Share.

No old agent wins a premium this week; both go to new men. Here they are:

$3—JOHN TAYLOR JR..... Ontario..... 10 Yearly Subscriptions.
$3—J. S. STEEL..... .... Indiana..... 2 Yearly Subscriptions.

Some agents who won weekly premiums before, sent more names than Mr. Steel, but the second weekly premium goes every week to an agent who did not win another weekly premium this year. Less than two weeks are now left for the contest premiums of $25, $15, $5, and $5 guarantee for all clubs of 20 or more.

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"CATARRH CURE."

A lady who writes from Indiana, has provided us with a text this week, by sending the following letter:

Some time last winter, I saw in THE R. N.-Y. directions for home treatment for catarrh. Although I have kept all my numbers, I cannot find the article now. Will you kindly send the directions by mail?

Several other people have asked for this treatment, and as this is the season for colds and coughs, we shall go over this treatment once more.

The word, "catarrh", is used to designate a number of diseases of the nose and throat. This "treatment" will not cure them all, but where one is troubled with a "stopped up" nose, or a discharge of mucus from nose and throat, with a bad taste in the mouth, it will pay to give the plan a fair trial. Some so-called treatments advise drenching the nose with liquids, or breathing vapor or gas in through the mouth. Such advice is bad. The nose never was intended to have water poured into it, and the mouth was never intended for breathing. Treat the nose with dry substances, and do all your breathing through it.

The two things you want for this treatment are bicarbonate of soda and vaseline. Use the bicarbonate as a snuff. Take a pinch of it between finger and thumb, hold it in one nostril, close the other and *snuff hard*. Then use the other nostril in the same way. This will make your nose sting, and your eyes water, but never mind that! The soda will dissolve and loosen the mucus, and you will be surprised to see how your nose is cleared out at the next "blowing." When the soda has performed its part, smear the inside of the nostrils with vaseline. Use a small brush or the little finger, and work the vascline well up into the nose—"snuffing" it well back. In some cases, where the mucus is quite troublesome, you will need to use the bicarbonate of soda on the back part of the upper throat. You might dissolve the soda and use it as a gargle, but a better way is to blow it in dry form in through the mouth. You will need help to do this properly. Put the dry soda in a small tin or paper tube, let some one push this tube through your mouth to within half an inch of the back of your throat, and blow gently through the tube. The dry powder will fly all over the upper throat, and give you far better results than would be the case if you dissolved the soda first. I want to warn you beforehand that, when that soda hits your throat, you will be the most surprised person in your neighborhood. My wife claims that the first time she blew the soda into my throat, I turned a complete back somersault! I will also state that I tasted *soap* for half a day—but I never tried anything that has helped my nose and throat as this simple treatment has. While it cannot be called a "cure" for all cases of catarrh, I am sure that it will, if persistently carried out, bring relief to many people who now suffer exceedingly.

The trouble is that most people do not realize what the nose was provided for. Some folks appear to think that the only use of the nose is to detect good or bad odors. As well say that the only use of the mouth is to taste. The mouth was designed to receive food and drink for the stomach to utilize in building up the body. The nose was designed to receive air for the lungs to utilize. Strictly speaking, it is as much a perversion of Nature's laws to draw air through the mouth, as it would be to take liquid food through the nose. Of course, the evil effects of mouth breathing would be slower, but in the end, they would be sure. I think that I am safe in saying that 90 per cent of the cases of "catarrh," chronic sore throat, "bronchitis," etc., were aggravated, if not caused, by mouth breathing. This home treatment will not amount to much unless you keep your mouth shut. Bicarbonate of soda three times a day, vaseline constantly in the nose, and the mouth *shut* on every possible occasion! That is the simplest way to heal the nose and throat.

And now, of course, you have been impatiently waiting to see what business application will be made of this treatment. First, go and try it on yourself! It won't hurt you a bit, and the chances are that, after a few trials, you will find yourself so much improved in voice and breathing capacity, that you will remember that neighbor Jones is such a terrible mouth-breather that this bad weather has almost made him sick. You will walk over to tell him about this new treatment and, possibly, you will find that his farming is suffering from mouth-breathing, too. In other words, scrubs—animals, methods and ideas—are taking his labor into their mouths, and laying on mighty little meat and fat to pay for it. Our home treatment for such a case of mouth breathing, is a year's subscription to THE R. N.-Y. We expect to give you strong and forcible facts about what others are doing. That is the bicarbonate that dissolves the mucus. Then we shall come along with the simple science or "why" of the matter. That is the soothing vaseline. What we want you to do is to go and blow the story of the value of this treatment right into your neighbor's ear. Do it now! Don't wait!

Some people will try this soda and vaseline treatment a few days, and then quit. Of course, it won't help them. After 20 years of mouth breathing, how do you expect to wipe out the bad effects in 20 hours? In like manner, some men will try to work THE R. N.-Y. home treatment and quit. Don't do it! Why, read this note:

I have bought a farm, and saw an old RURAL NEW-YORKER dated 1884, in one of the barns; that is where I got the address. You will find $1 inclosed for the paper. J. T.
West Auburn, Me.

Now think of that! For 12 years that paper lay there undisturbed, until the man who needed the home treatment came along. Then see how quickly it started a cure! Surely, if a 12-year-old paper alone can obtain a subscription, a grown-up man with our up-to-date paper, can also get one. You are the man! We provide the paper! Where is the patient waiting for the cure?

All for $1.00.

Send us your neighbor's subscription to THE R. N.-Y. with his dollar and we will send him the paper to January 1, 1898, and send you your choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

THE RISE IN WHEAT.

WILL IT BENEFIT FARMERS?

Probably one farmer in four sold during the recent rise in the price of wheat, some at the beginning, some at the highest point. I made not quite $15; my tax bill is $25 greater than last year. The majority of us must sell as soon as thrashed, owing to the searcity of money.
Catonsville, Md. P. B. C.

This is no wheat country, and only a few acres are raised in this township or, in fact, in the counties near by. What little was raised was very nearly a failure, both as to quantity and quality. The only benefit we will receive from the higher price of wheat will be in the rise in prices for corn, oats, etc. W. W. H.
Alden, Ill.

Certainly a higher price for wheat would benefit the farmers of our neighborhood. About one-half of the wheat is unsold. Not much was sold at the increased priee, for the farmers were not aware of the advance in price until it had fallen again. I do not know how much money would come into our town on account of the advance in priee. W. H. W.
Annandale, Minn.

Very little wheat is in first hands; all sold before the advance. Not much wheat is grown here; our principal erop this season is corn. Oats were almost a failure. There were immense crops of hay and grass, also of all fruits except apples, which are only one-half a crop. If corn would advance, that is what we need; it is worth only 21 cents in our local market. I do not think that the increased priee of wheat will bring 50 cents into this township. S. B. M.
Downs, Ill.

The rise in the price of wheat benefited the farmer from 20 to 25 cents per bushel. I was not fortunate enough to get all the benefit; I was obliged to sell most of mine after it made a rise of 10 cents. Wheat is worth 60 cents per bushel; it was as low as 35 cents. I suppose that one-half or two-thirds of the wheat is still in the farmers' hands, and being held for higher prices. I suppose that one-fourth of the wheat was sold before the rise in prices. N. G. H.
Donegal, Kan.

Very little wheat is grown in this township, and what was grown mostly passed out of the hands of the farmers before the rise. Considerable wheat was grown in western Iowa and, perhaps, one-half of it remained in the hands of the growers when the rise came, but some of the farmers held too long, and priees are now down again. Corn is our main cereal here, and it is now low enough—15 cents per bushel—with no prospect of a rise at present. Of course, the rise in price of wheat benefited the farmers who took advantage of the rise, and sold at the proper time.
Crescent, Iowa. H. A. T.

(*Continued on next page*).

Miscellaneous Advertising.

Knights of old—crusaders who went to conquer the world, could not hope to succeed unless they were in virile, hearty health. A man cannot face difficulties if his stomach isn't in good order. Disordered digestion will make a sluggish coward out of any man. It makes his mind stagnant, and he cannot think quickly enough to accomplish anything. It makes his movements slow, and takes all of the snap out of him. Every man in business in America has a fight on his hands just as much as ever had belted knight. It is a matter of life and death, just the same with him as it was with the crusader. Indigestion and all the ills that go with it, most frequently start in constipation. That keeps all sorts of impurities in the body, forces them into the blood, and so deranges the whole system. Constipation is one of the commonest ills, and to it are traceable most of the disorders that make people sick. Once it gets a firm hold on a man, it is most difficult to overcome it. Temporary relief can be obtained in a thousand ways. There are medicines on the market that will help as long as you take them. There is only one remedy that is a *real* remedy—that you don't have to keep on taking forever. That is Dr. Pierce's Pleasant Pellets. The "Pellets" are tiny, sugar-coated granules, mild and efficient in their action. They effect a *permanent* cure. You don't become a slave to their use, as with other pills.

If you will send 21 one-cent stamps to cover cost of mailing *only*, we will send you FREE the most useful medical book extant. This is Dr. Pierce's Common Sense Medical Adviser, in plain English; a book of 1008 pages, profusely illustrated, the great expense of preparing which has been covered by the sale of 680,000 copies at the regular price, $1.50 per copy. Address, World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

Twenty Years....

For more than twenty years we have been telling how Scott's Emulsion overcomes the excessive waste of the system, puts on flesh, nourishes and builds up the body, making it the remedy for all wasting diseases of adults and children, but it isn't possible for us to tell the story in a mere stickful of newspaper type.

We have had prepared for us by a physician a little book, telling in easy words how and why Scott's Emulsion benefits, and a postal card request will be enough to have it sent to you free. To-day would be a good time to send for it.

SCOTT & BOWNE, New York.

Our Clubbing List.

If you subscribe for any other paper or magazine, we may be able to save money for you. Look over the following list. If you don't see what you want, let us know, and we will get prices on it for you. The prices below are for the papers mentioned, and THE RURAL NEW-YORKER, both one year. If you want more than one of the other papers, deduct $1 from combination price given below, and you will have our price for the other paper.

The Thrice-a-Week World.

Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1.65, both one full year. Send now aud get both papers free for the rest of this year.

Daily Press, New York.

Many farmers now like a daily newspaper, in order to be well informed on news through out the country. The Press is one of the brightest New York Dailies. It is Republican in politics and a strong advocate of protection. We can send it daily, and THE R. N.-Y., weekly, both one year for $3.

Daily Journal, New York.

No other daily paper ever made so great a success in so short a time as the Journal. It gives all the news, and is one of the brightest and ablest papers of the Metropolis. It is Democratic in politics, and an able expounder of free silver. We can send it and THE R. N.-Y., both one year, for $3.50.

The Atlanta Constitution.

This is the great national weekly of the South. It has, probably, done more for the South than any other paper has ever done for any part of the Union, and, naturally enough, the people in the South believe in it aud go by it. But besides its devotion to the interests of the South, it gives all the news of all the world every week, and is a great family paper. It abounds in stories, fiction, romance, wit and humor, fun and puzzles. It is Democratic in politics, and a great exponent of Democratic principles. It gives 12 pages—84 columns—of reading matter every week, and all for only $1 a year. We are able to send it and THE R. N.-Y., both one year, for $1.75.

Strawberry Culturist.

This is a bright little monthly, edited and published on a strawberry farm by a strawberry grower. We can send it and THE R. N.-Y., both one year, for $1.15.

The Rise in Wheat.

(CONTINUED.)

The late spasmodic jump in wheat prices did not affect us one cent, or any of our neighbors. What wheat we had, had been shipped and sold before. The custom hereabouts, is to ship direct from the thrashing machine; no one reserves more than is needed for seed and the year's flour. There is practically no wheat left to market. Crop yields were exceptionally small, wheat ranging from 2 to 10 bushels per acre; oats from 8 to 16; potatoes, from 25 to 80. Quite a large acreage was caught by early freezing and is now worthless. Prices started out a few cents better on wheat this season than last, on the average, about 8 or 10 cents per bushel; it is selling here on track around 50 cents; oats, 11 cents; potatoes, no market, but called 15 cents. R. T. E.

Clay Co., Minn.

About 20 per cent of the crop of wheat had been sold prior to the advance in price. Wheat is not moving any faster than before the rise, farmers being inclined to hold for higher prices. Corn has advanced five cents, and the old crop is moving fast. Hogs advanced 25 cents per 100 pounds, and are coming in pretty freely. Cattle advanced 25 cents per 100 pounds. I could not give a very correct estimate of the extra money that will come into this county on account of the rise in wheat, but as other products of the farm have kept in sympathy with wheat, it will amount to considerable, and will be felt in all kinds of business. T. J. P.

Fullerton, Neb.

The wheat grown here this year will not grade above No. 3. One-half of all the wheat raised in this township was sold before the rise, at from 30 to 35 cents a bushel. Probably one-fourth was sold when prices were from 40 to 52 cents; the rest is in the farmers' hands yet, and wheat has dropped to 40 cents. I think that the assessor's books show that there were just about 3,000 acres of wheat in this township this year, and it averaged about 12 bushels per acre, so the account would stand like this: Amount raised, 36,000 bushels; one-half sold for 33 cents, one-fourth sold for 47 cents. So the township was benefited to the amount of, say, $1,200; I am satisfied that it will not amount to more than that. There are about 175 farmers in the township. Oats are nine cents, and corn 13. A. H.

Webster, Neb.

Very little, if any, wheat is grown in this part of Iowa. Union and Adams Counties, for several years past, have marketed none. A few of our farmers, and a very few, have commenced to sow a few acres each year for their own bread. The most of our flour is shipped in from Minnesota, and some from the third county west, Montgomery. Thus you see that the amount of money received for wheat here is very small. Our farmers depend most on cattle, hogs and corn.

Afton, Iowa. C. L. T.

As wheat is our chief staple, any rise in price is of the utmost benefit to us financially. The local price to-day is 53 cents, it had, a week ago, reached 62 and we should receive 75 cents to be remunerated for our labor and the loss of soil fertility. I believe that fully one-half of the wheat is yet in the farmers' hands. I cannot estimate the amount the farmers of this township will receive by the few cents rise. A. W.

De Graff, Minn.

As for myself, my wheat crop, like that of a good many of my neighbors, was very poor. I still have my last year's crop on hand, but I think that, at least, seven-tenths of the entire crop in this section was marketed immediately after it was thrashed, before the rise in price. I have not known of any wheat being sold since the advance in price. W. M. H.

Williamsburg, Ind.

The higher price paid for wheat will certainly benefit me, and the individual farmers in this neighborhood. About one-third of the wheat was sold direct from the machine as thrashed; this was thrashed right from the shock. Thrashing begun about the middle of July. This grain was sold at 34 to 44 cents. Another third sold at 45 to 56 cents, and about one-third of the crop raised is still in the farmers' hands. In our part of the State, the crops were light in 1894 and 1895, consequently farmers have not been able to hold their wheat. About $2,000 will come into this township on account of the rise in wheat. A. M. M.

Davenport, Neb.

The higher price in wheat will not benefit the farmers in this county. There is very little old wheat in this township, as the wheat last year was a failure, large fields not being cut at all; what was cut was very light and chaffy, on account of the chinch bugs. The extra money will be taken out of the township. H. H. T.

Belle Prairie, Ill.

But little wheat is grown here, probably one-third enough for our bread, and about one-half of that went to market before the rise. Of the other half, the larger part will be used for bread and seed, and some will be marketed at the advance. Wheat growers, mostly, buy Minnesota flour, but a few take wheat to mill. O. E. F.

Renwick, Ia

The boxes for the week of the Horse show at Madison Square Garden sold for $26,000, against about $43,000 last year.

The price of flour has advanced in sympathy with the rise in wheat. When wheat prices fall, however, the price of flour doesn't respond so quickly.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

"Would those October strawberries which THE R. N.-Y. has been telling about, find much sale in this market?" I asked a merchant who makes a specialty of fancy fruits, and who deals in hothouse strawberries in their season. "No!" was the answer. "A few would sell as a novelty, but it is the wrong time of year for strawberries, and there are too many other fruits. People soon tire of these unseasonable things after the novelty wears off." So an "everbearing" strawberry would be of little use so far as market profits are concerned.

‡ ‡ ‡

"You ought to have seen a box of birds I received from Michigan yesterday," said a game receiver "They were fine birds, and each one was wrapped in tissue paper of different colors, and all so nicely arranged that their very appearance was enough to sell them." That's the kind of care that pays! It didn't really make those birds any better to wrap them up so nicely, but it made them look better, created a good impression on the buyer, and made a quicker and better sale. The first look at any produce goes a long way towards making a sale.

‡ ‡ ‡

I saw some nice-looking five-pound palls of butter in a commission house, and this reminded me that the cook had told me that the butter supply was nearly exhausted. "Just the thing for me to carry home," thought I. I inquired the price, and asked about the quality. "I am looking for a nice pail to take home myself," was the reply, "but I shan't take one of those." I examined one. The package was neat and clean, the butter was covered with a cloth (parchment paper would have been better), but the quality of the butter was poor. It was a good package wasted on bad goods! Fine appearance with a poor backing!

‡ ‡ ‡

"What are the prospects for squashes?" I asked a large dealer who handles little else but vegetables. "Good! There are plenty of them, and they aren't selling very high now. If the weather keep good, we shall have all we can handle for some time; many have them stored in barns, sheds, and other unprotected places, and if the weather should turn cold, as it is likely to do at any time, now, they would be spoiled." In the vicinity of Boston, there are many squash houses, in which a proper and even temperature can be maintained, where squashes are kept until winter, and even until spring, when good prices are, usually, obtained. There are some such on Long Island, so the market isn't likely to lack for squashes, for some time to come. The prices obtained in winter and spring are sometimes high enough to make storing them profitable, and sometimes not. It depends upon various conditions.

‡ ‡ ‡

I don't remember ever before to have seen so many poor quinces in market, as this season. Conditions must have been unfavorable for this crop And the price is so low for these poor specimens that there can't be much left after paying for packages and freight, to say nothing of the labor in growing and harvesting the crop.

‡ ‡ ‡

Conspicuous in the markets are the red cabbages. Their fiery color makes them so. Cabbages of the ordinary color don't make such a show, though most people prefer them. Still some people like the red cabbages, and they are used largely for pickling. Seldom do we see any Savoys in market. Why is it?

‡ ‡ ‡

"I sell these grapes for hogs," said a fruiterer, pointing to some California Tokays which he was offering for 25 cents per basket, "and these for men," pointing to some fine fruit which was selling for 50 cents per basket. The former had been kept altogether too long, and were in bad condition; the latter were in excellent shape, and well worth the higher price asked. But there are people who are always looking for low prices, and who look more at the price of an article—at the time of buying, at least—than they do at its quality. Perhaps, it's a good thing for producers and dealers that there are such; it enables them to dispose of all grades of goods. But the better goods are really the cheaper. F. H. V.

MARKETS.

SATURDAY, OCTOBER 31, 1896.

BUTTER—NEW.

Creamery, Western, extras	20	@	—
Western, firsts	18	@	19
Western, seconds	15½	@	17
Western, thirds	12½	@	13½
State, fancy	19½	@	20
Common to prime	12½	@	19
State dairy, half-firkin tubs, fancy	17	@	18
Firsts	15	@	16
Seconds	13	@	14
Welsh tubs, fancy	17	@	17½
Welsh tubs, firsts	13	@	16
Welsh tubs, seconds	13	@	—
Tubs, thirds	11	@	12
Western imitation creamery, firsts	12	@	13½
Seconds	10	@	11
Western dairy, firsts	11	@	12
Seconds	9	@	10
Thirds	8	@	8½
Factory, fancy	10	@	10½
Factory, firsts	9	@	9½
Factory, seconds	8	@	8½
Factory, thirds	7	@	7½
Old butter	5	@	8

EGGS.

Near-by, new laid, fancy, selected, per doz	23	@	—
State, fresh gathered, average best	20	@	21
Penn., country marks, average best	20	@	21
State and Penn., fair to good	18½	@	19
Western, northerly sections, fancy	19	@	—
Western, fair to good	17	@	18½
Western refrigerator, prime, early pkd.	15	@	16
Western refrigerator, fair to good	14½	@	15
Western limed, choice	15	@	—
Western, fair to good, per case	3 25	@	4 00
Western dirties, per 30-doz case	3 00	@	3 90
Western checks, per 30-doz case	2 50	@	3 30

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	4¾	@	5¼
Choice, 1896, per lb	4⅜	@	4⅝
Prime, 1896, per lb	4	@	—
Common, per lb	2½	@	3½
1895, prime to choice, per lb	3½	@	4
1895, common to good, per lb	2	@	3
N. C., sundried, 1896, sliced, fancy	2½	@	3⅛
Southern, sundried, common to choice	2	@	3
State, sundried, quarters, bbls	—	@	—
Western, sundried, quarters, bbls	—	@	—
South-West'n, sundried, quarters, bbls.	4	@	—
Southern, sundried, quarters, bbls	—	@	—
Southern, sundried, coarse cut bags	1¾	@	2½
Chopped, 1896, per lb	1⅜	@	1⅝
Cores and skins, 1896, per lb	1	@	1¼
Peaches, Sundried, 1896, peeled, per lb	6	@	8
Cherries, 1895, per lb	8½	@	9
Cherries, 1896, per lb	9	@	10
Blackberries, 1896, per lb	4	@	4½
Raspberries, evaporated, 1896, per lb	14½	@	15
Huckleberries, 1896, per lb	6½	@	7
Plums, Southern Damson, 1895, per lb	—	@	—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25	@	1 50
Baldwin, per bbl	1 00	@	—
Culvert, per bbl	75	@	90
Gravensteln, per bbl	1 50	@	1 75
Fall Pippin, per bbl	1 25	@	1 50
Greening, per bbl	1 00	@	—
Holland Pippin, per bbl	1 25	@	1 50
Ribston Pippin, per bbl	75	@	90
Oldenburg, per bbl	1 25	@	1 75
King, per bbl	1 25	@	1 75
Detroit Red per bbl	1 25	@	1 37
Famcuse, per bbl	1 00	@	1 75
N. Spy, per bbl	1 00	@	1 25
Pound Sweet, per bbl	1 25	@	1 37
Nearby, open heads and common, per bbl	50	@	75
Cranberries, Cape Cod, extra large, per bbl	5 00	@	5 50
Fancy, per bbl	4 25	@	4 50
Good to prime, per bbl	3 50	@	4 00
Defective, per bbl	2 50	@	3 25
Per crate	1 25	@	1 50
Jersey, per crate	1 00	@	1 25
Grapes, Up-River, black, per 25-lb carrier	30	@	60
Up-River, black, per small basket	6	@	7
Up-River, black, per large basket	10	@	11
West'n N. Y., Catawba, per small basket.	6	@	7
West'n N. Y., Concord, per large basket.	10	@	12
West'n N. Y., Delaware, per small bkt.	10	@	12
West'n N. Y., Niagara, per small basket.	10	@	12
West'n N. Y., Salem, per small basket.	6	@	7
Wine grapes, black in bulk, per lb	1	@	1⅜
Wine grapes, white, per lb.	2	@	2¼
Wine grapes, red, per lb	1½	@	—
Pears, Bartlett, per bbl	2 00	@	4 50
Bartlett, per keg	1 00	@	2 25
Bartlett, per box	1 50	@	2 00
Bosc, per bbl	3 00	@	4 00
Clairgeau, per bbl	2 50	@	3 50
Duchess, per bbl	2 00	@	2 75
Anjou, per bbl	2 50	@	3 50
Seckel, per bbl	5 00	@	6 00
Seckel, per keg	2 00	@	3 00
Sheldon, per bbl	3 00	@	3 50
Swan's Orange, per bbl	2 25	@	3 00
Keiffer, per bbl	2 00	@	2 75
Nearby cooking, per bbl	1 75	@	2 25
Quinces, choice bright, per bbl	1 75	@	2 00
Fair to good, per bbl	1 00	@	1 50
Seconds, per bbl	50	@	75

GAME.

Quail, choice, large, per doz	2 00	@	—
Small, per doz	1 25	@	1 50
Woodcock, average, per pair	75	@	1 00
Partridges, nearby, per pair.	85	@	95
Western, undrawn, prime, per pair	70	@	75
Western, drawn, prime, per pair	50	@	—
Grouse, Western, prime, per pair	1 00	@	1 15
Grouse and partridges, inferior, per pair	30	@	40
English snipe, choice, per doz	1 75	@	2 25
Plover, golden, choice, per doz	2 00	@	2 50
Blackbirds, per doz	15	@	20
Rabbits, per pair	30	@	—
Wild ducks, canvas, per pair	2 00	@	2 50
Red heads, per pair	1 00	@	1 75
Mallards, per pair	50	@	80
Blue wing, teal, per pair	40	@	—
Teal, green wing, per pair	25	@	39
Common, per pair	20	@	25
Venison, per lb	20	@	25
Whole deer, per lb	10	@	13

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9	@	9¼
Fair to good, per lb	8	@	8½
Com. to med., per lb	7	@	8
Small, per lb	4½	@	6½
Buttermilks	5	@	6
Grassers	4	@	5
Pork, country dressed, 10 to 25 lbs., per lb	7	@	9
40 to 60 lbs., per lb	6¼	@	6½
60 to 80 lbs., per lb.	5¾	@	6¼
80 to 120 lbs, per lb	5	@	5¾
125 lbs and up, per lb	4	@	5

POTATOES.

Long Island, in bulk, per bbl	1 25	@	1 50
State, per 180 lbs	1 00	@	1 12
Jersey, per sack	1 00	@	1 15
Jersey, per bbl	1 00	@	1 25
Sweets, Va., yellow, per bbl	75	@	90
Jersey, yellow, per d. h. bbl.	1 00	@	1 25
Vineland, per bbl.	1 00	@	1 50

POULTRY—LIVE.

Spring chickens, per lb	8	@	8½
Fowls, local, per lb	9½	@	10
Western, per lb	9½	@	10
Southwestern, per lb	8½	@	—
Southern, per lb	8½	@	—
Roosters, old, per lb	5½	@	6
Turkeys, mixed, per lb	8	@	10
Ducks, local, per pair	65	@	80
Western, per pair	60	@	75
Southern, per pair	40	@	50
Geese, local, per pair	1 25	@	1 75
Western, per pair	1 25	@	1 50
Southern, per pair	1 00	@	1 25
Pigeons, old, per pair	20	@	—
Young, per pair	15	@	—

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10	@	11
Young, dry-picked, per lb	10	@	12
Young, scalded, per lb	9	@	10
Young, inferior, per lb	5	@	8
Spring chickens, Phil., selected, per lb	13	@	15
Philadelphia, poor to good, per lb	9	@	12
Western, dry-picked, good to choice.	8	@	9
Western, dry-picked, inferior	5	@	7½
Western, scalded, choice, large	7½	@	8½
Western, ordinary, per lb	6	@	7
Fowls, Western, dry-picked, choice	7½	@	8
Scalded, choice, per lb	7½	@	8
Old cocks, per lb	5½	@	6
Spring ducks, Eastern, per lb	13½	@	14
Spring ducks, L. I., per lb	13½	@	14
Spring ducks, Penn. and Va., per lb	10	@	12
Spring ducks, Western, per lb	10	@	11
Old ducks, Western, per lb	7	@	9
Spring geese, Eastern, per lb	14	@	15
Squabs, tame, white, per doz	1 75	@	2 00
Mixed lots, per doz	1 25	@	1 50
Dark and poor, per doz	1 00	@	1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00	@	3 00
Red, per 100	3 00	@	4 00
Carrots, per bbl	60	@	75
Cauliflower, L. I. and Jersey, per bbl	75	@	1 00
Celery, fancy, large, per doz	40	@	—
Average, prime, per doz	20	@	30
Small, per doz	10	@	20
Cucumbers, Florida, per crate	1 50	@	2 50
Egg plant, Jersey, per bbl	50	@	1 00
Florida, per crate	1 25	@	1 75
Green corn, per 100	50	@	1 50
Lettuce, Boston, per doz	25	@	40
New Orleans, per bbl.	3 00	@	4 00
Lima beans, Hackensack potato, per bag	1 00	@	1 75
Jersey flat, per bag	50	@	75
Onions, Eastern white, per bbl	2 50	@	3 50
Eastern red, per bbl	1 50	@	1 75
Eastern yellow, per bbl	1 25	@	1 50
Orange County white, per bag	1 00	@	2 50
Orange County yellow, per bag	75	@	1 12
Orange County, red, per bag	75	@	1 50
Jersey and Long Island yellow, per bbl	1 00	@	1 25
Jersey and Long Island red, per bbl	1 25	@	1 37
Jersey and Long Island white, per bbl	1 50	@	2 50
State and Western yellow, per bbl	1 00	@	1 12
State and Western red, per bbl	1 25	@	1 37
Pumpkins, per bbl	40	@	75
Red peppers, per bbl	1 00	@	1 50
Green peppers, Jersey, per bbl	40	@	1 00
Spinach, per bbl	—	@	—
Squash, Marrow, per bbl	60	@	75
Hubbard, per bbl	75	@	—
String beans, Norfolk, per half bbl basket	50	@	1 50
Charleston, green, per bushel basket	75	@	1 12
Charleston, wax, per bushel basket	50	@	1 25
Turnips, Jersey and L. I. Russia, per bbl	50	@	70
Canada, per bbl	65	@	70

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1. Early maturity. My pigs are hogs, in the sense of ham, shoulder, and loin development, from the time they are farrowed till they are full grown.

2. They are sellers. My butcher tells me that my pork is more desirable than that of any other breed because of the large development of the parts demanded in his trade, viz., hams, shoulders, etc., while the small bone, head, etc., give the minimum of waste.

3. Meat texture and quality are unsurpassed. My best advertisement is to get a prospective customer to eat of the meat.

4. They are quiet, never squealing around the trough. My neighbor owns Chester Whites, and they let every one within a radius of a mile know they are hungry by their incessant sqealing.

5. They are docile. Among all the Berkshires I have ever owned, there has not been one that was breachy, cross, or addicted to eating chickens.

6. They are good mothers. Not one of my brood sows has ever eaten her pigs, or lain on them unless they were chilled to inactivity.

7. They are good breeders. My sows average from 9 to 12 even-sized pigs per litter.

8. They are easy keepers. I know from past experience that my Berkshires will keep in good order on less feed than any other breed I have tried.

9. They are hardy. I have never lost a Berkshire from any cause. They resist cholera the best of any known breed.

10. They are short-legged, long-bodied, active-moving, strong-limbed hogs. Now there is a difference in Berkshires, but I believe that, by careful selection for breeders, and by avoiding inbreeding and by giving proper care, any man can have Berkshire hogs that will be a pride and a source of profit to the owner.

Ashville, N. Y. F. R. S.

Holsteins Good Enough for Me.

I venture to give my opinion in favor of the Holstein, as an ideal producer of milk, for the wholesale or retail trade. Before settling on this breed, I had noticed that, when one of the old farmers had an unusually good milker in his herd, upon a visitor admiring her good qualities, he would tell him with some degree of pride, that there was some Holstein in her. I have found the Holstein to be a large, hearty cow, of hardy constitution, capable of consuming large quantities of feed; which is conducive to a large flow of milk. She has a large, well-formed udder and teats, as a rule, being a free and easy milker, which is a feature to be recommended in particular on large farms where the help is mostly hired. Some would be likely to become careless about milking cows that milked a little hard, causing the cows to dry up sooner than they ought to. Some complain that the Holstein gives them watery milk. I have in mind a herd of this breed, in which there were several cows that made all the way from 60 to 63 pounds and 5 ounces of butter in a month. It appears that milk with so much butter fat in it, could give no cause for complaint. Set a standard, then use the scales and Babcock test, and weed out all cows that do not come up to the mark. In this way, we soon have a herd of cows that does not take one to pay for what the other eats, and should we feel disposed to sell the calves, we can get more than $1 or $2 apiece for them.

Strafford County, N. H. H. M. H.

Hurrah for the Jersey.

While there are, without doubt, many others better qualified to plead the cause of the Jersey cow, for fear they will not, I will undertake to do so. In the first place, I made up my mind that the place to make up ones milk is at home. "Too many cooks spoil the broth", is very likely to apply to creameries and factories, as well as other things. There may be 25 good, honest and cleanly dairymen taking milk to a factory, and one dishonest, filthy one, and this one will spoil the product of the whole. While every one will admit that there is an overproduction of butter and cheese, there is always a call for more first-class goods than are offered.

My farm being a small one (60 acres) and two miles from a shipping station, I turned my attention to making butter. After carefully looking into the question, I came to the conclusion that the Jersey cow will not only make the best butter, but also the largest quantity out of a given amount of feed of any cow in the world. A dairyman should regard a cow as a machine to manufacture milk, cheese or butter from the raw material of his farm. If a manufacturer wish to buy an engine to run his machinery, he will try to find the one that will perform the largest amount of labor at the least cost. That is, use the least coal to produce a given amount of steam. A man would be considered lacking in sense who would buy a 10-horse engine to run a Baby separator, and he should be, if he would buy a 1,400-pound cow that would make but a pound of butter a day, when an 800 one would do as well.

It is claimed and, probably, truthfully, that the Holstein cow has made more pounds of butter in a year than any other. But it has never been even claimed by any honest man that she can do it as economically. I claim that the Jersey cow will make the best butter, because it is of firmer texture and higher colored on winter feed. The firmness of texture is a very strong point with the farmer who supplies a private trade, for the butter may be delivered in better condition, and will also "stand up" on the table where other butter will become soft and unsightly. I am furnishing a hotel with butter on contract, at 25 cents per pound, this year, and without my Jerseys, this would be impossible.

The breeders of Jerseys are placed at a very great disadvantage by the law requiring milk to be three per cent fat to be standard, and just as good as six per cent if only up to that requirement. If this law were abolished, and one made requiring milk to be sold on what it tests, the same as the farmers have required of the fertilizer manufacturer, then the Jersey would be queen of the shipping station as well as the creamery, and the Holstein would have to go for just what she is worth.

I do not claim that the Jersey is a perfect cow, and wishing to be honest, I will also show up her one disadvantage; at least, it is the only thing with which I can find fault so far, and that is, that she is not as robust as some other breeds, like the Devon, Ayrshire, and some others. I do not think that she is more prone to disease, but that she will not stand poor care as well as some others. The Jersey is the careful, painstaking dairyman's cow, but if a man wish to winter his cow on the south side of the straw stack, he would better buy a Devon. She may not make any money for him, but she will be likely to live.

"Forewarned is forearmed," and knowing of this disadvantage with the Jersey, I have provided against it by procuring animals for foundation stock that were from long-lived, robust families, as well as heavy milkers. The bull at the head of my herd is Old Hickory G. 43108, a grandson of Cocotte 11958, who made 17 pounds 7½ ounces of butter in seven days, at 14 years old. He is strong in the blood of Stoke Pogis, and took first prize at the Chenango County Fair this year (the only time he has been shown), and was pronounced by many the largest Jersey bull of his age they had ever seen.

My heifers combine the blood of Cocotte, Rissa F. S. 16014 (record 19 pounds of butter in seven days) and Cypres F. S. 2545, a grand old cow now owned by me, and in her nineteenth year. She gave me a fine calf last March, and is now a good, profitable dairy cow.

Another point I should mention is the value of a purebred calf over that of a native. While the native or scrub calf is worth little or nothing, a purebred is worth from $10 up to almost any sum, according to its breeding. This makes quite a difference with the income from a dairy.

And last I must speak of the beauty of the Jersey cow. Surely no one will question her claim of being the most beautiful of all cattle. Her color ranging from rich chocolate with white muzzle and golden under markings to a soft squirrel gray or delicate cream fawn; her head decorated with small, incurving horns, tipped with amber above a golden base; her great, soft, liquid eyes which appeal to her owner to give her the care which she will so bountifully repay, all go to make up the daintiest and handsomest cow on earth.

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(Continued on next page.)

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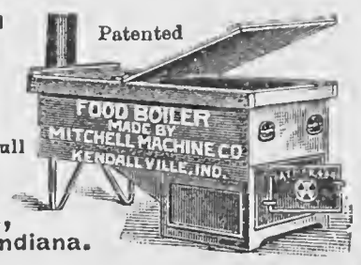

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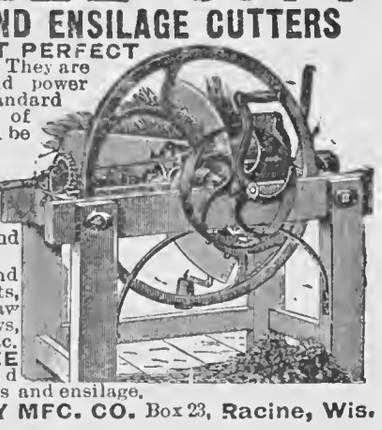

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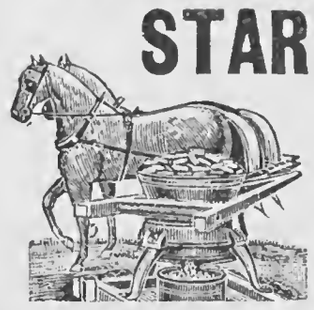

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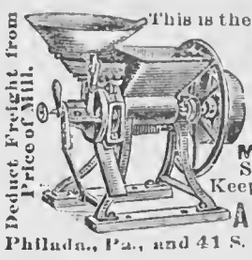

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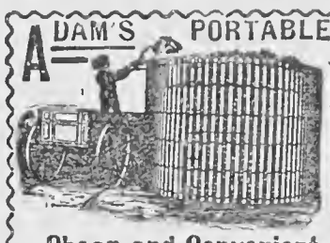

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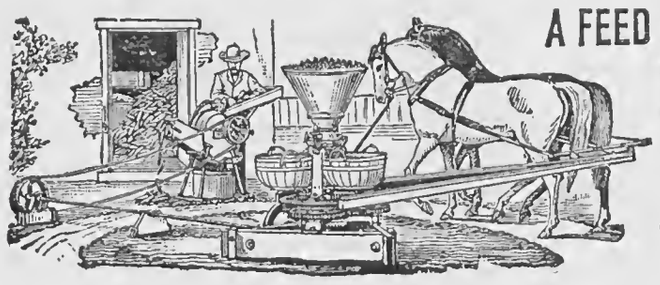

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My Favorite Breed of Stock.

(CONTINUED.)

and squeal if one step up and look over the fence at them, but will come up and like to be petted. Then they are easy keepers, and although not growing to as large a size at maturity as many other breeds, they will make from 75 to 150 pounds quicker than most others. The meat is not all fat, but if fed largely on what are called flesh-formers, they will have a large proportion of lean, and make the finest hams and shoulders in the world. Although a black breed, the color is not even skin deep, as these pigs, when dressed, are white. Again, as to the quality of meat, I have known persons troubled with dyspepsia, who thought that they could not use pork at all, who could eat meat of these pigs, and suffer no difficulty. Last, but not least, is the fact that butchers or marketmen like to get them to cut up, always giving these pigs the preference when they learn their value. Generally, they are willing to pay a little more for them.

D. P. A.

DISINFECTION FOR TUBERCULOSIS.

In this State (Connecticut), I believe that it is customary for the Cattle Commissioners to request that the barns where they use the tuberculin test shall be thoroughly disinfected. They do not do it themselves, or see it done, and I presume that, in many cases, it is not done. After testing a herd, they give a certificate of health of the herd, and they have power to refuse this if they wish to, until they are sure that disinfection has taken place. Also, when they have quarantined herds, they could refuse to remove the quarantine until they were satisfied that the work had been properly done. They have plenty of power to compel almost anything they wish.

At the time our herd was inspected, we tore out and rebuilt all mangers, partitions, etc., on the floor where the cows were kept, and also by advice of the Commissioner, sprayed ceiling, walls, etc., with the recommended corrosive sublimate solution; yet some time afterward, asking one of the Commissioners to what he should ascribe the cause if, upon a retest, there should be found some reacting, he laughingly replied, "Want of disinfection." It is policy for them to believe in the tuberculin test, right or wrong. If tuberculosis is such a contagious disease as many claim, I do not think that sufficient care is taken at the slaughtering of the animals. Ours were all killed in the pasture, and their blood ran everywhere. The spot was a scene fit for a painter of a battle picture. The animals were all examined, and when tubercles were found, no attempt was made to bury or destroy them. I doubt not that a bushel of them could have been gathered near. When some one asked if it were not dangerous to pasture animals afterwards in such a field, the reply, if I recall it correctly, was that "A good rain and some sunlight or sunshine would destroy all germs." I have since seen other herds slaughtered in the same way.

At the inspection at our place, 74 animals were tested, and of this number, 17 were condemned. All would have passed a physical examination, and were in first-class physical condition with one exception. Upon post-mortem examination, four of the animals were found in bad condition, and no candid person could see them and desire to use any product coming from such animals. Three of the four had been in our possession only six weeks, yet it seems to me that they would have contaminated the whole herd in a short time. In some of the 17, but very slight symptoms were discovered, and I doubt not they would have lived to die a natural death. While examining some of them, it seemed to those present that the veterinarian became nervous through fear of not finding anything, and too much publicity would have been given to the affair. However, I believe in the tuberculin test, but as Mr. Cushman suggests on page 656, I do not think that sufficient precautions are taken while, as before stated, they have sufficient power to have the work satisfactorily and wisely done.

H. G. MANCHESTER.

ANGORA GOATS IN TEXAS.

I have been breeding Angora goats for 14 years, and find it a very profitable business. I have a barbed wire pasture fence with several division fences, all made of 10 of the best barbed wires; still the wolves will sometimes get in by scratching through under the lowest wire, but we generally get the wolves now, before they do much damage, by setting steel traps at such holes on both sides of the fence. We generally fasten three steel traps together, and do not fasten the traps to anything. Early in the morning, one of the boys will go there with the dogs and a gun. The dogs will take the trail, and the wolf is generally not more than 300 yards away, often with more than one foot in a trap. If traps are fastened, the wolf or wild cat is more likely to break loose. In very cold weather, they are liable to bite their caught feet off, or jerk loose—as they soon have no feeling in their freezing feet. If they can travel, however slow, with their dragging traps, they are not likely to try to break loose from the traps.

Most people grade up their flocks by buying fine rams. During the first five or six years, rams were very costly, from $50 to $100 each, and fine ewes from $40 to $80 each. One day, a man from Europe looked at my Angoras, and he was so well pleased with one ram and two or three of my finest ewes, that he said, "It is foolishness for you to buy costly rams, you can raise the finest rams and does that can be bought anywhere." He advised me how to manage in breeding and, sure enough, I soon improved my flock wonderfully. I bought three more different flocks, and kept only the best, continually disposing of the inferior ones. The coarsest goats in my flock now are much finer than those for which I had to pay $40 and $50.

It is a beautiful sight to see a bunch of about 500 Angoras coming home about sundown, with their long, silky fleeces. I have always sheared twice each year; that is, in April and in September. If these nice animals are shorn only once in a year, they will soon look ugly, because the long, silky hair will become matted and they will soon look as ugly as a scabby sheep. In kidding time, it is best to keep those ewes that will soon bring kids in a small pasture, separated from the flock. If the weather be cold and wet, they should have a shelter—dry, cold weather does not hurt them. In hot days, the little kids need shade against the hot sun. At first, I tried to make the young kids follow their mothers with the flock, but I soon found that it is impossible to do that. The little kids were soon all hidden in the high grass and bushes. After that, I followed the advice of older goatmen, who left the kids in the pen until they were six to eight weeks old. During the past three years, I kept the little kids in a separate small pasture, where they have plenty of shade, water, green shrubbery, weeds and young tender herbs of various kinds. If allowed to follow the flock too young, they will lie down and go to sleep, and be lost.

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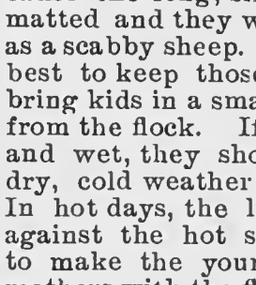

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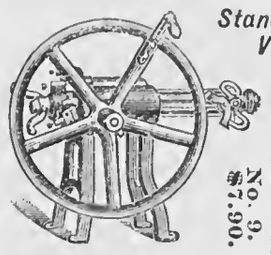

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Humorous.

WRITS of attachment—Love letters.—*Boston Transcript.*

THE temperanec Irishman is said to have remarked, when confronted with the passage, I Timothy, 5: 23, "An' sure, me name is not Timothy, and me stomach does not ache."—*The Safeguard.*

"I KNOW that age is telling on me," said Miss Searleaf. "Yes, dear; but you needn't mind so very much. It isn't telling the whole truth," replied Miss Caustique.—*Modes and Fabrics.*

BOBBIE had been studying his dear old grandfather's wrinkled face for a long time. "Well, Bob," said the old gentleman, "do you like my face?" "Yes, grandpa," said Bobby, "it's an awfully nice face. But why don't you have it ironed?"—*Harper's Bazar.*

"THIS X ray is doing wonders for mankind." "Yes," replied his wife, "it has done lots for mankind. Maybe it will be developed in the course of time to where it will enable womankind to see whether her hat is on straight or not without looking in the glass."—*Washington Star.*

IN the biography of Dr. Hawtrey, a famous English schoolmaster, there is a description of his unkempt appearance, with a comment which has been greatly quoted. It is said that he was scolding, for being late at morning lesson, some boy, who replied that he had no time to dress. "But I can dress in time," said the doctor. "Yes," replied the boy, "but *I* wash."—*Argonaut.*

THE train was nearing Detroit when, at a way station, a young man, dressed in the height of fashion and carrying a summer overcoat, stepped on board and went through the cars as if looking for some one. He stopped once or twice at a seat occupied by a farmer-looking man who attracted his attention. Finally he asked politely: "Is this Mr. Sam Garland, of Beanville, Ohio?" "Yes. 'Spose you read my name on my valise, hey?" "No, uncle; I'm your nephew, Hal Garland, of Detroit." "I guess not I reckon I ain't lived 55 years not to hev my eye-teeth cut. An' I ain't got a nevvy that looks sech a dude as you air, not by a long shot." The young man colored, but laughed good naturedly. "I can find some one on the train who knows me," he said. And going into another car, soon returned with a youth who was of his own age and style. "This is my friend, Mr. Sampson, uncle. Perhaps you remember his father, who came from Beanville?" "Howdy, Mr. Confederate! I remember Jim Sampson fust rate, but he warn't no relation of yours. I'm right sorry, boys, that I can't cash that check of yours. I reckon the goods will have to stay in the freight house. You see, your old uncle has traveled afore." The two young men went off laughing, and the nephew who had been taken so persistently for a confidence man had the satisfaction of seeing his uncle take the wrong car, and of saying to a friend: "The next time mother sends me to meet some of her country relatives I'll take her along. I know the old man will bring up at the police station."—*Detroit Free Press.*

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It is claimed that 80 per cent of all the swine produced in the United States, are Poland-China. Their overshadowing of all other breeds in numbers in the great corn and hog belt, gives strong grounds for such a claim. They are the product of the judicious crossing of several breeds, careful selection, and Miami Valley corn and clover. I well remember when they had much larger, coarser frames than now, with large, pendant ears. On account of the prodigious size of the latter, it was oftentimes about as easy to drive them backward as forward. Formerly, the color was spotted—white and black—frequently they were sandy spotted. Now the fashionable color is black, with white points like the Berkshire. A few years ago, their faces were straight, now some of them are dished almost as much as the Berkshire.

For a few years, some breeders have been selling their stock at public sale. The original object, when public sales of this breed were first introduced was to call together the breeders, get the benefit of competition, and have every man see for himself what he was buying. Then, if any dissatisfaction arose with the purchase afterwards, the fault rested with the purchaser. A public sale is a good place to get young breeders in competition—men that have more money than experience.

The first sales and many others, have been so successful that many breeders made annual sales, instead of selling by the old custom of private sale. While some make up a sale in good faith, sell all they can get a bid on, and offer only the tops, many others make up sales to sell what they have left after a season's trade, and such stock as they do not care to sell under guarantee—"sight unseen" as it were—so far as the purchaser is concerned, he not seeing the stock till it is set off at his railroad station. Such men seek a suitable locality where trains arrive a short time before the sale, and depart shortly after it is supposed to close, giving the purchaser no time to examine the stock before it appears in the sale ring. Then, possibly, the sale pen is covered a few inches deep with sawdust or tanbark. Under these conditions, and the excitement of the hour, much indifferent stock is disposed of, and the purchaser takes the risk.

Often the sales are made on fair grounds where the live stock buildings can be used. Many Ohio breeders ship to Springfield, Ill., to sell their stock. When such a sale is made, they expect to have principally breeders for customers. The success of the Poland-China sales has induced breeders handling other breeds to make public sales. Berkshires were sold at Springfield, Ill. recently at very satisfactory prices. Chester White breeders are also trying the plan. At St. Louis during the fair in October, a car-load of Tamworths from Canada were sold at auction. In a St. Louis paper, I see advertised 21 public sales of Poland-China swine, besides the one of Tamworths above mentioned. Over 80 sold at Springfield early in August, averaged above $100 per head, one sow selling for $1,300. Even more extreme prices are claimed in the Northwest. Ohio breeders with whom I have talked, doubt the claims made. One breeder said that times were hard, and these extravagant prices claimed were for the purpose of booming sales.

Recently I attended a sale at Bloomingburgh, O., of a breeder who has been at the business for 27 years, and has sent out some of the most noted Poland-China hogs ever produced; 62 animals were catalogued and offered for sale, which was strictly on the square. The effort in advertising this herd was to reach

A PUBLIC SALE OF POLAND-CHINA SWINE. COMFORT ON A RAINY DAY. FIG. 241.

breeders. Aside from this, bills were posted in that section of the country. Train accommodations were good, giving strangers a good opportunity to examine the stock before the sale. The animals were placed in convenient pens of two rows, as shown in Fig. 241. The numbers on the pens corresponded with those on metal tags in the animals' ears, and these with the catalogue numbers.

At 12 o'clock, a free lunch was served, on the principle that a full man is in a happy mood, and more inclined to grant favors. At one o'clock, the sale began. Everything was sold on which there was a bid, and no bids were received under $10. Forty-six were sold in two hours, at prices ranging from $10 up to $89, averaging $32.25. The stock went to Indiana, Illinois, Missouri, Kansas and Iowa, besides numerous animals distributed throughout Ohio. Some of the sales were made by letter or telegraph. These bids are known only to the auctioneer, who marks on the catalogue the price that the bidder will give if not sold at a lower one, the auctioneer bidding in his stead. There was a telegraph or letter bid of $150 on one animal that sold for $75, there being no competing bids to carry the price up to the limit of the offer. About 300 persons were present, and many of the boars were bought by farmers in the surrounding country, at the lower prices, for use on their farms to produce feeding animals. The stock was in fine condition, and the accommodations and conveniences first-class.

Fig. 241 shows the north side of the sale tent, and the two rows of pens extending out from the tent or awning. On the west side of the barn, there was an open shed in which were placed seats, one above another. Then under the west side of the tent were seats, the sale pen being between the two. The sale pen was about 14 feet wide by 30 feet long; at the north end, there were two gateways, one for the animal to pass in and the second to open in passing out. While one animal was being sold, a second was placed in a small pen next to the entrance gate. When an animal was sold, it was passed out into the alley and returned to its pen. In this way, if the bidding was rapid, the animals could be sold very fast. The auctioneer stood to the right of the sale pen, as shown in the picture. At the time the photograph was taken, all were giving their attention to the work of the auctioneer.

J. M. JAMISON.

R. N.-Y.—These public sales of stock have not, we believe, become very popular in the Eastern States. A few weeks ago, we had an account of such a sale at the great fair at Trenton, N. J. Some fine Berkshires were offered at auction, but bids were low, and some excellent animals were sold for about the price of hogs intended for pork. We would like to see these public sales encouraged, not only for live stock, but for other farm products as well. There may be 50 farmers in a section selling hay, potatoes, cheese, apples, or other articles, and sending them to commission merchants in distant cities. If these farmers could combine and thus insure a large volume of uniform products, they might have business enough to warrant them in holding a public sale in their market town. In this case, buyers would come to them and deal direct with them, whereas now these farmers must hunt up the buyers and take more than their share of the risks. This plan appears to be carried out, in part at least, in some places, and there are other places where it might be tried with a reasonable chance for success. Western farmers seem to have been more successful with such enterprises than farmers in the East. Western farm life is newer and fresher, and farmers have found it easier to combine for social or business purposes. After all, fair combination is the secret of any community success.

PREPARING ROSES FOR WINTER.

Almost all kinds of roses may be kept over winter out of doors. Many sorts are hardier than supposed, and need but little protection. Many plants which die through the winter are killed by too much eare. One of the most eommon errors is to cover the plants too early in the season. before the wood is thoroughly ripened, and while the weather is still far from very eold. All that have watehed their rose bushes know that the chief injury to them in the winter season occurs toward spring. It is when the heat of the late winter sun sets the sap in motion, and the freezing nights follow. that the bushes are injured. In the Middle States, there is no need at all to eover roses of any kind until after New Year's. By that time. their shoots are well ripened and able to withstand what cold they may encounter to better advantage than if eovered early.

The hybrid perpetuals, or June roses, as they are popularly ealled, need no covering at all here, near Philadelphia. Perhaps the extreme tips will be hurt, but there is rarely more to be cut away than good pruning requires Usually, the shoots are tied together, their tops cut off, and a little straw tied neatly about them. This is a good way when the plants are on the lawn; but when they are in cultivated ground, the work is as well done by bending the shoots over and eovering them with four to six inehes of soil. There is no surer covering for safety than this, not only for roses, but for every kind of deeiduous shrub as well.

Everblooming roses, which embraee sueh as the Tea, Noisette, Bourbon, China, and their hybrids, must have some protection, but not nearly so much as many suppose. These roses do not bloom from the shoots of the previous season, as hybrids do, but from fresh ones of the same seasen. Nothing is gained by preserving all the length of the shoots. In faet, were they not injured, they should be pruned away to within a few inches of the last season's growth, as better flowers sueceed such a cutting back. This being the case, all that is required is the eovering of the plants. This is easily done by placing manure, leaves or soil about them, to about a foot in depth, doing it after the ground has frozen solid, and removing it when spring has certainly come for good.

Pennsylvania. JOSEPH MEEHAN.

VALUE OF THE PERSIMMON.

People in the Eastern, Middle and Western States have little knowledge of this valuable fruit. I have recently corresponded with several hundred people in New Jersey, Virginia, Maryland, Missouri, Indiana, Tennessee, Kentucky, and other States, in regard to the persimmon, and am surprised to find how largely it is grown in these States, and how highly it is prized. I hear of large orchards whieh have been planted and cared for the same as our apple orchards. The fruit is not only marketed at profitable prices and is gaining in popularity in the market, but the surplus or waste is used for fattening swine, whieh delight to feed upon the fruit not only, but upon the seeds, which are particularly nourishing. Some American persimmons are seedless. In the States alluded to, the persimmon grows wild and bears abundantly. While in Virginia, hunting with Prof. Van Deman, I saw a tree 100 feet tall, and proportionately large at the trunk, which was heavily laden with fruit. In the woods near by, were numerous smaller trees, which were equally heavy laden.

The fruit, in its wild State, varies in size from that of a small plum to larger than the largest plum. We have photographed specimens that were 2½ inches in diameter. The fruit of ordinary size is shown at Fig. 242. These large persimmons resemble medium sized tomatoes. All native American persimmons that I have seen, are of the same yellow eolor, which turns darker as the fruit matures. They are not edible until the fruit beeomes quite soft. On the trees, the fruit does not seem to rot, but eondenses and hangs in a ripe state for several weeks. The persimmon may be gathered when quite immature and hard, in which condition it may be shipped in boxes or barrels, as readily as potatoes, and when stored in eellars or rooms, the fruit will gradually ripen to perfection through a series of several weeks. This peculiarity is a valuable one, enabling the persimmon to be shipped long distanees with perfect suceess.

The quality of all American persimmons, which I have tested, seems to be very mueh the same, but those which have been a long time ripening upon the tree, and have become condensed, are of the best quality. I am very fond of persimmons. The more I eat of them, the more I like the quality. The first persimmon eaten is so peculiar, and such a novelty, that you may not be tempted to further indulgence, but the remembrance in the mind is agreeable, and the more you eat, the fonder you become of this fruit.

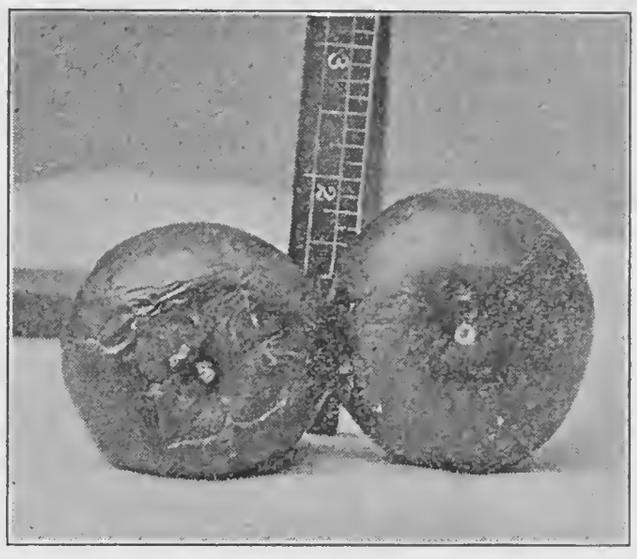
Large trees of persimmons are not so easily transplanted as some other trees, but trees of moderate size, two to three feet high, can be transplanted with absolute safety, so far as our experience goes; therefore we recommend planting small trees. The foliage of the persimmon is glossy, and the tree attractive, hence I should plant it for its beauty alone. whether it produeed fruit, or not. Persimmon trees blossom late in the spring, after danger of frost is past; therefore, it scareely ever fails in bearing a crop of fruit. It is such fruit trees, that blossom early, like the peach, which are uneertain in bearing crops. I have been experimenting with American persimmons several years, and find them entirely hardy here.

Rochester, N. Y. CHAS. A. GREEN.

SWAMP LANDS AND THEIR RECLAMATION.

PART III.

In part II., I deseribed how a great deal of swamp land had been eaused by beavers damming the streams, and thus flooding the adjacent country. The ponds thus caused gradually filled up with vegetation which, in its decay, formed the soil known in Michigan as muck, which is almost purely vegetable matter. In some of the swamps, especially those caused by the filling of lake beds, this muek is of great depth. I once, when loeating a railroad line, sounded the swamps for about 40 miles along the line. and frequently found the muck from 50 to 60 feet deep. Some-

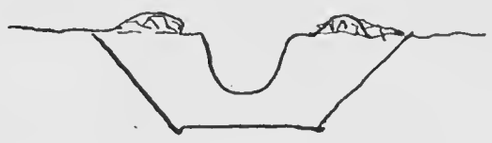


SPECIMENS OF AMERICAN PERSIMMONS. FIG. 242.

times we found bodies of water underlying the muck, making a good place for the railroad to avoid.

These high-lying swamps are easily reclaimed. The surplus water is readily taken away by open ditches or drains, and not very many of them are needed at that, where no springs are encountered. A main ditch should be laid along the best route, large enough to earry away any rainfall that may come, before it has time seriously to damage the crops. I never knew a main drain to be made too large, but I have seen a great many too small. There is no more danger of a main drain being made too large than there is of a man eating too much of a food that he does not like.

In laying out a drain of any considerable extent, several things are to be taken into account, if the drain is to do its best work, which are too often overlooked or else aetively opposed by the land owner. The drain should. as a general principle, follow the lowest ground, which will be indicated by the natural flow of water. In some cases, the natural watercourse



DIGGING OUT AN OLD DITCH. FIG. 243.

will absolutely control the location of the drain, but as a rule, it is a bad plan to follow all its sinuosities. The drain should be made as straight as cireumstances will permit, eutting off the short bends in the watereourse where practicable, and thus getting the shortest feasible line between the beginning and the ending of the drain. It makes all the difference in the world in the efficient working of a drain whether this be done or not. Every bend in a drain obstructs, more or less, the flow of water, and reduces its velocity, hence reduces its earrying capacity. When a bend in the line must be made, join the straight stretehes by a gentle eurve, thus easing off the flow of water. Never permit a square eorner or an acute angle in the diteh. A square turn will reduce the carrying capacity of a ditch one-half or more.

Aside from the retarding action of the bends on the flow of water, the length of the drain makes a big difference in its carrying eapacity. Suppose that the beginning and ending of a drain are fixed points, and their difference in height or level is two feet. In other words, that is the fall in the drain. It will remain the same two feet, no matter what distance is passed over between those points. Suppose that, by the nearest line, the distance between the two points is 40 rods, and by another route following farm or lot lines, the distanee is increased to 80 rods. Then by the longer line, the relative fall is only half as great as by the shorter, as it has to go twice as far to get the same amount of fall, and the velocity will be decreased in proportion. So, water coming into the upper end of the drain will not only lose half or more of its speed by reason of the distance and the bends, but it will have twice as far to go as it would by the shorter line, thus rendering the long line less than one-fourth as efficient as the shorter one. Yet I have been importuned, time and again, when locating drains, to abandon a short line because it ran angling across lots, and adopt a long line because it followed farm or lot lines. If efficient drainage is wanted, take the shortest line. If it is more important to have square fields than it is to have good drainage, then take the longer line.

□As an engineer, I have frequently been called on to locate drains for drain commissioners, through lands which had already been partially surface drained by little shallow ditches dug by the land owners. These ditches generally follow the natural water course in all its windings, or at best, cut off a few of the worst bends. The land owners almost always ask the drain commissioner to locate the permanent drain along the line of these ditches, or else to put it in the lot line and, generally, he will do it. The land owner generally thinks that it will be cheaper to construct the drain along the line of the old ditch than it will to straighten it, and that is where he is mistaken. In the first place, the crooked line is longer. In the second place, the old ditch has not appreciably lessened the amount of earth to be moved, as is illustrated by Fig. 243, which is intended to show a cross section of the old ditch with the earth that is cast out of it and also to show its relation to the new ditch. All the earth is there to be moved just the same, but a part of it is on the bank of the old ditch instead of in it. Lastly, an old ditch line is more likely to have its banks occupied by willows and similar brush and trees, than the land away from it. F. HODGMAN.

Kalamazoo County, Mich.

SUCCESS IN EARLY LAMB RAISING.

The time has passed when our farmers can make much money in raising grain and hay for sale. Competition is so great that he who would have best success, must raise something that requires skill and a superior degree of intelligenee. In New York State, a few are making a success of raising lambs for the early market. This is an industry that has not been, up to the present time, overdone, and those who have succeeded in getting the lambs in time, have realized a good profit.

A part of our sales of lambs last winter was as follows:

December 21—two lambs at $9	$18.00
December 21—one lamb at $6	6.00

The one lamb for which $6 were received was the largest one, was too large for the time of year, hence the lower priee. Our next consignment was as follows:

February 28—Four lambs at $7	$28.00
February 28—One lamb at $6.50	6.50

We continued sending lambs every week or ten days until May 6, when the last were sent, bringing $2 50 each. The average price obtained for all the lambs sent was about $5. This price for lambs from six to seven weeks old, enables one to realize a fair degree of profit.

Success can only be assured by the most careful attention to details. A warm place must be provided for the sheep, and they should not be allowed to leave their shelter during eold weather. Ventilation of their quarters must be provided, and all direct draughts on the sheep be excluded. Before lambing, feed lightly of grain and roots Heavy feeding would cause trouble with the udder. After the lamb is dropped, then the grain ration may be gradually increased, and roots or ensilage fed in increased amounts, the purpose being to stimulate milk production, for upon this the growth of the lamb depends. Keep the lambs growing from the start, and keep them laying on fat for, no matter how large the lamb, unless fat and in prime condition, he will not bring the best price.

When the lamb weighs from 35 to 50 pounds, he is large enough, and if fat, will sell well. Dressing should be done by an expert, for the appearance presented when offered for sale, may make a difference of $2 or $3 in price obtained. It is best before sending a lot to market, to correspond with a commission merchant, and get information as to when he can best handle them. Early lamb-raising is a paying business to him who has the necessary knowledge and skill. There is but little danger of the market becoming overstoeked. L. A. CLINTON.

New York.

A MOSS-BACKED CONNECTICUT PASTURE.

HOW TO TONE IT UP.

For several years, patches of moss have begun to appear on several of my outlying, upland pastures, some of them widely separated. The soil is a dry loam, well adapted to rye, on which I have formerly seen a fine growth of White clover. These patches have spread gradually, until they appear formidable, in two cases, covering, probably, two acres each with a coat of moss so thick, in many places, that scarcely a blade of grass appears. Probably the best remedy would be thorough cultivation, but at my advanced age, I do not wish to plow much, relying upon grass mainly for an income. Besides, part of the land is so full of rocks that improvement in that way is about out of the question. I have made applications to parts of it, of ashes, muriate of potash, and bone meal; also air-slaked lime, without appreciable results. What can be done for it? Probably some will say, "Plant it to forest trees." But an acre of vigorous sprout land can be bought in this vicinity, for much less than half the cost of planting an acre of trees. C. M. N.

Litchfield County, Conn.

Stir the Moss Up.

The process I should adopt is very simple and inexpensive. Much of my land has been subject to that kind of growth; at least one-third of my 16-acre field was nearly covered with moss when I commenced operations upon it, so I can sympathize with C. M. N., for his land, certainly, cannot be any rougher in rocks than mine was.

I would use a Steel-frame Reversible Cutaway harrow with special heavy disks, five feet long which can be handled by two horses. With that machine, he could entirely destroy the moss and secure a new growth of such grass as he may desire to plant. I suggest this short, five-foot machine with strong, heavy disks for the reason that he can get around among the rocks much better, and I suggest that he have a Reversible harrow for the reason that he can go over his field at one operation and haul the soil away from the rocks and stones, and the next time over, by reversing it, throw it towards them, weighting the harrow sufficiently to cut through the moss and sod, whatever there might be. He can thus certainly kill out all the moss, because moss will not stand cultivation. If he does not wish to sow any grass seed, he will get the natural wild grass, which will immediately follow that class of cultivation, unless he desires to seed with clover or some tame grasses. I have found that it was of no use to put commercial fertilizers on that class of land without cultivation. The land must be stirred, now and then, to get sunlight and air; by a liberal use of these strong Cutaway harrows the surface assumes new life and, with but little artificial aid, will make quite a crop. It, however, will pay well to use yard manure or commercial fertilizers to aid all crops, and use them liberally, and it pays to clear the land from rocks. GEORGE M. CLARK.

Connecticut.

Break Up and Use Lime.

I do not believe that there is any feasible plan of getting this land into good, pasturable condition, unless it be plowed or broken up in some other way. If it is too rough to plow, it may be possible, by employing a movable fence and a large number of swine in a small inclosure, to force them to do the work by degrees. After the turf has been thoroughly broken up by the swine, or after plowing, I would by all means recommend an application of 2½ to 3 tons of air-slaked lime per acre, which should be harrowed in; C. M. N. might use to advantage in connection with it, Slag meal or Thomas Phosphate Slag, so-called, at the rate of from 1,500 pounds to a ton per acre. In addition to this, a little top-dressing each year, supplemented by a top-dressing of wood ashes once in six or seven years, would, probably, keep the land in good condition. If Thomas Slag is not available for the purpose, the same or a somewhat larger amount of fine ground bone or fine ground phosphate rock would, doubtless, be advisable.

Having once broken up the land and given it a good dressing with lime supplemented with potash, phosphoric acid and nitrogen, I believe it will be possible to keep out the moss. That is what has been done on several acres of the Experiment Station farm at Kingston, on light sandy loam. On a heavier, clayey piece of land, which was practically a bed of moss, by the use of lime, a magnificent crop of beets has been grown, where, without it, it was impossible to grow them, and the land where the clover was sown in the spring, is perfectly covered with as fine a stand as one could wish to see. Upon the plot beside it, which received the same treatment (that is the same cultivation and manuring with potash, phosphoric acid and nitrogen) with the exception of the lime, the moss is coming in abundantly, and the clover is gradually turning yellow and disappearing, and I suspect that, in a year or two, the land will be back in its original condition in spite of all the potash, superphosphate and nitrogen that we may apply.

C. M. N. may be frightened at the first cost of lime and phosphoric acid, but after the first year, the amount of fertilizer required to keep the soil in condition will, probably, be very small, so that, in the course of the first eight or ten years, the net cost for the entire time will not be so great as to preclude profit, provided there be moisture enough to support the grass crop. H. J. WHEELER.

R. I. Experiment Station.

Advice by Prof. I. P. Roberts.

Apply from 20 to 40 bushels of properly slaked lime per acre. Be sure that it is not air-slaked when purchased. The following directions may serve to assist in properly transforming the lime from "stone lime" into lime so fine and dry, that it will be difficult to shovel it. Purchase stone or unslaked lime, place it at regular intervals over the field, 5 to 10 bushels in a pile, and cover lightly with earth to exclude the air and hold the moisture. If the soil be quite dry, three to four pailfuls of water should be poured over each heap before it is covered; usually, the soil furnishes enough moisture to slake the lime within a few days. Load the material on a stoneboat or sled, and spread from one side, with the wind, as evenly as possible. To save the hands and face, take the precaution to oil them liberally before beginning to work. Pains should be taken to have the lime in the hydrated or caustic state, as it is far more active than carbonate or air-slaked lime.

Apply early in the spring, and sow one pound of White clover, one of Red clover, and 12 to 15 pounds of Timothy seed per acre. In addition, apply 100 to 150 pounds of nitrate of soda per acre. With a common spike-tooth harrow, scarify the ground until the surface is thoroughly broken up and the soil aërated. Then roll. Unless the land be extremely dry, and the plants fail for want of moisture, this treatment should result in covering the land, in the course of one or two years, with a fairly good sod.

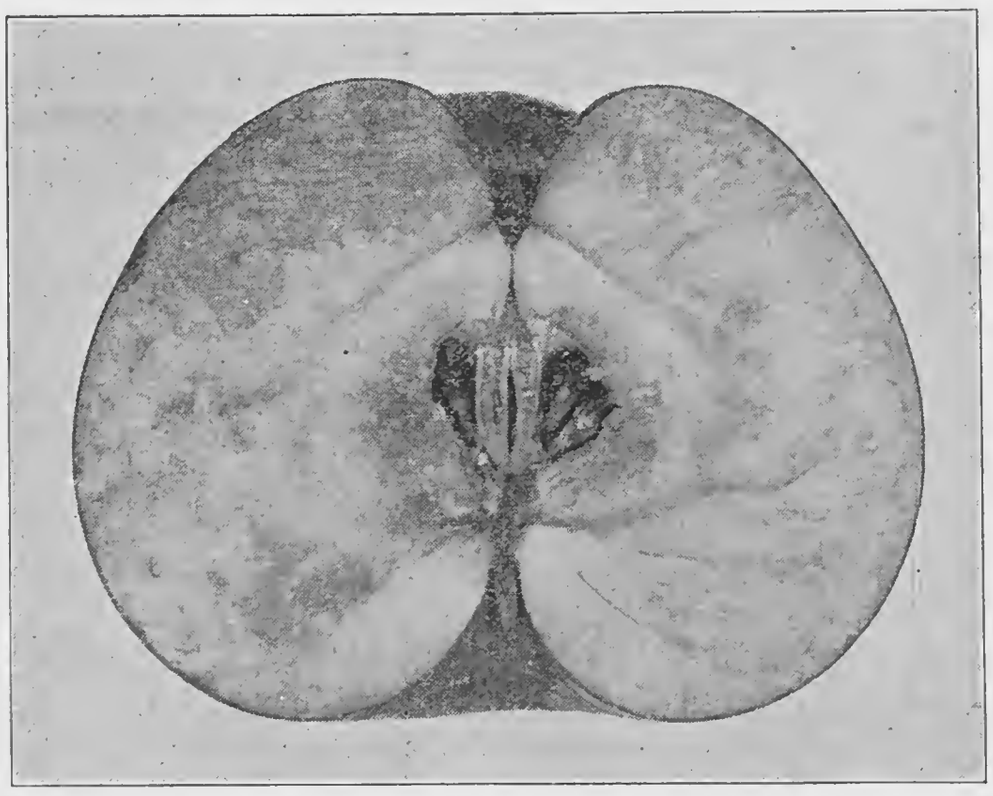
In future years, if a little Timothy could be sown very early in the spring, and the land treated to a light dressing of farmyard manures, it would serve to thicken the grass and to maintain it during dry weather. Without any doubt, the soil is deficient in available nitrogen, is sour, hence the inferior plants are able to crowd out the superior ones. Make the conditions superior, and superior plants will be able to crowd out the inferior ones.

Cornell Experiment Station, N. Y.

Must Be Reseeded.

Probably the large amount of moss that has accumulated on C. M. N.'s soil has killed out the grass, and it will be necessary to reseed in some way before a great amount of feed can be produced. In case he does not desire to plow and cultivate, I would advise the use of 400 or 500 pounds of fine-ground raw or steamed bone, and 500 or 600 pounds per acre of air-slaked lime, both to be applied this fall. As early in the spring as the snow is gone from the fields, sow at the rate per acre of five pounds of Red clover, five pounds of cleaned small Red-top (Rhode Island Bent), and 15 pounds of Kentucky Blue grass. If the soil be moist at the time and immediately after sowing the seed, a considerable part of it will grow, even though no effort be made to incorporate it with the soil.

Storrs (Connecticut) Ex. Station. C. S. PHELPS.



HALF-SECTION OF THE BOIKEN APPLE. FIG. 244.

WHAT SAY?

UNSEASONABLE QUESTIONS.—Permit me to suggest the discussion of methods and results out of season; for instance, on page 688, you show a Help in Binding Corn. Had I had that a month earlier, it would have saved me $15. Now I would like to know, What cutter did you use? What are its faults, if any, and its good points? Did you use a corn harvester? What are its good points and faults? What power did you use for running your cutter? Also what varieties of corn? These questions apply to putting in ensilage. I would ask discussion by men who do business on a large scale, and have had long experience in these different lines. R. F. S.

Pittsburgh, Pa.

STARTING A CRANBERRY BOG.—Last week, I called on a subscriber to THE R. N.-Y., and found him picking cranberries. He has a bog 12x16 feet; he had already picked two pecks, and was scarcely half over the ground. At this rate, a square rod of ground would yield fully five pecks of fruit, or 200 bushels per acre. I have a strip of moist intervale land on my farm that would be suitable for growing cranberries, and would like to have some information as to the best method of preparing the ground, setting and cultivating the plants. My land is now an old meadow, producing a rank growth of wild grass, and has an open ditch extending through the center of it which clogs up with ice and snow in the spring, causing the land to be very wet until the ground is entirely thawed out.

Vermont. C. W. SCARFF.

WHAT THEY SAY.

THE BOIKEN APPLE.—Mr. S. D. Willard recently sent us specimens of the Boiken apple, of which he says: "We imported this variety several years since, from Austria, and have now had it in bearing for five consecutive years. It is an annual bearer of great productiveness, making in all instances, very fine, smooth fruit. It is possessed of a foliage so perfect and rugged as apparently to be impervious to the action of fungi; hence, spraying for this purpose seems entirely unnecessary with this variety. The fruit, for a heavy apple, hangs to the tree remarkably well; indeed, it shows no disposition to drop. As a long keeping variety, it has no superior, and develops quality as it matures. It is quite inclined to show a bright red cheek upon the sunny side, and as the skin develops into an attractive yellow, it gives it quite a desirable appearance as it matures. We believe that it has no equal for culinary purposes in the spring, when at its best. In short, it has many characteristics that may commend it as a valuable sort in the commercial orchard." A photograph of a half-section of this apple is shown at Fig. 244.

Disinfection After Tuberculosis.

I have the assurance of the State Veterinarian, Dr. Leonard Pearson, that in Pennsylvania, the premises from which tuberculous animals are removed by State authority, are thoroughly disinfected, and that infected cattle are never killed, or post-mortem examinations held, in places frequented by other cattle. No knowledge of the methods practiced by the New England Cattle Commissions has come to me save through the article of Mr. Cushman, page 656, and I sincerely hope that most practices are not as bad as those pictured by him. Trustworthy information assures me that, wherever Prof. James Law, of Ithaca, N. Y., had to deal with tuberculous cattle under State authority, he was very strict as regards disinfection of the premises previously frequented by diseased cattle. My own observation has been very limited in this matter, I having witnessed the slaughter of but few animals; these, however, were slaughtered and examined at the edge of a pit dug to receive the carcasses, and the whole buried at the close of the examination. Undoubtedly, Mr. Cushman is quite right in demanding more rigid laws concerning disinfection. This should be done by, or under the direct supervision of, State authority, and not be left to those having little or no knowledge of the agents used in disinfection, or of the nature of the germs they seek to destroy. It must be evident to every one that the utmost care should be taken in disinfecting the stables formerly occupied by badly diseased animals. The consensus of opinion of eminent authorities is that the existing laws concerning tuberculosis are a step in the right direction, but need further support in providing a more thorough system of inspection, more rigid laws concerning the

disinfection of premises occupied by diseased animals, and proper provisions for their enforcement.

Pennsylvania Agrl. College. GEO. C. WATSON.

Beating Coal Trusts with Corn Cobs.

Such times as the present tend greatly to inerease the number of pupils in the school of eeonomy. A former neighbor residing in an adjoining county, has, this year, got the best of the Coal Trust, by building a furnace to heat his house, using corn cobs as fuel. Tons of cobs have gone to waste upon his plaee, heretofore, and he was running two eoal stoves, at a cost of from $40 to $50 per winter. The sale of the eoal stoves ($25) with $15 additional, paid for the furnace eomplete.

To eommence with, he made a simple flue of fire briek in the center of his eellar 2x2x4½ feet, inside measure. At one end, an ordinary cast-iron door and frame were put in; at the other, a briek ehimney (see Fig. 245) was built conneeting with the old chimney. This was inelosed by a square room five feet wide by seven feet long and five feet high, inside measure, the walls made of building stone one foot thiek. The front wall was built, of eourse, even with the furnace or flue door. The space in this room not oeeupied by the flue, was then filled with large eobblestones to hold the heat, and he says that these will hold the heat for six hours after the fire is entirely out. With the addition of a few stieks of hard wood during the coldest nights of winter, he will be able to keep his whole house thoroughly warm (mueh better than by stoves) at no aetual eost exeept a little time during the slaek months of the year. D. H.

Roehelle, Ill.

Burning Corn in Nebraska.

We frequently read in the politieal papers that farmers in Kansas and Nebraska are using good eorn for fuel in plaee of coal. A friend in Lineoln, Neb., sends us the following note eoneerning this praetiee. We shall be glad to hear from other readers eoneerning it:

"Little, if any, eorn is being burned in this part of the State. It seems to me very evident, however, that there must be many loeations where it would be economy to burn it. Corn is selling here in Lineoln for about 13 cents for 75 pounds of ears, sometimes as low as 11 eents. At 13 eents, this would be about $3.50 per ton of ears. Pennsylvania hard eoal now sells at $8.50 per ton, while there are some very eheap soft eoals that ean be got at, perhaps, $3.50 to $5 per ton. Farther west in the State the eorn is worth less, probably, not over 10 cents in some plaees, while eastern coal, at least, must be higher. Now the problem depends upon the heating value of eorn, and that I don't know, neither have I found any satisfaetory answer, though I have talked with those who have burned it to a limited extent. I suspeet that little, if any, corn will be burned near the railroads, but suppose that you were 10 miles away from the plaee to sell your corn and to buy your coal, and had to make two or three trips to effect the exehange! I am inclined to think that it would be only the part of wisdom to burn the eorn.

"For my part, I see no reason why there should be any more hesitancy in using for fuel a material which the eonsumer can replaee at will, than in using a dcereasing supply of one that cannot be replaced. It appears to me merely a business problem.

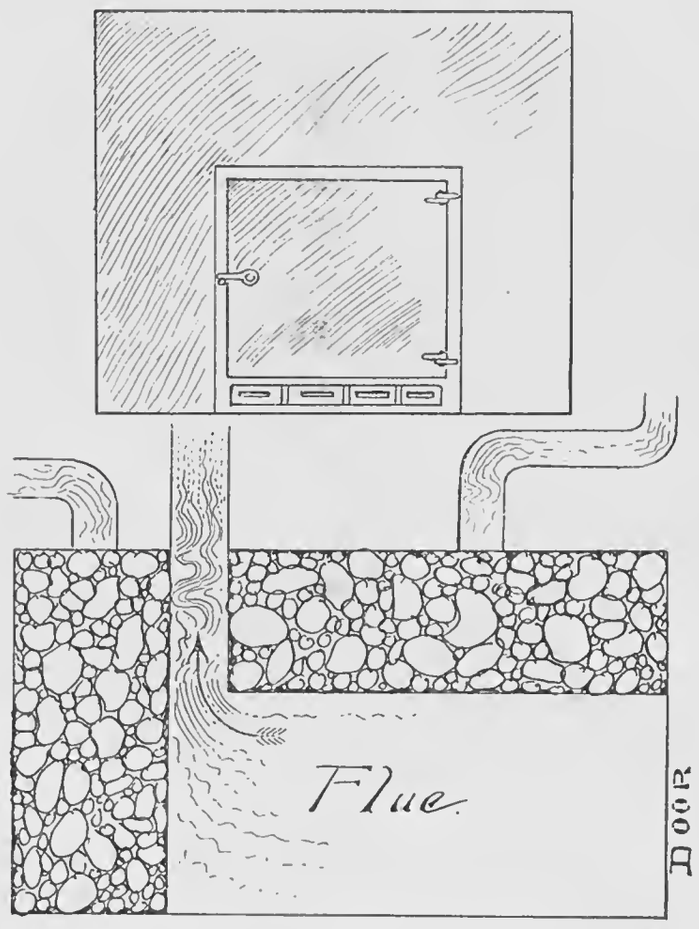
"Farmers get one eent less for shelled corn than for unshelled. Cobs form the staple kindling wood and light fuel of this seetion, and are sold by the elevators. Loads of them stand on the street corners every day in the year, I suppose. We usually pay $1.50 per double-box load for them delivered."

ABOUT HONEST PACKING OF APPLES.

THE RURAL NEW-YORKER advocates honest packing as the only method of obtaining the best prices, but we are beginning to question, in this year of low prices, if it pays to handle the apples as though they were eggs. For years, we have taken a pride in honest paeking, and our fruit, sorted in the orehard into barrels, is divided into choice, seconds and windfalls. Some of our neighbors carry theirs to the barn, after shaking them down, sort into firsts and seconds, mixing in the windfalls, and realize as much as we do. This morning, after seeing the returns, I sent word to the eommission men that it did not pay to be honest in fruit paeking, exeept for the approval of one's conscienee.

Middlemen are not sufficiently diseriminating, and it is likely to demoralize those who would aet on the square. In the Montreal market, our own "choice" and "windfalls" have brought a difference of only 25 to 30 ecnts; yet there is a considerable differenee in the eost of picking, and in the keeping qualities of the different apples. When apples are so very eheap and labor just as dear, it makes one think over the results and wonder whether it pays to make sueh eareful eonsignments. To see that the work is so managed requires more saerifices than mere money getting. Members of our own family who have the packing and supervision, must neglect their education and every soeial duty. It is simply a time to eat, sleep and work with such long hours as no faetory inspector would allow, while to stand all day and paek apples is more injurious than the regulations of the strietest floorwalker in a dry goods store, where the girls in warmed rooms, protected from the weather, do not have to stand any longer hours. Is there frost, white and glistening? Barrels must be taken out and "set", to be ready for the tardy pickers who must find some one ready for them. Does it eome a shower? The piekers go home quiekly, but those who have an interest in the work must risk a wetting to cover barrels, and empty baskets before they can leave the orehard. Is there a rainy day when piekers do not appear? There are always "windfalls" waiting in the draughty barn to be wiped, sorted and filled into barrels, and so it goes on.

"Marry a fruit grower!" said a girl who had pieked fruit all her life. "It would be only jumping out of the frying pan into the fire!" And no one could blame the decison who knew the eircumstanees. And added to all this, while priees are so low as to pay the grower a poor and hard-earned living, eomes the knowledge that, in the markets, there is not sufficient value plaeed upon careful paeking and honest dealing. So if, in future years, we shake them down, we hope that there will be some device to make it easier for the apple, for it always seems vandalism to see the beautiful fruit fall to the ground at the



HOMEMADE FURNACE. FRONT DOOR ABOVE. FIG. 245.

risk of striking stones and receiving bruises and cuts.

Such a season is almost uncanny in its overplus of fruit, and causes much comment. But, perhaps, another season may be one of searcity, and so we may as well take the good the gods provide, and make the best of it. But we want higher appreciation and better returns for careful paeking, in order to feel any encouragement. ANNIE L. JACK.

Quebec, Canada.

"PRIZE BUTTER" ARTICLES REVIEWED.

AN EXPERT DRAWS CONCLUSIONS.

The series of answers as to how the best butter at the N. Y. State Fair, on page 730, was made is very interesting and very eneouraging. Encouraging because it shows that all these good buttermakers, with slight variations, followed the same general line of approved practice, thus showing that butter making is rising to the dignity of an exact scienee, instead of empirical rule of thumb and old wives' notions; and encouraging, also, because it shows that no ration or breed of eows, or manner of taking the cream, or kind of ehurn, has a monopoly of fine butter production. It is especially encouraging to the dairy student, because, if I mistake not, the man who secured the highest score, was the one who followed most closely and eompletely the latest teachings of the scientific dairymen—the men who are sometimes called "theorists" and sometimes terms very mueh less elegant and respectful.

I feel sure that the seleetion of eows fresh in laetation is an important point. The addition of grain feed to pasture grass surely results in better body and, sometimes, better flavored butter, while immediate cooling and aëration of the milk are universally admitted to be of advantage. If a man who had formed his ideas of buttermaking from the experiment station reports, from farm institutes, from dairy school lectures and from the best practieal makers, should read these replies, he would be strengthened in his faith.

The symposium merely reiterates these facts, viz., that, while the separator offers very deeided advantages, both in eompleteness of creaming, and in the labor required to eare for the milk of a large dairy, yet the neeessary superiority in the quality of the produet is little, if any. It also shows that, where everything is favorable, butter of the highest quality ean be made from the shallow pan and the dash churn. It does not indieate, however, that the diffieulties involved in these methods are far greater. Fine butter, under these conditions, shows what can be done, rather than what generally is done.

About every prominent breed was represented in the prize list, and this only shows what partisans (especially of the Channel Island breeds) have never been willing to admit, that no man living ean tell with any degree of certainty, by inspeeting any sample of butter, from what breed it was made. Color and, to a less extent, solidity, vary with individuals and breeds, but this does not affeet the general statement. It was not so long ago that a man wrote to a dairy journal wanting to know how much more his butter would bring in the general market, providing he replaeed his native herd with Jerseys. The paper very properly replied that there was no probability that it would make any differenee, so long as he did not change his present system of manufaeture.

There is no question that a good, clean, aeid "starter" is of deeided value when milk is out of condition in any way, whieh, probably, means when there are undesirable baeteria present to be overeome or outnumbered by desirable types. The pure culture starters do tend to help the "wintery" flavor in butter, but I would merely question—not dispute—whether there was any neeessary advantage in using a "starter" in cream whieh had been, from the manger to the vat, carefully produeed and cared for. The whole matter of a starter is unsettled. The Wisconsin Experiment Station has done much eareful work along this line, and their testimony is, upon the whole, rather unfavorable; yet it will not do for any one to stand up and say, "I know". Every one should be open to eonviction. Five years later, we ought to have learned something to stand upon.

The testimony of the symposium, as a general whole, is this, which may be made to fill volumes or may be broadly stated in a sentence: The best commercial standard butter is made from the milk of well-fed eows, skillfully eared for, left baeteriologically elean, ereamed by one of the approved methods, ripened for 24 to 48 hours at a temperature of 60 to 70 degrees to slight aeidity, ehurned at the lowest practieal temperature, washed in fine granules in not too eold water, salted to the requirements of the market, lightly worked and packed immediately. This, with slight variations, is the rule. The study of it with its exeeptions is a great science, and the skillful applieation of such knowledge is a fine art.

JARED VAN WAGENEN JR.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

THE CROSBY AND OTHER PEACHES.

1. What do the best authorities think of the value of the Crosby peach after this year's experience, as to its size, hardiness, and its desirability in general over other varieties ripening at the same time? 2. I would like to have some one who has the following varieties under similar conditions, as to age and kind of ground, to give the order of their ripening, and the time between each: Crawford's Early, Crawford's Late, Elberta, Crosby, Oldmixon, Stump the World. 3. Is there any peach ripening at the time of Smock Freestone that has the size of the Crawford's Late, and is as reliable as the Smock? P. L. B.

Dresden, Ohio.

As Judged in North Carolina.

1. The Crosby has been grown but little here. It is a fairly good peaeh, but we have not discovered that it has any extra hardiness in bloom over others. We think that it may be better adapted to northern latitudes. 2. Crawford's Early is better south than in Maryland, but there are newer sorts of the same season that we prefer. Crawford's Late is hard to supersede; it still rates as one of the very best yellow peaehes. Elberta is, probably, the most popular and profitable peaeh grown here. P. L. B. should try Lady Ingold, also. Oldmixon Free is, to my taste, the best of the mid-season peaches, but the

markets usually prefer a yellow peach. Stump the World was a fine peach as we grew it in Maryland; I have not tried it here. 3. I do not know of any. Chair's Choice was promising some years ago, but we have not grown it lately. It was later than Smock and, in Maryland, I have seen it as large as, or larger than, Crawford's Late. For the border States, and the North, Beer's Smock is hard to displace. It is of no value in the South for northern shipment, and will, probably, not be grown here to any extent till the canning industry develops. W. F. MASSEY.

What J. H. Hale Has to Say.

I fruited the Crosby peach for a good many years here in Connecticut, and for three years past, in Georgia, alongside of most standard varieties. Its special value is the hardiness of its fruit buds, which enables it to withstand severe freezing in winter, and its late blooming, which often enables it to dodge spring frosts. It is always inclined to overbear and, if not severely thinned, the fruit will be small and somewhat lacking in color. With thorough thinning, it is always of medium to large size, and in 1895, it was the largest peach of any in our Connecticut orchards, a sort of monstrosity in size, for which I have never been able to account. The flavor is better than that of any yellow peach I know, and it is the best keeper of any variety I have shipped from Georgia. The objections to it are that, with ordinary culture and lack of thinning, it lacks in size and color, but its high flavor and small pit make it the most valuable yellow peach for canning. I would not advise planting entire orchards of it, as many have been doing the past few years, but I believe that it should be in every collection of five or more varieties. In the latitude of Connecticut, Crawford's Early, Oldmixon, Elberta, Crosby, Stump and Crawford's Late, ripen in the order named. Salway comes nearest the desired qualities sought in the third question.

No Place for Crosby in Delaware.

I have now fruited the Crosby peach two or three years, and can see no place for it in Peninsula peach orchards. It is too small ever to be of value here, even though we had no others. I have tried thinning the fruit and using plenty of fertilizer, but can't get size on it. As to hardiness, I have had it killed almost entirely where Reeves's Favorite, not 50 yards away, was not hurt at all under similar conditions. There is little demand for it except in localities where the tree agent and colored plate book get in their work. The time of ripening here is with Reeves's Favorite and Oldmixon, two of our best varieties, hence this peach won't sell at any price. What I have said applies only to what I know of Crosby. Elsewhere, it may do better than it does here, but if so, I do not wish to condemn it. The order of ripening of the varieties here is as follows: Crawford's Early, about August 1; Crosby, Oldmixon, Elberta, Stump, Crawford's Late. Elberta spreads its time of ripening with Oldmixon and Stump, and Crawford's Late ripens about with Stump. Garey's Hold-on is larger than Smock and, as a rule, is better every way, ripening at the same time as the Smock type. CHAS. WRIGHT.

WHEN TO OPEN THE SILO.

J. S., Nova Scotia.—What do you consider the best time to open a silo, that is, how long after you have put in the corn and closed it? Mine has been in about five weeks, and is very hot. What sign do you take as signifying when to open it, or do you go by periods?"

The silo was carefully constructed. It is circular, 22 feet in diameter and 21 feet in height. It has been filled four times with well-eared corn cut in one-fourth to one-half-inch lengths. Wet sawdust has been used for a covering. The silo has been filled about September 15, and opened November 1. The ensilage has uniformly been found quite warm, but in good condition for feeding; the cows relish it, and gain in the quantity of milk, although previously fed with corn of the same quality that had been reserved from the silo for fall feeding. As the quality of the butter made while feeding such ensilage is satisfactory, I see no objection to opening the silo six weeks from the time of filling. In this climate, a good growth of well-matured corn cannot, usually, be secured before the middle of September, and I do not know of any other foundation feed for the dairy available in November that is equal to good ensilage. Opening the silo in six weeks after filling, appears, therefore, to be a necessity. C. S. RICE.

Lewis County, N. Y.

Our fall silo is usually filled about October 1, and opened about November 1. Not much regard is paid to the condition of the ensilage in opening, but more to our need of the feed. One of the advantages of the silo is that, if corn in proper condition is put into a well-constructed silo, the rest takes care of itself. It may be opened soon, or kept over the season. July 1, we partly fill our silo with oats and peas, and do not cover or wait for heating, but continue feeding from the top, green oats and peas at first, gradually shading into oat and pea ensilage. It is safe, I think, to have more regard to convenience and need of the fodder than to its cooked condition. E. C. BIRGE.

Connecticut.

I consider a silo ready to open and feed about four weeks after filling; I care not how hot it is, as heating is a necessary process for it to pass through before it is cured and ripened for feed. Of course, it does no harm to let it remain much longer before feeding. I have a quantity of sweet corn which I did not put into the silo which will last me this month, and then I shall open my silo and feed from it until the ensilage is gone. I mean to take from the top all the time, and that keeps it from spoiling. As I feed 40 cattle, I can take the top from mine every three days. L. B. B.

Fulton, N. Y.

We have filled silos and started feeding from the top of the silo the day after we completed filling. We have likewise let them stand until the following July before opening. In both cases, the ensilage was of good quality. The heating of the ensilage, of course, is to be expected, and unless it is inordinately hot, it may not be much the worse for it. We ordinarily do not start to feed ensilage for from six to eight weeks from the time it is put in.

Vermont Experiment Station. JOSEPH L. HILLS.

Planting Dwarf Apple Trees with Standards.

A. E. R., Vernon, N. J.—As it is 10 years or so from the time of planting, before the apple orchard yields much return, why would it not be well to plant between the rows dwarf apple trees? These little dwarfs, so I am told, will begin bearing in three years, and with good cultivation, should yield, each apple year, a bushel of fruit until the standard trees begin to bear. If such varieties as Northern Spy, Fameuse, Baldwin, King, Wagener and Jonathan succeed as dwarfs, it seems to me that it would pay to plant them. I have a two-acre field planted with apple trees in 1895, which are growing finely. I have been thinking of planting dwarfs between the rows, but before doing so, would like the opinion of some of THE R. N.-Y. readers who have had more experience than myself.

ANS.—There is no objection to planting dwarfs (Paradise stock) between the standards. They will bear for 10 years before they need to be destroyed, because of any interference with the standards. Only give the orchard plenty of food meanwhile.

Storing Celery for Winter.

H. W., Fairfield, N. J.—I have put away my Giant Pascal celery in an old cowshed in rows six feet wide, as close together as possible. I dug up the soil and made it as loose as possible, and watered it well. I can keep it dry and air it at any time. I am going to cover it over with boards, and then plenty of leaves. What would THE R. N.-Y. suggest for me to do to keep it till late in the season?

ANS.—Our only suggestion would be to air it during mild weather. Regulate the covering to suit the temperature.

Whole-Root vs. Piece-Root Apple Trees.

J. M., Golden, Col.—Do piece roots or whole roots make the strongest apple trees? I wish to set some apple trees, and I wish the strongest and healthiest, and the ones that will live the longest. I wish the best, no matter whether it is piece root or whole root.

ANS.—There is not much real information upon this question. Our own impression is that whole roots will make stronger, quicker-growing trees than scions grafted upon pieces of roots. If, therefore, one does not consider the difference in expense, we would choose the former method.

Crimson Clover Hay for Stock.

W. W. H., Bunker Hill, Ill.—Has any one experienced evil results from the feeding of Crimson clover hay? I have succeeded fairly well with Crimson clover. I cut the crop for seed, flailed off the seed and stored the straw. Now, I hear of the death of stock, especially horses, from the accumulation of balls of fiber in the stomach.

ANS.—We would not feed such hay to horses. There are numbers of reports of death from such feeding. The clover heads are large, and when mature are covered with stiff hairs or bristles which may catch in the horse's stomach, and form large balls which cannot be digested. When the hay is cut early—before the head fully forms—there is no danger in feeding it; but such straw as you describe should not be fed to a horse. It will be safe enough to feed it to cattle. The great stomachs of horned stock are designed for moistening and grinding rough and bulky fodder, and the hard heads of Crimson clover will not trouble them.

A Muskrat-Proof Dam,

J. A. B., Granby, (No State).—How can I keep muskrats out of a small pond? They dig through the dam and let out the water. How can I build a dam that they cannot get through or get around? I have caught quite a number in traps, but still there are rats left.

ANS.—To build a dam which shall be proof against muskrats, requires some care and expense. But it can be done, and if the dam is a small one, the expense need not be very great. Dig a trench, at least three feet deep, along the line of the dam. In the bottom of this trench, drive piles down to the clay or hardpan. These piles may consist of long stakes or posts similar to common fence posts, and are driven with an ordinary maul. They should be long enough so that, when driven home, they will project several feet above the ground. To these piles, on the upper side, nail planks horizontally, putting the first plank at the bottom of the trench dug, and planking it up solid to the top of the piles. Then planks should be sharpened and driven into the earth until they strike clay or hardpan, or extend five or six feet below the bottom of the trench. This will give a double layer of planks, backed up by the piles and should extend four or five feet into the bank on each side to prevent the muskrats burrowing around the end. The trench may be filled with stones, and the earth for the dam put in above the piles and planks with the assurance that muskrats will not get through. L. A. C.

Habits of the Cranberry Fruit Worm.

S. D. W., North Livermore, Me.—I send a little box of cranberries containing specimens of a worm. On some of the berries, the worm has done his work, and on others you will find him inside the berry. It is, of course, now too late to be of any benefit this year, but I hope that you may be able to give some remedy that will be good for another year. It is said by some that flooding when the fly or miller is about, is the only remedy; but the majority of growers about here grow only small quantities, and are not able to cover their vines with water; so that remedy is of no benefit.

ANSWERED BY M. V. SLINGERLAND.

Within the infested cranberries, I found what is known as the Cranberry Fruit worm (Mineola vaccinii). The worm is a little more than one-half inch in length, of a bright green color, usually with a reddish tinge on the back; the head is narrower than the succeeding segment, and is yellowish in color. The adult insect is a pretty little moth, dark ash-gray in color, mottled with white. The moth appears on the bogs early in July, usually about the time the berries are beginning to set. It is a shy creature, not easily stirred up, flies with a darting motion, sometimes for quite long distances, and is not generally recognized by the grower, even when the berry worm is abundant on his bogs. The female lays her flat, round, yellowish eggs on the young berry, preferably in the blossom-end just beneath one of the triangular lobes of the calyx. The eggs hatch in five or six days, and for a day or two, the young caterpillar feeds on the outside of the berry in the blossom-end. After this brief survey of the outer world, the caterpillar makes its way into the berry, eats out the seed chamber, and then migrates to another. The vacated berry turns red and, eventually, shrivels and drops off.

The caterpillar, on entering the new berry, carefully closes the entrance hole with a dense web of fine white silk, so that it is sometimes difficult to see where the hole was made. In this berry, it becomes half-grown, and, working out, leaves a jagged hole and again enters a new berry. The berries are, by this time, well grown and, sometimes, the worm reaches its full growth here. The port of entry is as carefully closed as in the previous case, and soon the berry begins to show a red color, denoting, to the practiced eye, the presence of the enemy, but to the casual observer, appearing only to be nicely ripening. Where the caterpillar does not complete its growth in this berry, it migrates to a fourth one, this time not closing the entrance hole. Sometimes two or three berries will be fastened together by a caterpillar, and each hollowed out in succession.

The caterpillar matures in September, sometimes not being fully grown at picking time. At this time, it leaves the berry, and, among the sand at the base of the roots, forms a dense cocoon of silk, in which it changes to a brown pupa. In this stage, it remains during the winter, the moth issuing the following July. The insect is present in most of the cranberry regions of this country, and is, in some localities, the most injurious pest of the bogs; as high as 90 per cent of the berries on some bogs have been infested.

Flooding the bogs to destroy this Cranberry Fruit worm, is out of the question, unless the crop be sacrificed. Even if flooding for 48 hours would not injure the berries, it would not injure the worms either, because the water would not, in that time, penetrate the silken covering to the entrance hole in the berry. The entire life history indicates only a single possibility of combating it, and that is at the time of hatching and before the little caterpillar gets into the berry at all. As in the very similar case of the Codling moth, the effort must be to give the little caterpillar a poisonous menu for its first meal. It is, therefore, advised to spray the bog with Paris-green, one pound to 200 gallons of water, just after the blossoms are all or nearly all off, and the berries are generally set. Do thorough work, covering the plants well and taking especial pains to aim at the blossom ends of the berries; the calyx will afford a ready lodgment for the poison, it will not be easily washed out, and will be where the worm can scarcely fail to include it in his first few mouthfuls. Where the damage done is usually very great, a second spraying, a week afterward, would be advisable.

THE R.N.-Y.

Another R. N.-Y. Potato to be Distributed Among our Subscribers.

THE BEST OF ALL,

AND, AS WE BELIEVE, THE BEST POTATO EVER INTRODUCED.

Perfection in all ways, in so far as we may judge it as grown at the Rural Grounds.

A TWO-OUNCE TUBER (OR OVER) WILL BE SENT TO ALL SUBSCRIBER-APPLICANTS WHO SEND US A TWO-CENT STAMP TO COVER POSTAGE. IT WILL BE MAILED AFTER JANUARY 15.

Attentive readers of some five years or more ago, may remember that we requested those with whom the potato, R. N.-Y. No. 2, formed seed balls to send us one ball or fruit or more. Many balls were kindly sent to us in response, but not one of them contained viable seeds. A friend in Ghent, Belgium, finally sent us a quantity of sound seed. These were planted in the following February, and the

SIR WALTER RALEIGH

is the result, the only variety from this seed that is better than its parent. It is, without any exception, the closest approach to a perfect potato that, in our long potato experience, we have ever seen.

We speak of this new claimant, as of our other originations, without the slightest *pecuniary* interest in its sale; in its success or failure as a general trial of it may determine.

We would scarcely expect our later friends to accept our statements regarding the Sir Walter without those modifications that may justly be made upon the claims usually set forth for novelties. We fancy, however, that our older friends, making allowances for the well-known fact that neither potatoes nor any other plants thrive equally well in all climates, soils and conditions, will believe that we write with perfect sincerity, whatever we may claim for this latest production of the Rural Grounds.

We have never *sold* a plant of any kind to subscribers, though we might have done so in thousands of instances. But we have felt that what would have been gained in this way would have been more than lost in another. The work done at the Rural Grounds during the past 20 years, has been done that we might be enabled to guide our readers as to the value of the new kinds of seeds and plants that have been placed before the public, and our reports have been made absolutely regardless of the pecuniary interests of individuals, even though those individuals happened to be among our most valued advertising patrons. The varieties of potatoes that have originated at the Rural Grounds have done the paper a great deal of good, just because they have proved to be all they were represented to be, and the farmers of the land—the agricultural interests of the country—have received the benefits. We say to you, then, that we have now another variety to send to every applicant-subscriber. We want you to try it and, in due time, tell us whether we are right or wrong in estimating it as the best potato introduced up to this time. As hitherto, we shall print alike the unfavorable and favorable reports.

Its name was, happily, suggested to the firm that will offer it next year, because of the great exhibition of potatoes that will be held in Cork, Ireland, during 1897—the tri-centennial year of the introduction of the so-called Irish potato into Great Britain by Sir Walter Raleigh.

The following is a report of the Sir Walter as tried at the Rural Grounds: It so closely resembles THE R. N.-Y. No. 2, that only by a careful comparison of the habit of the vines, the time of dying, the yield and the quality, is it possible to tell one from the other. The newcomer, in shape, differs from the R. N.-Y. No. 2 only in being more uniformly of the same form, and in yielding substantially no small tubers. The vines die from four to six days later. The habit is much the same, the flowers purple and white, the stems streaked with purple, though less so than those of the No. 2. The color of the flesh and of the skin is the same. But the quality is better, and the yield, judging from two seasons' trial, greater.

One hill—the only one weighed—of the *seedling* of the No. 2 (Sir Walter Raleigh) yielded 15 tubers, all of which were of marketable size. In form, every one was similar to every other one. The 15 tubers weighed precisely 4¾ pounds. Now, as the potatoes were planted one foot by three feet apart, this would give the yield per acre, assuming that all hills yielded the same—an absurd assumption, of course—1,149 bushels.

PLEASE NOTE.

1. A single whole tuber, weighing not less than two ounces, will be sent to all of our subscribers who apply. These will be mailed on or after January 15.

2. All applicants should inclose a two-cent stamp to cover postage—the exact postage we shall be obliged to pay.

3. Write the application upon paper separate from any other written matter, being mindful to give the full name and address.

Late Strawberries in Colorado.

G. W. H., ANTLERS, COL.—I noticed in a recent R. N.-Y. that an Iowa subscriber had some second-crop strawberries, and thought it something wonderful to pick strawberries in the fall. Here in Colorado, we expect strawberries from September 1, up to the time the ground freezes, usually to Thanksgiving. We never yet failed to pick a mess when we wanted them, between these dates. A fruit grower 70 miles down the valley, who has a large acreage of strawberries, ships second-crop berries by the dozens of cases, nearly every fall, realizing $6 and $8 per case of 24 boxes.

Crimson Clover and "Strawberry Barrels".

D. H., ROCHELLE, ILL.—Crimson clover has made a magnificent growth, covering the ground between the rows of corn completely. It stands from 8 to 10 inches high, making a thick carpet of living green which is a pretty sight as one looks down an 80-rod space in length between two rows of corn. It has already paid for the seed, time in sowing, etc., several times over, in adding to the fertility of the soil, and by saving what might otherwise wash away, and there is yet time for greater benefits. No matter if it does not survive the winter, it is a great acquisition to our forage and soil renovating plants. After being told by prominent agriculturists in this State, also by the director of the experiment station (after a complete and thorough trial [?]) that it is a complete failure here, it is some little satisfaction to be able to show a 20-acre field where it has made a complete success.

THE R. N.-Y.'s mention of the strawberry barrel reminds me of a slick fellow who came along several years ago, taking orders for a wonderful strawberry plant. All you had to do was to bore 100 holes in a barrel, fill with earth, placing the plants in the holes as the barrel was filled. These plants he would furnish, in the spring, at the moderate sum of $10 per 100. I know of three neighbors who have such barrels about their premises, with just 100 holes in each, but no strawberry plants are growing therefrom.

If a great quantity of berries are desired from a small area, set the plants 15 inches apart each way in rich soil, then carefully place boards between the plants, covering the surface entirely except where the plants grow. One will then have no use for the barrel "fake".

Japanese Morning-Glorys.

F. H. P., MELROSE, MASS.—Last spring I planted "Giant Japanese morning-glorys," and must admit that I am disappointed in them. The seeds were very slow to germinate, and the growth until well on to the trellis, was exceedingly slow, also. The stems are large, but the flowers are but a trifle larger than ordinary morning-glorys. They are not as profuse bloomers as the older kind, neither do the flowers remain open so long. Give me the old-fashioned morning-glory, and let the Japanese have this back.

R. N.-Y.—We do not agree with our friend. We fancy that he must have planted inferior kinds. With us, the flowers were twice the size of ordinary morning-glorys, of richer coloring, and more enduring.

Apples on the Pacific Coast.

PROF. H. T. FRENCH, OREGON EXPERIMENT STATION.—The conditions prevailing throughout this State and the State of Washington are very different in different localities. The proximity of the ocean and the presence of numerous mountain ranges, produce marked changes in a comparatively short distance. For the Willamette Valley and Western Washington, the Baldwin,

(Continued on next page).

Miscellaneous Advertising.

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Catarrh

Is a constitutional disease, and requires a constitutional remedy and thorough blood purifier.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier.

Hood's Pills cure liver ills; easy to take, easy to operate. 25 cents.

POTATOES—Five greatest yielders in the world. 300 bushels per acre this year. Carman No. 1 and 3; Early Thoroughbred, Ideal and Great Divide, $1 per bushel. Write for wants.
GEO. A. BONNELL, Waterloo, N. Y.

SEED POTATOES—Selected Stock. Moneymaker, Great Divide (late, white), $2 per barrel. Vanguard (second early, red), $1.75 per bbl. Discount on five barrels or more. Choice OHIO RASPBERRY PLANTS. $5 per thousand.
H. C. KING, Willow Creek, N. Y.

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WILL NOT TAINT RAIN WATER.
CAN BE LAID BY ANY HANDY MAN, AND WHEN ONCE DOWN, REQUIRES NO ATTENTION.
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FRUIT TREES, Plants, Vines, etc., mailed free on application.
T. J. DWYER, Orange Co. Nurseries, Cornwall, N. Y.

850,000 GRAPE VINES

100 Varieties. Also Small Fruits, Trees, &c. Best rooted stock. Genuine, cheap. 2 sample vines mailed for 10c. Descriptive price-list free. LEWIS ROESCH, Fredonia, N. Y.

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and return it to me with $1, and I will send you by mail post-paid,
12 Glen Mary
12 Clyde
12 Enormous
12 Wm. Belt
} Strawberry Plants!
Send order at once, this may not appear again. Plants sent at once or any time you may direct before April 15. Address
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12 FAY CURRANTS.....75c.
12 ERIE BLACKBERRIES.....50c.
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Full assortment. Special prices on PEACH TREES. Large stock CALIFORNIA PRIVET, NORWAY and SILVER MAPLE.
N. P. BROOKS, Lakewood, N. J.

450,000 TREES

200 varieties. Also Grapes, Small Fruits, etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price list free. LEWIS ROESCH, Fredonia, N. Y.

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The finest white flesh peach in existence. Ripens before the Alexander. Extra large, fine flavor. Donaldson's Elmira Asparagus Roots. A new production of rare merit. Strawberry Plants, Japan Plums, Small Fruits, Tenn. Peach Seed. Catalogue FREE.
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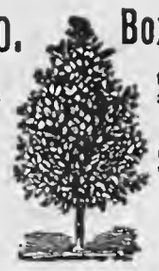
THE STORRS & HARRISON CO. Box 304, PAINESVILLE, OHIO.



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$238.25

Prompt shipment, safe arrival and satisfaction guaranteed.

That's the amount of one of the *many* orders received from RURAL readers this fall for ROGERS' FRESH-DUG DANSVILLE TREES. Our trees give *satisfaction wherever they go*. We sell more trees to RURAL readers than *all others*, and no matter *where* you *have been* buying, we can make it *pay* you to give our Fresh-Dug Trees a trial.

ROGERS NURSERIES, DANSVILLE, N. Y.

TRIUMPH
The only Yellow Freestone PEACH Ripening with Amsden.

The Latest and Largest Yellow Freestone PEACH,
EMPEROR

MERCER { The only Sure-Bearing, Non-Rotting CHERRY.

For full descriptions send for Catalogue (10c.) We will send our *Beautifully Illus. Catalogue* with the Col'd Plates of the 3 Wonderful New Fruits, and 1 Emperor Peach June Bud by mail, postpaid, for 10c. JOS. H. BLACK, SON & CO., Village Nurseries, Hightstown, N. J.

FARMERS' CLUB DISCUSSION.

(CONTINUED.)

Jonathan and King apples are the leading red varieties. The Baldwin, in this valley, is not so highly colored as in Michigan, and it ripens earlier. It does not have as clearly a defined flavor here as in Michigan. It is more watery in its structure, often having what is termed a "water core". I believe that these remarks will apply to most varieties of apples grown in this valley.

In the southern and eastern portions of the State, a drier climate prevails, and the flavor and color of the apple are more highly developed. The Greening is more of a yellowish tinge here than in the East. It is not recognized by many as a Greening, at all. The Northern Spy is not the same apple here as in the East. It matures early, say, in November (becomes mellow) and does not have the same markings. When first shown a Northern Spy, I did not believe that it was the same variety that we have in Michigan. There is considerable difference in the habit of growth of the trees. I am not prepared to give the details wherein the trees differ. I simply know that I am unable to recognize the varieties from the manner of growth, which I could do with a good deal of certainty in Michigan.

Farmers and Machinery.

P. P. MAST & Co, SPRINGFIELD, O.—We have never experienced enough difficulty through farmers not setting up and operating our machinery according to our directions, to cause any serious trouble. Of course we believe that there have been a number of instanees where our implements have been condemned entirely on account of the purchaser not having closely followed the directions for setting up and operating, and thinking that he knew how this should be done, went ahead on his own judgment, and got into trouble. However, we have the impression that, as a general rule, the farmers of to-day are much better posted in the use of agricultural implements, and are far more competent to operate them, than they were a number of years since. This, perhaps, will account, to some extent, for their ignoring the directions of the manufacturers, although it is a mistake for them to do so. If the directions sent out with every implement by the manufacturer, are followed closely by the purchaser, and the machine operated according to instructions, purchasers would have less trouble, and the machine would enjoy a better reputation.

Don't Buy Nitrogen for Wheat.

J. C. S., ORE BANKS, VA.—THE R. N.-Y. asks whether readers still use commercial fertilizers on wheat as formerly, and if not, why not. I, for one, do not, for the simple reason that I know better now from experience, and, besides, I have been skimming the cream from the columns of THE R. N.-Y. too long to be guilty of such a mistake at this late date. A fertilizer without nitrogen amounts to little with wheat, while with nitrogen, it is far too costly with the present prices of wheat. Nitrogen helps wheat mightily; so, also, does a summer fallow. But when one can get the former free of cost, and the latter without losing the use of his field, it would be poor financiering to pocket the loss of the one or the other. By applying the cheaper potash and phosphoric acid to some leguminous crop, we not only get a larger quantity and better quality of this, but we also get all the nitrogen free of cost for which we can have any earthly use, not to mention the addition of that important item, humus. By following the leguminous crop with a so-called hoed crop, say, potatoes or corn, and giving this the proper culture throughout the summer, we can have as good a summer fallow as one need wish for. Thorough pulverization of the soil after this crop is removed, will now give a better yield of wheat than the old-time use of commercial fertilizers.

Carman Grape and Muscadine Pear.

F. H. P., MELROSE, MASS.—The Carman grape is the strongest grower of many vines on my grounds, inheriting the vigor of the wild Texas Post Oak grape. Its quality is delightful; rich and high flavored. The skin is tough, and the flesh, also, particularly tough. After separating the seeds, the flesh is more naturally chewed than swallowed whole. The color is black, deepening day by day, and the flavor improves with the color the longer the grapes hang on the vine. We have had several hard frosts up to date (October 26), but the bunches hang on with wonderful tenacity, and the quality of the fruit remains unimpaired. The bunches are uneven, drawn up to one side. The berries ripen unevenly, and are not of uniform size, varying greatly on the same bunch. As a market grape, it seems a total failure. For home grounds, to fill out a collection, it does very well. Personally, I would not part with it. I like to eat its tough flesh and enjoy its excellent quality, surpassing even Nectar.

The Carman grape and the Muscadine pear will always be favorites with my family, though the former, in general estimation, will, I think, soon reach the almost oblivious stage of the latter. The Muscadine has a peculiar, musky flavor which, once enjoyed, is not forgotten. I never tire of going out under the Muscadine tree and picking up the windfalls. I can eat and eat and still eat, and the last tastes as well as the first.

Here are my three groups of grapes:

Business group: Concord, Brighton, Niagara.

Promising new group: Campbell's Early, Brilliant, Esther.

Quality group: Worden, Delaware, Diamond.

Three precious trios of black, red and white grapes. The first we have fruited for years, and cannot do without. The second we are growing and expect something superior in the fruit. The last will suit the most critical taste. When for a trifle such grapes can be had, it is a wonder to me they are not universally planted. The culture of grapes is so very simple that I feel sorry for a man who will bring home grapes by the basket from the city, when he has land idle at home.

To Jan. 1, 1898, $1.00.

You must have a neighbor who wants THE R. N.-Y. Now is the time to interest him. Send us his dollar, and he will get the paper to January 1, 1898, and you may have a choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Don't Suffer

any longer from

Asthma

It is needless.

Never mind if you have "tried everything" and failed. Never mind if you feel discouraged and hopeless. Never mind if your case has seemed incurable. **Try once more** and you will never regret it. We will tell you frankly if we can't help you.

"This is one of the happiest summers I have seen in 30 years. No asthma, sleep good good appetite, and work hard—why not be happy after so many years' suffering with that terrible asthma? My family doctor says, 'What a miracle!'"
THOS. J. BRADBURN,
Rose, N. Y.

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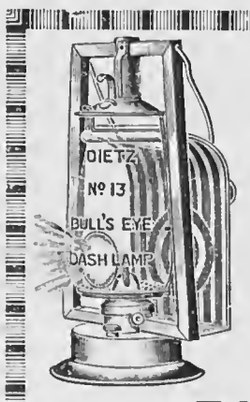

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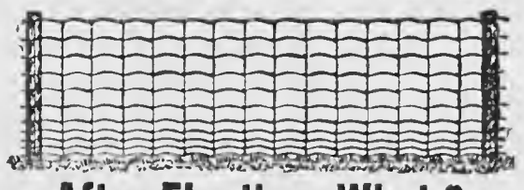

After Election, What?

Why look after your fences, of course, and prepare for the good times coming. There will yet be time to erect a string of **Page** and watch it give and take through the winter.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Buckeye Wrought Iron Punched Rail Fence.

Also manufacturers of Iron Cresting, Iron Turbine and Buckeye Wind Engines, Buckeye Force Pumps, Buckeye, Globe and Champion Lawn Mowers. Send for Illustrated Catalogue and Prices to

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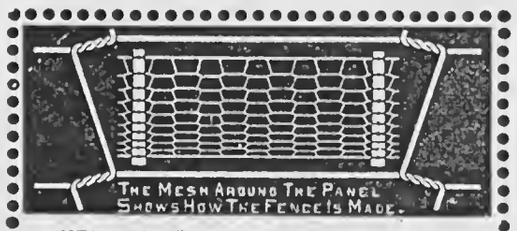

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If interested, drop us a card, and we will mail illustrated catalogue.

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For your name and address on a postal card, we will tell you how to make the **best wire fence on earth, horse-high, bull-strong and pig-tight,** at the actual wholesale cost of wire. **Kitselman Bros.** Box B. **Ridgeville, Ind.**

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Two Winter Courses begin January 4, 1897; Regular and Special begin September 26, 1897. For Announcement address

I. P. ROBERTS, Director, Ithaca, N. Y.

WANTED ON VIRGINIA FARM, small family without young children. Requirements: Carpentering, dairying, poultry and general farm work. Apply to Lawford Bros., Lawford, Va., or Baltimore, Md.

Do You Want a Watch?

WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

Offer No. 200.

Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all the greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

Offer No. 201.

Elgin or Waltham Watch—Men's Size, $10.

No. 201 is a gold filled open face case, dust proof; guaranteed to wear like solid gold for 15 years. The movement is seven jewels, stem wind and set, and contains all the latest improvements. Sent delivery guaranteed by registered mail for $10. Hunting case, $3 extra.

Offer No. 202.

Waltham Watch—Men's Size, $13.50.

The AmericanWatch Company, at Waltham, has made a reduetion in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.

Ladies' Gold Filled Waltham or Elgin Watch, $13.50

No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed pallets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

"Crescent Street."

Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90
No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case 37.00
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No. 207. Crescent Street, Solid Nickel Silver, Open Face dust-proof case 25.00

Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

THE RURAL NEW-YORKER, NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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HERBERT W. COLLINGWOOD, Managing Editor.
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To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

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Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.
Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, NOVEMBER 14, 1896.

SIR WALTER RALEIGH POTATO!

Read the notice of this new potato, under Ruralisms, page 754. A further account, with a picture, will follow later.

⊙

How about the potato crop in your section? What proportion of it has been sold thus far? Are farmers generally holding the crop for higher prices? This is a big country. One section feeds another. Get together with reports.

⊙

E. S. CARMAN'S address, until next May, will be No. 5 West 82nd Street, New York.

⊙

"NOW, then, my boy, take this $5 bill and spend the day on the college farm at New Brunswick. Keep eyes and ears open, and move your tongue!" That is what many a New Jersey farmer might well say to his son. A smart boy will pick up a small world of information and suggestion at this farm. It will be a good "short course" for him. Try it. Try it in other States, too.

⊙

A GOOD many R. N.-Y. readers are writing to learn more about places on the New York police force. It won't hurt this city at all if 500 sound, young men, with muscles hardened at the plow come here to help enforce law and order. It will not be the first time in the history of the world that the farm has cleaned the city by sending new and strong men to fill public places. In every generation, the cities call for men with sunshine and soil in their blood, and where can they be found save on the farm?

⊙

HERE is a man with a pile of manure. He expects to raise a big crop of corn. The corn is to be fed to hogs. The pork is to be the money crop. Now it would not be sensible for that man to use only half of the manure on the corn and save the other half to feed to the hogs! That would be nonsense. The wise plan will be to use it all on the corn, and thus get as much hog food as possible. Here is a man using potash on crops in a rotation which includes clover. His best plan is to put the potash *all* on the clover crop. Clover responds to potash better than any other farm crop, and the more clover you can grow, the more of other crops will the farm produce. Manure on the corn! Potash all on the clover!

⊙

ON election day, the writer voted once for the principle he believes in, and then planted 50 or more votes for the Parker Earle strawberry. This was done by transplanting the plants with a Richards's transplanter. We were thus able to put a piece of ground from which late cabbage had been cut, into berries, with a fair chance that they will do as well as potted plants set out in August. We have been transplanting in this way at odd times ever since June and, as a rule, the plants have not stopped growing for a day. The big ball of earth taken up by the transplanter, holds the roots in perfect condition, and when properly set out, there is no check in development. We expect successfully to transplant strawberries in this way every month in the year. The piece of ground mentioned has already produced crops of radishes, peas and cabbage. It is now set with strawberries that will yield a fair crop next year. A small piece of rich ground, containing a dozen plants each of 20 superior varieties, has yielded an immense number of plants for transplanting. We have fed and watered this "breeding pen", and thus secured strong and vigorous plants.

IT seems pretty well settled that the American Jersey cow is better suited to the needs of the American farmer than the typical cow of the home island. American breeders have made the Jersey into a "business" cow, as we understand that word in this country, and little, if any, new blood from the island will be needed here. We are somewhat surprised that the breeders who discuss the questions on page 762, do not seem to understand what is going on in the Gulf States in the production of a distinct class of Jersey cattle. With Alfalfa, ensilage, sorghum and cotton hulls and meal, the South possesses an abundance of cheap cow food, and our opinion is that, after 10 years of home breeding, the southern Jersey will be almost as distinct from the present Jersey type as the Guernsey now is.

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"THE time has passed when our farmers can make much money in raising grain and hay for sale," says L. A. Clinton, on page 750. We would question that, especially with respect to hay on our eastern farms. The accounts in THE R. N.-Y. of Mr. Clark's success in hay production, have been an eye-opener to many readers. Not all can reach these results, but, probably, most can do better than they have been doing. The greatest cost which farmers have to meet is the high price of labor. With no other crop can so much hand labor be dispensed with, and so large a proportion of the work be done by hand. Several crops may be secured without reseeding. The mower, tedder, horserake, loader, and horsefork, enable one to put in the crop with almost no hand labor. Then, in the East, good hay always meets a ready sale at good prices. Then there is, sometimes, an outlet for export. Conditions must change considerably before the time comes when there is no money in the hay crop.

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DR. W. H. PEARSE comes forth with a new idea about "catching cold". He says that there is no special danger in going from a hot room directly into the cold air. In fact, he says that the heat of the room is a great preservative from chill. He says that in Russia and other cold countries where houses are made very warm with dry heat, people go out into zero weather with perfect safety. The danger comes rather from passing from the cold into an overheated and poorly ventilated room and, apparently, a good proportion of colds are "caught" in that way. In other words, a hot, close room, filled with excretions from lungs and skin is a good trap for catarrhal affections. Possibly some farmers realize this, and it may account for the fact that there are so many cracks and holes in the barn. They may be afraid that the cows will catch cold if the barn is made too hot! We certainly can't account for it in any other way. Don't keep the barn hot, but keep the air warm and pure.

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MOST of us have read stories of corn burning in the West, and we have wondered whether it is really true that sound grain is ever used for fuel. From the figures given on page 752, it seems that ear corn at $3.50 a ton, may be cheaper fuel than coal at $8.50, especially when the former is right on the farm and the coal is 10 miles away. It seems like a dreadful thing to the eastern farmer to burn food in this way, but he does not understand that some of his own practices seem equally extravagant to the far western man. On some parts of the western plains, apples cannot be grown successfully. We have known fresh apples to be sold at five and ten cents a pound. Those farmers read how eastern apples are permitted to rot under the trees, or are left as food for hogs, and it seems to them just as much of a sinful waste as it does to us to read of burning corn. It may not pay the New England farmer to pick up his apples, and it may not pay the Nebraska farmer to buy coal. This is such a big country than we cannot measure profit by the methods of any one section.

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RETAIL prices for coffee may vary from 15 to 75 cents a pound. What makes the difference? One pound contains more caffeine than another, and the caffeine in the better sample is purer and of higher quality. There are plenty of people who would rather have one pound of the 75-cent coffee than five pounds of the 15-cent coffee. There may have been a time when all samples of coffee were considered alike, but public taste has been educated, and consumers now make distinctions based on quality. In most markets, all samples of sweet milk are considered alike. For the retail trade, there is, usually, one fixed price for all. Yet, milk may vary more in its composition and quality than the coffee. One sample may contain twice as much fat as another, yet sell at the same price. One sample may be from tested cows, fed in the best possible manner, and the milk itself may be handled by the most approved method. The other sample may be from herds that contain tuberculous cows, and where there is much less care in feeding and handling the milk. Surely there ought to be a difference in price in such a case, but there will not be until the man who produces the better sample educates his customers to the fact that his milk is worth more because it contains more fat and represents better care. The milkman must do this educating himself—no one will do it for him. He is the proper person to do it. He cannot do it by talking it over with his wife, but he must make printer's ink talk for him.

⊙

ON November 1, a law designed to check speculation in grain and stock exchanges became operative in Germany. This law was suggested and pushed through the German Parliament by the Agrarian or farmers' party. By the provisions of this law, the business of buying and selling stocks and food products in large quantities is really put under government control. No exchange can be established without the government's consent. A so-called "court of honor" may exclude persons from the exchange after due trial. Bankrupt parties, where the bankruptcy was fraudulent, will be excluded for, at least, six months. Stocks and bonds cannot be listed for sale until the government has made a complete investigation, and pronounced them safe. All who sign the prospectus of such new companies are held legally responsible for loss through false, misleading or omitted statements. All dealings in futures in grain, mill products or stocks of mining or manufacturing establishments are forbidden. Any dealer who, for a selfish purpose, induces inexperienced persons to speculate in articles outside of their sphere of business, will be punished with fine and imprisonment. The law seems to have been made with the special intention of preventing speculation. The German farmers, like those in other lands, contend that speculation in grain and other food products works, on the whole, to the injury of the producer. This law is intended to take away the advantage possessed by the speculator. Of course, there are many who predict failure for the new law, but the farmers are very willing to try the experiment, and it will be tried. It is high time that our own Government stepped in to regulate the business of these trusts and "exchanges", which are notoriously opposed to the best interests of the producers.

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BREVITIES.

Under the barrel or under the slat,
Turkey is laying on Thanksgiving fat.
Pour in the corn with a liberal hand,
Let the old fellow puff up and expand.
Let him enjoy the last days of his life
Ere he breast up to the Thanksgiving knife.
Fatten the turkey for Thanksgiving Day.
Let all your sorrow and care slide away
Down the fat side of old Tom when, at last,
Brown in the pan you attack him and cast
New resolutions with stomach for mold
Full of good feelings as body can hold.
Fatten your turkey, and fatten your heart,
At the same time, sir, by doing your part
In the great battle with trouble and sin.
Open your door—let some poor fellow in!

EXPAND! What? Your ideas!

THE cow is 75 per cent of the herd.

MAKE the children clean their teeth!

ARE you a non-setter, or do you laze?

PRIZE buttermaking reviewed—page 572.

YOUR strawberry barrel will need lots of water.

FEED Red clover to stock and feed Crimson to the soil.

VIOLIN strings are examples of pure *mew* cus membrane!

WHAT's the difference between a bull fight and a beef "scrap"?

THE rule of thump—pounding the cow to make her "stand over."

THE man with the best credit is the man who makes least use of it.

WHO knows where the line comes between enterprise and "cheek"?

WE will risk that milking machine against a careless hired hand for damaging the cow's udder.

YOU feed the cow to produce milk. Remember that the sow and the ewe are both milkers, also.

YOU can safely open a can of fruit preserves the day after filling. It's about the same with a silo.

CHEESE is now tested with the Babcock test by melting samples of it in hot water, and then proceeding as in testing milk.

ONE good way to be "above suspicion" is to sit down hard on the first whisper of slander. It's not a good thing—don't "push it along."

CRIMSON clover hay is much lighter in color than Red. If cut early, cattle will pick it out from choice. If cut late, keep it away from horses or mules.

AT the annual fair at Clinton, La., negro day is a feature. On this day, the whites turn the fair over entirely to the negroes, who provide their own special premium list.

THE Crimson clover is "breaking out" on a piece of land where this clover was turned under in the spring and planted to corn. This clover seems to be an excellent weed killer. During the late summer and fall, few weeds seem able to compete with it in growth.

A VERMONT farmer who styles himself "a gentleman from Wayback" puts in this plan for killing woodchucks: "Go quickly, before the ground freezes, and tramp earth tight in all the holes, and Mr. Woodchuck will slowly smother during his winter nap and be dead and buried in the spring without the help of drugs."

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

"WHAT causes the greatest loss to shippers?" I asked an experienced commission merchant. "Shipping to irresponsible men," was the reply. "Here is a letter we received from a man with a car-load of apples to ship. He says that Mr. So-and-so, has visited his orchard, seen his apples, and tells him that they will bring such and such prices in this market. You can see for yourself that those prices are out of the question here, and reputable dealers know that this man has no standing at all, and, probably, would never pay for the apples should he secure them. There are many of these firms, and they have various ways of securing shipments, but the leading inducement is to offer to secure higher prices than those ruling in the general market." All of which is as true as anything can be.

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"YOU can also tell your readers that those who persist in using the 'pony' apple barrels lose heavily by doing so. They, probably, think that the apples will sell for just as high prices as those in the larger barrels, but they won't, especially this year, when apples are so plentiful and cheap. The large barrels sell quickest, and at proportionately higher prices."

‡ ‡ ‡

SOME of the white onions in market this fall are remarkably fine. It requires considerable skill to grow white onions of good quality, and it requires more skill to cure them, so that they will be of the proper color and present a fine appearance. The small, white ones are used for pickling, and generally bring good prices. The restaurants and hotels use a good many of the larger ones, but only those of medium size are desired for the best trade. Very large ones are not wanted.

‡ ‡ ‡

THE trade in popcorn is, usually, good from now until the Christmas holidays; after that, it is dull until spring. Corn one year old is the kind wanted, that has been well dried under cover, where it has been kept clean and bright, and away from mice and other vermin. The rice corns are preferred by most dealers. Most commission men dislike to handle popcorn, and the bulk of it is sold by a few dealers who make a specialty of it. Dealers say, too, that only in certain localities is the best corn grown, where just the right combination of soil and climate exists, and the growers understand correct methods of growing, curing and handling.

‡ ‡ ‡

SWEET cider—or any other cider—is not profitable to ship here. Few commission men will handle it. It is liable to loss, and is hard to sell, because firms who make a specialty of it, canvass the city thoroughly, and fill most orders. Vinegar comes in the same category, and a local market is the place for it. Don't ship any product at random. Learn first whether it will sell at a paying price. F. H. V.

HOW STREET FAIRS ARE MANAGED.

A GOOD ONE IN WESTERN NEW YORK.

Situated upon the shores of Lake Erie, in the heart of the "Grape Belt," only an hour's drive from the famous Lake Chautauqua, lies the beautiful village of Westfield, a place of 3,000 inhabitants, which claims the distinction of holding the first fair of its kind in the State of New York. Chautauqua is already famous the world over. "The Chautauqua Idea," the C. L. S. C. course of reading, is known throughout civilization. The leading farmers organization, the Grange, had its birth here.

We do not lay claim to the originality of the street fair, as it is an old-time custom revived, improved and brought down to the conditions of the present time. The inhabitants of the Old World, for hundreds of years past (and I believe that it is yet in vogue to some extent), when they had gathered their harvest of fruits, grains and vegetables, set apart a day for the sale and trade of such commodities as the people of the locality were in need, produced or manufactured. Before the advent of railroads, these fairs were, in many instances, the market days for the whole year. Whole families traveled, perhaps for days, to reach the market place; donkeys, carts, and even members of the family were laden with goods and wares, which were placed on exhibition so that would-be buyers might inspect them. The fair was over only when the peasants had disposed of all they had brought, either by sale or exchange, the latter, perhaps, being the most probable. Merchants and speculators were there to secure bargains, stock up their stores, dispose of their goods, and load up their ships with articles for other markets, the same as they do at the present day.

The street fairs of the present time have many modifications, but the end in view is the same—to secure trade, both by the business men of the town and the farmers. The merchants of the town offer small premiums (generally in their line of trade) for nearly everything grown or raised upon the farm, from the smallest to the largest. The pig weighing only 1½ pound, and exhibited in a bird cage, showed the propensities of his hog nature by rooting, squealing and grunting. The largest count in a half-bushel of potatoes reached into the hundreds, while the other extreme, the smallest count, took only 16 to fill the measure. Each of the business houses build out from the sidewalk a platform large enough to accommodate the exhibits for which they offer premiums. A strife at once begins to secure the most attractive display, both of their own stock and the exhibits for premiums, making many novel and interesting features. There is an originality about it not existing at the ordinary fair. The section of the street where the exhibits are held, is roped off so that there is no driving except by horses entered for the premiums.

The fair holds only one day; should the day prove to be a stormy one, the first pleasant day following leaves no doubt in people's minds as to the time. Exhibits are put up in the forenoon. The first on the programme in the afternoon, was the baby show. There were 20 entries by as many fond mothers, each of whom thought her own the best looking, and it was remarked that lots of better looking babies were left at home. Next among the attractions were amusements and athletic sports. In the fat man's race, no contestant to weigh less than 200 pounds, there were three entries; the fastest runner won the prize of $1. The boy that ate a five-cent bag of popcorn the quickest and then whistled, was rewarded with a pearl-handled pocketknife. The amusing part is to see a boy try to whistle with his mouth two-thirds full of popcorn. Eight boys entered the contest to see which could eat the most crackers in a given time; some of them showed a remarkable aptitude for that kind of food and, apparently, would never go hungry while crackers existed. There were also bicycle races for both sexes; foot races for old and young, throwing the sledge, speaking pieces, playing upon stringed instruments, singing songs, reading original poems by the composer and other minor sports.

Among the curios and relics, were a silver dollar of 1800, a Chinese coin over 2,000 years old, a $5 gold coin of 1802. A continental $4 bill of 1775, a complete collection of confederate money, a sample of each issue circulated by the Confederate goverment, and many others. Fine music was rendered by the "Pumpkinville Band" from Squash Hollow, each member dressed according to his own tastes in the most grotesque costumes imaginable. As they came into town, every one selected his own route, some backwards, some sidewise, and otherwise, and as each played a different tune, they created no little amusement. It soon became evident, however, that they were not as green as they looked. Balaam used a small animal for saddle purposes, and one of his species, said to be a direct descendant, received his share of honors without its seeming to elevate him.

In a convenient place and a little to one side, was a large sign:

FARMERS' EXCHANGE,

where could be offered for sale or trade, farm implements, wagons, buggies, pigs, horses, cows or oats; anything a farmer had to sell, even to sheep and goats. It was said to be very successful, as nearly everything offered found a buyer except a farrow cow that was hitched to a post; when she saw the boys go by in the bicycle race, dressed in their bathing suits, being a country cow, it so shocked her modesty that she broke loose and ran home. No side shows, exhibiting only a fraction of what they advertised, were permitted. No fakirs or gambling of any kind were seen on the streets, and only a few privileges were sold for popcorn, candy and peanut stands, and these outside of the ropes. The management are to be congratulated on their success, for the example set for other towns to follow.

This being the second street fair held, I have made inquiry of nearly all business men in town, and with one voice, they pronounced it a success. The small outlay each one had to make in premiums and expenses was only a small investment compared with the advertisement of their business, and their increase in trade. That the exhibitors were satisfied is evident from the fact that a much larger entry of exhibits was made this year than last; this year, they numbered 770. Let every farmer who reads this, interest the business men of his town, and next year hold a good, clean, free, street fair, minus horse racing, gambling and the many other allurements so often existing at county fairs. L. D. GALE.

Chautauqua County, N. Y.

How They Do It in Minnesota.

THE R. N.-Y. of October 24, comments editorially on street fairs. I note that, in Greely, Col., "the farmers meet on the streets and make a display of their products right from their wagons." At the street fair held at Faribault, the county seat of this, Rice County, they have a different plan. A committee call on each business man and give him a chance to offer a premium or premiums on some article. The premium is rarely cash, usually some article of value in his line. The articles competing for a certain prize are brought and exhibited in front of the place of business of the man who gives the premium, when they are of such nature that that is practicable. Stock, poultry, hay, etc., are provided special places.

Quoting from the premium list issued this fall: "In 1894, the merchants of Faribault arranged for and held a street fair. This was in the nature of an experiment, but it proved to be a success far beyond the expectations of the most sanguine. So great was the success, and so general was the expressed wish for future affairs of a similar nature, that an association has been formed for the purpose of holding a street fair every year.

"Please bear in mind that this is not a money making scheme, and, although valuable premiums will be given, *no entrance fee* [the italics, I quote] will be charged.

"The object of holding these street fairs is twofold. In the first place, it brings the merchants and farmers nearer together, and demonstrates to each that their interests are mutual—what benefits one benefits the other. In the second place, competitions like these are sure to stimulate a friendly rivalry between producers, the tendency of which will be to improve the quality of the stock, grains and vegetables used."

The success this year was as great as ever, or greater. Large crowds came to town, the exhibits in nearly all lines were most excellent, and the merchants enjoyed a good trade. A. A. R.

Dundas, Minn.

THE Agricultural College of New Jersey opened, in the fall of 1891, a department for extension teaching. It was decided to hold a number of "short courses" in agriculture, not at the college, but out among the farmers. These schools have been held at 10 places with classes numbering from 30, to more than 100. They are held wherever a local demand is manifested. They consist of lectures, recitations, examinations and written exercises, and are almost exactly like the short course in the college. The cost is $60. The usual way is for a Grange or farmers' club to canvass the neighborhood and secure as many students as possible, and then the cost is divided between them. When all is arranged, the lecturers come and the school opens. There are some excellent things about this scheme, and there are many points in New Jersey where such a school could be held with much success. It will be of special value to those who find it impossible to leave home to attend the college. We like to see the college men get out among the farmers, and carry the elements of agricultural science to them. Those who wish to learn more about these schools should address Prof. Louis Bevier Jr., New Brunswick, N. J.

BUSINESS BITS.

WHILE the famous Fearless thrashing machine has been his old-time specialty, Mr. Minard Harder, Cobleskill, N. Y., catalogues horse-powers, saws, fanning mills, ensilage cutters, land rollers, etc. Ask for all his catalogues if you want them.

It seems to us that it is a good idea of the Wilmington Wheel Co., 401 Union Street, Wilmington, Del., to advertise to furnish any kind of a wheel desired for any kind of a wagon. They can, no doubt, furnish them cheaper, all things considered, than the repairing of old ones.

Do you smoke hams and other meats in the old way by making a smoldering fire of chips and corn cobs under them? Now there is a liquid extract of smoke that takes the place of the slow fire. If you care to know about it, send your address for circular to E. Krauser & Bro., Milton, Pa.

WHEN you want to buy anything in the way of a harness, just send to King Harness Company, 10 Church Street, Owego, N. Y., for their catalogue. Most manufacturers sell to agents, and the agent's profit must be added to the original cost. These people sell direct to the consumer.

IN Campton township, Kane County, Ill., there are 27 Goodhue Power windmills, some of which were erected nine years ago, and every one is now in perfect order and doing satisfactory work. This is, certainly, a good record for the Goodhue mills. They are manufactured by The Appleton Mfg. Co., 27 Fargo Street, Batavia, Ill. This firm also makes the celebrated Hero and American feed mills, fodder cutters, corn huskers, wood saws, tread and sweep powers, etc. Write them for catalogue and any information needed.

THERE have been wide differences of opinion as to the advantages and utility of the practice of cooking food for stock. But in the end, the preponderance of testimony seems to be in favor of the cooked food. It is certain that the practice is gaining, and that it now holds a firm position among well recognized farm economies. It seems perfectly natural that anything that will induce those chemical changes which must otherwise take place in the stomach of the animal, must aid or assist digestion by so much; that the cooking of stock food is a species of pre-digestion that must be wholesome in effect and beneficial in results. Mastication of the food, which is in itself a species of digestion, is made comparatively easy by cooking or otherwise softening of the food substance or material. A very good treatise on this subject is sent out by the Mitchell Machine Co., Kendallville, Ind., who, of course, are sending it free as a means of calling attention to their food boiler.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE BIOGRAPHY OF A BEDBUG.

ILLUSTRATED FROM LIFE.

PART II.

AS in most other insects, the beginning or embryonic development of a bedbug takes place in an egg laid by a mother bedbug. The extremely flattened or thin body of the insect, well adapts it to entering the narrowest crevices in the joints of bedsteads, or in cracks in walls, etc., and in such places the eggs are laid. An egg is shown, much enlarged, in Fig. 239, November 7. It is white in color, and it would take about 20 of them, placed end to end, to measure an inch; they are wet with a kind of varnish when laid, which causes them to adhere to the walls of the cracks. About 50 eggs are laid in each batch; this, is, probably, the total output of one mother. The baby bedbugs make their entry into this world by pushing off a kind of lid at the end of the egg, and the empty eggshell then looks like a miniature, round-bottomed china jar, with a neat rim around the opening. The newly-born bug (shown greatly enlarged at the top of Fig. 239) is a very minute, whitish creature, with no signs of wings; so transparent are the young that something of their internal economy can be seen through the skin, and after a meal of blood, a dark-red spot appears in the region of the digestive apparatus.

Like all other insects, the young bedbugs or nymphs (a name given to the young of all true bugs, grasshoppers, and some other insects) grow by shedding off their old skins or clothes, thus giving place to a new elastic skin or suit which grows beneath the old one. How much would be saved if growing boys and girls could grow new suits to take the place of the old ones when they get too small! A bedbug's cast-off suit is shown, much enlarged, in the upper left-hand corner of Fig. 239. Notice how complete and neatly the job is done; the old skin splits down the back a little ways, and the whole animal gradually crawls out of this crack, neatly withdrawing even the most slender parts like the legs and antennæ, each separately from its own sheath. Such a natural aspect do these cast skins often have, that one sometimes has to look the second time to make sure that they are not the living insects he is looking at. The little bedbugs have to grow several, probably four or five, suits of clothes before they become fathers and mothers; at each moult, they more closely approach the form of the adult, as a comparison of the newly-born and nearly full-grown nymphs, and the adult bedbug in the figure, will show. As the bug grows with each moult, its color deepens, and its skin becomes harder and less flexible; the usual dark reddish-brown color of the adults depends upon the frequency of their meals; when obliged to fast for long periods, they become almost transparent and whitish.

When the adult stage is reached, no further growth takes place, although the insect still feeds but only to sustain life and supply the proper materials to enable it to carry on the reproduction of the species. Under favorable conditions, as warmth and plenty of food, about 11 weeks (some authors say 11 months), elapse from the time the egg is laid until the adult stage is reached. Thus, four generations may be produced in a year; egg laying is said to take place in March, May, July and September. The nymphs, probably, cannot live long without food, but the adults have been kept in a sealed bottle for more than a year without food. In one instance, a mother was confined in a box, and six months later, was not only alive, but was surrounded by a multitude of young bugs, all, including their mother, being transparent, showing that they had, evidently, not had a meal.

How does a bedbug feed? People are not "bitten" by this insect. Only insects like caterpillars, grasshoppers, beetles, and some others bite; an examination of their mouth-parts will reveal strong, horny jaws with which solid particles of food are bitten off and swallowed. A bedbug's mouth is built on an entirely different plan; the under lip is drawn out into a long, gutter-shaped beak, within the groove of which lie and work four fine, bristle-like organs that are really analogous to the jaws of the biting insects. The two pictures in the lower right hand corner of Fig. 239 show this beak; when at rest, it is folded back along the under side of the head, the tip resting between the bases of the front legs. When feeding, the beak projects downward at right angles to the head, and its tip rests on the surface of the skin. The beak itself is not forced into the flesh, but, using the beak as a guide and brace, the four bristle-like jaws, arranged to form a drill or piercer, gradually bore their way into the flesh. Soon a sort of muscular suction pump begins work in the head, and our blood is drawn or pumped up along, or rather between, the bristles and into the insect's body. Thus, bedbugs suck instead of bite; they can take in only liquid food. All of the true bugs feed in this way. As any one who has had the experience can testify, the wound inflicted by a bedbug's boring apparatus is often exceedingly painful, accompanied by a disagreeable burning and itching sensation. Probably no poison is instilled into the wound, the minuteness of the puncture seemingly causing the intense irritation; a prick from an exceedingly fine needle will often cause a similar sensation.

Do bedbugs include anything besides human blood in their menu? It is a well-known fact that the bugs sometimes absolutely swarm in houses that have, for a long time, been uninhabited. In such cases, it is obvious that they managed to exist without access to human blood; still it does not necessarily follow that they have been entirely without food of any kind, although, as we have seen above, the old bugs can fast for long periods, but it is believed that the young ones cannot. Thus, there seems little doubt that human blood is not an absolute necessity of life to this disgusting parasite, and, perhaps, may be more correctly regarded as a luxury; and it is quite possible that, in past ages, before its association with mankind, the bedbug may have been a purely vegetable feeder, subsisting on the sap of trees. One author, writing a century and a half ago, declares that he fed the numerous families he kept, on the sap of wood; using chiefly deal for the purpose; from hard woods, like oak or walnut, or scented woods such as cedar, they failed to extract any nutriment, and died if confined with these alone. Several closely allied true bugs seem to be quite indifferent as to whether they are supplied with an animal or vegetable diet. As the surest and safest way to avoid bedbugs is the cultivation of scrupulous cleanliness, it seems probable that the miscellaneous material included under the name "dirt", much of which is of organic origin, may contribute, in some way, to their support.

It is a popular and wide-spread belief that bats and swallows bring bedbugs into the house. We discussed this point in detail some time ago in THE R. N.-Y., bringing out the fact that there is, as yet, no authentic record of a genuine human bedbug ever having been found on the body of a bat or swallow, or in their nests. It is true that each of these animals is pestered by a bedbug, but in each case, it is a distinct species from the human bedbug. A microscopical examination of a bedbug from a bat, a swallow, and from man would reveal distinct structural differences in their make-up, which have caused them to be known to scientists under different specific names. There is no evidence to indicate that the bedbug of the bat or of the swallow will attack man, even when introduced into our houses.

Recently, a correspondent wrote us that in an upper room, through which ran a chimney infested by swallows, there were many bedbugs, especially around the chimney. Being a model housekeeper, the lady was much concerned, and tried in vain to rid the room of the pests. In despair, she appealed to me for help. A careful microscopical examination of one of the bugs, that she kindly secured for me, showed that it was not the genuine human bedbug, but was one of the swallow bedbugs. No complaint was made of the bugs having attacked the members of the family, and the housewife expressed her appreciation for the information as follows: "Hurrah! Scientists forever! Your postal was the best news I ever had; I think that I would soon have had nervous prostration. The perverse creatures all eluded me but the one I send in the bottle; I am fearful that it will die from loneliness on the road, they seem such sociable creatures. My husband says: 'I told you so'; just like a man, was it not?"

M. V. SLINGERLAND.

COOKERY LECTURE BY MRS. LEMCKE

ROAST pig was the solid foundation about which was to be built a dinner good enough and elaborate enough for holiday occasions. There were holly and mistletoe at hand, to show how the princely roast might be bedecked for Christmas use; but when the audience gathered, the small, white innocent lay in the pan in the unadorned beauty of clean, young pork.

"The pig should not weigh more than 11 pounds," said the lecturer. "The larger ones are not suitable for whole roasts. You may use any desired forcemeat for stuffing it, or even none at all, as, indeed, I have done to-day. Sausage, oysters and chestnuts, all form delicious dressings. The pig is first to be rubbed inside and out with white pepper and salt. After it has lain for an hour, the salt is rubbed off the outside, as it causes the skin to blister, and thus detracts from the handsome appearance of the browned porker. When ready for the oven, the pig is to be covered, as I am now doing, with a buttered paper, tucked closely about it. This is to be renewed, later. Occasionally, I shall remove the paper and baste the roast with butter melted in water, and kept on the back of the stove. I place one cupful of water in the baking dish, to which more may be added if necessary."

The clear soup, or consommé, which introduced the meal, was made by Mrs. Lemcke from chicken, veal and beef, with a little minced ham, browned. She stated that a very good one could be made from a shank bone, the soup to be colored with three browned onions. The chief point is the clearing. The soup is first strained, the beaten whites of eggs added, and the whole stirred for five minutes. When it boils, it is again strained. It should then be amber clear.

The fish served was supposed to be fillet of sole, but was really flounder. It was cut into strips, or fillets, half an inch thick, by two wide, perhaps, washed and wiped. After lying half an hour in salt, lemon juice, onion, thyme and parsley, the fillets were dusted lightly with flour, and rolled alternately in beaten egg and bread crumbs. They were fried in equal parts of butter and lard, until of a light, tempting brown. "The main point," said Mrs. Lemcke, "is to cook these just through, and no more." These fillets were served with sauce tartare.

Sauces seemed to be a strong point with Mrs Lemcke. Cream appeared notably in all. The sauce tartare differed from most recipes, and was equally adapted, said the lecturer, to fillets or other fish delicacies, to salads, and even to cauliflower. Its preparation was simple, perfection depending largely on adding the oil very slowly. This is the recipe: "Stir the yolks of two eggs to a

Mr. Moody's Bible Class

BY DWIGHT L. MOODY

The famous Northfield evangelist begins, in the November Ladies' Home Journal, a series of popular Bible studies in the form of a great National Bible Class, destined to prove the most helpful religious department ever sustained by a magazine.

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

cream. Add gradually, stirring constantly, three-fourths cupful of oil; then one even teaspoonful of salt, one quarter teaspoonful of white pepper, one teaspoonful of English mustard, one tablespoonful each of finely chopped shallots and capers, one tablespoonful of tarragon vinegar, and, lastly, one-half cupful of whipped cream. Mix well and serve."

The sauce Mrs. Lemcke really used for cauliflower was given by her as follows: "I shall place over the fire for a few minutes, one tablespoonful of butter, one of flour, and one-half cupful of chicken or white veal broth. When this has cooked for a few minutes, I add the yolks of three eggs, a few spoonfuls of cream, and a tablespoonful of lemon juice. This sauce, when used for cauliflower *au gratin*, forms one layer. First, I shall place in a deep dish a layer of the cauliflower (boiled until tender); next, a layer of sauce, then a heavy sprinkling of grated cheese; repeat, the top layer being always a thick one of the cheese."

There were mushroom patés, and fancy potatoes in cones, apples in jelly, and other goodies which there isn't space to tell about. The pig turned a most beautiful brown under his paper blanket, and the 300 women who wanted to find out just how to roast a pig, clapped their hands at sight of his tempting perfection.

A rather pretty feature of the day was the service of the dishes concocted. This was accomplished by three trim young girls from the lecturer's Brooklyn cooking class, in coquettish caps and aprons. Soup was served in tiny bowls; boned chicken and fillet of sole in inch bits. But it was rapture to get even an inch bit of a cooking teacher's delicacies. At least, so said the faces of the women who tasted. MYRA V. NORYS.

PATTERNS FOR R. N.-Y. READERS.

Write the order for patterns separate from other matter, give bust measure for waist patterns, waist measure for

6891—Ladies' Draped Waist.

skirt patterns, and pattern number, and inclose 10 cents. Each pattern is complete with instructions for cutting and putting garments together. For children's or misses' patterns, send age.

Ladies' Draped Waist 6891.

Figured violet silk, satin ribbon and chantilli lace are blended in this stylish waist. The lace, arranged in fans, falls over the full, puffed sleeves. Broad satin ribbon outlines either side of the draped front and encircles the waist, while bows at the shoulders, waist and sleeves complete the decoration. The trim adjustment is accomplished by glove-fitting linings performed by regulation seams and double bust darts, that close in the center front. The fullness of the back is disposed by gathers at the shoulder edges, and at the waist line it is drawn well to the center back. The front is smooth-fitting at the top with a slight fullness at the waist line. The drapery is included in the right shoulder seam and closes invisibly on the left side and diagonally to the waist line. At the neck is a standing collar covered by a wrinkled stock of ribbon that is bowed at the center back. The fitting sleeves provided with full short puffs at the top are completed at the wrists with frills of soft, creamy lace. The mode is adapted to all seasonable fabrics and offers facilities for the execution of individual taste and various styles of decoration. To make this waist for a lady in the medium size, will require 3¼ yards of 44-inch wide material. Pattern No. 6891 may be had in sizes for 32, 34, 36, 38 and 40 inches bust measure.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best —*Adv.*

MAKING CHILDREN'S UNDERWAISTS.

I USED to be much troubled by the childrens' underwaists tearing crossways under the arm, where it was almost impossible to repair them without another tear coming above or below. When making the waists, before they were finished, I stitched a straight strip of muslin two inches wide on over the underarm seam, extending from armhole to waist line; and it was then impossible for the waists to tear. However, that threw the strain around the armhole, and after a few weeks' wear, they began to tear there, and were almost as hard to repair satisfactorily as the old ones had been.

Then when new ones were to be made, I cut a facing just like the upper part of the waist, extending down an inch below the armhole; sewed this all around the neck, turned and stitched it on the other side, then faced around the arm hole as usual, stitching the facing next the edge for greater strength. When putting on the facing around the bottom, I inserted an extra piece of four thicknesses where the buttons belong, and now we do not have to make any repairs on the underwaists, for the places where the strain comes are so strengthened that they will hold until the rest of the waist is worn out. New ones are made only every 18 months or two years, instead of twice a year as formerly.

To recapitulate: A strip stitched over the underarm seam; a facing extending to below the armhole, makes the material double where all the strain comes. Extra thicknesses are added where the buttons come, so that the buttons, if well sewed on with coarse thread, will not come off. While it takes about five inches more material and, perhaps, an hour more time to make, no after repairing of any kind is necessary, thus saving much time, trouble and worry.

CLARA S. EVERTS.

THE GIRL CROP.—A California paper prints the following note: "It doesn't pay to raise girls, not as a speculation, any more," said an old Davisvillian the other day. "My daughter," he continued, "goes out to assist in almond hulling at one cent per pound, and let me say that it is as much as the grower can afford, since prices and almonds are alike reduced under the gold standard. Well, she earns from 60 cents to $1 per day, which, at first glance, looks well, but lately I've been figuring up the cost. There's a horse and buggy at $1 a day, keeping of horse, 25 cents; cough drops for girl who has contracted a violent cold from exposure, to this date, 10 cents a day; tempting delicacies, aside from our usual fare, to keep up girl's strength and courage, 25 cents a day; liniment for strained wrists, 50 cents; one cheap dress, round, $1.50; one pair shoes, $2.50. I'll say nothing about her disturbing our rest at four o'clock in the morning. She has worked five days and earned $3.65. Total expenses to date, $12.50; net loss, $8.85. You see the girl industry doesn't pay."

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

Blood... Bubbles.

Those pimples or blotches that disfigure your skin, are blood bubbles. They mark the unhealthy condition of the blood-current that throws them up. You must get down to the blood, before you can be rid of them. Local treatment is useless. It suppresses, but does not heal. The best remedy for eruptions, scrofula, sores, and all blood diseases, is

Ayer's Sarsaparilla.

Enameline

The Modern STOVE POLISH.

DUSTLESS, ODORLESS, BRILLIANT, LABOR SAVING.
Try it on your Cycle Chain.
J. L. PRESCOTT & CO., New York.

YORK WASHER.
For simplicity, durability, and ease of operation. Superior to all others. Many in use, and giving universal satisfaction. Circulars free.
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York, Pa.

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UNDER A POSITIVE GUARANTEE
75,000 in use.
to wash as clean as can be done on the washboard and with much more ease. This applies to Terriff's Perfect Washing Machine which will be sent on trial at wholesale price; if not satisfactory money refunded. Agents Wanted. For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

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By using our (stove pipe) RADIATOR.
With its 120 Cross Tubes,
ONE stove or furnace does the work of TWO. Drop postal for proofs from prominent men.
TO INTRODUCE OUR RADIATOR,
the first order from each neighborhood filled at WHOLESALE price, and secures an agency. Write at once.
ROCHESTER RADIATOR COMPANY,
27 Furnace St., ROCHESTER, N. Y.

Housewives Can easily chop meat for sausage and mince-meat, hamburg steak, suet, corn for fritters, scrap meat for poultry, hash, beef for tea, etc., with the

ENTERPRISE MEAT CHOPPER

TINNED

The Most Effective Chopper Ever Made.

No. 5, chops one pound in a minute, $2.00. No. 10, chops two pounds in a minute, $3.00. Larger sizes described in our Catalogue. Ask your dealer.
Send two 2c stamps for the "Enterprising Housekeeper," 200 recipes.

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No other lamp-chimneys a quarter so good as Macbeth's; or cheap in the long run.

You want the right shape besides. We'll send you the Index; free.

Geo A Macbeth Co

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Wanted—An Idea Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their $1,800 prize offer and list of two hundred inventions wanted.

$95 WEEKLY $5,000 yearly, no experience required, failure impossible; our scheme a new one; particulars free. Address S.S. Ware Co. Box 5308, Boston, Mass.

Are You Keeping COWS FOR PROFIT

NOT AMUSEMENT—add to your knowledge the knowledge of others, and you will do better and have in greater measure the pleasure and profit of success. The readers of THE RURAL NEW-YORKER are progressive, and not content to rest with only the knowledge gained of their own experience, and we are pleased to have made such arrangements with the publishers of *Hoard's Dairyman*, published at Fort Atkinson, Wis., preëminently the Leading Dairy Journal of the country, that enables us to offer both

Hoard's Dairyman
AND
The Rural New-Yorker
ONE YEAR FOR $1.70.

There is no journal in the world that furnishes so large an array of dairy facts, figures and experiences. Edited by W. D. Hoard and practical dairy farmers from all over the country. There is no journal comparing with it on the information it gives concerning the breeding and feeding of dairy cattle and the handling, manufacturing and marketing of their product. Don't miss this offer. *Hoard's Dairyman* is a 20-page weekly, and regular subscription price is $1 per year.

All who take advantage of this offer will receive both to January 1, 1898. The rest of 1896 FREE.

THE CASE OF

ANTON WENZL

When Anton Wenzl settled in Pawnee County, Neb., in 1867, he was compelled to work out by the month to support his family. To-day he owns 1,640 acres of the finest farm land, valued at $30 per acre, together with stock and other property valued at $10,000. Every dollar of it was made on the farm. Mr. Wenzl is one of seven brothers whose aggregate land holding amounts to over 5,000 acres.

IN OUR NEBRASKA BOOK
(40 Pages with Maps and Illustrations)

are dozens of statements like that of Mr. Wenzl. They are made by farmers who have made a success of farming. They show that Nebraska is as good a State as any in the Union.

The book in which they appear is as different from the ordinary agricultural pamphlet as day is from night. It is interesting, practical, truthful. In a straightforward, simple fashion, it tells you everything you need to know about Nebraska — its climate, people, schools, churches, railroads, markets, soil and crops. It explains why the Nebraska farmer makes money in spite of low prices and hard times. Why land is cheap—and how it is as easy for an intelligent and industrious man to buy a Nebraska farm as it is to rent one in any State east of the Missouri River.

Every farm renter who wants to become a farm-owner; every farm-owner who is tired of trying to make money off high-priced land; every father who wants to give his sons a start on the high road to independence, should write for a copy. Free.

J. FRANCIS,
General Passenger Agent Burlington Route,
OMAHA, NEB.

The Agent's Share.

The Weekly Premiums yet go easy. Here are the winners for last week, neither of whom had won any other premiums this season :

$3—E. G. PACKARD..... Delaware..... 7 Yearly Subscriptions.
$3—JOHN R. WHEATON.... New York..... 3½ Yearly Subscriptions.

There is just one more week left in this contest, but it has been no contest, as no one has been making any effort for the $25, $15 and $5 premiums that go out after November 14. There is time enough yet to win the $25 premium after you read this; you could win it Friday and Saturday by putting in two good days' work, and wire Saturday night the number of names mailed that night. Is there no one willing to work two or three days for $25?

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"SUN PRINTING."

A few weeks ago, we had some remarks about "canned sunshine". This week, we want to talk about another curious illustration of the sun's power. In order to save words, we will now give the floor to one of our subscribers, in the State of Ohio, who recently wrote as follows :

Do you know of any person or persons who have printed the names of people on peaches or apples by placing papers or other materials with the names cut in them, on the fruit before it begins coloring, the sun shining through the holes in the paper, printing the name on the fruit? Have you ever seen any in New York so marked? If I could furnish them (peaches) to fashionable people in New York, with the names of their guests on the peaches, for big banquets or receptions, or other entertainments, do you think that they would pay fancy prices for them?

Now that man is after a new idea, and some day, he will strike something that will pay him well. We have read about this sun printing on fruit, and know that it has often been done. By cutting letters or figures out of a piece of paper, and then pasting them around the fruit as it begins to color, such letters or figures will be printed on the cheek of the apple or peach. The sun would do the printing, because it would be only through the holes in the paper that the sunlight could reach the skin. No sunlight—less color.

A boy once looked at a picture and said that the *white* in it was the most important part. The white represented the parts where the engraving had been cut away. The engraver purposely cut out all the metal except little lines placed here and there, in such a way that the ink would be left in the form of a picture. If he had cut no metal away, there would have been only a great black blot. If he had cut it all away except a little rim, there would have been only a white space. You see that in printing—either with ink or with sun—the point is to arrange the lines or holes so as to have the ink or the sun fall just where you want it. There will be no character at all to a jumbled-up mass of light and shade.

We don't think that the time has come when a very large trade in such fruits can be developed. We think that the best trade for such articles would be nearer home—in the local markets. Arrangements might be made with merchants or restaurant keepers to engrave short sentences on big apples. These people would like such things to advertise their business, and a few such apples would advertise all the rest of the apples from the orchard. A man in New York State makes a good profit by carving mottoes on young pumpkins. The wounds heal so that, when the pumpkins mature, the words are engraved on the skin. Our opinion is that this sun printing will be most useful as an advertisement for the rest of the fruit. Print a few apples and scatter them about the town in shop windows, etc. Get the local papers to talking about them. It will be such a curiosity to most people that they will begin to talk about you and your orchard, and that will lead to extra sales. Let the sun print your advertisement for you. You can't get any cheaper advertising.

And now, another thing. You can do good printing with mental sunshine or thought. Here is a letter from an Indiana man :

We would not like to be without THE R. N.-Y. for 10 times what it costs; in fact, we could not keep house without it. We tell our friends that we have a farmers' institute every week right at home. Wishing you a long life, I remain, A. MCC.

Now mental sunshine or thought has printed the letters **R. N.-Y.** right in that home. Our paper has served to direct the rays of thought, just as the paper over the apple directed the sun's rays and thus colored the skin in the proper places.

It is a singular thing that a paper coming regularly, week after week, through the mail to the lonely farmhouse door, may bring with it thoughts and suggestions from the world outside that will, in time, print certain characteristics on that home and farm. Here is a young farmer right in your neighborhood. He is getting ready to ripen his character as a farmer. He has a good mind and is capable of sound thought. He is going to think and give color to his thoughts just as the rays of mental sunshine are turned upon him. If they come without direction or arrangement, there will be nothing striking about the color. If you put a stencil over him, the color will take fixed and definite shape for good or bad.

Now, then, my friend, why don't you try to sun-print R. N.-Y. on that young man? If, from your experience, you think that stencil will mark him so that he will have a fair chance to grade A No. 1, it is going to be a good investment for you to do it. What is the use of grading up cows, sheep, swine or poultry, and not trying to grade up farmers? We may control the breeding and feeding of young farm stock, and if you can control or direct the *reading* of young farmers, you may help grade them up. Of course, if you cannot say from your own experience that THE R. N.-Y. is a safe stencil for sun-printing, we won't ask you to make use of it. You may do as you like about it. We shall be greatly pleased, however, to have you hold up a dollar and see the sun print your neighbor's name on our subscription list.

CROP AND MARKET NOTES.

Honey is slightly lower.

Sweet potatoes are away down in price.

A famine is reported imminent in India.

Receipts of apples are heavy, and prices are low.

The European potato crop is reported to be short.

There is a good demand for choice dressed calves.

Keep stuffing the corn into the Thanksgiving poultry.

Receipts of southern vegetables are on the increase.

Hops are looking up a little in price and trade is more brisk.

Wheat is up and down, with the general tendency upward.

Receipts of hay are heavy, and demand light, so that trade is slow.

Receipts of dressed pork are light. The lighter weights are most in demand.

The fur market is quiet, arrivals being small and the quality very irregular.

Pure beeswax is selling for 27 to 27½ cents per pound, but the demand is moderate.

Fresh laid eggs are scarce, and prices are likely to advance before many days.

The foreign apple market is reported in better condition, owing to the better quality of the arrivals.

The Ohio State Horticultural Society will hold its annual meeting in the City Hall at Athens, O., December 2-4, 1896. Programmes will be sent to all members, and others can obtain them by addressing the secretary, W. W. Farnsworth, Waterville, O.

All for $1.00.

Send us your neighbor's subscription to THE R. N.-Y. with his dollar and we will send him the paper to January 1, 1898, and send you your choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

THE RISE IN WHEAT.

WILL IT BENEFIT FARMERS?

The recent advance in the price of wheat is of no advantage whatever to the farmers in this section, as millers and merchants now have it all.
Stokes County, N. C. R. M. A.

I think that the higher price paid for wheat will benefit few in this locality, as most wheat was sold, I think, before the greatest advance in price. If the rise had come earlier, it would have benefited many. Without a much better price for farm products in the near future, more than one-half of the farmers here will be ruined. H. E. B.
Breckenridge, Minn.

The rise in wheat will greatly benefit individual farmers in this locality. The largest share of the wheat is in the hands of the farmers. About 100,000 bushels of wheat are raised in this county. Considerable has been sold on the rising market. About $26,000 extra money will fall to the share of the farmers of this county in consequence of the rise. G. T. D.
Belfield, N. D.

The higher price paid for wheat has certainly helped many farmers in this neighborhood. I think that 50 per cent of this year's crop is still in the hands of farmers in this vicinity. A very large amount of wheat was sold at the increased price; however, those who thrashed early sold before the rise. The increased price of wheat has, certainly, brought several thousand dollars into this township. J. C. H.
Evan, Minn.

From the latter part of August to October 17, wheat rose from 37 to 59 cents per bushel, and since the 17th, has dropped 7 cents up to date; that leaves the price at 52 cents to-day. In Ramsey County, there are 79,000 acres of wheat; average yield per acre, 12 bushels. Total for this county, 948,000 bushels, with 80 per cent of the crop still in the farmers hands. There was at no time any great rush to unload, as many are holding their wheat for a still higher price than any yet paid. M. W.
Devils Lake, N. D.

(Continued on next page).

Miscellaneous Advertising.

Sometimes when the last spark of life seems almost extinguished it is fanned into flame again by prompt, vigorous action. It is a mistake however, to put off action too long; another mistake is to despair too easily. Both these mistakes are made in dealing with disease, particularly with consumption. It is neglected at first until someone names it. Then the name strikes terror to the mind; the nature of the disease is misunderstood: It is a blood disease, settled in the lungs. If it settled somewhere else the doctors would give it a different name :—scrofula, kidney disease or "liver complaint." But the name only tells where it settles. It is really all one disease :—*Bad blood*; and there is only one cure :—*Good blood*.

An abundance of good, rich, red, blood put into the circulation, cures every one of these complaints, consumption as well as the rest—if it hasn't gone too far. It is on this true physiological principle—fully proven by experience—that Dr. Pierce's Golden Medical Discovery cures Consumption and all other blood diseases. It tones up the blood-making organs to produce a fresh supply of healthy, red blood; this carries new nourishment and life to the wasted lung tissue; or any other tissue that is affected. It drives out the poisonous disease-germs which clog the skin, liver or kidneys. It is simply a question of purifying and building up; where there is anything left to build on the "Golden Medical Discovery" will infallibly build up and cure. It cures cases which doctors declare "incurable." That word has lost its meaning since Doctor Pierce's wonderful "Discovery."

The plain and hopeful truth about disease is shown in the light of the best science of the century in Dr. Pierce's Common Sense Medical Adviser. It is a volume of 1008 pages; illustrated. It also contains letters from many who have been rescued from consumption. This great book is *free*, if you send 21 one-cent stamps, to cover cost of mailing *only*, to World's Dispensary Medical Association, Buffalo, N. Y.

Are You Thin?

Look about you! See for yourself! Who suffer most from sleeplessness, nervousness, nervous dyspepsia, neuralgia, despondency, general weakness? Who are on the edge of nervous prostration all the time? Those who are thin, Opium, chloral, bromides, headache powders, only make matters worse. Iron and bitters are only stimulants. To be cured, and cured for good, you need a fat-making food. You want new blood, rich blood; and a strong nerve-tonic.

SCOTT'S EMULSION of Cod-liver Oil with Hypophosphites is all this. It feeds the tissues, makes rich blood, and strengthens the nerves.

Book about it free for the asking.

For sale by all druggists at 50c. and $1.00.

SCOTT & BOWNE, New York.

Our Clubbing List.

If you subscribe for any other paper or magazine, we may be able to save money for you. Look over the following list. If you don't see what you want, let us know, and we will get prices on it for you. The prices below are for the papers mentioned, and THE RURAL NEW-YORKER, both one year. If you want more than one of the other papers, deduct $1 from combination price given below, and you will have our price for the other paper.

The Thrice-a-Week World.

Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1.65, both one full year. Send now and get both papers free for the rest of this year.

Daily Press, New York.

Many farmers now like a daily newspaper, in order to be well informed on news throughout the country. The Press is one of the brightest New York Dailies. It is Republican in politics and a strong advocate of protection. We can send it daily, and THE R. N.-Y., weekly, both one year for $3.

Daily Journal, New York.

No other daily paper ever made so great a success in so short a time as the Journal. It gives all the news, and is one of the brightest and ablest papers of the Metropolis. It is Democratic in politics, and an able expounder of free silver. We can send it and THE R. N.-Y., both one year, for $3.50.

The Atlanta Constitution.

This is the great national weekly of the South. It has, probably, done more for the South than any other paper has ever done for any part of the Union, and, naturally enough, the people in the South believe in it and go by it. But besides its devotion to the interests of the South, it gives all the news of all the world every week, and is a great family paper. It abounds in stories, fiction, romance, wit and humor, fun and puzzles. It is Democratic in politics, and a great exponent of Democratic principles. It gives 12 pages—84 columns—of reading matter every week, and all for only $1 a year. We are able to send it and THE R. N.-Y., both one year, for $1.75.

Strawberry Culturist.

This is a bright little monthly, edited and published on a strawberry farm by a strawberry grower. We can send it and THE R. N.-Y., both one year, for $1.15.

The Rise in Wheat.

(CONTINUED.)

Very little wheat has been grown in this county for the past 10 years. The few men who have been holding their wheat for two or three years, on account of low prices, sold this summer just before harvest; three men in this village did this, At the mill, yesterday, the miller said that he could not get wheat enough to keep grinding. So I can't say that any farmer in this vicinity has profited at all by the advance in wheat. A good many have put in small pieces of wheat this fall, who have not grown any before for a number of years. J. T. M.

Tolono, Ill.

The higher price paid for wheat will not benefit me or any farmer in this township. There are now in the township four car-loads—3,200 bushels out of 10,000 bushels for 1896. None was sold at the increased price No money will come into this township on account of the increased price. In the years 1893, 1894 and 1895, it was too dry for any kind of crop. In 1896, rust very nearly destroyed wheat and oats, so that the failures of four years have made it impossible to hold wheat for any length of time. Corn this year will yield 35 bushels per acre. A. G. M.

Clyde, Kan.

The country around here does not raise very much wheat, generally about enough to last through the season. Some have a small amount on hand, but not many, so no benefit will be felt by them, whether the price is high or low. I believe that those who have any to sell have sold to the elevators. Take it altogether, the price of wheat will not benefit us much in this part of the country, if it does not last longer than it has done. Prices are going down again, and I am of the opinion that the price will soon be down to its old standard. C. H. B.

Brainerd, Minn.

The increased price of wheat will be of great benefit to the farmers of this vicinity. It is estimated by elevator men that the surplus crop in territory tributary to this station, would approximate 100 car-loads. About 40 per cent of this was sold before the advance. About 20 per cent is still in the farmers' hands, and the remaining 40 per cent has been sold at an average advance of 10 cents per bushel. Estimating each car at 500 bushels, the increase would amount to $2,000 to farmers in this neighborhood, to say nothing of the increased value of the wheat still in their hands. R. G. D.

Tobias, Neb.

Our local grain dealer says that scarcely any wheat has been marketed since the rise in price. And he stated it, as a fact, that farmers never sell wheat when the price is going up. If the price holds up, we shall be benefited to that extent, as there is, certainly, 75 per cent of the wheat in the hands of the farmers of this community yet. The wheat through this section, in fact all through central Illinois, is of very poor quality, caused by continued wet weather in harvest. No spring wheat is raised here; about 20 bushels per acre would be the average, of which a very small proportion would grade No. 2, and quite a large share of the rest is fit only for stock. L. M. T.

Fairview, Ill.

A very large proportion of Chester County's wheat crop has been sold; possibly, 33 per cent of that to spare remains in first hands. Farmers are constantly urged by speculators and their friends to sell their crops as quickly as harvested, till many of them have become converts. Now those who sold early are deploring their haste, as most of the wheat went out of their hands at from 51 to 60 cents; since then, it has ranged from 68 to 80 cents. Of course, much of the vast quantity of wheat reported sold was only on paper, and never existed. No man on earth has an approximate knowledge of our crops. The district reports are the merest guesswork. I happen to know something about it. W. T. S.

Chester County, Pa.

Most of the farmers have sold their wheat—probably three-fourths sold previous to the rise. Those that have not sold expect to hold until spring. The wheat crop was damaged by wet fully one-fourth. Not much wheat is raised in this county. The most of it was sold at 40 and 45 cents per bushel. I don't think that the farmers will be benefited by the rise, for those that still hold their wheat are men that are able to hold as long as they please. A few, probably one-tenth, will have to sell by March 1, as that is interest and rent-paying day in this locality. Potatoes average 125 to 150 bushels per acre. A good many were raised; at present, there s no market for them here. Corn is 14 cents to-day; hogs $2.75 per 100 pounds. H. W. R.

Griswold, Ia.

The current fluctuations in the wheat market affect the farmers of this section of country, as a whole, the same as they do other people. That is, our chief interest is one of wonder that flour should be so sensitive to advances in price of wheat, yet so unaffected by the alternating drops. Few farmers here raise enough wheat for their own use, and with most of those, it is rather "a matter of principle" than of profit. Until 1878, Winneshiek and adjoining counties were, practically, a part of what was, at that time, "the famous wheat country" of southern Minnesota. In that year of the great failure, a large percentage of the acreage did not return as much as the seed sown; and, for some years subsequently, there were so few good yields of wheat, that it speedily dropped to a position among the least important of crops. Temporary variations in the price of wheat are, therefore, of little direct interest, except as they affect our living expenses. With us, and I believe that it is applicable to the State as a whole, the problem of wheat raising is more one for scientific than present economical consideration. According to tradition, wheat yielded well generally until 1878 (when I came here). The poor yields that have been common since then, are, perhaps, one-fourth chargeable to chinch bugs, but mainly to rust and blight. The ultimate causes and possible remedies of these last factors are what need investigation. Soil exhaustion is out of the question, for there is nearly always a heavy growth of straw, and there are, at least, as many good yields on old fields as on virgin soil. W. H. W.

Conover, Ia.

The advance in wheat came too late to benefit us very much. Our wheat crop last season was as near a failure, both in yield and quality, as it has been for years, and farmers generally sold early, receiving from 45 to 48 cents per bushel. I find, from inquiry, that there are still in the hands of farmers in this township about 2,000 bushels. From other parts of the county, the same state of affairs exists. Some few sold, but I was able to find but a few. One farmer said that he ought to have sold but now wheat was up 10 or 12 cents. Corn is good and being gathered at a lively rate. Our hogs have been destroyed by the plague, leaving an extra supply of corn, which is worth 15 cents per bushel. Oats, 10 cents; butter, 7; eggs, 13; hens, 4; turkeys, 6. J. W.

Milroy, Ind.

MARKETS.

SATURDAY, NOVEMBER 7, 1896.

BEANS AND PEAS.

Beans, Marrow, 1896, choice	1 55	@1 60
Medium, 1896, choice	1 35	@ —
Pea, 1896, choice	1 25	@ —
Medium or Pea, common to good	1 10	@1 20
White Kidney, 1895, choice	1 55	@1 60
Red Kidney, 1895, choice	1 40	@1 50
Red Kidney, common to good	1 20	@1 35
Black Turtle soup, 1895	—	@ —
Yellow Eye 1895, choice	1 25	@1 30
Lima, Cal., 1895 (60 lbs)	1 40	@1 50
Green peas, Scotch, 1896, bbls., per bushel	87	@ —
Bags, per bushel	85	@ —

BUTTER—NEW.

Creamery, Western, extras	20	@—
Western, firsts	18	@19
Western, seconds	15	@17
Western, thirds	12½	@13½
State, fancy	19½	@20
Common to prime	12½	@19
State dairy, half-firkin tubs, fancy	17	@18
Firsts	15	@16
Seconds	13	@14
Welsh tubs, fancy	17	@17½
Welsh tubs, firsts	13	@16
Welsh tubs, seconds	13	@—
Tubs, thirds	11	@12
Western imitation creamery, firsts	12	@13½
Seconds	10	@11
Western dairy, firsts	11	@12
Seconds	9	@10
Thirds	8	@ 8½
Factory, fancy	10	@10½
Factory, firsts	9	@ 9½
Factory, seconds	8	@ 8½
Factory, thirds	7	@ 7½
Old butter	5	@ 8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10	@10½
White, fancy	10	@10¼
Choice	9¾	@10
Good to prime	9	@ 9½
Common to fair	7	@ 8½
Small, colored, fancy	10¼	@—
Small, white, fancy	10	@10¼
Small, good to choice	9	@ 9¾
Small, common to fair	7	@ 8½
Light skims, small, colored, choice	8	@ 8¼
Light skims, large, choice	7¾	@ 8
Part skims, good to prime	5½	@ 6¾
Part skims, common to fair	3½	@ 4¾
Full skims	2½	@ 3

EGGS.

Near-by, new laid, fancy, selected, per doz	24	@ 25
State, fresh gathered, average best	21	@ 22
Penn., country marks, average best	21	@ 22
State and Penn., fair to good	19	@ 20
Western, northerly sections, fancy	20	@ —
Western, fair to good	17	@ 19
Western refrigerator, prime, early pkd.	15	@ 16
Western refrigerator, fair to good	14½	@ 15
Western limed, choice	14½	@ 15
Western, fair to good, per case	3 25	@4 00
Western dirties, per 30-doz case	3 00	@4 06
Western checks, per 30-doz case	2 50	@3 30

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	4¾	@ 5¼
Choice, 1896, per lb	4¼	@ 4¾
Prime, 1896, per lb	4	@—
Common, per lb	2½	@ 3¾
1895, prime to choice, per lb	3½	@ 4
1895, common to good, per lb	2	@ 3
N. C., sundried, 1896, sliced, fancy	2½	@ 3½
Southern, sundried, common to choice	2	@ 3
State, sundried, quarters, bbls	—	@—
Western, sundried, quarters, bbls	—	@—
South-West'n, sundried, quarters, bbls.	4	@—
Southern, sundried, quarters, bbls	—	@—
Southern, sundried, coarse cut bags	1¾	@ 2½
Chopped, 1896, per lb	1⅜	@ 1⅝
Cores and skins, 1896, per lb	1	@ 1¼
Peaches, Sundried, 1896, peeled, per lb	6	@ 8
Cherries, 1895, per lb	8½	@ 9
Cherries, 1896, per lb	9	@10
Blackberries, 1896, per lb	4	@ 4½
Raspberries, evaporated, 1896, per lb	15	@16
Sundried, per lb	12	@13
Huckleberries, 1896, per lb	6	@ 6½
Plums, Southern Damson, 1895, per lb	—	@—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25	@1 50
Baldwin, per bbl	85	@1 00
Culvert, per bbl	75	@ 90
Gravenstein, per bbl	1 50	@1 75
Fall Pippin, per bbl	1 25	@1 50
Greening, per bbl	85	@1 00
Holland Pippin, per bbl	1 25	@1 50
Ribston Pippin, per bbl	75	@ 90
Oldenburg, per bbl	1 25	@1 75
King, per bbl	1 25	@1 62
Detroit Red, per bbl	1 25	@1 37
Famense, per bbl	1 00	@1 75
N. Spy, per bbl	1 00	@1 25
Ponnd Sweet, per bbl	1 00	@1 25
Nearby, open heads and common, per bbl	50	@ 75
Cranberries, Cape Cod, extra large, per bbl	5 00	@ —
Fancy, per bbl	4 00	@4 50
Good to prime, per bbl	3 00	@3 75
Defective, per bbl	1 50	@2 75
Per crate	1 25	@1 37
Jersey, per crate	1 00	@ —
Grapes, Up-River, fancy, per 12-bskt carrier	75	@1 00
Up-River, gift crates	40	@ 60
West'n N. Y., Niagara, fancy	14	@ 16
West'n N. Y., Delaware, plain	10	@ 13
West'n N. Y., Niagara, plain	11	@ 13
West'n N. Y., Niagara & Del., inferior	8	@ 9
West'n N. Y., Catawba, per small basket	6½	@ 7½
West'n N. Y., Concord, per large basket	10	@ 11
West'n N. Y., Concord, per small basket	6½	@ 7
Wine grapes, black in bulk, per lb	1	@ 1½
Wine grapes, white, in bulk, per lb	2	@ 2¼
Wine grapes, red, in bulk, per lb	1½	@—
Pears, Bartlett, per bbl	1 50	@4 25
Bartlett, per keg	1 00	@2 00
Bartlett, per box	1 50	@1 75
Bosc, per bbl	3 00	@4 00
Clairgeau, per bbl	2 50	@3 50
Duchess, per bbl	2 00	@2 75
Anjou, per bbl	2 50	@3 25
Seckel, per bbl	4 00	@5 50
Seckel, per keg	1 50	@2 50
Sheldon, per bbl	3 00	@3 50
Swan's Orange, per bbl	2 25	@3 00
Keiffer, per bbl	2 00	@3 00
Lawrence, per bbl	2 50	@3 00
Nearby cooking, per bbl	1 75	@2 25
Quinces, choice bright, per bbl	1 75	@2 00
Fair to good, per bbl	1 00	@1 50
Seconds, per bbl	50	@ 75

GAME.

Quail, choice, large, per doz	2 00	@2 25
Small, per doz	1 25	@1 50
Woodcock, average, per pair	75	@1 00
Partridges, nearby, per pair	85	@ 95
Western, undrawn, prime, per pair	70	@ 75
Western, drawn, prime, per pair	50	@ —
Grouse, Western, prime, per pair	1 00	@1 15
Grouse and partridges, inferior, per pair	25	@ 40
English snipe, choice, per doz	1 75	@2 25
Plover, golden, choice, per doz	2 00	@2 50
Blackbirds, per doz	15	@ 20
Rabbits, per pair	15	@ 30
Wild ducks, canvas, choice heavy, per pair	2 50	@3 00
Red heads, per pair	1 50	@2 00
Mallards, per pair	40	@ 85
Blue wing, teal, per pair	40	@ —
Teal, green wing, per pair	25	@ 30
Common, per pair	20	@ 25
Venison, per lb	18	@ 22
Whole deer, per lb	10	@ 12

GRAIN.

Wheat	76	@80
Rye	38	@44
Barley feeding	28	@54
Barley malting	43	@50
Buckwheat, silver	38	@39
Buckwheat, Japan	38	@39
Corn	26	@33
Oats	19¼	@31

GRASS SEED.

Clover, per 100 lbs	6 50	@ 9 00
Timothy	2 85	@ 3 75

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75	@80
No. 2	67	@72
No. 3	57	@62
Shipping	55	@60
Clover, mixed	60	@70
Clover	50	@60
Salt	45	@—
Straw, No. 1, long rye	90	@95
No. 2	70	@80
Short rye	55	@65
Tangled rye	50	@60
Oat	40	@45
Wheat	40	@—

HONEY.

State, white clover, comb, fancy, per lb	12	@12½
Buckwheat, comb, per lb	8	@ 9
White clover, extracted, per lb	5	@ 5½
Buckwheat, extracted, per lb	4	@ 4½
California, comb, fair to prime, per lb	—	@—
Extracted, per lb	6	@ 6½
Southern, in bulk, per gallon	45	@50

HOPS.

N. Y. State, crop of 1896, seedlings	11	@11½
Medium to prime	8	@10
Crop of 1895, choice	7	@ 8
Medium to prime	5½	@ 6
Crop of 1894, fancy	4	@—
Prime	3½	@—
Medium	3	@—
Common	2	@ 2½
Old olds	1½	@ 2½
Pacific Coast, crop of 1896, choice	12	@12½
Crop of 1896, medium to prime	8	@11½
Crop of 1895, choice	7½	@ 8
Prime	6	@ 6½
Medium	5	@—
Crop of 1894, common	2	@2½
German, 1895	14	@18
German, 1896	24	@27

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9	@ 9½
Fair to good, per lb	8½	@ 9
Com. to med., per lb	7	@ 8
Small, per lb	4½	@ 6½
Buttermilks	5	@ 6
Grassers	4	@ 5
Pork, country dressed, 10 to 25 lbs., per lb	7	@ 9
40 to 60 lbs., per lb	6	@ 6½
60 to 80 lbs., per lb	5½	@ 6
80 to 120 lbs, per lb	5	@ 5¾
125 lbs and up, per lb	4	@ 4¾

NUTS.

Peanuts, Va., h. p., fancy, per lb	3½	@ —
H. p., extra, per lb	2½	@ 2¾
Shelled, No. 1, per lb	4	@ 4¼
No. 2, per lb	3½	@ —
Spanish, shelled, new, No. 1, per lb	5½	@ —
No. 2, per lb	3½	@ —
Pecans, ungraded, per lb	4	@ 5
Chestnuts, northern, per bush of 60 lbs	4 50	@5 50
Hickorynuts, new, per bushel of 50 lbs	1 50	@1 75

POTATOES.

Long Island, in bulk, per bbl	1 25	@1 50
Maine, per sack	1 10	@ —
State, per 180 lbs	1 00	@1 12
Jersey, per sack	1 00	@1 15
Jersey, per bbl	1 00	@1 25
Sweets, Va., yellow, per bbl	70	@ 80
Jersey, yellow, per d. h. bbl.	1 00	@1 25
Vineland, per bbl	1 00	@1 75

POULTRY—LIVE.

Spring chickens, per lb	8	@ 9
Fowls, local, per lb	10½	@ —
Western, per lb	10½	@ —
Southwestern, per lb	10	@ —
Southern, per lb	10	@ —
Roosters, old, per lb	5½	@ 6
Turkeys, mixed, per lb	8	@ 10
Ducks, local, per pair	70	@ 90
Western, per pair	65	@ 80
Southern, per pair	40	@ 50
Geese, local, per pair	1 25	@1 75
Western, per pair	1 25	@1 37
Southern, per pair	1 00	@1 12
Pigeons, old, per pair	25	@ —
Young, per pair	20	@ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10	@ 11
Young, dry-picked, per lb	10	@ 11
Young, scalded, per lb	9	@ 10
Young, inferior, per lb	5	@ 8
Spring chickens, Phil., selected, per lb	13	@ 15
Philadelphia, poor to good, per lb	9	@ 12
Western, dry-picked, good to choice	9	@ 9½
Western, dry-picked, inferior	5	@ 8
Western, scalded, choice, large	9	@ 9¼
Western, ordinary, per lb	6	@ 7
Fowls, Western, dry-picked, choice	7½	@ 8½
Scalded, choice, per lb	7½	@ 8
Old cocks, per lb	5½	@ 7
Spring ducks, Eastern, per lb	12	@ 15
Spring ducks, L. I., per lb	12	@ 15
Spring ducks, Penn. and Va., per lb	10	@ 12
Spring ducks, Western, per lb	10	@ 11
Old ducks, Western, per lb	7	@ 9
Spring geese, Eastern, per lb	14	@ 15
Squabs, tame, white, per doz	2 00	@2 25
Mixed lots, per doz	1 50	@1 75
Dark and poor, per doz	1 00	@1 25

VEGETABLES.

Cabbage, L. I., per 100	2 00	@2 50
Red, per 100	3 00	@3 50
Carrots, per bbl	60	@ 75
Cauliflower, L. I. and Jersey, per bbl	75	@1 00
Celery, fancy, large, per doz	40	@ 50
Average, prime, per doz	20	@ 25
Small, per doz	8	@ 15
Cucumbers, Florida, per crate	1 00	@2 00
Egg plant, Florida, per bbl	1 00	@3 00
Florida, per crate	75	@1 25
Lettuce, Boston, per doz	25	@ 40
New Orleans, per bbl	3 00	@4 00
Lima beans, Hackensack potato, per bag	1 25	@1 50
Jersey flat, per bag	50	@1 00
Onions, Eastern white, per bbl	2 00	@3 50
Eastern red, per bbl	1 50	@1 75
Eastern yellow, per bbl	1 25	@1 50
Orange County white, per bag	1 00	@2 50
Orange County yellow, per bag	75	@1 12
Orange County, red, per bag	75	@1 50
Jersey and Long Island yellow, per bbl	1 00	@1 25
Jersey and Long Island red, per bbl	1 25	@1 37
Jersey and Long Island white, per bbl	1 50	@2 50
State and Western yellow, per bbl	1 00	@1 12
State and Western red, per bbl	1 25	@1 37
Pumpkins, per bbl	40	@ 75
Red peppers, per bbl	1 00	@1 50
Green peppers, Jersey, per bbl	40	@1 00
Spinach, per bbl	—	@ —
Squash, Marrow, per bbl	60	@ 75
Hubbard, per bbl	75	@ —
String beans, Norfolk, per half bbl basket	40	@1 00
Charleston, green, per bushel basket	65	@ 75
Charleston, wax, per bushel basket	50	@1 00
Turnips, Jersey and L. I. Russia, per bbl	50	@ 70
Canada, per bbl	60	@ 70

WOOL.

XX and above, Ohio	18	@19
X, Ohio	15	@16
Other grades	20	@22
Washed combing and delaine	18	@23
Unwashed combing	17	@20
Texas, medium to choice	10	@13
Fine and medium, fall clipped, Texas	9	@10
California	9	@15
Oregon	12	@13½
Territory	7	@14

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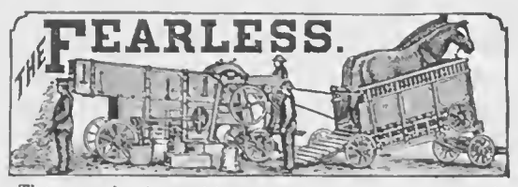

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THE AMERICAN JERSEY COW.

Is She Superior to the Island Jersey?

THE QUESTIONS.

1. Has the time come when it is no longer necessary to import Jerseys for breeding purposes? Why should foreign blood be needed? 2. In what respects is the typical American Jersey cow a better animal than the present-day cattle on the Island of Jersey? 3. How much have climate and soil conditions to do with this improvement? In what part of the country are the best Jerseys to be found? Is it probable that, after 20 years of future breeding, the Jersey of the Gulf States will be a quite different animal from a Jersey bred and reared as far north as Michigan?

The Tennessee Jersey.

I do not think it at all necessary to import Jerseys from the Island of Jersey, especially for the benefit of this section, as we have that blood tracing through all the noted herds of this country. So I can't see why foreign blood is needed. You can see from the records that the little Jersey stands at the head, and more than that, the majority of them come from old Tennessee. I think that we have as good Jerseys as any State in the Union. I can't see why Jerseys bred in Michigan should not be like those raised in the Gulf States. D. P. CARTER.

Lynnville, Tenn.

Northern Jerseys Best.

I do not see that any valid reason exists why we should continue to import Jerseys. I consider that the American Jersey has more vitality than the Island cow, and is not so effeminate. The best Jerseys appear to be grown north of latitude 36 degrees. It is highly probable that, south of latitude 36 degrees, if not 39 degrees, will be found unfavorable to the highest development of the Jersey cow both as regards constitution and capacity. J. G. BIGHAM, M. D.

Millersburg, O.

A Maine Breeder Talks.

1. In the main, I think that we can get along without new blood from the Island of Jersey. Occasional importations of the very choicest blood would be wise and helpful to American breeders. We need foreign blood only to preserve the Jersey type in its original form. Some importers say that American breeders, by heavy grain feeding, are making the Jersey a beef animal, losing the dairy type and functions. The Islanders, by their economical feeding, largely forage and roots, preserve and enhance the dairy form.

2. The typical American Jersey is a larger, coarser, stronger animal than the Island cow; a larger milker, larger teats, a squarer, handsomer udder. The first Jerseys I had were imported, or near to imported, animals. They were small milkers, with very small teats. I bred for improvements in those directions, and I think that the whole course of American breeding has been on the same line.

3. These questions bear away from my experience, and smack so much of the future that I forbear to answer. I think, however, that there will be a difference between northern and southern-bred Jerseys after a term of years.

GEO. BLANCHARD.

Cumberland Center, Me.

Blue-Grass Jerseys Best.

1. If we can get just as good performers here, why not encourage home industries? I think that this country has produced greater cows, by far, than ever came from the Island, although some of our best are close up to imported stock. Yet I think that, with all the good blood we have here, it is possible, with intelligent breeding, to reach just as high an ideal as though we were to use blood direct from the Island. Therefore, I think it no longer needful to import.

2. My experience with cattle raised on the Island is very limited, but from what I have seen, they are not so rugged and hardy, therefore will not stand the great amount of work that our American-bred cattle will. I don't know what makes the difference, unless it is the climate and feed, the same that makes the American the most energetic and progressive man the earth has ever produced.

3. I should look for more great performers from a section where the so-called Kentucky Blue grass is natural to the soil; but as this grass (and with it all other kinds of provender), grows luxuriantly over a large portion of country, from the valley of Virginia to Canada and from eastern Pennsylvania and Maryland to the Missouri, it would be hard to locate any one small section where Jerseys should attain to a greater degree of excellence, unless it be in a community where the people have spent their whole lives for generations in breeding and feeding for the same high results.

The last question is already answered by the fact that the Gulf States do not and, I believe, cannot grow the kind of provender that, when judiciously fed, puts the greatest number of pounds on the back of a steer, or in the udder of the Jersey cow. Therefore, they cannot grow the same type of animal that the Northern States do, although, with the best they do produce, they may be able to grow and maintain great workers among the Jerseys. JOS. T. HOOPES.

Bynum, Md.

No Use for Island Cows.

I see no necessity for importing either cows or bulls from the Island of Jersey. I believe that the herds of Pennsylvania and New England are second to none on earth, for butter and milk. In breeding for perfection, quality, etc., the American Jersey herdsman is at the head. I think the Jerseys north of the Kentucky line, far superior to those raised South, although Tennessee has some good herds. Jerseys shipped from Michigan and north to Texas must go through climatic changes before being worth a dollar.

Lafayette, Ind. O. C. GOLDSMITH.

American Jersey Larger.

1. Formerly, when but few Jerseys were owned in this country, and it was difficult to obtain new blood with which to cross the herds, importation was essential; but now there are so many strains of Jerseys in this country, of but far distant blood kin, they have become thoroughly acclimated, and for generations, have been bred to the purpose, that it is folly to import Jerseys.

2. The present typical Jersey cow is of a larger type and more vigorous constitution than the Island Jersey, and as the American Jersey has been bred and worked for generations to a higher plane for the production of butter, she excels the Island Jersey in this.

3. We think that the milder climate would have much to do in the yield of the cow, but at present, equally as many, if not more of the tested cows are above the line of the Ohio River. Owing to the vast interchange of breeding stock between the Gulf States and the other States, we do not think that the types of the two sections of country will ever vary greatly; yet should the Gulf States hold exclusively to their own Jerseys without bringing new blood from other sections, they would, undoubtedly, cause a change in type.

Tamaroa, Ill. ROOTS & KIMZEY.

South Most Like the Island.

1. While it is not absolutely necessary to import any more Jerseys, yet the time will never come when it would not be good breeding policy to import good individuals from the Island or elsewhere. The original imported animals, well selected, develop wonderfully well when brought to this part of the country, and if they are now as good on the Island as they were 15 years ago, are very prepotent in stamping their strong individuality upon our cattle here.

2. I am not sufficiently acquainted with the Jersey in her native Island at present to answer, except to say that I am inclined to think that Tennessee furnishes the best type of the Jersey cow to-day. I fear that there is a tendency further north to feed and breed for too large cattle, rendering them coarse and inclined to beef.

3. I believe that the Middle South has the best climatic conditions for the Jersey, being nearer those of the Island of Jersey. Yet the present environments and unreliable help will, for years, prevent the proper development of the industry of breeding and dairying.

Athens, Tenn. W. GETTYS.

Jerseys Good Anywhere.

1. We have Jerseys equal to any in the world—tests and size of our Jerseys show it—foreign blood is not needed. In the sixties and seventies, men able to select the best, and with means to buy the best, went to the Island of Jersey and gave us the best individuals and strains.

2. We are breeding larger cattle, and they have more capacity for cream and butter.

3. Climate and soil have but little to do with Jerseys. In Vermont, Maine, Washington, Texas or Florida, the Jerseys will give liberal returns and a good profit for good care and good feed. The best Jerseys in the United States are scattered from the Atlantic to the Pacific. No State can boast of the best, any more than any State can boast of having the best soldier from 1861 to 1865 It was the leader who enabled them to win. It is the leader or caretaker, in

(Continued on next page.)

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The Average Farmer

may not know that by cooking he can double the bulk and value of meal for horses, cattle and pigs.

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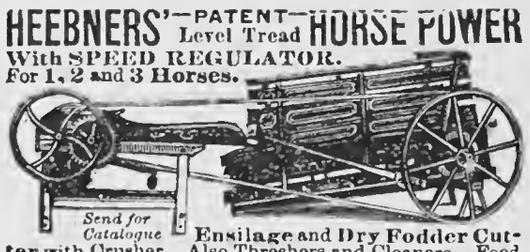

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ALL GROUND GRAIN IS DIGESTED.
No hogs need follow where the

Scientific
IS used. The four sizes, for steam, grind all kinds of grain shucked or unshucked Also horse power grinders.
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SMOKE YOUR MEAT WITH
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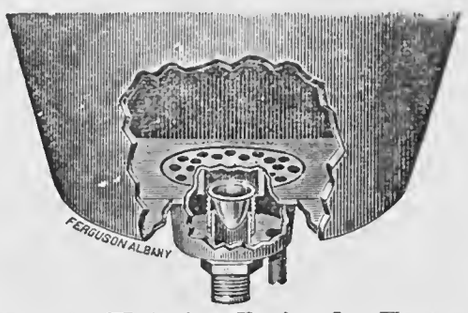
SEND FOR CIRCULAR. E. KRAUSER & BRO. MILTON, PA.

BUCKLEY'S IMPROVED BASIN.



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WRITE FOR CATALOGUE.
C. E. BUCKLEY & CO., Dover Plains, N. Y.

The American Jersey Cow.

(CONTINUED.)

Jerseys or any other stock. The State that raised a Jesse James raises "Merry Maiden." The State that was short of men in 1861 to 1865, and sent an eagle, raises a "Brown Bessie" and many other good ones. I do not think that the Jerseys will be any different in the Gulf States from those in New England or any other part of the United States. Give them feed and care, and their good products will be wanted as well as their attractive ways and companionship, by people who love flowers and birds, nature and animals. B. E. BULLOCK.

Toledo, O.

The South for Jerseys.

1. I believe that we have as good Jerseys in the United States as can be found on the Island of Jersey. I can see no benefits to be derived from new importations.

2. As I have had but little experience with imported cattle, I am not prepared to give an answer.

3. I think that the best herds are to be found in the South, and am inclined to think that they would do better in that climate than farther north. I think that, if kept in that climate for 20 years, they would be somewhat of a different type from those kept farther north.

Trenton, Mo. E. B. COOPER.

NORTHERN CATTLE AT THE SOUTH.

Is there any real preventive for murrain or acclimation fever in northern cattle, and which would be the safest time in the year to ship cattle from Pennsylvania to Virginia, or vice versa?

The disease known as acclimation fever, murrain, Texas fever, red water, etc., has been the subject of much painstaking experiment by the United States Department of Agriculture. When the goverment veterinarians announced that this disease was due to germs inoculated into the animal system by the bite of a tick it was, by some, considered "a romance of pathology"; but true it is. As soon as people take hold of the subject of extermination of the Ox tick (Boophilus bovis, Curtice; Ixodes bovis, Riley) in earnest, it will be as safe to ship cattle back and forth from the Carolinas to northern points as it now is between any northern places. Cattle kept free from, and not exposed to, ticks are not liable to attack from this disease. Even cattle, native here, but kept free and turned out where ticks abound, are killed off by the disease. One of our Raleigh dairymen lost 10 cows in this way only last month. Dr. Cooper Curtice assured me that it might be a valuable use to which to put our station herd of cows, to get prominent stock breeders to come and see the herd, and see them turned out where ticks abound (exposed), and then follow the result Nothing short of such a measure will catch and hold the attention of some of our people who would be benefited by this extermination of cattle by awakening them to the importance of action on the tick question.

The government limits for shipping cattle between Carolina and northern points are from November 15 to February 15, for points east and south of the summit of the Blue Ridge Mountains. West and north of these the country is free from ticks, and cattle can be sent to, or from, those northwestern counties of North Carolina at any time, with perfect safety. The quarantine line runs up from the North Carolina line to Richmond and on east, leaving the western and nothern portions of the State, which are free from ticks, untrammeled as to movement of cattle.

If THE R. N.-Y. correspondent wishes to move stock to or from North Carolina, the time will be at hand by November 15, when the veterinarians declare that he can do so with safety. There are some herds of fine cattle here, representatives from which have gone to many States and Canada. There is also room for very many more here, and we welcome any efforts from any source which tend to spread a knowledge of the fact that it rests with the people of each and every county which is discriminated against as to moving cattle, to clear themselves from it by exterminating ticks.

But one other point has nearly been overlooked. How to treat northern cattle in the South? Just as they should be treated north, except that they should not be turned out to graze over tick-infested meadows and wood lots. One will need to look out a little more carefully for shade in feed lots and pastures than is necessary at the north. Also one can be much more lax about winter housing, without adopting the southern extreme. I have seen cows standing in a rail-pen barn, with a little corn shucks and fodder overhead, and the cracks as large as the rails. The north wind was carrying the snow straight through, and if the animals laid down at all, it must have been on snow as deep as the lower rail was high. That was in the mountain region. One would need to provide less carefully to keep out cold, and more so to let in a circulation of air in proportion to the location from the mountains to the sea. Western North Carolina climate, from being so high, is not so very much different from that of Pennsylvania, New York, and southern New England, only the winters are milder and shorter But farther southeast, there is a great change. Here at Raleigh, night grazing for cows that are shut into shady yards days, is best for keeping up the yield of milk in summer. Soiling, in the tick-infested districts, is the only safe system to employ with northern stock, until one is sure of the absence of ticks from areas needed for grazing, and then restrict the range to safe areas or risk losses. FRANK E. EMERY.

OIL MEAL FOR YOUNG STOCK.

In answer to G. D.'s question on page 656, in regard to feeding oil meal, I will say that I am feeding a young calf on linseed meal and skim-milk. I commenced by giving about a teaspoonful at a feed, twice a day, and have increased the feed, the calf being now four weeks old, to what I can take at once in one hand to one feed. It's as nice a calf as you would care to see. I am feeding it skim-milk from the creamery, which is not over rich in butter fat. Three or four parties in this vicinity have raised calves in this manner for two years, and consider it a very cheap way. Many think that skim-milk from the creamery is no good for calves. J. C. H.

Grass Lake, Mich.

OIL MEAL FOR PIGS.—I have used old-process oil meal with bran for making slop for pigs, one pound of the meal to four pounds of bran; or the ration could be narrowed still more, by using one pound of the meal to three pounds of bran. In farm practice, when the pigs have the run of pasture, and have other grain, either combination will answer. Pigs do not like slop made from bran alone, neither do they relish the oil meal at first, especially if they have been accustomed to other slop.

In mixing the bran and oil meal, it should be carefully shoveled together, to get it evenly mixed, otherwise the meal will form in lumps when the water is thrown over it. I fed after soaking the mixture 12 hours. Were I to use it now, I would mix carefully, and pour dry into the troughs, and then dampen with skim-milk, kitchen slops, or pure water. Then open the gate and let the pigs eat it fresh; this would save handling the slop from the barrel. It must be remembered that pork must be made now along cheap lines. The pigs eat it as well fresh as after soaking from one feeding to another. JOHN M. JAMISON.

HUNGARIAN GRASS FOR STOCK.—The value of Hungarian hay for horses or cows, depends very largely upon the time of cutting, and the method of curing. If cut before the seeds are mature, and cured properly, it makes a most valuable hay for either horses or cows. One reason why Hungarian is dangerous as feed for horses, is that the seeds form balls in the stomach. The safest and best way to feed it to either horses or cows, is to feed with some other hay. The two may be mixed at one feed, or one fed in the morning and the other at night. The following comparison of millet and Timothy hay may aid in giving an idea as to the relative value of the two:

	Protein.	Fiber.	Nitrogen. Free extract.	Fat.
Millet	7.5	27.7	49	2.1
Timothy	5.9	29.0	45	2.5

It is, probably, more valuable as a feed for cows than for horses, and as will be seen by the table above, it compares well with Timothy hay. L. A. C.

I was taken with a harsh, dry Cough. I grew steadily worse. My neighbors thought I was going into that dreadful disease, consumption. A friend recommended Jayne's Expectorant, which I tried, and in less than 10 days I was cured.—(Mrs.) W. A. GROVE, Sterling Center, Maine, October 31, 1895

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DEAR SIR: I want to add my testimonial to your list recommending Tuttle's Elixir for curbs, broken tendons, thrush, and nails in the feet. I have used it on all of these cases many times, and never failed to make a cure.

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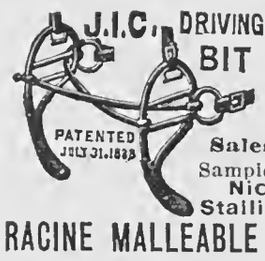

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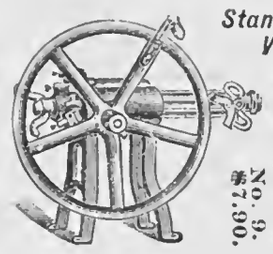

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Now summer turns to fall;
And flannels left us from last year
Will not go on at all.

—*Chicago Record.*

WE begin to hear of many disastrous explosions about this time of year. The wintry blast is already blowing up the valleys.—*Puck.*

UTILITY.—Mother: "Your penwiper has never been used at all." Little Johnny: "Don't need it, my new pants is black."—*The American.*

ISAAC: "Oh! Rachel, you vas de light of mine soul!" Rachel (shyly): "Den vy don't you turn down de gas, Isaac?" "Vat, und me a stockholder!"—*Life.*

MRS. A.: "Do you use condensed milk?" Mrs. B.: "I think it must be condensed. There is never more than a pint and a half in a quart."—*New Orleans Times-Democrat.*

A GEORGIA man applied for a divorce on the ground that his wife "had whipped him in the presence of company." The jury granted him a divorce, returning the following verdict: "In the opinion of this here jury the wife committed a grave offense in publicly whipping the plaintiff. She should have taken him to the barn or to a room when whipping was necessary."—*Atlanta Constitution.*

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We address ourselves to the dairy farmer particularly:— Keep only the best of cows. Test them constantly and carefully and weed out the unproductive ones quickly. Feed them well and economically according to varying feed prices. Read the best of Creamery and Dairy publications. Practice absolute cleanliness. Use only the best of all utensils. If you patronize a creamery see that it does this, and make sure it uses an "Alpha" De Laval Cream Separator, without which it must waste a fair profit for you in separation alone. If you make up your own butter, learn how to make the best of butter and to waste no butter-fat. See that you have a "Baby" De Laval Cream Separator, and don't waste your money and a considerable percentage of your product in a so-called "cheap" and infringing imitation machine. Find the best market for your butter, set a fair price on it and do not be content until you get it.

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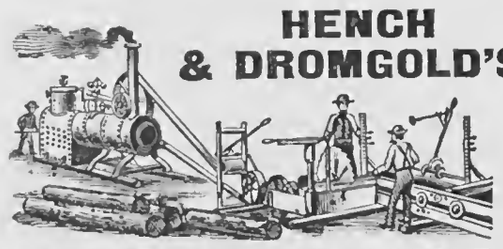

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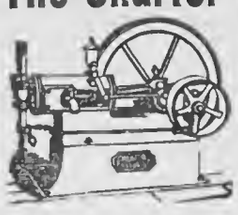

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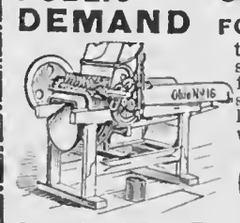

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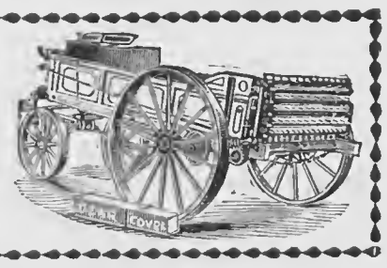

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2443. NEW YORK, NOVEMBER 21, 1896. $1.00 PER YEAR.

FREE COINAGE OF GOOSE GREASE.

RHODE ISLANDERS TURN IT INTO MONEY.

A Great Business In a Little State.

[EDITORIAL CORRESPONDENCE.]

Tucked away in odd corners of this great country one will often find peculiar agricultural practices or farm products that are strange to the majority of outside farmers. In one township of Vermont is grown most of the Valerian root used in American medicine. In a few places, the culture of Ginseng has been made something of an industry. At one point in New York State, the culture of Teasels to be used in carding is a profitable business. In most cases, this odd culture has to do with crops that are limited as to market demands. A few localities produce all that is needed, and the demand cannot be increased. The few who produce the crop say as little as possible about their work. It is to their advantage to keep their methods a secret, for, were their profits generally known, others would take up the same line of work, with the result that the supply would be far greater than the demand, and all—both old timers and new comers—would farm without profit.

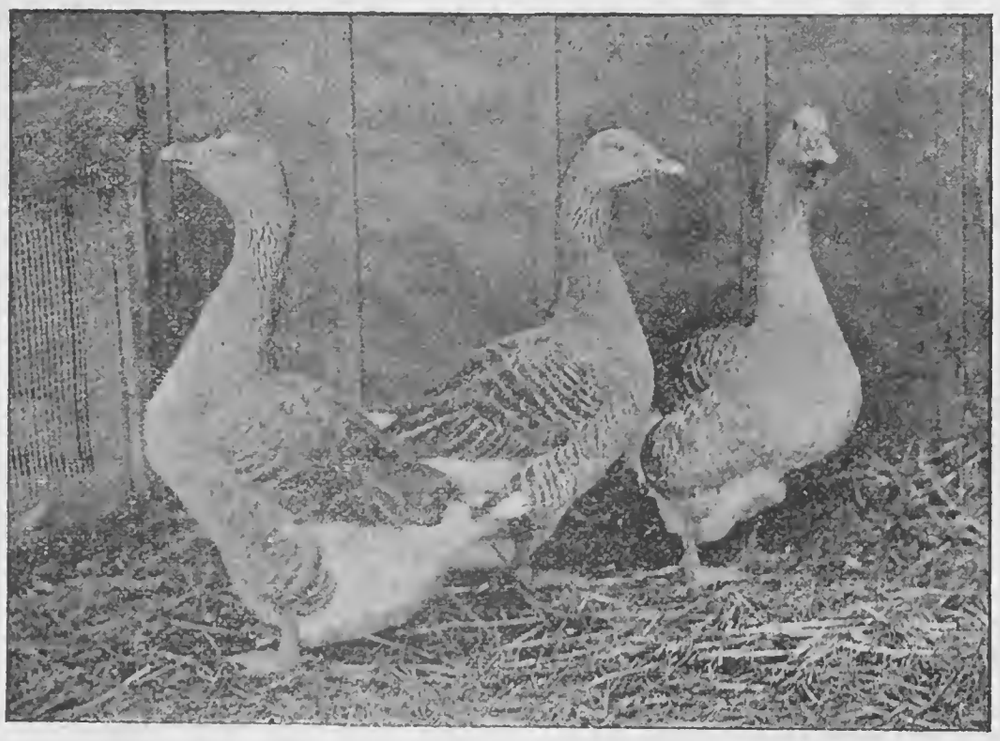
The business of raising geese in Rhode Island is a case in point. In past years, fortunes have been made by some farmers in the little State, in breeding and fattening geese. Well aware that they had a good business, these farmers have said but little about it, and farmers in other parts of the country have not known how the goose has been fattening the Rhode Island pocketbook. A few years ago, the Rhode Island Experiment Station undertook to ask the goose some questions about the best plans for breeding and fattening her greasy children. The wise bird gave such satisfactory answers to these experiment questions, that the facts about the business began to come out. Last July, I visited the station to see a lot of cross-bred geese that had been grown by the "new method", and there Director Flagg and Mr. Samuel Cushman told me something about the way in which the Rhode Islanders make a goose chase after wealth.

"They say that a goose eats all before and ruins all behind", said Director Flagg, "but that has not proved so in our case".

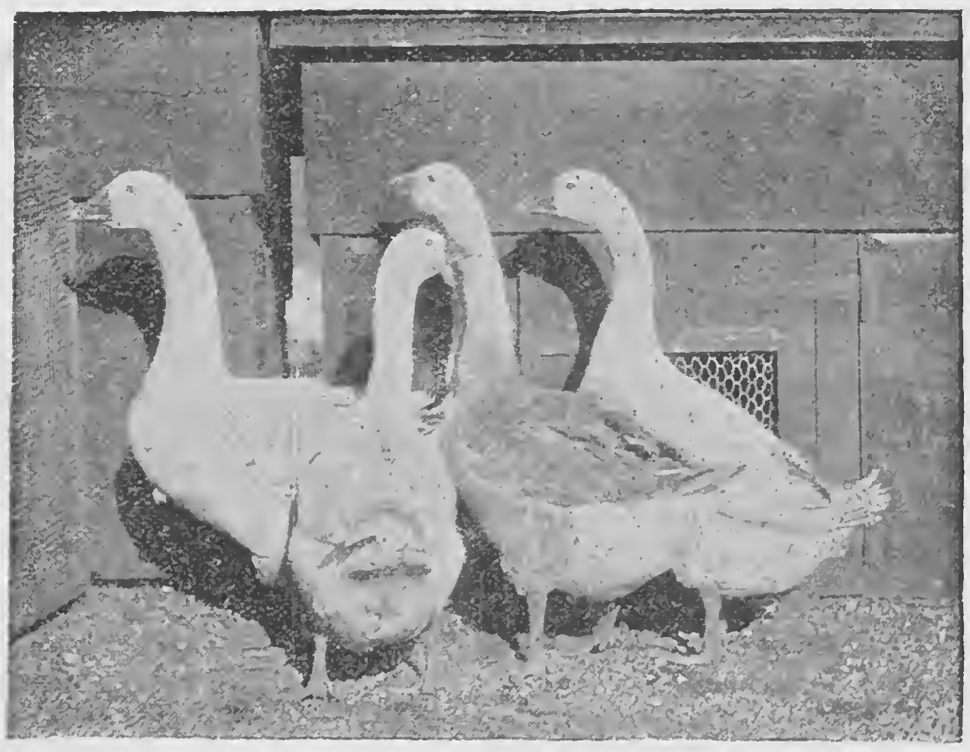
A goose is as much a grazier as is a cow or sheep. With its hard, flat bill, it nips up the grass as easily as a sheep crops the pasture. At the Rhode Island Station, an effort was made to produce a cheap goose pasture by sowing a succession of crops and changing the geese from one part to another. A large flock of young goslings was at work in a field of oats and peas. Ordinary wire netting, 18 inches wide, was sufficient to hold them. Late last fall rye was sown at the rate of four bushels per acre. This made a thick, heavy growth in the spring, and the geese ate it down several times. Several sowings of oats and peas were made, so that there was always a patch of green stuff. Evergreen sweet corn, sowed thickly, made a fine food for the older geese, and several patches of rape were put in a handy place for inclosure. The geese are very fond of rape and corn. They do not like buckwheat.

As soon after hatching as is safe, the goslings are turned into thick pasture. Enough for two days' feeding is used at one time, and then the wire is changed to another part of the field, and the place already pastured grows up again. In addition to the pasture, 50 young geese receive four quarts of mixed cracked corn and wheat every day. Under this system, 200 geese can be pastured on an acre up to eight weeks old, at which age they are taken to a smaller pen and fattened by feeding cracked corn and beef scraps with sweet corn stalks.

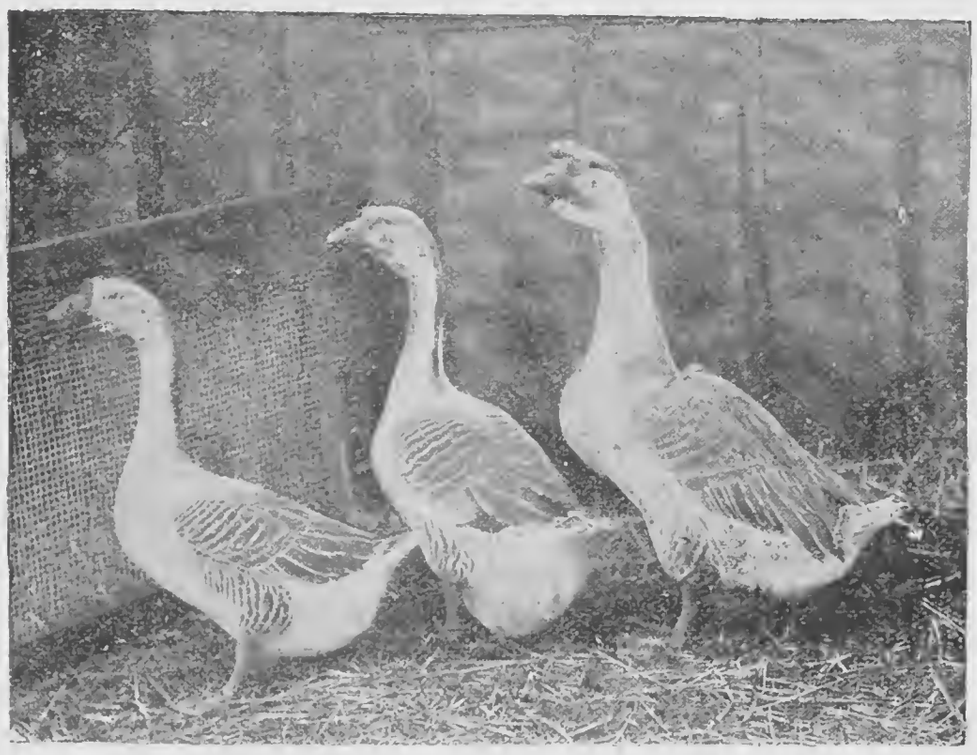
Geese are, certainly, the most remarkable drinkers it has ever been my lot to observe. At least once every 10 minutes, one member of the flock would raise its head and say as plainly as a politician could, "Let's



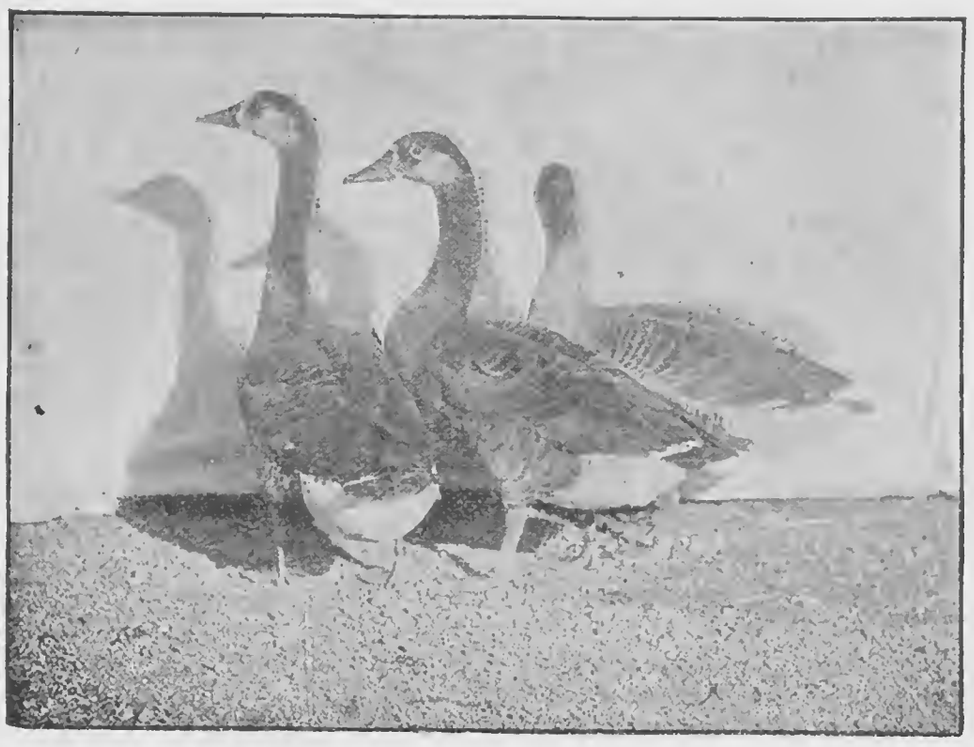
PURE TOULOUSE GEESE (YOUNG). FIG. 246.



EMBDEN AND TOULOUSE CROSS (YOUNG). FIG. 247.



AFRICAN GEESE (ADULTS). FIG. 248.



MONGREL, WILD AND AFRICAN CROSS (YOUNG). FIG. 249.

GEESE AS BRED AT THE RHODE ISLAND EXPERIMENT STATION.

take a drink!" Then they would all toddle up to the water dish and drink, after which they would go back to their feeding. A flock of 60 large geese consumed 30 buckets of water every day. A goose thirst is, certainly, an uncomfortable thing to have on a hot day.

This plan of close pasturing on special crops is new, and is likely to change the system employed on many Rhode Island farms. Heretofore, the geese have been pastured on ordinary grass lands. With these special grain crops, providing food on one acre for 200 geese, it is possible largely to increase the product from a single farm. In the large pastures, the goslings are sometimes lost by getting turned on their backs in some hollow place. They are unable to turn back, and will die if not relieved. A goose knows enough to turn them back, but a hen does not.

Geese are peculiar among farm animals in the fact that they do not breed indiscriminately. It is necessary to mate them, and after geese and gander are happily married, each family is kept by itself in a good sized pen large enough to afford exercise, and with a tub or little pond for washing and swimming. Unless the breeders take plenty of exercise, a good share of the eggs will be infertile. The average proportion is, probably, one gander to four geese, though some of the best breeders use but two geese in the pen. A gander from five to eight years old bred to older geese, gives the best results. Young geese are not, as a rule, reliable breeders, as a good proportion of their eggs are likely to be infertile. Many persons have given up goose breeding in disgust because they started with young stock, and did not find the eggs reliable. It would be just as reasonable to start with young colts and expect to breed horses from them!

As the eggs are laid, they are usually taken from the goose nest and put under hens for hatching. Sometimes, after laying one litter, the goose proceeds to line her nest as an indication that she wants to sit. Then the owner shuts her up in a dark box for a few days, and the foolish (?) bird forgets about incubating and starts in to lay another litter of eggs. At the end of the second litter, she may be permitted to sit, but most of the hatching is done by hens which can cover six or seven of the big eggs, The goose is a wise parent; when she leaves her nest, she covers the eggs so that the warmth will be retained.

It is noticed that goslings brooded under hens cannot stand storm and wet like those with a genuine goose nurse. The goose secretes an oil which covers the feathers of the goslings so that, when they run under the goose, they will dry off. This is not so with the hen, and her goslings suffer in consequence. After they leave the hen, the goslings spend a week in the incubator, and are then turned out to pasture. Left to themselves, the little things would stay out in rain and storms, but they must be driven under shelter during bad weather. When about two months old, the young geese are put into small, well-shaded pens, and fattened so that, when 10 weeks of age, they will average about nine pounds.

The goose lives to a great age, and retains its vigor. One breeder tells a story of a goose 101 years old, that laid 15 eggs, and was sitting on them when a horse came near her. She ran out and caught hold of its tail and was killed—otherwise she might have rounded out another century! There are recorded cases of geese that were laying in full vigor at 30 years or older. The goose is, also, the hardiest bird known to the farmyard. She will stand out in cold and wet, and little short of a heavy snowstorm will drive her under cover. She is an exceedingly wise bird, and it is a most interesting sight to see a drove of geese marching about the pasture.

The ganders can fight like demons when aroused. Their method of fighting is to get a firm hold with the bill, and then strike with the wings. A wild gander can strike in this way hard enough to break a man's arm. Such a bird could make things lively for a man if it got a firm grip on his boots or trousers. With their regular attendants, however, the geese are quiet and peaceable. The geese are easily disturbed at night, and will make an awful noise when alarmed. Director Flagg tells of a man who said, when he came home late at night, that he could usually get past the dog well enough, but the old gander was sure to arouse his wife and the rest of the family!

Breeds of geese are almost as distinct as breeds of cattle. The Rhode Island Station has been making some elaborate experiments to determine which cross is best for producing fattening geese. The cross of Embden gander on Large African geese gives an excellent market bird. The Toulouse geese are very large, but they are slow and sluggish, and not the best for all purposes. Fig. 249 shows a mongrel obtained by crossing the wild gander on the African goose. The wild ganders are obtained by shooting into wild flocks, and thus obtaining a gander with a broken wing. This gander, after much trouble, is mated with a tame goose, and the product is a bird that will sell far above the average market price. It has been thought that these mongrels are sterile, but they will breed if kept long enough.

Statements as to the profits in goose farming are hard to obtain. Mr. Wm. Rankin, a breeder of long experience, says that he once put a goose and gander in a pen by themselves as an experiment. The goose laid 51 eggs, of which 37 hatched. One gosling was killed and the remaining 36 sold for $81.47! Under the "new method" of pasturing adopted by the Rhode Island Station, I should say that $60 of this would be clear profit. Of course there is no use saying that any man can start with two geese and make $60 a year from them. It is a business that requires long and careful study. To succeed in it, a man must really make a goose of himself. That means that he must be patient, observing, gentle and untiring in his work, besides being a student of the wisest bird that ever walked the barnyard. If there were more such mental crosses between the goose and humans, the world would be better off. Many of these geese are sold to Jews who use the goose fat in place of lard and butter.

One serious objection to the goose business is the awful noise a large flock can create when they sing in concert. One farmer in southern Rhode Island had, formerly, 10,000 geese on his farm at one time. It is said that their chorus could sometimes be heard eight miles away, when the wind was right. A good business for a deaf man, one would say! H. W. C.

KANSAS STEER FATTENED ON LINSEED MEAL AND CORN. FIG. 250.

A FAT KANSAS STEER.

The steer shown at Fig. 250 was one of a lot of 12 fattened by L. L. Roby, of Topeka, Kansas. Some of our Eastern readers will be interested to know how the polish was put on this beef.

Mr. Roby calls the steer a "scrub" because it did not show strong markings of any particular breed. It was, evidently, a mixture of Galloway, Short-horn and "native." He says that the black cattle do not take on fat as well as the red ones. The 12 steers were bought at the Kansas City stockyards. They were all dishorned, and were from 2½ to 3½ years old. Three years is young enough for such cattle. It is best to take them just as they finish their rapid growth, and then put the fat on them quickly.

The steers were turned into an open yard, the only shelter being a sideless shed in one corner large enough to protect the feed troughs in stormy weather. Hay was fed in a small rack, and fresh water was supplied in an open trough. The grain fed consisted of a mixture of equal parts of crushed corn and linseed meal. Beginning with a small amount, this was increased till the steers finally received 23 pounds each per day. With this heavy feeding, the steers ate but little hay—seldom over three or four pounds each per day. In 75 days of such feeding, the 12 steers gained 4,610 pounds, an average of 385 pounds per head, or over five pounds per day! They were never sick, but were smooth and sleek all through the feeding. Hogs were put with the steers, and these made an excellent growth from what was left in the manure.

This test was made several years ago, when bran and other foods were higher in price. We asked Mr. Roby if he would use the linseed this year. He replies:

"Now, bran is lower in price, so are corn and linseed meal, so that the ratio is about the same now as when I made the test. Several of my neighbors are already feeding; they use corn and linseed meal, mixed about five pounds of meal and 15 to 18 pounds of corn to a feed. I shall not begin feeding till next month, when I shall follow, practically, the same course as before. There is really nothing to compare with the linseed meal, for certain results, and I have never known it to be out of proportion in price, as compared with corn. The price of one always affects the price of the other, and they go up or go down about alike in price."

We think that the most successful feeders now generally realize that, where one is feeding large quantities of corn, it is an advantage to add a quantity of some food that is laxative in its effects. Ensilage tends to keep the bowels open, while dry corn and fodder are constipating. Bran, fed with crushed or cracked corn, will keep the system in order, so that more of the corn will be digested than would be the case if it were fed alone. Linseed meal is even better for this purpose, and while Mr. Roby's ration of over 11 pounds of the substance per day will appear remarkable to most of our readers, the results are, certainly, satisfactory.

HOW TO MAKE A DAIRY COW.

START EARLY AND STAY LATE.

An eminent writer said that a child's character was formed 100 years before the child was born, and this is about the case with the dairy cow. If we wish to raise a dairy cow, and be reasonably sure that she will be a good one, we should start with a calf from stock that has been bred in dairy lines for, at least, 100 years. Of course, a good cow, and perhaps, a remarkably good one, may come from the most indifferent breeding; but such a cow is a freak, and her offspring will be very likely to be just what her ancestors were. I should greatly prefer to raise a calf from a small-producing cow that was bred from great-producing ancestors, because this cow would also be a freak, and her offspring would be likely to take back also; but I think not so likely as in the first instance, for it seems a deplorable fact that it is easier for things to degenerate than for them to improve.

As we are to raise a good calf, we will start with good, well-bred parents, and presume that the calf is to be dropped in the spring. We must see that the dam is in good condition during the period of gestation. She must not be allowed to become constipated or out of condition by too much coarse, dry feed; neither must her bowels be kept open by too liberal a supply of salt; but rather feed her a sufficient quantity of roots, or bran and oil meal to produce this result. Let the dam be milked well up to the time of dropping the calf, say six weeks, and as long as she does not become fat, do not be afraid of feeding her, but feed lightly of corn meal.

I always try to be on hand when the calf arrives, and milk the cow before the calf sucks. The little one will, generally, get enough after the cow has been milked, and she will be likely to retain a portion of it. If the mother is nervous and her udder swollen, I sometimes leave the calf by her side for a day or two, but never longer, and I have about made up my mind that the sooner the calf is removed from the presence of the cow the better.

In teaching the calf to drink, I never use any force. I do not try to hold her head in the pail, for this frightens the little thing, and diverts her attention from drinking. I handle her gently until she is not afraid of me, then dip my fingers in the milk, and place them in the calf's mouth. Sometimes it is necessary to pour a little down her throat from the hollow of the hand, to make her taste it, but, generally she will begin to suck at once. I hold up the pail until her nose is in the milk, and when she begins to suck readily, withdraw the fingers very carefully, letting them simply rest on her nose. I may have to repeat this a few times; but the first I know the calf has learned to drink.

I usually give them milk fresh from the mother for a few days; but as Jersey milk is very rich, it is well to remove part of the cream and feed after warming it. When the calf is three or four weeks old, I put her on to whole skim-milk, to which is added a gruel made of oil meal. Of course, the change from new to skim-milk is gradually made. At first, I give the calf only a heaping tablespoonful of oil

meal allowed to come to a boil in about a pint of water. This is increased until, at the age of two or three months, I give her a teacupful in, say, three quarts of water with enough milk to make her plump and satisfied. The hot gruel will warm the milk so, while one must take the trouble to make the gruel, he does not need to warm the milk also. At about four weeks old, the calf will begin to pick up bits of her bedding, and then she should be supplied with a little fine hay. At, say, two months old, I nail up a box where she can get to it, and give her a little bran or oatmeal. I let them have all the bran they will eat. It will not fatten them, and is a very fine bone and muscle former.

I am inclined to think that it is best not to turn the calf out to pasture the first season, for the grass is likely to produce diarrhea, and if exposed to a cold rain, it will sometimes catch a cold, and the first we know, we have only a calfskin left. Give the calf as much room as possible; but don't turn several in a pen together, for after eating, they will be pretty sure to suck each other. Keep them well bedded and clean, and if she be fed as suggested, she will not be spoiled for a dairy animal, if she be not allowed to run out the first summer. The milk and gruel may be made thinner by adding more water as the calf learns to eat more bran or oats, until, at the age of five or six months, she may be given only water with her hay and grain.

While a calf should always be well fed, do not, by any means, allow her to become fat. Your neighbor may take the prize away from you at the fair; but when he is obliged to sell his for beef, your calf will be a prize-winning cow. My first experience with raising calves, was when my father gave me three heifers to raise from the three best cows out of a dairy of 40; I was to have one for caring for them. After they were well started, I had all the sour milk and meal (corn and oats) I cared to feed them. As luck would have it, I didn't kill them, and they grew to be the pride of the farm. They were sold to a neighbor when about 10 months old, for $20 each (they were native stock), and I am sorry to say, not one of the three was ever worth the room she occupied in the barn as a dairy cow. The fall calf, I think, is the more profitable to raise. The cow running in the pasture has a better chance to keep in perfect health, and having more exercise, will produce a stronger calf. Then, again, while the spring calf must have grain for a year, and, usually, more, the fall calf may be turned out to pasture the following spring. If allowed to come in at two years old, she has a fine chance to develop her udder while running on grass the second season.

Never raise a calf that has not a good constitution. If she be naturally weak at birth, or if she be inclined to "scour" without apparent cause, just shut your teeth firmly together, seize the ax and knock her on the head—or, better than that, get the hired man to do it. Never mind if she be from that great-producing, thoroughbred cow. If you keep her, she will be always a source of trouble to you, and a disgrace to her mother. Right here is the point where it takes nerve to be a successful breeder. It is a hard thing to do, only the man who has done it knows how hard; but if you keep her, it will be harder to stand the consequences. J. GRANT MORSE.

WHAT AILS THIS APPLE ORCHARD?

WHAT WILL MAKE IT BEAR?

I have an orchard of 60 apple trees, of about 40 varieties, set 35x40 feet, 19 years ago. It bore a full crop about eight or ten years ago, and aside from that, has not borne more than the equivalent of one good crop in the 19 years. It has been fed with ashes, clover and stable manure, and well pruned and sprayed. Part of the soil is sandy loam, and part clay loam. The trees are thrifty, yet I do not think that it is making an excessive growth. It is well drained. Possibly it receives too much nitrogen. At least, I shall apply no more stable manure until I take a few good crops from it. What can I do to start it to producing? It ought to yield 200 barrels per annum, instead of that many pecks or less as it now does. F.

Ohio.

F. does not say whether his apple orchard has been cultivated or not, neither does he state what has been its growth. It certainly should have shown more productiveness than he indicates. With the few facts that he has stated, my own opinion is that he might have given it too much stable manure. My advice would be to cease putting upon it barnyard manure, break up the ground, and give it a cultivation, if he has not already done so. Such culture is quite likely to develop fruit buds. If it is still obstinately disposed, I should, about the middle of June, take a sharp knife and open the bark around the bodies of the trees. The simple passage of the point of the knife will, oftentimes, induce the sending out of fruit buds the following season. This stops the flow of sap for the time being, yet it heals at once, and I have seen no injurious effects from such treatment, while I have indueed fruitfulness, in several instances, that has been very marked by this treatment.

New York. S. D. WILLARD.

I cannot understand why his apple trees do not bear, at least, every other year, a good crop of apples. His soil is all right. His pruning and spraying the same. Too much stable manure is, no doubt, the trouble. Wood ashes are good for all fruit trees. I have no doubt that, if he discontinue spreading stable manure under the trees, he will, in a year or two, have all the apples he wants. N. OHMER.

Ohio.

Stop manuring, stop spraying (to kill bees and other friends), stop pruning in the spring, but prune lightly, both top and root, the last of July or first of August. Sow rye and pasture close for one year. Ring a few of the branches next spring, such as you can afford to lose after bearing the following year. This will show whether excessive growth is the cause of failure to bear. S. S. BAILEY.

Michigan.

Whether the orchard has been kept under cultivation or simply given surface manuring, is not stated. It seems probable, however, that F. may be correct in his supposition that it has received an undue proportion of nitrogenous manures. It would seem probable, therefore, that the desired result may be best secured by giving the ground a thorough plowing (if with considerable root-pruning, well) and afterwards, harrowing in a good application of special fruit-encouraging fertilizers. The breaking of a few roots by the plow will have the effect of root pruning, thus encouraging fructification, which will be still farther aided by applying the proposed fertilizer.

Michigan. T. T. LYON.

It is impossible for me to tell what is the reason this orchard does not bear, unless it be, as the owner suggests, that it has had too much nitrogen. I think that if he will apply only potash and phosphoric acid in unleached ashes, or any other good form, and cultivate shallow but often, the trees will bear, unless they are of unsuitable varieties, which is not likely. For a market orchard, he has too many varieties, but for home use or experimental purpose, it is all right. In many orchards, variety is the worst disease.

Virginia. H. E. VAN DEMAN.

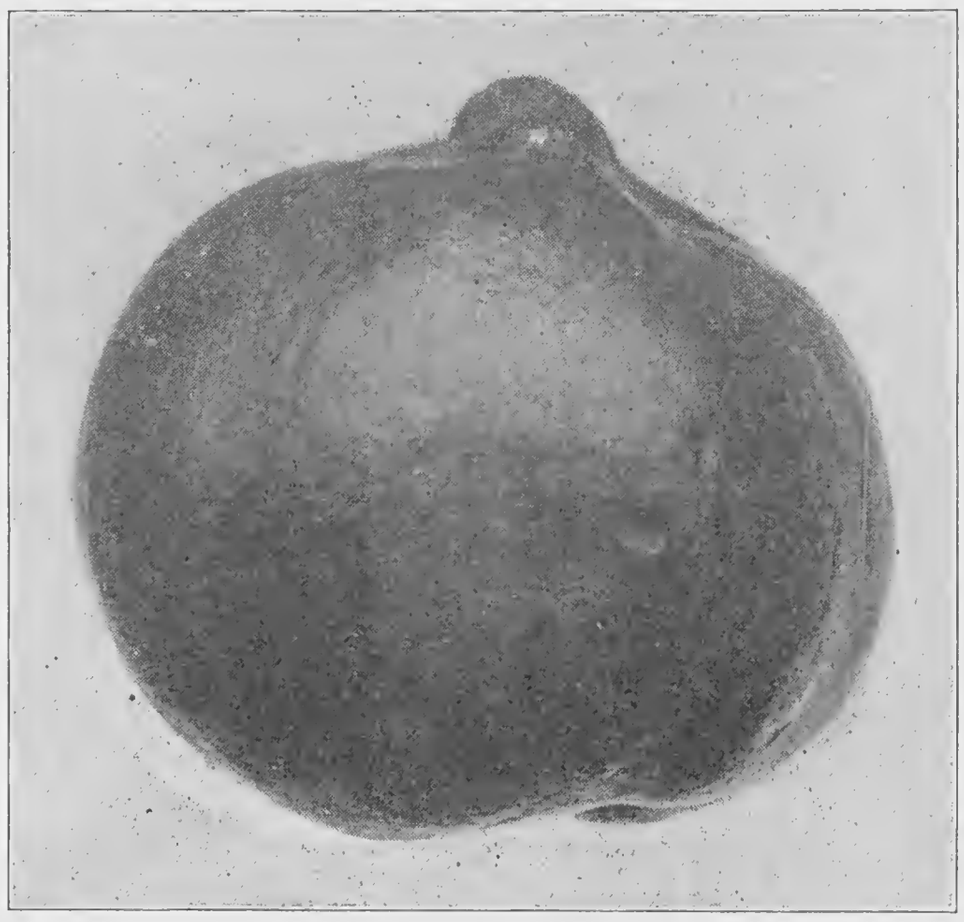
I should, in the first place, seek to check the growth of the trees and bring them into bearing. As soon as they began bearing, I should then take the usual care of them, and cultivate again. The best way I have ever found to do this, is to sow the orchard to oats and seed it to clover and Timothy. Cut the oats, and then later in the summer, cut the growth of clover, Timothy and weeds, and take them both off from the ground. If they do not form plenty of fruit buds the next summer, and bloom well the following spring, either plow the ground and sow oats again as before, or cut the hay twice during the summer and take it off. This plan followed two years, I have never found to fail in bringing an orchard into bearing. When once in bearing, the usual care and attention will be necessary for fear that the orchard will be injured.

I have practiced another plan which has proved successful. To an old plow beam, I attach a sharp coulter, and run this coulter deep enough to cut off the roots of the trees each way. The proper distance is one foot from the tree for each inch of diameter. A tree six inches in diameter, should have the coulter run six feet from the tree. I have never found this to fail on special trees. Here we have no trouble with our commercial varieties; they all bear young enough. But some of the amateur varieties we have to bring into bearing, also some of the varieties for family use. L. A. GOODMAN.

Missouri.

I think that the soil is deficient in the apple-producing food or has been plowed too deep. Fertilize the orchard with dissolved bone black and muriate of potash (50 per cent potash) about equal parts, and apply 1,500 pounds per acre. Do not plow, but harrow it in. If in grass, turn over the turf very thin, not over four inches, harrow well and spread on the fertilizer. Experiment on one or two trees by digging in June a narrow trench, two feet deep, all around the tree, say eight feet from the body. Then fill the trench again with the soil thrown out. This root-pruning checks the growth, and has a tendency to cause fruit buds to form. Apply the fertilizer in the spring as early as practicable. EDWIN HOYT.

Connecticut.



THE ALASKA QUINCE. (TRUE SIZE.) FIG. 251.

SEE RURALISMS, PAGE 770.

THE NAMES OF OUR FRUITS.

There is one thing to which I would like to ask the originators of fruits and all others connected with their naming, to give their most careful attention—that the names should be short, simple euphonic, and not in conflict with any others already in use. All such names or parts of names as Prolific, Red, Greening, Blush, Pippin, Pearmain, Beauty, Improved, and Seedling are out of place Denoting seedlings by numbers is al. right at home, but never, *no*, *never*, send them out under such title to the public. First know that they deserve names, and then give them those that are right. Use none in the possessive case. The hasty or inadvised naming of fruits is the source of very great annoyance, confusion, and in some cases, financial loss to many fruit growers. It often happens that some of our best varieties are found, originated, or introduced by those who have not had the opportunity to learn of other kinds that bear all or a part of the names that they purpose to give to those of their own introduction. Some desire to perpetuate their own names, which is often very proper, or, to give high-sounding or even ridiculous names, irrespective of consequences, or, sometimes, regardless of the facts.

We have two standard authorities on fruit nomenclature, or, in fact, one, for the two now act in conjunction—the American Pomological Society, and the Division of Pomology of the United States Department of Agriculture. It is their aim to simplify and purify the names of our fruits, and to this end, the scheme which, as United States Pomologist, I inaugurated in 1888, began, and afterwards placed very largely in the hands of that most precise and competent pomologist, Mr. T. T. Lyon, of Michigan, and finally left it there, is now nearly worked out. The result of this renovation and compilation of the entire list of the names of all the fruits cultivated in the United States, as nearly as was possible, with their synonyms, is about to be published, so I notice by the public press. It is to be earnestly desired that the nurserymen and all others will carefully study this list, and bring their catalogues into line with it, and thus aid in the advancement of our pomology.

If those who are about to name new fruits will correspond with the Division of Pomology, as to the propriety or possible conflict of the proposed names with others already in use, they will be greatly helped and confusion avoided. There is a card list in that office, which, by this time, must be nearly completed, which covers the entire field of pomological nomenclature for our country. It was planned for the benefit of the public, has been made with the most studious care at considerable cost of the time of experts, and should be made use of, so far as is possible. It is this list which will, as I suppose, be published in accordance with the plan I laid. But in card form, it is easily revised, and thus kept continually up to date. No person should claim the right to name and put a fruit before the public until it has undergone the scrutiny of this one standard authority; because of the danger of duplication and confusion. It is also well to have the qualities of new candidates for

public favor first passed upon by a competent and entirely disinterested jury such as a committee of the American Pomological Society, or the members of the Division of Pomology at Washington.

H. E. VAN DEMAN.

DIFFERENCES IN STABLE MANURE.

Have you ever noticed any actual results in the field that really showed one lot of manure to be more effective than another? For example, it is said that manure from cows fed heavily on bran or cotton-seed meal will show considerable advantage over animals fed upon a wider ration. If you have discovered this, will you tell us what crops seem to show it most perceptibly, and whether you consider it due chiefly to the greater per cent of nitrogen in the stronger manure?

Horse vs. Cow Manure.

I have noticed marked differences between the crops grown on land treated with horse manure and those grown on land treated with manure from the cow stable. Our horses are fed a rather wide ration, as they are obliged to do heavy, continuous work winter and summer. Our cows, when in the stable, are always fed a rather narrow ration. When the manure from these two classes of animals had been applied separately to ground upon which mangels were grown, the difference in results was very great. I think that the marked difference was due to two causes—first, the cow manure (and by this I mean solid and liquid excrements combined) contained more nitrogen in an available form than did the horse manure. Mangels thrive best in a cool, moist soil; the horse manure tended to make the soil drier and warmer, while the cow manure had a tendency to make it cooler and more moist.

In the case of using manure for increasing heat in the soil, as is purposed in cold frames, the horse manure would be preferable to the cow manure, not because it would neeessarily be richer or poorer in nitrogenous compounds, but because of its value in generating heat. Our experiments, during the last two years, with horse manure and cut straw bedding, and horse manure with shavings and sawdust bedding as against plots with no manure, show conclusively that the dryish horse manure, as yet, has done no good whatever. This, without doubt, is due to the fact that it tended to make the ground dry and therefore did not decompose rapidly; hence the barley could not get as much moisture as it would have secured had the manure been left off. I. P. ROBERTS.

Feeding for Manure.

I remember a field of corn followed by oats which we once grew, in the preparation of which we tried some experiments. On this field, which was a three-year-old sward, we applied, in the fall and winter, about 15 loads of stable and yard manure per acre. We would manure a strip through the field with manure made from straw, corn stalks and corn for grain, and next one manured with that from the cow stable in which were fed ensilage, clover hay, wheat bran and cotton-seed and linseed meals; these were alternated through the field.

As to the result, as far as it could be seen, that field was a most instructive object lesson. The corn on the strips with the manure made from the more nitrogenous foods could be seen towering one-third higher, and was of a very much darker green color than the others; when harvested the grain yield was equally marked. The oats that followed the next year, showed fully as much difference as did the grass that followed.

I remember once when visiting Prof. Roberts at Cornell, we were going by a field of wheat that lay where we could see over it pretty well; there were narrow streaks running here and there, that showed the wheat taller and of a much darker green. When asked to explain, the Professor said that was where the wagon had been driven with loads of manure made by the cows when fed largely on bran and cotton-seed meal, and that a little had shaken off as the wagon had gone along.

I have noticed a difference, also, in potatoes; but it has been most marked in the cereals and the Timothy following. It is, undoubtedly, due to the extra per-centage of nitrogen that such manures contain. There is no greater fallacy among farmers than the notion that anything that comes from the barnyard (I hate that word), is manure. The putting of food through the stable or the animal, even, does not add an iota to its manurial value. It may make the plant food ingredients more available, but it adds nothing that it did not contain when fed; in fact, it has some of this value taken out, the quantity depending upon the animals to which it was fed. All farmers ought to be fully aware of this fact.

When our farmers come to realize the importance of keeping up the fertility of their land, that the manure made by stock fed depends upon the manurial elements of the food fed, and that when judiciously fed, and the manure saved and properly applied, we get the manurial value for our farms practically for nothing, we shall see less and less of the rich feeding stuffs exported, thus robbing our farms; but all of them will be fed here at home, and the rich manures applied to our fields. It is a shame that we have allowed this wicked waste to extend so long.

J. S. WOODWARD.

FLOWERING SHRUBS FOR WINDOWS.

Many country homes are without a greenhouse, and it is something of a task for their owners to keep up a succession of pretty flowers. Among hardy shrubs, many could be used for the purpose, which could be easily and cheaply procured and prepared. The proper plants are young, well-rooted ones, which have a good supply of shoots made the past season. Those which have but little such growth, are of no use, as flowers come from the past season's wood. The kinds to select are the early-blooming ones, those which flower naturally in the first days of spring. Others may be thought of besides the following list: Japanese Judas, Cereis Japonica; Magnolia stellata; Juneberry, amelanchier; Daphne Mezereum, pink; Deutzia gracilis; Golden Bell, Forsythea; Spiræa Van Houttei; Japanese snowball, Viburnum plicatum; Cornelian cherry, Cornus Mas; Flowering almond; Exochorda grandiflora; Mock orange; Pyrus arbutifolia; Weigela and Bush honeysuckle. To these might be added, for foliage effect, the California privet and Euonymus Japonicus in both green and golden form. If small plants of these can be taken up before winter sets in, it should be done, though it may be done at any time when the ground is not frozen, the earlier the better, as it gives a chance for the plants to become better settled in their pots before they are taken into heat.

When brought in from the open ground, they should be potted at once and set in a cool cellar, there to remain for a few weeks. Then they may be introduced to a warmer place, a few at a time, to keep up a supply throughout the season. Much pleasure is to be derived from them at but very little expense. The Deutzia gracilis named is the one so much used by florists for forcing for the sake of its lovely sprays of white flowers. The Golden Bell is uncommonly pretty, as its golden yellow flowers appear on its naked stems.

Besides the shrubs, there are many herbaceous plants which may be lifted from the open ground and utilized in the same way. It must be early flowering ones, such as flower in April or May. As a guide, I would mention columbines, assorted; Sea pink, Armeria; Astilbe Japonica; Dicentra spectabilis, Pachysandra procumbens; Phlox procumbens; Moss pink; primroses; Tradescantias; Tulipa sylvestris, the old yellow tulip, and the many hardy violets.

Pennsylvania. JOSEPH MEEHAN.

WHAT THEY SAY.

"CONSUMPTIVE COWS."—I am glad to see THE R. N.-Y. publishing the articles on tuberculous cows, and describing the experiments on the herd at the New Jersey Station. Some of the crude, hasty, ill-advised methods that have been employed by some States must be stopped. Stock owners should not and will not submit to them, simply because they are unnecessary. I have had many years' experience with tuberculosis in England and America, and hope soon to give to the public a statement regarding one of the largest and most valuable herds of purebred cattle in this country, which was placed in my charge in 1895. The owners were advised to resist every effort of the State Board to kill all tuberculous animals, to test the herd, sort out infected ones, quarantine all, retest, Pasteurize milk, and breed up a new herd. All this has been done as far as time would permit, and this at the expense of the owners. It is a great saving to the State in which the herd is located, preserves to that State and this country an institution of considerable value, and is calculated to demonstrate that much needless slaughter of highly-bred animals has occurred through the lumbering methods of some State officials. We have, of late, seen some pretty knotty stuff in certain party platforms, and "boards" of so-called health. In the future, we need some choice, conservative, well-seasoned timber.

EDWARD MOORE.

When to Open the Silo!

In a general way, the answer might be, "whenever one needs the ensilage to feed." I do not know that there is anything like common agreement in the time of opening silos. If the term may be used, there is a great deal of individuality about silos, and their behavior. That they are hot or cold at the time they are opened, makes no difference so far as I can see. Sometimes the ensilage, when the pit is opened, is quite cold, and another year it will be quite hot; it is simply a matter of the condition of the ferment at that time. So far as the ensilage is concerned, the opening makes no difference with the contents three inches below the surface, as the air cannot affect that which is slightly below the immediate surface. I have no "signs" indicating when the ensilage is ready to feed. When the usual amount of roughage about the farm is fed out in the late fall, I commence at once on the ensilage, uncover the whole pit, and feed from the entire surface. A year ago I commenced to feed ensilage November 30, and the year previous, nearly three weeks earlier. Some of my neighbors commence feeding the very day that they finish filling the pits, and I cannot see but they have as fine ensilage as do those who cover the ensilage, and let it sweat from three to six weeks. Some ensilage will remain hot all winter, and some will take on hardly heat enough to make the mass settle as solidly as it should. The truth is I have never seen any ensilage so "young" or so "old" but it could be fed with perfect safety, and satisfaction.

The most perfect cover—next to none at all—I have ever had on my silos is this year. After the corn was all in the pits, the litter about the machine was run up the carrier and scattered evenly over the surface, well trodden down, and this repeated for three or four days, or until it had become quite moldy. Then we loosened it up, tread it down, working in a half bushel of oat screenings, distributed a barrel of water evenly over the ensilage and gave it one more treading. The result is that the surface is covered with this decayed ensilage, and over it is a fine growth of oats, the roots of which have bound the cover into a regular fiber blanket. If covers are needed—which I still doubt—this one is far in the lead of any I have ever had in my 10 years of silo experience.

Ohio. JOHN GOULD.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

AILING ANIMALS.

ANSWERS BY DR. F. L. KILBORNE.

Make the Cow "Come to Her Milk."

W. M. S., Taunton, Mass.—My cow dropped her first calf July 10, 1895, and was two years old August 17, 1895. She gave nine quarts of milk and kept up her milk. After September 1, 1896, I milked but once a day to dry her off, and stopped milking September 27. She was then giving more than one quart, and began to make bag. It increased to fair size, but with no fever or hardness. She dropped her calf October 7, and I kept the calf on her three days, then began to milk her, and was surprised to find that she gave but two quarts at a milking, and continues with but little increase. I feed good hay and grain, shorts, oats and corn, one peck per day. She is in good order, eats well and did well in calving. What course shall I pursue? She is a fine-looking cow, half Jersey and half Holstein, one that I raised and would like to keep, but want more milk for the feed.

Beyond regular milking, gentle handling and liberal feeding, there is very little you can do to bring the cow to her milk. Kneading the udder with the hands after each milking may stimulate a more active secretion. Scalding her grain for a time might, also, be beneficial. She will, undoubtedly, come to her milk in part, if not wholly, in two or three weeks; but even if she do not, I would not condemn her this season if she has the points and breeding of a good cow. I have known of several instances where a cow, as a three-year-old, failed to come up to her two-year-old record, but after the third calf, fully made up for the deficiency the second year.

Drugs to Induce Breeding.

C. K. McD., De Funiak Springs, Fla.—Is there any known feed of any special kind that will cause young heifers to come in heat? I have two very good heifers, rising three years old, that have never shown any signs of coming in heat; they are in good order, and not too fat. I have been recommended to feed a tablespoonful, once a week, in their feed, of copperas. Can you tell me anything about its virtues in that line? I may mention that I have a bull running in the herd all the time.

There is no known special feed or drug that will cause the heifers to come in heat. A course of nux vomica or of nux with sulphate of iron would, probably, be as effectual as anything. Give one-half to two-thirds teaspoonful of pulverized sulphate of iron and one teaspoonful of powdered nux vomica twice daily in the feed. After a week, increase the dose of the nux (but not of the iron, which should remain the same throughout) to two teaspoonfuls, and the third week to three teaspoonfuls. If twitching of the muscles should be observed during the second or third week, reduce the dose of the nux to one teaspoonful again. After the three weeks' course, stop the medicine for two or three weeks, and then repeat as before if desirable. The dose of one teaspoonful of the copperas—sulphate of iron—only once a week, would be too small to have any appreciable effect upon the animal. It should have been prescribed once daily.

Bloody Milk; Lame Cows.

J. S., Conkling Forks, N. Y.—1. I have a heifer, a graded Holstein, 2½ years old, which has her first calf. At the first milking, the milk from one teat was bloody. Now at the fourth day, the milk from all teats is the same. Appetite good; udder free from swelling. She ran in pasture until she came in. What is the cause and remedy? 2. There are, also, two other cows lame in their hind legs. On one, both stifle joints are swollen, and on the other, only one, but it is so badly swollen that she has to walk on three legs. Their feed is corn fodder, bran and meal, and they have never been injured, to my knowledge.

1. The bloody milk was, probably, due to the congestion of the udder attendant upon parturition. If it has not already disappeared, bathe three or four times daily with hot water, for 20 minutes at a time. Then rub dry, and bathe with camphorated spirit. 2. Rub the swollen joints with ammonia liniment (stronger aqua ammonia and sweet oil, equal parts well shaken together) once every two or three days until well blistered. Then omit until nearly healed, when repeat as before if necessary.

Death of Young Lambs.

F. P. R., St. Sophie, P. Q.—I have lost seven lambs within 10 days, and four that I have saved are sickly looking, and do not seem to have any strength. Those that died were twins. From two of the sheep, I saved one each. Twins that came last night were both dead this morning. There seems to be a growth like a beef's heart on the windpipe. I cut one open which was as large as a robin's egg. The sheep are in good order, were on clover aftermath for a month, and then, when that was finished, removed to good meadow. I applied the kerosene emulsion that Mr. Woodward speaks of, just before the second one lambed, and can think of nothing else that could hurt them. I turned it on their backs to let it run down their sides to kill the ticks. Should there be any such growth on a lamb's throat? Would the emulsion hurt them if applied from six to fifteen days before lambing? Last year, with the same sheep and same ram (pure Shropshire), I had very good success, only the lambs came in January. I bring the sheep into the barn at night. When the lambs breathe, one can hear them at some distance away, owing to a rattling sound in their throats. The sheep are not fed anything except grass until they lamb; then I shut them up and grain them. Should they be shut up and fed grain before lambing?

As far as I can judge from your description, the trouble is with the ewes and not with the lambs, as they do not appear to be strong or well nourished at birth. Endeavor to improve the strength and vigor of the ewes. Examine the drinking water to make sure that it is wholesome. I would also advise giving the remaining pregnant ewes a moderate grain ration, as ground oats or wheat bran. While lambing, they should have warm, dry comfortable quarters. If the emulsion was not applied stronger than directed, it, probably, has nothing to do with the trouble. The growth you mention is, undoubtedly, one of the normal glands of the throat.

To Muzzle a Sucking Cow.

H. T. B., Florence, Ky.—How can I prevent a cow from sucking herself?

ANS.—Unless the cow is a specially valuable one, you would do well to dispose of her, for this bad habit cannot be cured. You must prevent her from reaching the teats with her mouth. Some farmers use a "milk muzzle," such as is shown at Fig. 252, which will answer. It is made of soft wood, about 5x6 inches. The opening, *c*, between the two points, is about half an inch. *B* is a space about 2½ x 3½ inches. This can be cut out with a knife. Round off the points, *a a*, so that they will not cut the cow's nose. Wire nails are driven into the wood as shown, to prevent splitting. To use, hook one point into one nostril, and work the muzzle edgewise through the space, so that the other point comes into the other nostril like a nose ring. In this position, the board hangs down in front of the cow's mouth. She can eat freely, but cannot get hold of the teat. This we regard as the most practical way of muzzling a self-sucking cow.

Root-Grafting Roses; Bordeaux Mixture.

B. L. T., California.—1. Is there any clematis that never blooms? Can it be grafted from one that does bloom? 2. Has THE R. N.-Y. ever tried root-grafting roses? 3. How is the Bordeaux Mixture made for black mildew on grapes?

ANS.—1. No. Under normal conditions, a bloomless clematis could not be obtained by grafting. 2. Root-grafting is much employed by nurserymen in propagating roses. The process is much the same as that used in root-grafting apples. The veneer graft is used; when the scion has been placed in proper position, it is secured to the stock by winding with waxed twine. The union may then be wrapped with oiled paper. The grafts are then placed in pots, a row of them around the edge of each, soil is filled in around them till the bud on the scion alone is exposed. The pots are placed in the greenhouse and, in the spring, the plants are either planted in beds or potted in small pots. 3. A good formula for Bordeaux Mixture is as follows: Four pounds of copper sulphate, three pounds of lime and 45 gallons of water. Dissolve the copper in hot water, or by suspending it in cold water. Pour the solution into a barrel that is two-thirds full of water. Slake the lime and add it to the solution in the form of a thin whitewash, being careful to keep out any residue that might clog the nozzles. Next dilute the whole to the required amount. W. P.

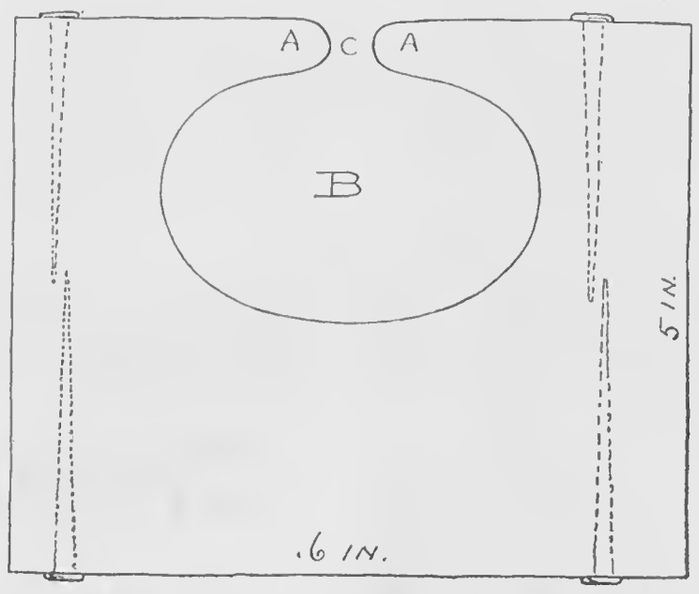
White Arsenic in Place of Paris-Green.

B. T. W., Rochester, Mass.—What objections are there to the use of common white arsenic in the place of Paris-green as an insecticide? Are there other objections besides the fact that the color is so close to that of sugar, flour and other substances, that it might be dangerous to have around? Will the white arsenic dissolved be more injurious to foliage than the Paris-green? If there are no serious objections I would like to use white arsenic, as I find it handy and cheap.

ANSWERED BY M. V. SLINGERLAND.

The color of white arsenic is its least objectionable feature; when plainly labeled and kept as any poison should be, the danger of its being mistaken for sugar or flour ought to be slight. The substance is so cheap, as compared with Paris-green or London-purple, and contains so much more of the killing element, that it is no wonder that those who spray are asking why they cannot use the cheaper article. They can, but only under certain conditions requiring more trouble to meet than do Paris-green or London-purple. The "burning" of the foliage sometimes resulting from the use of the arsenical mixtures, is due to the presence of some dissolved or soluble arsenic. But very little of the arsenic in Paris-green dissolves in water; London-purple is a mixture of arsenite of lime (insoluble) and arsenite of rosaniline (the coloring matter), and all of this latter ingredient is soluble; white arsenic is soluble in cold water to the extent of 1 part in 100, and boiling water dissolves it at the rate of about 1 part in 10 of water. Most plants are seriously injured when not more than one pound of white arsenic to 300 gallons of water is used in a spray, and the solution thus requires dilution to such an extent that its value as an insecticide is largely destroyed. It is a curious fact, however, that, if white arsenic be applied very soon after it is mixed, often no more injury to foliage results than if Paris-green be used; the arsenic dissolves slowly.

Another serious objection to the substance is its weight. It is considerably heavier than Paris-green, thus requires constant stirring to keep it in suspension. For the above reasons, white arsenic is not recommended to be used alone as an insecticide. When properly combined with certain other substances, however, it can be used with comparative safety.



MILK MUZZLE FOR A SELF-SUCKING COW. FIG. 252.

Six years ago, two investigators, working independently, demonstrated that, when ordinary unslaked lime was mixed with Paris-green, London-purple, or white arsenic, it combined with what arsenic may have gone into solution and formed, thereby, arsenite of lime, which is insoluble; consequently, no "burning" of the foliage resulted when trees were sprayed with the combined lime and arsenites. An equal weight of lime is amply sufficient to use with Paris-green or London-purple; but as one pound of white arsenic requires nearly a pound of lime to satisfy the chemical reaction in the production of the insoluble arsenite, it is recommended to add two pounds of lime to each pound of white arsenic. It was found, however, that, when white arsenic and the lime were combined in cold water and applied soon after mixing, more injury resulted to the foliage than when the arsenic was used alone. This curious fact has not been satisfactorily explained. However, the two can be combined to form what Mr. Kilgore, of the North Carolina Experiment Station, calls a very cheap insecticide, having the same insecticidal properties as London-purple. He says that it "can be easily made by boiling together for one-half hour in two to five gallons of water, one pound of white arsenic and two pounds of unslaked lime, and diluting to the required volume, say, 100 gallons. It is desirable that the lime should be present in the boiling solution of white arsenic, since it renders the latter insoluble as fast as it goes into solution, thus reducing the volume of water and shortening the time for obtaining the arsenite." This is the only safe way in which white arsenic can be used as an insecticide. It involves too much trouble in making for most people.

Paris-green is always ready at a moment's notice, and I think that the "new process" Paris-green (Paris-green made without the expensive acetic acid), will soon be put on the market at but little more than the present price of white arsenic. I presume that white arsenic can be used in combination with Bordeaux Mixture as we now use Paris-green; but I find no record of experiments with this combination. In short, its color, its weight and the necessary work involved in rendering it insoluble or "non-scorching", are factors that will, doubtless, prevent the general use of white arsenic as an insecticide; its cheapness is the only factor which recommends it instead of Paris-green or London-purple.

Spring Seeding to Grass.

A. H. Sr., Curwensville, Pa.—I am much interested in Mr. G. M. Clark's experiments in seeding to grass without a nurse crop of grain. I infer from reading the articles in THE R. N.-Y. that he does his seeding in the fall. Has he tried seeding in the spring, and has it been successful or not?

ANS.—My first experiment in spring seeding was to Timothy and clover, in April, 1850, with oats. The field sloped to the south, and was composed of a moist loam. The oats and grass came up well, and the grass was a foot high and looked well when the oats were cut. The oats were cut at the top of the grass, which let the hot summer sun in on to the young grass, and killed it all. Since that time, I have tried spring seeding several times, more than 100 times in all conditions of soil, and in no case have I known of a good stand. If one has plowed lands or worn-out grass fields in the spring, that he wishes to seed to grass, he would better plant some quick-growing crop like oats, barley, millet, or some other crop that will mature by the middle of July, then clean the land, thoroughly cultivate, as I have formerly described, and seed in September; in this latitude, this is the month to sow grass seed.

Again, never plant any other crop with it. By doing this, you will have free, clean land for the spring crop, and also for this grass crop, and secure the first grass crop at the same time. Do not forget perfect cultivation. Good grading and careful seeding in the month of September will almost invariably secure a good stand, and if it have proper nutriment, excellent results. Spring seeding to grass, in my experience, has always been a failure. GEORGE M. CLARK.

"Most Concentrated Form of Potash."

M. M. B., West Fairview, Pa.—What is the most concentrated form of potash available for young orchards? My object is to save the hauling of a bulky fertilizer up a mountain. What is the price? How should it be applied? I have about 10,000 bushels of oak and hickory sawdust; would it be good for the orchards, and how should it be applied? My ground is new, is naturally good, and I wish to keep it so.

ANS.—Our advice would be to buy muriate of potash, which sells at about $42 per ton. An average sample of the muriate contains 50 per cent of actual potash, so that you will have to haul up the hill but 1,000 pounds of other materials to the ton. When you haul wood ashes, you average but 100 pounds of potash and 30 pounds of phosphoric acid, with 1,870 pounds of other materials to haul. We would broadcast about 250 pounds per acre of the muriate, and harrow or cultivate it in. We would not use the sawdust until it is well rotted. Your new land does not need it, and it will be safer to use after it is reduced to nearly the condition of wood mold.

A Talk About Raspberries.

A. R. B., Oakland, Me.—I wish to get a raspberry earlier than the Cuthbert, and one that will ship. Is the Miller hardy? Where can I find a report of the different kinds of raspberries, their standing as to hardiness, productiveness and as shippers?

ANS.—Probably Hansell is the earliest red raspberry. It is unusually firm, and will carry as well as any other red raspberry. It is hardy at the Rural Grounds. The plants are somewhat dwarf. Rancocas is much like it. We do not know just how hardy the Miller raspberry is. It has not been thoroughly tried north of Delaware. Thus far, it is hardy at the Rural Grounds. The berries are of medium-size, about the color of Cuthbert and of better quality than Hansell or Rancocas.

How to Make Kerosene Emulsion.

J. F. N., Colfax, Cal.—I was much interested in reading an article in THE R. N.-Y. of October 17, on the Grape Vine hopper, or what is commonly called here, Thrips. I have been much bothered by them on my vines, but never knew how to get rid of them. You advise the use of kerosene emulsion for their destruction. How is it made?

ANS.—There are dozens of different formulas for making this emulsion, all of them good. The following is a good one: Dissolve one quart of soft soap, or one-fourth pound of hard soap—whale-oil soap is often used—in two quarts of boiling water; remove from the fire and add one pint of kerosene oil. Stir violently for three or four minutes. A good way to do this is to force it back and forth through a force pump or syringe. When used on plants, it must be diluted with about 15 parts of water. Any other quantities than those mentioned may be used, so long as the same proportions are observed.

MR. WILLIAM PICKHARDT, Port Chester, N. Y., writes us in referenee to one fault he has to find with the potatoes R. N.-Y. No. 2 and Carman No. 3. It is that the largest tubers grow hollow-hearted. He has grown them for two seasons for market, and, to his loss, finds that this hollow-heartedness condemns them, notwithstanding their handsome appearanee. The past season, he planted Carman No. 1 and No. 3 in a small way. As a result, he gives his preferenee to No. 1. He says that it yields well, is handsome, of good quality, and *solid*. The No. 3 "is very handsome, a great yielder, of good quality, but—*hollow*." He regrets this because, in all other respeets, he is greatly pleased with it.

The reports we reeeive regarding potatoes from different parts of the eountry are instruetive. Some eorrespondents tell us that the large potatoes of Carman No. 1 are hollow-hearted, but that the No. 3 are not. Mr. Piekhardt finds the No. 1 solid, the No. 3 hollow. We have never before reeeived a report that the No. 2 is hollow-hearted. Some tell us that the No. 2 is of the finest quality, others that it is of low quality. At the Rural Grounds, it varies from season to season. Sometimes it is soggy, sometimes it is as dry and mealy as one could desire. With us, the Carman No. 1 in some seasons is shapely, in others, as the past, it is far from it. The quality, however, is always exeellent. We do not eonsider hollow-heartedness as a serious defeet. All tubers which grow to a *very* large size are liable to this defeet. The season, too, has evidently something to do with it. If we would avoid hollow-heartedness, we should plant larger seed pieees and plant them eloser together. That some varieties are more liable to be hollow-hearted, however, than others, we have no doubt. Quality, solidity, rapidity of growth, firmness of skin, evidently have to do with it.....

As an extra-early sweet corn of first-rate quality, Mr. Piekhardt, after two seasons of trial, ehooses Burpee's Fordhook. He planted it the first time April 14, and pieked the first 400 ears July 9 (90 days). Last season, he planted it later, and it was fit for the table in 72 days. Last season, we planted Early Fordhook May 5, and pieked ears fit for table use July 19—75 days. We find the variety to be a day or so later than White Cory.....

ACTING upon THE R. N.-Y.'S suggestion, Mr. Piekhardt tried the Zig-zag sweet eorn in a small way. He says that the ear is handsome and plump, and the quality fairly good, "but not eomparable with that of the Country Gentleman in riehness and delieaey of flavor." We may assure our friend that the quality of this variety, as grown at the Rural Grounds, is distinetly better than that of the Country Gentleman or Ne Plus Ultra, whieh is the same thing. We hope that our friend will try it again, seleeting different seed.....

MR. EDWARD T. INGRAM of West Chester, Pa., writes us that the Chestnut worm is proving an antidote for the ehesnut-planting fever in his loeality. Last season, nearly the entire erop was wormy. It is worthy of note that some trees bear sound nuts, while others, whieh have produeed many bushels eaeh year, have never borne a nut that was not infested. It seems that the offspring of these Japan or Spanish ehestnuts, whiehever they may be, are oftener wormy than the native ehestnuts. He thinks it may be owing to the faet that the foreign trees set their fruit earlier..

A FEW weeks ago, Mr. Ingram sent us a little box of ehestnuts whieh were of goodly size and exeellent quality. We wrote to him requesting further information. It seems that Mr. Du Pont, residing near Wilmington, Del., (Du Pont of powder fame), had some ehestnuts growing in the yard near his powder works. They were different varieties and were, probably, seedlings raised from nuts brought by Mr. DuPont from his native eountry—Franee. As long as 40 years ago, a relative of Mr. Ingram brought from Mr. DuPont's seions from the best tree of the lot. One of these seions he worked upon a sprout whieh grew from a stump of a Spanish ehestnut tree. The third year thereafter this seion bore three quarts of nuts and the tree has been bearing ever sinee. One year the erop of nuts sold for $20. Mr. Ingram's father has several trees and an unele has about six aeres of side-hill land from whieh he eut the timber, grafting the sprouts with the DuPont variety, as Mr. Engle has sinee done with the Paragon. He is reported to have sold more than $200 worth of nuts in one season. Chestnut grafting was not so well understood in those days as now, or without doubt the DuPont ehestnut would have been plaeed upon the market before now.....

OUR readers will remember our several reports as to the behavior of the Mexiean June eorn, seeds of whieh were kindly sent to us by J. J. H. Gregory of Marblehead, Mass. One of our subseribers, Mr. W. W. Willson of Mt. Sterling, Ky., planted it about May 25. It began to develop silk and tassels the middle of August. On some of the plants, well-filled ears matured, but most of them did not bear any ears. Some of the plants had four or five suckers whieh grew to the height of 10 feet. The plants at the Rural Grounds did not sueker at all. Mr. Willson says that some of his plants grew to the height of 16 feet—the lowest ears being 10½ feet above the soil. Some stalks measured three inehes in diameter. As at the Rural Grounds, these strong plants were not lodged by high winds. Mr. Willson alludes to adventitious roots growing out of joints five feet from the ground. Possibly sueh joints would propagate the same as the sugar eane...

As has been stated, several trees of the Alaska quinee were sent to us by C. A. Green, Rochester, N. Y., during April of 1891. Last year, the fruit was destroyed by the tornado, and the trees were more or less injured. How mueh this may have injured the bearing qualities and diminished the size of the fruit, we may not say. Fig. 251 shows one of the average size. It will be seen that it is less pear-shaped than the Orange quinee. Mr. Green elaims that it bears fruit of superior quality, at a very early age. It is not unusual to find young trees in the nursery rows heavily laden with quinees of a fine golden eolor, ripening early, and keeping well. Years ago, Mr. Green visited the originator, Luther Barker, of Bloomfield, N. Y. An orehard of this quinee was in full bearing, the finest display that Mr. Green has ever seen in the way of quinees. Our own quinees were fully ripe this season, Oetober 5, though they were unquestionably retarded by the weakening influenees of the tornado. The Fuller quinee was not yet ripe. The Alaska ripens about with the Orange.....

DURING the past year, the sale of a fertilizer ealled "Natural Plant Food" has been pushed very hard among the farmers of New York. The priee asked varies from $25 to $28 a ton. Its real value as plant food is shown by Bulletin No. 108 of the New York Station (Geneva) to be less than $10 a ton. Average analyses give to 100 pounds of the "Natural Plant Food," but 1.40 pound available phosphorie aeid, 20.81 pounds of insoluble phosphorie aeid, and 0.13 pound of soluble potash.....

UNITED STATES POMOLOGIST HEIGES says that the European sweet ehestnut (Castanea sativa) has, for many years, been grafted in Franee and England upon the European blaek oak (Quereus robur), using young seedlings raised by planting the aeorns where the trees are to remain permanently, or which have been freshly planted, and also upon branches of proper size on matured trees. Until quite reeently, this has not been praetieed in this eountry. The pomological division of the Department of Agrieulture distributed scions of the Paragon, Numbo and Ridgeley last spring, and also, in the spring of last year. They were worked upon the Chestnut oak (Quereus prinus), and reports show as good sueeess as when grafted on the native ehestnuts.

It is suggested that it may be possible to sueeeed with other speeies of oak as stoeks, as, for example, the Post, Burr, Swamp, White oak, Yellow oak, Basket oak, all belonging to the same group as does the Chestnut oak. The sueeess attained in Europe, Mr. Heiges says, by using the European Blaek oak as a stock, would indieate that our Blaek oak group might be equally available. This group eomprises the Red, Searlet, Pin, Spanish, Bear, Water, Shingle oak, etc., eovering a vast area of eountry. Should several of these speeies be found to be suitable stoeks for the ehestnut, the eultivation of this valuable nut would be mueh extended, as oaks will grow in soil and under eonditions in whieh the roots of the native ehestnut would die, if planted.

THE California violet to whieh we alluded a few weeks ago, is, to us, a most eharming plant. We are writing Oetober 28. A few flowers with their long stems were plueked and plaeed in a vase. The delieate perfume, so unlike that of any other flower, quite permeated a room fully 15x20 feet square. This is a statement that we are ready to excuse our friends for questioning. It is quite true, however. Bear in mind, too, that the plants are out of doors without proteetion, and we have had several "killing" frosts.....

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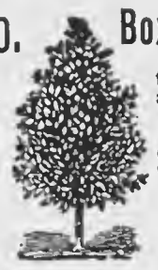

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Crosby and Other Peaches.

PROF. W. J. GREEN, OHIO EXPERIMENT STATION.—I have watched the Crosby carefully, and have had opportunities the past season of seeing it in several sections, and have asked many their opinion of it. I have seen specimens 9½ inches in circumferenee, but these were on young trees, which bore very light erops. The general opinion seems to be that, as regards quality and appearance, it is all that can be desired, but that it is too small for market. Notwithstanding this, there will be large numbers of it planted next spring. This is because of its reputed hardiness. It has not passed the last two winters here any better than Smock and Oldmixon. In fact, we had, last season, about as many peaches on nearly all other varieties as on the Crosby, but a full crop on none. All were injured by cold weather. My opinion is that no one will lose anything by waiting a few years before planting very largely of the Crosby for market. Had there been a large crop of Crosbys in Ohio last season, it would not have been harvested, as they seldom exceed six inches in circumference, and there were more peaches of that size than could be sold at paying prices.

Varieties do not always follow precisely the same order in ripening, and the intervals between vary greatly in different seasons. Crawford's Early and Late usually ripen about a month apart. Elberta, Oldmixon, Crosby and Stump occupy the interval between, in the order named. Garey's Hold-on is giving satisfaction where I have seen it.

PROF. L. A. TAFT, MICHIGAN EXPERIMENT STATION.—While unquestionably hardier in fruit bud than the Crawfords and most of the old kinds, it does not seem to have any advantage in that respeet over the Early Michigan, Kalamazoo and other varieties of Michigan origin that are largely planted here. When the trees are properly headed in and are not allowed to overbear, the fruit is of good size, and its high eolor renders it very attractive. If neglected, the fruit is small. While it has a place on the list, I would not use it largely.

While it varies in different years, the following dates show the average time of ripening of the varieties mentioned: Early Crawford, August 25; Oldmixon, September 1; Elberta, September 5; Stump the World, September 15; Crosby, September 18; Crawford's Late, September 20. Many of the Michigan peach growers have found the Crawfords so tender in fruit bud that they are not reliable, and have turned to other varieties. Aside from the early semi-clings, which are not largely grown, the kinds most largely planted in the seetions where the Crawfords fail are, beginning with the earliest, Lewis or Early Miehigan, St. John, Elberta, Kalamazoo or Brunson, Stevens's Rareripe, Smock, and Salway in favorable localities. Richmond, Switzerland, Barnard, Hill's Chili and Gold Drop are also largely grown. Stevens's Rareripe is considered an improvement on Stump the World. Beer's Smoek is rather larger and better than Smoek Free. It is a few days later.

Wheat, and Metal Wheels.

H. L. R., MILFORD, N. J.—The rise in the price has not been of any benefit to us. No wheat is on hand, and hardly enough is raised for seed. It is about 15 cents higher. The inereased price is a burden to almost nine-tenths of the farmers in this vicinity, as we have to buy our flour.

I have been looking around all the past summer for an A No. 1 low wagon, but have failed to find one yet that has just suited me. As my land is rough and stony, I have been afraid to buy the metal wheels. Do not let the] subjeet drop till we know who makes the best low wagon and metal wheels, and gives a good guarantee with them.

Tying Corn Stalks.

S. A. L., SENECA COUNTY, N. Y.—In these hard times, it seems rather unnecessary to spend time in making wire hooks, or money in buying them to tie eorn stalks, when a length of binding twine properly knotted, answers the purpose equally well. Make at one end of the string, a loop about three inches around, tying in a knot which will not slip. Cut the strings about a yard long for shocks and, perhaps, two feet long for bundles. Some rainy day when there is but little to do, prepare a lot of these strings, and so avoid using time whieh might be better employed. When used, put the string around the bundle, pass the end through the loop and fasten with a knot which will untie easily, and the deed is done. The expense is almost nothing, as the eheapest quality of binding twine is quite good enough, and one ball does a great deal of tying.

Grass and Lettuce in Florida.

O. CLUTE, FLORIDA EXPERIMENT STATION.—The best grass to grow in the sandy lands in the eastern part of Florida, is what is known here as St. Augustine grass. Botanically, it is Stenolaphrum Amerieanum. It grows well on light, sandy soil, if somewhat fertilized, and it keeps green all winter in this latitude. It is a good grass for pasture and hay. The Bermuda grass is a very valuable grass all through the Southern States. It yields a large amount of nutritious pasture, and if not pastured, it will give good yields of hay. People do not like it because they say that it is difficult to eradicate. A field once set with Bermuda grass ought not to be eradicated; let it stay for 100 years if necessary. If it must be eradicated, the work can be done by growing smothering crops, such as cow peas. It can be done in this way without mueh difficulty.

Lettuce is grown to quite a large extent in the winter in Florida for shipping to northern markets. The erop is not protected in any way from the frosts. Nearly every winter, in central and southern Florida, the temperature is about right for growing lettuce. It is not injured by frosts except on rare occasions. It is shipped to various markets at the North and West. It is usually packed in large baskets or erates, that are shaped like the peach baskets so extensively used around New York.

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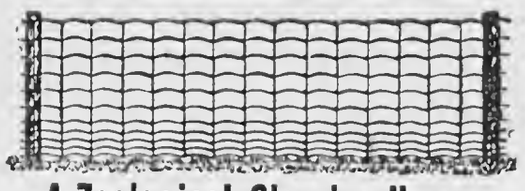

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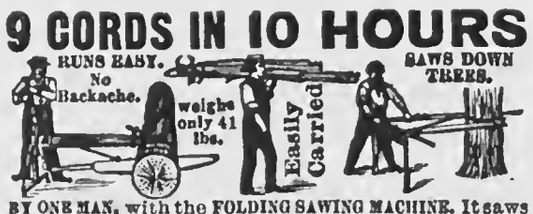

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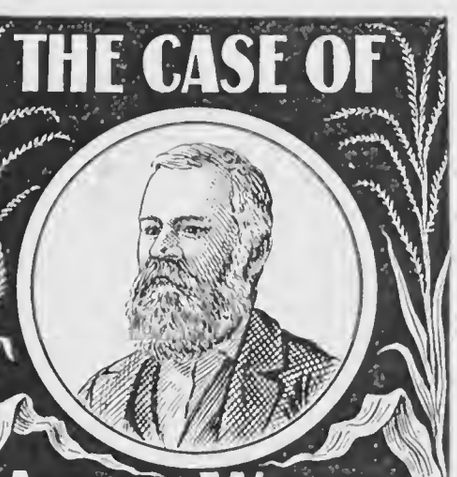

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SATURDAY, NOVEMBER 21, 1896.

There are 40 working days between November 16 and January 1. Read "A Wave of Prosperity" on page 776.

⊙

E. S. CARMAN'S address, until next May, will be No. 5 West 82nd Street, New York.

⊙

SEVERAL parties have applied to us for further information regarding the Armenian refugees mentioned on page 740. Letters sent to Col. Holland, Salvation Army, New York, will doubtless receive attention. We would like to repeat that these Armenians are all men, as no women were able to escape. Some of the men are, however, ready to do housework on farms.

⊙

ON page 775, will be found the first installment of a series of notes on gardening. These notes will be made a regular feature of THE R. N.-Y. from this time on. They will apply more particularly to such flowers, fruits and vegetables as are grown in the window or small garden. Readers are requested to send questions for this department. We will endeavor to take the knots out of any hard question that your plants may ask you.

⊙

THE Geneva Experiment Station has done well to show up the percentage of humbug in "Natural Plant Food". This stuff was advertised in some of the agricultural papers last year. THE R. N.-Y. promptly stated that its valuation could not reach one-half the price charged for it, and the Geneva Station amply verifies this statement. Sometimes, when patent medicine men are cornered, by a true analysis of their mixture of hay tea, rum and sulphur or tar, they reply that their medicine contains a homeopathic principle that the chemist cannot discover. There is nothing of this sort in a cheap fertilizer, and the chemist is truer than the agent!

⊙

GOOSE raising on a large scale could be made profitable at the South. The warmer climate of that section would enable breeders to secure birds for the early market in advance of northern breeders, just as southern lambs now come in ahead. Possibly, the market for geese will not stand much of an increase of stock. The majority of Americans never tasted roast goose! After one good mouthful, people might sing the old song:

It is my opinion,
Stuffed with sage and inyun
There is no bird flies is half so nice
As goose with sage and inyun.

Geese will sell after consumers get a taste of the meat.

⊙

THE English Mark Lane Express takes a very hopeful view of the future of wheat prices. Speaking of the past, it says:

Were agriculture an inferior occupation from which the discontented could "knock off" with no more warning than a demonstration in Trafalgar Square, wheat would have ceased to be cultivated in England from October two years ago, when value went considerably below 20 shillings per qr., and cultivation seemed only possible at an absolute loss. Luckily for England, if not for farmers themselves, the position is different. Agriculture cannot be lightly abandoned; rotations cannot be disturbed at a month's notice.

The English "quarter" contains eight bushels, and the shilling is worth 24 cents in our money. During the past two years, wheat has been slowly rising in the English markets. The average price for December, 1895, was about 25 shillings per quarter, while the chances are that the average for December, 1896, will be 30 shillings or more. English farmers do not consider this a speculative advance. In fact, the only speculation in England seems to be an effort to keep prices down by urging farmers to sell their grain at once so that it will come into market right in the face of the heaviest shipments from this country and Russia. If the English farmer will hold back his wheat, or sell it only in small quantities, the market will not be glutted, prices will be held up or even increased, and the demand for American wheat will be stronger. The English speculators evidently believe that the world's increase of wheat production is not keeping pace with the increase of population. The Mark Lane Express puts it in this way:

The whole epoch of over-production is clearly on the wane. Argentina, the last great factor on that side of the account, is found to have arrived on the scene only just in time to balance the declining wheat exports of India and Australia. In America and in the United States, wheat cultivation is maintained, but the population increases year by year, while the yield of wheat is stationary. Thus over-production is a vanishing danger, and with the close of the present century, will have vanished altogether.

That is about the situation as viewed from the London grain markets. England is the greatest wheat buyer of the world, and it is evident that her merchants expect to be obliged to pay more for wheat and flour in the future.

⊙

ON page 769, THE R. N.-Y. advises a reader to let hardwood sawdust decay before using it as a mulch in the peach orchard. There is a popular belief that fresh sawdust will "poison" land, or in some way injure crops. Why sawdust should prove more injurious than straw or leaves is something we cannot understand, yet we would not advise any one to use fresh sawdust heavily. If our friend would use the sawdust around 20 or more of his trees, and carefully note the results, he would do a real service to horticulture. On general principles, it is poor economy to haul a load of mulching material up a steep hill. A stout man may carry on his back seed enough to produce 10 tons of excellent green manure in the form of clover, cow peas or rye. Sunshine and water will work for you cheaper than any other team you can have on the farm.

⊙

It is announced that horseless mail wagons will soon be used in New York, for collecting the mails. This is about the first attempt to use these horseless wagons in the public service. If they are successful it is highly probable that many more horses will find themselves out of work These wagons will run about the streets picking up the mail from the boxes. The letters will be stamped, assorted and made ready for shipment right in the wagons. People who live in cities are certainly greatly favored by the postal authorities. If but a fraction of this great zeal could be employed in improving the mail service in country districts we would all feel the effect of it. One of the best things that can happen to a city merchant is to increase the facilities for reaching country people by mail. We cannot understand why city men do not see that it is to their interest to encourage free delivery of the mail in the country.

⊙

AT last, Commissioner of Agriculture Wieting has succumbed to political pressure, and made an appointment of an assistant in the important Metropolitan District to succeed the efficient B. F. Van Valkenburgh, who has so ably filled the position for the past 12 years. The new appointee is Fred. H. Kracke, a young man almost unknown to the trade. Personally, he is said to be of good character, and it is to be hoped that, for the good of the trade and of the producing interests of the country, he may maintain the vigorous warfare against frauds so well waged by his predecessor. But he was not the choice of the trade, who had urged the appointment to the place, if a change must be made because of political affiliations, of an older man of long experience, and one whom we are told is of high personal character, and thoroughly posted in every detail of the business. From a business standpoint, the appointment is not to be commended. We shall have more to say about it next week.

⊙

The New York Herald has compiled some remarkable figures showing the cost of life in New York City. The people who live and visit on Manhattan Island spend, in round numbers, $1,000,000 each day for rent, clothing, food, drink, amusements and other expenses of mere living. Each day in the year New Yorkers buy $21,000 worth of milk. The daily consumption of meat is 800,000 pounds, valued at $70,000, and of bread 2,000,000 pounds, valued at $90,000. The liquors consumed in a single day cost $140,000, while the daily smoke requires $80,000 worth of tobacco. In other words, the cost of the liquor and tobacco consumed in this great city is $21,900,000 greater each year than all the bread and meat consumed by New Yorkers in the same time! There is something for you to think about. Out of the 15,000,000 voters who cast their ballots on November 3, less than one per cent walked up the valleys and over the hills to vote directly against the liquor traffic. The Prohibitionist vote was almost an imaginary quantity this year, because temperance people thought there were more important issues. What is more important to American farmers than the fact that in one great city where cold and hungry people are found, twice as much money is spent for "the Devil in solution", as is spent for meat!

⊙

THE Rhode Island Experiment Station people have, certainly, done valuable service in studying out some of the most important principles that govern the goose raising industry. They have shown how best to mix up the breeds in order to secure suitable market birds, and how to produce cheap forage in large quantities. Early this year, Prof. Shaw of Minnesota told us how he was able to pasture six sheep and 10 lambs for 5½ months on one acre of land. To put it another way, one acre of land provided the food needed to make 550 pounds of lamb. At the Rhode Island Station, they are able to produce, at least, 1,000 pounds of goose meat on one acre, on much the same principle as that worked out by Prof. Shaw. In showing how one acre of land properly treated can be made to produce the food grown on 10 acres of ordinary pasture, the Rhode Island Station prepares an object lesson for all stock growers, for it is no disgrace for a cow, a sheep, a hog, or even a man, to follow in the tracks of a goose. We need more of this practical work at our experiment stations. Get down to the level of the farmer's business. Don't dress little ideas up in big words, but bring big ideas down to A B C.

⊙

BREVITIES.

"REPUDIATION!

Well, now, election's over, and I hope you'll stop your noise.
You ain't done nothin' else but talk an' argue with the boys.
You say you've "saved the country," but jest figger out the cost
Of apples, corn, pertaters an' the like that you lost,
While marching in processions or a workin' with yer jaw,
An' now, John Jones, you listen, for *I'm* layin' down the law.
There ain't no single standard gonter rule this farm, fer I
Will have *my* say respected or I'll know the reason why.
We've tried the single standard of your "say so" all too long.
My rights has dropped down constant an', I tell ye, it's all wrong.
You've had the gold of "say so" till ye got way out of reach,
But now the mints is open to the silver of my speech.
I'll have my way, or every time you stick your head indoors,
You'll hear *16* words spoken, sir, to every *one* of yours.
What's that? I made a solemn vow upon my wedding day,
That, come what would, I'd always jest love, honor an' OBEY?
Now that's yer *single standard*, but it doesn't work, I guess—
I didn't know no better when I up an' answered "Yes"!
But now my eyes is opened, an' I jest stand here an' state
I ain't no slave to no man, but I'll jest *repudiate!*

NEVER say dye—to your hair!

THE good or the cheap—which?

TURN that level clay soil up to the frost!

READ the article on milk fever, page 778.

THE black side of white arsenic—page 769.

THE table of contents will be found on page 777.

GRIND up that bone of contention and use it to grow a crop of good will.

IT takes a man with solid teeth to get a square meal out of a round steak.

HELPFUL *son* printing may sometimes be done with a shingle—with a crack in it.

CULTIVATE your home market. There's no place like home for business development.

ARE you well hardened for winter? Don't be like a peach tree with too much tender growth.

WHO can tell us what the effect of using large quantities of fresh sawdust as mulch will be?

DENVER, COLO., milk dealers are obliged to secure a certificate of registration before doing business.

READ the notes on shipping Thanksgiving poultry—next page. Try to supply what the market calls for.

YOU honor a person by saying, "You are a goose!" The goose has a better brain than any other being that wears feathers!

A FINE apple to eat out of the hand at this season is the Cox Orange Pippin. There are few good apples fully *ripe* just now.

THE old-process oil meal was the method of cooking fat meat so that the grease stuck to it. The "new process" uses a broiler.

YOU want to make a prize youngster out of that baby? Good. In the first place, don't let him eat any lean meat until his second teeth are fully formed!

THE Carman Peachblow potato will be tried another year before deciding whether it is worthy of introduction. We want to make sure that it is really a "peach" before blowing about it.

THE death of Prof. McGee, as described on page 777, illustrates the danger of wearing loose or flapping clothing when at work about machinery. A blouse or cardigan jacket is far better than a coat in such places.

THE horticulturist at the New Jersey Station has an interesting variety test of strawberries under way. Some weeks ago, a number of growers sent THE R. N.-Y. lists of what they considered the best six varieties. The horticulturist has planted the varieties thus named in groups, and will give equal culture to all.

OUR western readers are sorrowful because the rise in the price of wheat came too late to help them. Here we have a New Jersey farmer who doesn't want higher wheat because he buys his flour. You would be astonished to learn how many thousands of American farmers there are who buy their flour! This is a big country with many sides to it. One farmer may consume what another produces.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

THE Thanksgiving season will soon be here when there is a large demand for dressed poultry, and often a still larger supply. Shipping to this market at this season, is often a lottery; but choice stock which arrives in prime condition, seldom fails to bring good prices. Live poultry is not wanted for this holiday. Dealers here tell me that they anticipate a good trade this year, provided the weather is at all favorable to handling poultry. This means that it should be cool, clear, and not the humid, rainy weather that we often have at that season. The supplies of stock in cold storage are said to be smaller than usual at this season. Extreme high prices are not expected, but a large demand will be likely to keep the market in good shape. Receipts of poultry from May 1 to October 31, were larger this year than during the same period for any of the past five years. The quantity received has been steadily increasing each year, but the present year has shown a larger per cent of increase; this increase has been largely in fowls and chickens. Prices have averaged higher this year, also. Reports from the country at large are to the effect that the crop of turkeys is a moderate one, will be marketed early, hence later prices are likely to be higher. The turkeys are said to be exceptionally good this year, and to be somewhat better than in ordinary seasons. The crop of chickens is large, hence prices are likely to rule low.

‡ ‡ ‡

THERE are a few points that shippers should bear in mind if, as of course they do, they expect the best prices. No one should ever ship any product to any market without first learning from a competent authority the demand of that market. Of course, this cannot apply to new products which it is intended to introduce. The Thanksgiving market demands more largely choice turkeys and ducks. There is no extra demand for fowls, and a somewhat larger than ordinary demand for extra fine chickens. Geese are not wanted in any quantity, until Christmas. Dealers look very closely to quality, so only the best should be sent. If any birds are poor and thin, feed them a while longer. If any such happen to be killed, keep them at home. A few such will spoil the sale of a whole lot of good poultry. There is almost never a glut of the latter, but frequently one of the former. If poor stock must be sent, pack it separately, and mark it for what it is. The larger turkeys should always be sent for this holiday.

‡ ‡ ‡

MUCH loss often results from improper methods of killing, dressing, handling and packing. Here, again, one must study the market. This market demands undrawn poultry with the heads on; other markets demand the reverse. Learn what your prospective market demands. Killing is usually done by hanging up by the feet, and sticking in the mouth. No food should be given for 24 hours before killing, but water freely. The poultry should be thoroughly bled. Dry-picked poultry, especially turkeys, meet the best demand. This is because a dry-picked bird, when hung up in the market, does not become discolored so quickly, and presents a better appearance for a long time. Dry picking is quite an art, but it pays, as it generally assures an increased price. If poultry be scalded, care should be taken not to have the water too hot, so as to cook the skin.

‡ ‡ ‡

OF great importance and too often overlooked, is the matter of proper cooling before packing. Tons of stock come to this market every year that is more or less spoiled because packed before the animal heat was all out. Receivers tell me, time after time, to enforce upon readers the importance of thorough cooling. But the stock should not be frozen. Poultry is usually shipped with ice through the summer, and often not so much care is taken in cooling before packing. As the weather becomes cooler, the ice melts more slowly, and such lots often arrive in worse condition than during hot weather. Dealers say that experienced packers often lose by this means, hence the importance of thoroughly cooling all poultry before packing, whether ice be used or not. Much of the Thanksgiving poultry comes dry packed. Straw is no longer used by the best packers. The birds should be closely packed, in layers, breasts up, so as to present an attractive appearance when the package is opened. Every package should be marked as to its contents—chicks, fowls, turks, ducks, geese, etc. The different kinds should not be mixed. The packages should be perfectly clean and bright. Sugar barrels are good, but they should be thoroughly washed out with hot water. The package should always be scrupulously clean. Mark plainly the names and addresses of the consignor and consignee, or use a stencil, and mail advices, also.

A MOST important matter is the time of the arrival of shipments. Thanksgiving comes a little early this year—November 26. All poultry for this market should arrive not later than Monday morning, November 23. Many people who ship here do not understand the methods in vogue in the New York market, and send their shipments too late. It is the exception for such shipments to bring good prices. There is very little sale for poultry for several days after this holiday, until the market recovers from its plethoric condition, and most retailers intend to secure their stocks not later than Monday. One reputable dealer told me of a man whom he visited a number of years ago in advance of the shipping season. He and his neighbors had a fine lot of poultry. He was told how best to dress and pack it, and was cautioned, above all things, not to ship too late. But he thought that he knew better than the experienced dealer, and shipped his stock so that it arrived on Thanksgiving morning. It had been delayed, or would have arrived the day before. There was absolutely no sale for it at any price that the dealer would accept. The man was wired, and came on at once. He accused the merchant of being dishonest, not having any trade, and talked like a crazy man. All this after being specially cautioned to get his poultry here on time. The merchant told me that, although he had previously received large consignments from this man and his neighbors, and all had, apparently, been well satisfied, he had never received anything from any of them since. He concluded his woeful tale by asking, "What do you think of such a man?" And I pass the question along for your consideration. In handling poultry, as well as other products, receivers are as anxious as shippers to make good sales and get good prices, and if the latter do their full part, there will, many times, be less cause for complaint than now exists. F. H. V.

THE NEW YORK HORSE SHOW.

THE PRACTICAL LESSONS IT TEACHES.

A farmer or small country breeder who wandered into this great exhibition, might feel out of place amid its style and magnificence, its beautifully-gowned women, its well-groomed men, and gaily-caparisoned horses. To the city dweller, it is known as a beauty show, to which people go to see and be seen. But the central idea is to show the best horses the country affords, and the breeder with his eyes open can here learn what kinds of horses are demanded by the wealthy people who have money to pay for whatever suits them.

The exhibits are largely fancy horses, few of those which might be classed as business horses, being shown. None of the heavy breeds has been entered during late years, as distinct breeds. In sifting out what may be classed as useful, every-day horses, the Hackney comes prominently into view. No other breed has so much to commend it to the attention of all classes as this. Hackney breeders have a good thing, and they know it. In talking with them, they tell me that it is never any trouble to sell a Hackney at a good price—either a purebred or one that has been produced by a cross upon common stock. Of course, the former are usually in the greatest demand and at the best prices. Mr. Henry Fairfax of Loudon County, Va., has done an extensive business in breeding and crossing Hackneys with trotting stock, and the results are said to be very satisfactory. Canadian breeders say that the crossing of the Hackney upon the small, native mares of that country gives a hardy, vigorous, active colt, but of smaller size than similar crossing upon mares in the States. Mr. W. S. Webb of Vermont, whose Hackneys are much missed from this show, has done much to encourage the breeding up of the common farm stock by an admixture of Hackney blood.

While the Hackney has good action, his greatest recommendations to popular favor are his soundness and endurance. He is a regular machine in motion, and withal has the strength that commends him for a business animal. These qualities are transmitted to the grades in a high degree.

I asked a Canadian breeder what methods he adopted to get his horses on the market.

"There is no trouble about that," said he. "It is known that we are breeders, and we have no trouble in selling not only our own stock, but considerable that we buy. Our business is established; we know just what horses are required, and where, and we know just how to fit up the horses for market."

"But suppose a farmer or small breeder have a few horses or colts, and is unknown to buyers; how is he to get them into the hands of buyers?"

"I don't know. Few farmers know how properly to fit and train a horse for market. Generally, they sell to regular traders who put the horses in good shape for market. I buy a good many horses in this way. I sometimes hear that a certain farmer has a wonderful colt, and when I go to see him, find that he won't do at all. He may have one or two good points like a pretty head or good neck, and be lacking in everything else. But on my way back, I may happen to see a colt running at pasture, which is really a fine animal, and capable of being made into a magnificent horse, but the owner had never suspected that his colt was anything superior. And so it goes. Some farmers have exaggerated ideas of the value of their horses, while others have really valuable animals without suspecting it."

Hon. H. M. Cochrane, of Canada, had several prize-winning Hackneys, among them a yearling colt that might easily be taken for a two-year-old. He has not been crowded, as his breeder says that they do not believe in pushing breeding stock. Extra growth and development which is secured by pampering for the purpose of making an extra show in the ring, are not favorable for good breeders.

Among the heaviest breeds shown were the French Coachers. These are coarser than the Hackneys, and do not seem to gain in popularity like the latter. Still they are popular with some, and are good, strong business horses.

A novelty this year, was a class for the horses and carts of the Street Cleaning Department of New York City. The carts were new ones of the regulation type used in gathering refuse. Each cart was covered with a tarpaulin, a new scoop-shovel hung on the side in the regulation style, and everything was as clean as could be made. The drivers were attired in brown duck suits, with oilskin helmets, and were said to be swells of the horsey set thus attired as cart drivers. The horses were mostly Percheron grades, and were excellent types of the horse required for heavy business in the city. They were heavy enough to draw a good load, but very active and quick in their movements. There is always a good demand in the market for this class of horses, and dealers here tell me that the supply is not large. Farmers should pay more attention to the breeding of such heavy stock. A good Percheron colt is fit for considerable work when quite young, and may be made nearly to pay for himself before he reaches the age best suited for the city markets.

Next week, I shall note some of the features that pertain more especially to the fancy trade—the ornamental, it might be called. F. H. V.

Two weeks ago, we told our readers how the milk of certain cows at the New Jersey Station is "Pasteurized" or heated to about 156 degrees and then at once cooled to 50 degrees or less. This treatment prolongs the life of milk by weakening or preventing the action of injurious bacteria. It also destroys the germs of disease and does not leave the unpleasant taste that is found in boiled milk. One objection to this "Pasteurizing" is the fact that cream treated in this way loses its consistency. It runs more readily and does not have the thick, sticky character that consumers demand. Ice cream makers and bakers complain of such cream as well as of separator cream because it has less "body" than the thick, ropy cream produced in shallow-pan setting or in creamers. This matter is of so much importance that the chemists at the Wisconsin Station determined to find some simple remedy for the trouble. They have found that by adding soluble lime to the "Pasteurized" cream they can restore its ropy or sticky character. The lime is dissolved in a solution of sugar. Two and a half parts of sugar are dissolved in five parts of water. Then one part of quick lime is slaked in three parts of water. After straining, the milk of lime is added to the sugar and water. The resulting clear liquid is called "viscogen" and it has the effect of thickening the cream. It will give an increased "body" to separator cream or condensed milk and it enables bakers to "whip" cream to better advantage. The whole matter is described in Bulletin No. 54 of the Wisconsin Station. The discovery of this "viscogen" is another illustration of the great benefit American farmers are deriving from several of the experiment stations. We feel sure that the better class of farmers thoroughly appreciate the advantage of having a body of trained scientists constantly studying the difficult problems that confront American agriculture. Think of the money farmers would have paid for this discovery if private parties had discovered and patented the process.

BUSINESS BITS.

IT is stated that more than five tons of American tin plate are used daily in manufacturing tin boxes for Enameline. When women find a good thing, it goes.

IF you keep bees, you will be interested in the American Bee Journal. Send your address to G. W. York & Co., 118 Michigan Street, Chicago, Ill., for a free sample.

THE value of commercial fertilizers to fruit growers is suggested in the fact that a noted New Jersey fruit grower recently ordered 155 tons of I. P. Thomas & Son, of Philadelphia, Pa., made especially for fruit trees.

IF you have grain of any kind to grind, and are in the habit of carting it to a grist mill through mud or snow banks, and then paying handsomely for the grinding, it will be worth your while to look into the advantages of the Peerless feed grinder. You have no power? No matter, you don't need it. This grinder has power within itself, and is simplicity itself in construction. It is adapted to a wide range of uses, and will crush and grind corn and cob, and all small grain, shelled corn, barley, oats, Millo maize, cotton seed, etc., either singly or mixed in any desired proportion. It will also crush and grind damp or newly-husked corn without choking. The capacity differs under different conditions, but James McGaughey, of Pennington's Point, Ill., says that he can grind 25 bushels of corn per hour. Send to Stevens Mfg. Co., Joliet, Ill., for full particulars. They guarantee to refund the purchase money if not satisfied.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

THE little girls' frocks this winter are, as a rule, made so very short in the skirt that they are rather suggestive of brightly-clad little fuchsias. They should only come just below the bend of the knee. In cold weather, this makes leggings a necessity. While most of the smart little frocks show broad collars, berthas or epaulettes, for indoor wear a plain little waist with trimmed sleeves is preferable, since they are expected to be worn under aprons. Many of the aprons are just the shape of the summer frocks worn with a guimpe, with broad frills at neck and arm. The morning aprons are often made with full bishop's sleeves, being merely cut away a little at the neck to show that they are aprons, and not dresses.

*

CHRISTMAS is drawing near, and appropriate gifts for family and friends must be promptly considered. Where Christmas presents are bought rather than made, midsummer is the very best season to buy them, when all the large shops offer fascinating bargain sales. Trifles of ornament and utility may then be bought for far less than at holiday time, to say nothing of the greater comfort in shopping. Some of our Sunday-school teachers were recently discussing the question of little gifts to their scholars. It was suggested that the usual and, apparently, inevitable candy should be put in little Japanese boxes or jars, tied with crape ribbon having a little Japanese doll, frog or dragon caught in the bow. Then the children would have a little souvenir after the candy had gone the way of all sweeties. The same suggestion holds good in other gifts. A mere trifle, a bit of china or linen, has such a dainty air if wrapped in pretty crape paper, ribbon tied, and with a bunch of flowers or odd little Japanese gimcrack tucked into the bow.

THE BIOGRAPHY OF A BEDBUG.

ILLUSTRATED FROM LIFE.

PART III.

MANY curious notions have found their way into bedbug literature. Democritus said that the feet of a hare, or of a stag, hung 'round the foot of the bed at the bottom, did not suffer the bugs to breed; but in traveling, adds Didymus, if you fill a vessel with cold water, and set it under the bed, they will not touch you when you are asleep. A superstition, which prevailed until recent times, was that in order to rid beds effectually of the bugs, they must be cleaned during the dark of the moon.

Various medicinal virtues have been ascribed to bedbugs. The ancients believed them to be not only a neutralizer of, but a preservative from, the venom of serpents, asps in particular. As a proof, they tell us that the sting of an asp is never fatal to poultry, if they have eaten some of the bugs that day. The Grecian prescription successfully to neutralize an asp's poison in man is translated :

Some men prescribe seven bedbugs for to drink,
Mingled with water, and one cup, they think,
Is better than with drowsy death to sink.

The dose for children was only four of the bugs. For nocturnal fevers, attach a couple of the bugs to the left arm in some wool that had been stolen from shepherds. For day-fevers, inclose the bugs in a piece of russet-colored cloth.

Anatolius says that, if an ox, or other quadruped, swallows a leech in drinking, having pounded some of the bugs, let the animal smell them, and he immediately throws up the leech. Dr. James, in his Medical Dictionary, says : "The smell of them relieves under hysterical suffocations!" (I should judge that there might be some virtue in the last two prescriptions). It is said that only about 30 years ago, the country people of Ohio sometimes still gave bedbugs as a cure for the fever and ague.

The habits of bedbugs are so well known that it is unnecessary to go into detail here. They, apparently, get in their work entirely at night, working mostly on the exposed or undressed parts of the body. During the day, they remain hidden in the cracks and crevices, not only of the bedstead, but anywhere in the room. One case is recorded of a bug that used to come every night nearly 40 feet from the corner of the room to visit an old lady; and one writer says that they sometimes drop into the bed from the ceiling. Bedbugs are easily and often transported from house to house in our clothing or baggage, so that the cleanest or newest house is liable to become stocked with the creatures. But there is no doubt that bedbugs, like carpet beetles, will thrive best where there is the most dirt. Thus scrupulous cleanliness is the greatest stumbling block to a bedbug's happiness.

How is this disgusting, pestiferous bugbear of the thrifty housewife to be combated? In the early part of the last century, the eradication of bedbugs became so formidable a business in London, that it was necessary to call in the aid of experts. One of these expert bug-hunters, John Southall, describes himself on the title page of his quaint "Book of Bugges" (written about 1730) as the "Maker of the Nonpareil Liquor for Destroying Bugges and Nits." He seems to have found abundant employment for a considerable staff of employees, who worked under his personal supervision; and his clients were found even among the most well-to-do classes. His charges were a half guinea (about $2.50) for ridding the most elaborate bedsteads, and proportionately less for those of an inferior style, an ordinary four-poster with plain furniture being undertaken for six shillings (about $1.50). I do not know whether any of the bedbug experts are doing business in London to-day, but in 1862, one writer stated that the most eminent firm, perhaps, of the bug-destroyers in London then was that of Messrs. Tiffin & Son; they rejoiced in the title of "Bug Destroyers to Her Majesty and the Royal Family." The following interesting facts regarding his business were obtained from Mr. Tiffin Sr. at the time :

"We can trace our business back as far as 1695, when one of our ancestors first turned his attention to the destruction of bugs. When I was a boy, my father used to go out to his work killing bugs at his customers' houses with a sword by his side and a cocked hat and bag wig on his head—in fact, dressed up like a regular dandy. I remember my grandmother, too, when she was in the business, going to the different houses, and seating herself in a chair, and telling the men what they were to do, to clean the furniture and wash the woodwork. I have customers on our books for whose families our house has worked these 150 years; among them are noblemen's names, the first in England. We do the work by contract, examining the house every year. In the spring is the best time, before the bugs lay their eggs. Yes, I am often sent for to catch a single bug. I've had to go, even 100 or 200 miles, into the country, and, perhaps, catch only half a dozen bugs after all; but then, that is all there were there, so it answers our employer's purpose as well as though they were swarming. I have known persons to be laid up for months through bug bites. I have plenty of cast-off bug skins, of all sizes and colors, which I keep by me as curiosities, and, sometimes, I have found the young bugs collected inside the old ones' skins for warmth, as if they had put on their father's great coat."

But little of a practical nature, regarding methods of fighting bedbugs, can be written that the experienced housekeeper of to-day does not already know. There is no way to prevent your dearest friend from unwittingly bringing them into the house with his baggage that may have become infested at some hotel on his route; it should thus be thought no lasting disgrace to find a bedbug or two in your house. Eternal vigilance is the price paid by the housewife who has no bedbugs. She allows no dirt to accumulate anywhere, and, at least once a year, every crack and cranny in every bed of any sort is treated to a thorough dose of some death-dealing liquid. If a room become badly infested, it is thoroughly cleaned; fumed with sulphur; the walls repapered or kalsomined; and the wood-work repainted or oiled. There is no let-up to the warfare until the last vestige of a bedbug is exterminated.

The standard bedbug remedy has long been a solution of one ounce of corrosive sublimate in half a pint of alcohol, and one-fourth pint of spirits of turpentine; druggists sell it as "bedbug poison". It is a virulent poison, thus must be used with great care, and is rather expensive. Furthermore, unless the bugs drank or sucked up some of the liquid soon after it was applied, there would seem to be but little use for the poison ingredient; I believe that the turpentine and alcohol kill most of the bugs, and that each bug must be hit to be killed. Intelligent fruit growers no longer think of trying to kill their insect enemies, that suck their food, by spraying their feeding grounds with a Paris-green solution; only biting insects are fought in this way. Therefore, I believe that the much cheaper benzine, or turpentine, or kerosene oil will prove equally as effective as the "bedbug poison" if used as thoroughly. Spray, or squirt with an oil can, the liquid into every crack (always remembering that a bedbug can tuck itself away in a very small place) in the bedstead, and in the walls and windows, if necessary; the three substances named are all so cheap that they can be used much more freely, and, in consequence, more effectually, than the poison.

It is doubtful whether the insect powders can be used as effectually as the liquids. It is said that, in traveling, where one is forced to lodge at places infested by this insect, protection from them can be had by sprinkling a small quantity of insect powder between the sheets of the bed on retiring. Fumigation with sulphur, to be effective, must be very thoroughly done. I doubt whether anything yet suggested will kill the eggs of this pest; insect eggs are not so easily penetrated by liquids as one would imagine. This means that one cannot expect always to exterminate the pest at a single blow, however hard he strikes. In short, to keep this most exasperating of household pests at bay, a housewife must exercise eternal vigilance, and become a good shot with a squirt gun filled with benzine, turpentine or kerosene.

Bedbugs do not always find it plain sailing in this world, for Nature has so arranged it that other insects sometimes like to include a fat, juicy specimen in their bill of fare. The Masked Bedbug Hunter, shown in the lower part of figure 239, is not an uncommon visitor in our homes. Although quite a near relative of the bedbug, it readily impales one on the end of its beak, and proceeds leisurely to suck out its juices. The nymphs of this Masked Hunter have the curious habit of enveloping themselves in a coating of dust, and bits of rubbish, the whole surface, including the legs and antennæ, being also masked in this way, as shown in figure 239.

Spiders are also said to kill bedbugs. Their odor does not deter the common cockroach, also, from devouring them with avidity; no doubt tragedies of this kind are of nightly occurrence in the slums of seaport towns, where both of these intruders occur in armies of thousands. Here, then, is a good word for the cockroach, although it may fairly be questioned whether the remedy is not almost as bad as the disease.

M. V. SLINGERLAND.

Ian Maclaren's

New Religious Story

The Minister of St. Bede's

A young Scottish minister, called to the pulpit of an influential church, finds his congregation opposed to the marriage of the girl of his heart. It is in two parts, the second in the November Ladies' Home Journal, —illustrated by Alice Barber Stephens.

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

THE GARDEN

INDOORS AND OUT.

IN this latitude, the gardens are still gay with hardy chrysanthemums, in spite of several sharp frosts. Where there is danger of injury to the flowers, a little protection may be given at night by covering with some coarse cloth. In sheltered nooks, we shall find bloom for a week or two yet, unless there be a severe storm. When flowering is over, the tops may be cut down, but not even with the ground; leave three or four inches of stem to catch and hold the mulch. A little well-rotted manure may be put over the bed, but little protection is needed by the hardy varieties. Some of the little pompons are especially satisfactory, such as Bob, crimson maroon; Mlle. Marthe, white; Golden Quill, yellow. Of the larger flowers, Geo. S. Conover is an especially good yellow, very free blooming, hardy and handsome.

The outdoor bulbs for spring blooming should all be planted by this time: tulips, hyacinths, crocus and narcissus. But they should not yet receive all their winter covering; the heaviest mulch should go on only at the approach of really severe weather. A quantity of strawy manure is not advised; it forms a favorite refuge for field mice. When the weather begins to moderate in early spring, the mulch must be removed by degrees; if it be all left on until the final removal, the leaves grow up blanched and spindling, and they are easily scalded by sun and wind.

We like tulips and hyacinths planted in masses of separate color in the flower beds; but the crocuses should be dotted through the grass, where their little yellow and lavender cups make a most attractive feature. When in a bed, they are likely to become draggled and mud-bespattered by wind and rain. The narcissus find a congenial place as a border for shrubs, where they may remain undisturbed.

The hardy phlox and similar plants are now prepared for winter. While they may be cut over to some extent, to avoid untidy raggedness, they should not be trimmed down to the ground; the stems catch and hold the snow, which forms a valuable mulch, and, indeed, the snow-covered branches form an attractive feature in the winter landscape. All the vacant flower beds should be neatly raked free of litter, and a dressing of manure spaded in; some very neat gardeners cut a quantity of evergreen branches, and lay them over the empty beds, thus giving a touch of green through the barren months.

Pansies, which were sown last August and transplanted into slightly raised beds, should now be covered with a mulch of dry leaves, held in place by evergreen branches. They should winter admirably in this way, blooming very early in the spring. They are put in slightly raised beds to avoid danger from ice and stagnant water.

Indoors, the window garden is a little bare of bloom yet, though the Zanzibar balsam, one of our most useful house plants, is covered with buds. Ferns and palms must now be watered with extra care, as their root action is not so vigorous during the cold months. The former must never be sprayed over the leaves, water being given at the roots only, and the drainage should be perfect. Never allow the pot to stand in a saucer of water. The palms should be carefully sponged over once a week with water containing a small amount of ammonia; this will keep the leaves clean and glossy. Look carefully for scale insects; they often appear on the central leaf just pushing out. A slender stick with a bit of soft sponge on the top will be found useful in rubbing them off. The presence of ants should be severely discouraged, as they carry the scale insects about.

In cold frames, violets should now be blooming freely; the single California and Luxonne, the double Marie Louise and Lady H. Campbell. The frames should be opened each day for a good airing, closing as it grows chilly in the afternoon, to hold the sun heat. As the nights grow colder, an ample covering of mats and shutters must be provided, and in severe weather, the frames are opened only when a very bright, sunny day gives the opportunity. The winter crop of violets will be produced from cool houses, with facilities for heating, for, though the violet is very impatient of a high temperature, our climate is too severe for us to dispense with heat in its winter culture.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best**—*Adv.*

SUGGESTIONS FOR CHRISTMAS GIFTS.

HANDSOME handkerchief boxes are crocheted of macrame cord, and molded upon a block of wood of the proper size and shape. Make the bottom of the box and one inch of the sides of some very close pattern. Crochet the next inch in open spaces, so that a ribbon, an inch wide, may be woven in and all around the box. The last 1½ inch is crocheted close again. The lid is made like the bottom of the box, and one inch deep, or if preferred, leave a space all around the top and one inch from the edge for ribbon, just as described for the side of the box. Rub stiff flour starch into the work, draw it over the mold, pull out the edges evenly, and in good shape. Set in a warm (not hot) oven to dry. Then take it off the mold, and give it two or three coats of varnish, allowing each coat plenty of time to dry. Line with blue, pink, or red satin, and run ribbon of the same color as the lining through the spaces left for it. A collar and cuff box may be crocheted in the same way. The bottom should be round, about seven inches in diameter, and crocheted very close. When you begin on the side, crochet four rows of solid short stitch. Then open spaces for ribbon, and after that, four rows of short stitch. Make the lid an inch deep, crochet a ring and fasten it to the lid to lift it by.

To make a slipper case, cut a piece of pasteboard in the shape of a shield, 16 inches long and 12 inches wide for the back. Cover the front with plush, velvet or broadcloth, and the back with cambric. Cut two pieces of cardboard the proper size and shape for the front parts. Cover just as you did the back, and join them to it, neatly rounding them so that the slippers can be put in. A narrow quilling of ribbon or braid finishes all the edges, and silk cord and tassels are used to hang it by. Embroider a bunch of daisies and leaves in their natural color with Roman floss on each of the front parts, and near the top of the shield.

Pretty thermometers are made by cutting a piece of pasteboard about three inches longer and wider than the thermometer, which should be removed from the tin frame. Cover with plush, velvet or linen upon which you have embroidered a design of golden rod. Fasten the thermometer to it with strong glue, or by piercing each corner with an awl and sewing it to the plush.

For a waste paper basket, use a willow one of any size desired. Line the bottom and sides with dark blue silkaline. Get a piece of golden brown felt about eight inches wide, and just long enough to reach around the basket. Cut the lower edge in squares, then cut off the corners of the squares, making them pointed. Embroider a design in outline just above the points, with blue Asiatic twisted embroidery silk. Crochet wheels of the same silk, and tie heavy silk fringe in the lower part of the wheel, making a tassel. Fasten a wheel to each point of the felt, allowing the fringe to fall below it, then join the felt neatly around the top of the basket.

A pretty pen rack may be made of an old horse shoe; make four pins of wood to fit into the nail holes, cover with tinsel or tin foil, and hang it up with cord and tassels of zephyr or with ribbon. A letter case is made of two pieces of cardboard, one round for the back, and the other crescent shaped for the front. Cover both pieces with silk, and paint a spray of flowers on each piece. Join the outer edges of the two pieces with invisible stitches, and fasten narrow ribbons to hang it by.

If your friend drives a great deal, a laprobe of golden brown felt or broadcloth would be a very useful present. Stamp a large conventionalized or scroll design in the center, work the heaviest lines with Asiatic mediæval silk, using a dark shade of brown, and lighter lines with Asiatic twisted embroidery silk in seal brown. Line it with dark brown flannel, or a heavy, dark gray blanket.

KANSAS HOUSEKEEPER.

PUMPKIN PRESERVES.—Some one has discovered a way to make preserves of pumpkin, it seems. It reads very well. Let some one try it. Pare the pumpkins, cut into halves, remove the seeds, and divide each half into pieces two inches square. Now, with a fine knife, shred the pumpkin, throw the bits into cold water; to each five pounds of pumpkin, allow a cupful of salt, cover and stand aside five hours; drain, and cover with fresh water, soak two hours. The water may be changed once or twice. Bring the pumpkin to the boiling point in the last water, drain, put two pounds of granulated sugar and 1½ quart of boiling water in a preserving kettle; boil and skim. When perfectly clear, put in the pumpkin, and cook gently until you can pierce it with a wooden skewer or straw. Then lift carefully with a skimmer; spread it out on a platter, and stand it for a day in the hot sun. Add the grated rind of one lemon and the juice of three to the syrup, with one ounce of ginger root cut into fine slices. Boil this down to a syrup. When the pumpkin and rind are cold and a little hardened by the sun, put into glass jars. Bring the syrup again to the boiling point, strain it over the pumpkin, and when cold, fasten.

Miscellaneous Advertising.

IN writing to advertisers, please always mention THE RURAL NEW-YORKER.

The Woman,
The Man,
And The Pill.

She was a good woman. He loved her. She was his wife. The pie was good; his wife made it; he ate it. But the pie disagreed with him, and he disagreed with his wife. Now he takes a pill after pie and is happy. So is his wife. The pill he takes is **Ayer's.**

Moral: Avoid dyspepsia by using

Ayer's
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The Index tells what Number to get; sent free.

"Pearl top" or "pearl glass."

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They are also largely interested in, and call especia attention to, the 600,000 acres of land in the famous

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lying along and owned by the Yazoo and Mississippi Valley Railroad Company, and which that Company offers at low prices and on long terms. Special inducements and facilities offered to go and examine these lands both in southern Illinois and in the "Yazoo Valley," Miss.

For further description, map and any information, address or call upon E. P. SKENE, Land Commissioner, No. 1 Park Row, Chicago, Ill.

Dietz Reflector Lantern.

THERE is an all-"aroundness" about the goodness of this Lantern that is noteworthy. In fact, it has too many virtues to crowd into this space. It gives a surprising volume of light, which is rendered specially intense by the concentrating powers of the Reflector and Hood. It will not blow out, is absolutely safe, and can be used for driving darkness while you are driving horses, having a simple arrangement to attach it to any vehicle. The U. S. Life-Saving Service uses it for a patrol Lantern—as the fierce coastwise gales cannot extinguish it.

The U. S. Government buys wisely—take a hint from it, and insist on your dealer giving you the "Dietz" goods.

We make an endless variety of Lanterns, Lamps, etc. ESTABLISHED IN 1840.

R. E. DIETZ COMPANY, 60 Laight Street, New York.

Our Catalogue, a nice little one, mailed free, will further illuminate you

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Thirty-eight full-sized good substantial articles, including stand, four sizes movable iron lasts, four packages nails, awls, two pair taps, hammer, thread, etc. Every farmer should have this kit, and do his own repairing. Complete Set, delivered at your railroad station, for $3. First order in each neighborhood at wholesale price, and secures agency. Send for Circular.

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Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE The latest, surest and best. Sample sent free on mention of this Magazine. *THE DR. WHITEHALL MEGRIMINE CO., South Bend, Ind.*

"A Wave of Prosperity"

will break at the feet of nine RURAL NEW-YORKER agents on January 1, 1897. The "wave" of the Star Spangled Banner will, we hope, continue for many centuries. The wave we now refer to will certainly break in about six weeks. This wave will be composed of the following subscription prizes:

$50 IN CASH.

A Kalamazoo Sleigh or Cutter.
A Washing Machine.
A Superior Land Roller.
A Cheshire Pig.

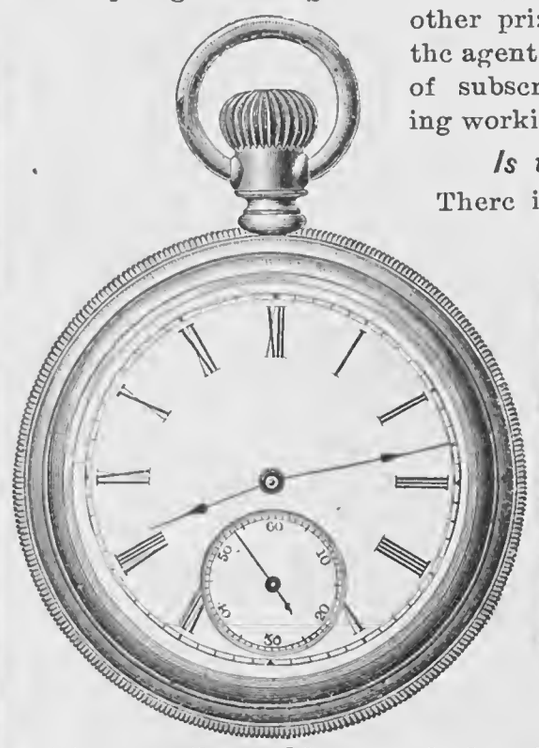
A R. N.-Y. Sewing Machine.
$15 in Cash.
$10 in Cash.
$5 in Cash.

We need not take time to describe these standard articles. Every one knows what cash is. The sewing machine, the roller, the cutter, the washing machine, and the pig, are just as near par value in their respective lines as a gold dollar is among other forms of money.

To Head Off This Wave, you secure subscriptions to THE RURAL NEW-YORKER. That is the only way to do it. The start is made November 16. The person who sends the greatest number of subscriptions between that date and January 1, 1897, will have first choice of these nine prizes. The one who secures the next largest list, will have second choice, and so on.

A Wave Every Week.

These are the nine big waves! Here are six smaller ones! Every Saturday night during this contest, we shall send, in addition to the other prizes, a fine Waltham Watch to the agent who sends the greatest number of subscriptions during the six preceding working days.



Is the Watch a Good One?

There is a picture of it on this page, and here is a description of it:

It is a man's size, seven jewels, compensation balance, safety pinion, stem-winding and setting, and has all the latest improvements. The case is an open face, made by the Keystone Watch Company, of a composite that wears like silver, and is fully guaranteed.

The writer has been wearing one of these watches for the past two months, and he never had such good time in his life before.

OF COURSE, no agent can win more than one watch. If, however, YOU have the largest club of subscriptions for two different weeks, we

will, as a second prize, give you a handsome rolled gold chain—see the picture of it! In case you win this chain, the person who comes next to you in subscription work will win the watch that week.

A FEW RIPPLES In addition to the big billows and the smaller waves, we create a ripple on the surface by throwing in the usual commission. Get *one dollar* from your subscriber, pocket 15 cents and send us the rest. Two six-months' or four three-months' subscriptions count the same as one yearly for commission and prizes.

NOW, LET US SEE if we understand it. From November 16, to January 1, 1897, you go about seeking whom you may secure as subscribers to THE RURAL NEW-YORKER. Suppose that you capture 15 recruits in one week. They each pay you *one dollar*. You put $2.25 where it will do you the most good, and send us 15 names and $12.75. It reaches us Saturday morning. The next largest list received that week is 14. Your name, sir, is *Watch*, and this excellent timepiece is sent you without delay.

Suppose, however, that some other friend sends 16 subscriptions that week! All is not yet lost. Your 15 names are put right to your credit. There are other weeks before New Year's, and each week means another watch. You may lose the watch every week, yet, when the totals are made up on January 1, you may have a chance to take one of the big prizes. If your club contains 20 new subscribers we will guarantee you a $5 bill anyway; or, if 10 new names, a $2 bill, even if you win no other prize.

There are three possibilities in every subscription you secure, a ripple, a wave and a billow. A commission, a watch and a $50 bill.

The Prizes are Up!
We Retire in Your Favor!

THE RURAL NEW-YORKER, NEW YORK.

DEATH OF PROF. McGEE.

W. L. McGee, Professor of Agriculture and Agriculturist of the Experiment Station of the South Carolina Agricultural College, met with a sad fate a few days since. He was explaining to the senior class of the college the operating of the fodder shredder, when by some means, his coat was caught by the rapidly revolving saws, and he was drawn into the machine. The belt was thrown off and the machine stopped, but not until he had been so terribly mangled that he died in a short time. Prof. McGee was 34 years old, a graduate of the Mississippi Agricultural College, and for eight years after graduation, was Assistant Director of the Mississippi Agricultural Experiment Station. He was a man well known throughout the South as an experimenter and a teacher. He was a careful and accurate experimenter, and had done most valuable work in the development of the agriculture of the South. He was held in the highest regard by his fellow teachers and pupils, and his untimely death has deprived South Carolina of the services of an able and noble man. L. A. CLINTON.

WHERE ARE THE POTATOES?

WHAT PROPORTION STILL ON THE FARMS?

At the present time, about 90 per cent of the potato crop remains unsold. Farmers will hold about one-half of their crop. Prices at present, 20 cents per bushel. Crop 60 per cent of last year. No rot. Twenty-five cents per bushel would cause free selling. C. E. K.

Newark, N. Y.

As near as I can ascertain, most of the potato growers about the larger cities of northern Illinois are selling this fall; a few of the large growers (15 to 25 acres) are holding a large part of their crop for higher prices. Many small growers about the smaller cities and villages, finding slow sale in their respective localities, and not having enough to ship, are putting them in cellars and pits. But I do not think that more than one-fourth of the total crop will be held till spring. DWIGHT HERRICK.

Northern Illinois.

More than half our potatoes have been marketed; many more will be sold during this month. Not more than one-fourth of the crop will be held for spring sales; besides our crop as a whole was not more than five-eighths of last year's crop. D. C. LEWIS.

New Jersey.

About 30 per cent of the potato crop of this section still remains in the farmers' hands, most of which will be held until spring, unless they reach 25 cents per bushel before that time. I think that an offer of 25 cents would move the rest of the crop. I think that about 50 per cent of the crop has been sold, and 20 per cent left in the ground, caught by the freeze of October 17, which lasted a week and carried the mercury down to 13 to 18 degrees above zero every morning at sunrise. The yield for St. Croix and Pierce Counties, will not exceed 50 bushels per acre, against 200 last year, although a few farmers who planted Rural New-Yorker No. 2, report a yield of over 200. My own Rural New-Yorkers went about 230 bushels. The shipping price for potatoes at this station has not been above 15 cents. E. H. CURRIER.

Wisconsin.

It is difficult to say what proportion remains unsold, as in this region, potatoes are more or less sold in a retail way by individual farmers. I should say that there is less disposition to sell early than usual, under the impression that increase of prices will, at least, equal the depreciation consequent upon holding.

Massachusetts. DR. JABEZ FISHER.

Seventy-five per cent of the potato crop of Monmouth County is marketed. I think that the rest will be held until spring, with the hope for better prices. JOHN H. DENISE.

Monmouth County, N. J.

I think that the area is much reduced, and the yield, with a very few exceptions, 50 per cent. Twice as many have been sold now as at this time last year. There has been a great desire to sell at 20 cents, but below this, only those who must raise money offer to sell. The farmers now have the tubers stored safe from frost, and do not care to take them out at the present price. I think that one-half has been sold already, and the rest will work off gradually as the markets need them. Holders usually sell a few at a time in this section. The low price and dealers' combine will prevent many rushes. This is a local report only. The Government report makes the acreage and yield very high, and I think the prospect for much increase in price very slight.

Tompkins County, N. Y. C. E. CHAPMAN.

BOULDER COUNTY, COL.—Our steers are ranged in the mountains from April until November or December, according to early or late storms in the mountains, when they are brought to the valley almost or quite ready for market. They are turned into fields and fed Alfalfa hay. They gain on this very rapidly. The last month corn or wheat ground is fed in some cases. I have known sugar beets and Alfalfa to be fed only in a few cases. Alfalfa is so much easier raised than beets that our people feed the Alfalfa, and our feeders say with just as good results as with the beets. Our people are feeding a large number of lambs for the Chicago market. Alfalfa forms the greater part of the feed. Wheat is the grain part of the ration. The stock run in large fields; the sheep in pens of about 500 or 600 per pen.

J. W. G.

Many a nervous woman sits up all the night and tries to read herself sleepy. Nine to one she don't accomplish her purpose. Nine to one, she gets more and more nervous. The slightest sound strikes terror to her heart. The dark corners of the room contain a thousand frights. She doesn't know what she is afraid of, but she is afraid, actually, honestly, nervously, abjectly afraid. Healthy women are not cowards. If a woman is nervous and sleepless and afraid of the rustle of her own dress, there is something the matter with her. The most delicate nerves in her body are set on edge by weakness or disease. Nine-tenths of the nervousness, irritability and bad temper in women is merely a symptom of ill health—ill health of the delicate and sensitive organism that makes her a woman. If she is overworked, or over-worried, the effect will show itself there first. There is no use taking harmful and deadly narcotics for nervousness and sleeplessness. It will leave the body in a worse condition than it was before. The way to effect a cure is to cure the cause. Dr. Pierce's Favorite Prescription will do it. It has cured tens of thousands of cases of female weakness and nervousness. It is a most wonderful invigorating nervine or nerve food. It brings sound healthy sleep and restores the glow and bloom of health. It is the only medicine now before the public for woman's peculiar ailments, adapted to her delicate organization by a regularly graduated physician—an experienced and skilled specialist in these maladies. It cannot do harm in any condition of the system. Its sales exceed the combined sales of all other medicines for women.

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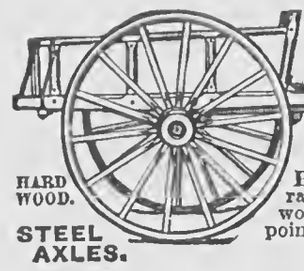

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THE RISE IN WHEAT.

WILL IT BENEFIT FARMERS?

The high price paid for wheat will help, perhaps, 30 per cent of the farmers. As thrashing began in July, a great many sold at once, for from 38 to 44 cents per bushel. Wheat is now 60 cents, so the farmer will lose quite a sum. Most of the wheat is now sold or contracted for at the advance price. I know of very few in my township who have wheat yet to sell. Wheat did not make, on an average per acre, more than nine bushels this year. W. C. M.

Runnymede, Kan.

Perhaps 50 per cent of the wheat has been sold, and likely one-half of the remainder will go on the market this fall. Not many large growers here. From 50 to 200 or 300 bushels is the most common crop here, and most of it is disposed of in a retail way. I am disappointed in Carman No. 3 potato. It yielded only two-thirds as much as State of Maine. I had just one row through the field, and it had an equal chance so far as I could see. My Carman No. 1 did fully as well as State of Maine. J. H. R.

Smock, Pa.

Two-thirds of our wheat crop was sold from the machine at from 34 to 42 cents per bushel, the most of it at 38 cents. After the rise, very little was sold; it came at a time when farmers were busy seeding, consequently could not haul to market. There is no money, so to speak, in the country; the bulk of the grain sold for very little above the cost of production, and what was left went towards paying unpaid taxes and interest on mortgages. There were plenty of foreclosures for want of money to meet liabilities. Our county is considered a wheat-growing county. From the amount of wheat gone out at low figures, and the amount on hand, I doubt whether there will be wheat enough left for home consumption, and money to meet forthcoming taxes. A. E.

Rice County, Kan.

As all business interests in this strictly agricultural section of the State depend on the success or failure of the farmer, the higher price paid for wheat will benefit alike the farmer and business man. The local market opened, this season, at 35 cents per bush., and gradually advanced to 50 cents about the middle of October; during that time, about half the crop of this township was sold. The other half, or 25,000 bushels, has been held until after election, in the hope that better prices would be obtained. To-day, November 9, the price is 60 cents, a rise of 25 cents per bushel over the opening price, or $6,250 in the pockets of the farmers of this township on the half of the crop still held. H. C. W.

Forestburgh, S. D.

The first rise in prices benefited the farmer but very little, as there was but little wheat sold, except such as was already stored in elevators or mill. Most farmers who were ready to sell when the rise came, were then holding for still higher figures, but sold freely after it commenced to drop. It is estimated that about 40 to 45 per cent of the crop is unsold in farmers' hands, but part of that may be in storage in some elevator or mill. I cannot give any estimate of the extra money that came into this township, but it was very light. Most of the farmers are situated so that they have to sell all their wheat as soon as thrashed: some of them on account of lack of room, haul direct from the field to town, as most of the bills for machinery, twine and similar expenses are due from October 1 to 15. Artesian-well irrigation has not amounted to much the past two seasons in this township. One reason is, a normal rainfall; a second is, lack of means with which to get it started. One or two of the parties who have sunk such wells have had the misfortune to have the wells clogged with sand; but they will, no doubt, open them as soon as they can provide the necessary means to do so.

Aberdeen, S. D. E. C. A.

MARKETS.

SATURDAY, NOVEMBER 14, 1896.

BEANS AND PEAS.

Beans, Marrow, 1896, choice	1 45@1 50
Medium, 1896, choice	1 25@ —
Pea, 1896, choice	1 15@ —
Medium or Pea, common to good	1 10@ —
White Kidney, 1895, choice	1 55@1 60
Red Kidney, 1895, choice	1 40@1 50
Red Kidney, common to good	1 20@1 35
Black Turtle soup, 1895	—@ —
Yellow Eye 1895, choice	1 25@1 35
Lima, Cal., 1895 (60 lbs)	1 40@1 45
Green peas, Scotch, 1896, bbls., per bushel	87@ —
Bags, per bushel	85@ —

BUTTER—NEW.

Creamery, Western, extras	20½@—
Western, firsts	18 @19½
Western, seconds	15 @17
Western, thirds	12½@13½
State, fancy	19½@20
Common to prime	12½@19
State dairy, half-firkin tubs, fancy	17 @18
Firsts	15 @16
Seconds	13 @14
Welsh tubs, fancy	17 @17½
Welsh tubs, firsts	13 @16
Welsh tubs, seconds	13 @—
Tubs, thirds	11 @12
Western imitation creamery, firsts	13 @14
Seconds	10½@11½
Western dairy, firsts	11½@12½
Seconds	9 @10
Thirds	8 @ 8½
Factory, fancy	11½@12
Factory, firsts	10 @10½
Factory, seconds	8½@ 9
Factory, thirds	7 @ 8
Old butter	5 @ 8

EGGS.

Near-by, new laid, fancy, selected, per doz	26 @ 27
State, fresh gathered, average best	25 @ 26
Penn., country marks, average best	25 @ 26
State and Penn., fair to good	22 @ 24
Western, northerly sections, fancy	24 @ —
Western, fair to good	21 @ 23
Western refrigerator, prime, early pkd.	18 @ —
Western refrigerator, fair to good	16½@ 17½
Western limed, choice	15 @ 16
Western dirties, per 30-doz case	3 30 @4 35
Western checks, per 30-doz case	3 00 @3 50

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10 @10½
White, fancy	10 @10¼
Choice	9¾@10
Good to prime	9 @ 9½
Common to fair	7 @ 8½
Small, colored, fancy	10¼@—
Small, white, fancy	10 @10¼
Small, good to choice	9 @ 9¾
Small, common to fair	7 @ 8½
Light skims, small, colored, choice	8 @ 8¼
Light skims, large, choice	7¾@ 8
Part skims, good to prime	5½@ 6¾
Part skims, common to fair	3½@ 4¾
Full skims	2½@ 3

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	4¾@ 5¼
Choice, 1896, per lb	4¼@ 4¾
Prime, 1896, per lb	4 @—
Common, per lb	2½@ 3¾
1895, prime to choice, per lb	3½@ 4
1895, common to good, per lb	2 @ 3
N. C., sundried, 1896, sliced, fancy	2½@ 3½
Southern, sundried, common to choice	2 @ 3
State, sundried, quarters, bbls	— @—
Western, sundried, quarters, bbls	— @—
South-West'n, sundried, quarters, bbls.	4 @—
Southern, sundried, quarters, bbls	— @—
Southern, sundried, coarse cut bags	1¾@ 2½
Chopped, 1896, per lb	1⅝@ 1⅝
Cores and skins, 1896, per lb	1 @ 1¼
Peaches, Sundried, 1896, peeled, per lb	6 @ 8
Cherries, 1895, per lb	8½@ 9
Cherries, 1896, per lb	9 @10
Blackberries, 1896, per lb	4 @ 4½
Raspberries, evaporated, 1896, per lb	15 @16
Sundried, per lb	12 @13
Huckleberries, 1896, per lb	6 @ 6½
Plums, Southern Damson, 1895, per lb	— @—

FRUITS—GREEN

Apples, 20-Ounce, per bbl	1 25@1 50
Baldwin, per bbl	85@1 00
Fall Pippin, per bbl	1 25@1 50
Greening, per bbl	85@1 00
Holland Pippin, per bbl	1 25@1 50
King, per bbl	1 25@1 50
N. Spy, per bbl	1 00@1 25
Pound Sweet, per bbl	1 00@1 25
Nearby; open heads and common, per bbl	50@ 75
Cranberries, Cape Cod, extra large, per bbl	5 50@ —
Fancy, per bbl	4 50@5 00
Good to prime, per bbl	3 00@4 00
Defective, per bbl	1 00@2 50
Per crate	1 25@1 37
Jersey, per crate	1 00@1 25
Grapes, Up-River, fancy, per 12-bskt carrier	75@1 25
Up-River, gift crates	40@ 70
West'n N. Y., Niagara, fancy	16@ 18
West'n N. Y., Delaware, plain	10@ 13
West'n N. Y., Niagara, plain	10@ 13
West'n N. Y., Niagara & Del., inferior	3@ 8
West'n N. Y., Catawba, per small basket	8@ 10
West'n N. Y., Concord, per large basket	10@ 11
West'n N. Y., Concord, per small basket	7@ 9
Wine grapes, black in bulk, per lb	1@ 1½
Wine grapes, white, in bulk, per lb	1½@ 2¼
Wine grapes, red, in bulk, per lb	1½@—
Pears, Bartlett, per bbl	1 50@4 50
Bartlett, per keg	1 00@2 00
Bartlett, per box	1 50@1 75
Clairgeau, per bbl	2 50@4 00
Duchess, per bbl	2 50@3 50
Anjou, per bbl	2 50@3 50
Seckel, per bbl	4 00@5 50
Seckel, per keg	1 50@2 50
Sheldon, per bbl	3 00@3 50
Swan's Orange, per bbl	2 25@3 00
Kieffer, per bbl	2 00@3 25
Lawrence, per bbl	3 00@3 50
Nearby cooking, per bbl	2 25@2 75
Quinces, choice bright, per bbl	2 25@2 50
Fair to good, per bbl	1 50@2 00
Seconds, per bbl	1 00@1 25

GAME.

Quail, choice, large, per doz	2 00@ —
Small, per doz	1 25@1 50
Woodcock, average, per pair	75@1 00
Partridges, nearby, per pair	90@1 00
Western, undrawn, prime, per pair	75@ —
Western, drawn, prime, per pair	50@ 60
Grouse, Western, prime, per pair	1 00@1 25
Grouse and partridges, inferior, per pair	25@ 40
English snipe, choice, per doz	1 75@2 25
Plover, golden, choice, per doz	2 00@2 50
Rabbits, per pair	15@ 30
Wild ducks, canvas, choice heavy, per pair	2 50@3 00
Red heads, per pair	1 50@2 00
Mallards, per pair	40@ 85
Blue wing, teal, per pair	40@ 50
Teal, green wing, per pair	25@ 30
Common, per pair	20@ 25
Venison, per lb	17@ 18
Whole deer, per lb	10@ 12

GRAIN.

Wheat	86 @88
Rye	42 @47
Barley feeding	29¼@—
Barley malting	40 @48
Buckwheat, silver	37 @—
Buckwheat, Japan	37 @—
Corn	31 @32
Oats	24 @24¼

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75 @80
No. 2	67 @72
No. 3	57 @62
Shipping	55 @60
Clover, mixed	60 @70
Clover	50 @60
Salt	45 @—
Straw, No. 1, long rye	90 @95
No. 2	70 @80
Short rye	55 @65
Tangled rye	50 @60
Oat	40 @45
Wheat	40 @—

HONEY.

State, white clover, comb, fancy, per lb	12 @12½
Buckwheat, comb, per lb	8 @ 9
White clover, extracted, per lb	5 @ 5½
Buckwheat, extracted, per lb	4 @ 4½
California, comb, fair to prime, per lb	—@—
Extracted, per lb	6 @ 6½
Southern, in bulk, per gallon	45 @50

HOPS.

N. Y. State, crop of 1896, seedlings	11 @11½
Medium to prime	8 @10
Crop of 1895, choice	7 @ 8
Medium to prime	5½@ 6
Crop of 1894, fancy	4 @—
Prime	3½@—
Medium	3 @—
Common	2 @ 2½
Old olds	1½@ 2½
Pacific Coast, crop of 1896, choice	12 @12½
Crop of 1896, medium to prime	8 @11½
Crop of 1895, choice	7½@ 8
Prime	6 @ 6½
Medium	5 @—
Crop of 1894, common	2 @2½
German, 1895	14 @18
German, 1896	24 @27

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½@ 10
Fair to good, per lb	8½@ 9
Com. to med., per lb	6½@ 8
Small, per lb	5 @ 6½
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 10 to 25 lbs., per lb	8 @ 9
40 to 60 lbs., per lb	6½@ 6¾
60 to 80 lbs., per lb	5¾@ 6¼
80 to 120 lbs., per lb	5¼@ 5¾
125 lbs and up, per lb	4 @ 5

NUTS.

Peanuts, Va., h. p., fancy, per lb	3½@ 5¾
H. p., extra, per lb	2½@ 2¾
Shelled, No. 1, per lb	4 @ 4¼
No. 2, per lb	3½@—
Spanish, shelled, new, No. 1, per lb	5 @—
Pecans, ungraded, per lb	4 @ 5
Chestnuts, northern, per bush of 60 lbs	4 50 @5 50
Hickorynuts, new, per bushel of 50 lbs	1 50 @1 75

POTATOES.

Long Island, in bulk, per bbl	1 25@1 37
Maine, per sack	1 10@ —
State, per 180 lbs	75@1 12
Jersey, per sack	90@1 00
Jersey, per bbl	1 00@1 12
Sweets, Va., yellow, per bbl	65@ 85
Jersey, yellow, per d. h. bbl.	1 25@1 50
Vineland, per bbl	1 25@2 00

POULTRY—LIVE.

Spring chickens, per lb	9 @ 10
Fowls, local, per lb	10½@ 11
Western, per lb	10½@ 11
Southern, per lb	10 @ 10½
Roosters, old, per lb	6 @ 6½
Turkeys, mixed, per lb	9 @ 9½
Ducks, local, per pair	70 @ 90
Western, per pair	70 @ 85
Southern, per pair	55 @ —
Geese, local, per pair	1 37 @1 62
Western, per pair	1 25 @1 50
Southern, per pair	1 12 @ —
Pigeons, old, per pair	25 @ —
Young, per pair	20 @ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10 @ 11
Young, dry-picked, per lb	11 @ 12
Young, scalded, per lb	10 @ 11
Young, inferior, per lb	5 @ 8
Spring chickens, Phil., selected, per lb	15 @ —
Philadelphia, poor to good, per lb	12 @ 14
Western, dry-picked, good to choice	11½@ 12
Western, dry-picked, inferior	9 @ 10
Western, scalded, choice, large	11½@ —
Fowls, Western, dry-picked, choice	10 @ 10½
Scalded, choice, per lb	10 @ —
Old cocks, per lb	6½@ 7
Spring ducks, Eastern, per lb	8 @ 15
Spring ducks, L. I., per lb	8 @ 15
Spring ducks, Penn. and Va., per lb	10 @ 12
Spring ducks, Western, per lb	10 @ 12
Old ducks, Western, per lb	7 @ 9
Spring geese, Eastern, per lb	14 @ 15
Squabs, tame, white, per doz	2 00 @2 25
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @ —

VEGETABLES.

Cabbage, L. I., per 100	2 50@3 00
Red, per 100	3 50@4 00
Carrots, per bbl	60@ 75
Cauliflower, L. I. and Jersey, per bbl	75@1 00
Celery, fancy, large, per doz	30@ 50
Average, prime, per doz	20@ 25
Small, per doz	8@ 15
Cucumbers, Florida, per crate	50@1 25
Egg plant, Florida, per ½-bbl box	50@1 00
Florida, per bbl	75@2 00
Lettuce, Boston, per doz	25@ 40
Local, per bbl	75@1 00
New Orleans, per bbl	3 00@4 00
Onions, Eastern white, per bbl	2 00@3 00
Eastern red, per bbl	1 75@2 00
Eastern yellow, per bbl	1 62@1 75
Orange County white, per bag	1 50@2 50
Orange County yellow, per bag	1 00@1 35
Orange County, red, per bag	1 00@1 75
Jersey and Long Island yellow, per bbl	1 00@1 50
Jersey and Long Island red, per bbl	1 25@1 75
Jersey and Long Island white, per bbl	1 50@2 75
State and Western yellow, per bbl	1 12@1 37
State and Western red, per bbl	1 25@1 37
Pumpkins, per bbl	30@ 75
Red peppers, per bbl	1 00@1 50
Green peppers, Jersey, per bbl	40@1 00
Spinach, per bbl	—@ —
Squash, Marrow, per bbl	60@ 75
Hubbard, per bbl	75@ —
String beans, Norfolk, per half bbl basket	—@ —
Charleston, green, per bushel basket	50@1 25
Charleston, wax, per bushel basket	50@1 00
Turnips, Jersey and L. I. Russia, per bbl	60@ 70
Canada, per bbl	60@ 70

MILK AND CREAM.

The total daily supply has been 20,858 cans of milk, 154 cans of condensed milk and 529 cans of cream. The average price paid for the surplus on the platforms has been $1.25 a can of 40 quarts.

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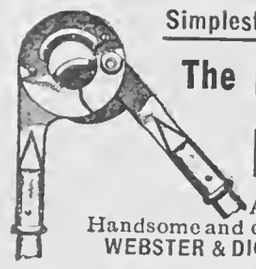

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"MILK FEVER" IN COWS.

On page 741, a Canadian reader of THE R. N.-Y. (W. O. E.) gave a brief account of his experience with "milk fever" in a cow and a mare. In conclusion, he said:

The next time I have a beast attacked under such circumstances, I shall ask the veterinary, thoroughly to disinfect the generative tract, making sure, at the same time, that no portion of the afterbirth or membranes is retained. I shall do this because it seems to me that these cases are of the same nature as those that are known under the name of puerperal fever in lying-in women. To me, it seems as though the best preventive must consist in the most scrupulous and thorough antiseptic precautions against infection. For, if my suspicion be well-founded, the disease is of microbial origin; the germ, or germs, that serve as its essential cause, entering the system by way of the open surface left after the detachment of the afterbirth, having first, however, probably infected the usual discharge, in which they would multiply, under the favorable conditions that it affords, with frightful rapidity.

The following comments have been made by readers:

I think that W. O. E. is right in his proposed treatment. My veterinarian is very successful, and his treatment, as I understand it, is on this line.

Illinois. H. B. GURLER.

The Whole Thing Explained.

W. O. E. is confounding two distinct diseases that occur in cows during the puerperal stage; parturient apoplexy or parturient collapse, popularly called milk fever, an acute non-febrile disease peculiar to cows; and parturient fever or puerperal fever of cows and, also, of the other domestic animals, a febrile disease due to the absorption of septic germs. Both of these diseases, as well as other fevers occurring during the puerperal stage, have been designated, puerperal fevers, by various writers; but at present, a well-marked distinction is made between them. In the case of milk fever, it is a misnomer, as the disease is not a fever, but simply an apoplexy or collapse. It is the parturient fever that corresponds, in cause and nature, to the septic puerperal fever of woman.

In the case of the cow, the diagnosis of milk fever by the veterinarian was, undoubtedly, correct. With the mare, nothing is given that would indicate that the veterinarian's diagnosis was not also correct in this case.

Parturient apoplexy (also called puerperal apoplexy), is essentially a disease of plethora in heavy milkers, and rarely affects other than cows of the improved milk breeds. Parturient or puerperal fever affects all breeds, and is not dependent upon the milking powers or the plethora of the animal. Parturient apoplexy has never been observed to occur at the first calving, seldom if ever at the second, and rarely after the seventh; most commonly at the third to the sixth calving, when the cow is in her prime and her milking powers fully developed. Puerperal fever has no age limit, being just as liable to occur at the first or second parturition.

Parturient apoplexy almost invariably follows an easy, rapid, natural delivery, where there was little or no danger of laceration or injuries to the mucous membrane of the uterus and vagina, and when the afterbirth is expelled at the proper time. It never follows a difficult parturition, or when the afterbirth is retained, both of which conditions are most favorable to the septic infection of puerperal fever. Parturient apoplexy is rarely accompanied by a fever, while a septic infection is almost invariably followed by a well-marked febrile condition. In parturient apoplexy, the post-mortem appearances are mostly of a negative character, so much so that no changes would be detected by the unskilled observer. The generative organs are, usually, little changed, except the slight normal congestion which is always present so soon after calving.

In puerperal fever, the generative organs show marked, extensive, pathological changes. The uterus is more or less distended with a dark-colored fluid, in an advanced state of decomposition, and emitting a very disagreeable odor. The walls of the uterus are thickened, deeply congested, and more or less softened. The lining mucous membrane is greatly changed, usually of a dark or dirty-brown color, and often marked by blood extravasation and ulcers. Similar lesions may extend to adjacent organs, or implicate the whole abdominal cavity.

It will thus be seen that W. O. E.'s proposed antiseptic treatment would be suitable as far as it goes, for the puerperal fever, but that it would have little or no effect upon parturient apoplexy. Parturient apoplexy is, essentially, a disease of an over-plethoric condition of the blood. Calving is, of course, the immediate exciting cause, while high feeding, idleness and costiveness are accessory causes.

Treatment should be directed to the depletion of the blood as quickly as possible. In the earliest stages, bleeding is the most effectual method. An active cathartic should be given (two pounds Epsom salts with four doses of carbonate of ammonia and one dram of nux vomica) and be followed by repeated rectal injections of warm soap-suds until a free movement of the bowels is established. Keep the animal propped in as nearly the natural position as possible, with bundles or bags of hay or straw, and turn two or three times daily. Remove the milk every few hours. Ice or cold water to the head is very beneficial, while the body and legs should be warmly clothed if cold. Rub the spine with ammonia and oil liniment. Tincture of aconite in 25 to 30 drop doses every four hours is often beneficial. In extreme weakness, whisky or carbonate of ammonia in two to four dram doses may be given every four hours. Satisfactory treatment of the disease requires the personal attention of a competent veterinary surgeon to watch and treat the symptoms as they appear or change.

Prevention is to be sought by reducing the feed of susceptible animals for two or three weeks before calving, and administering a dose of salts just before, or as soon as possible after, calving.

F. L. KILBORNE.

An Indispensable Treatment.

The term, milk fever, is frequently used in an indefinite way, and applied to more than one form of disease. Probably the term is best restricted to a disease of a trivial nature, accompanying certain functional changes which occur about the time of parturition. The composition of the mammary secretion is materially changed at this period; colostrum gives place to milk, and it has been held by good authorities that this change is always attended with a mild form of fever which, ordinarily, passes off in the course of a few hours, or days at farthest.

The term, parturient fever, is applied to a type of disease more nearly identical with puerperal fever of woman. There is genuine sepsis in these cases, attended with exudations on the uterine mucous membranes, the accumulation of an ichorous liquid of a highly offensive character, œdematous condition of the pelvic connective tissue and the walls of the genital organs generally; not infrequently, the whole body shows the signs of septic poisoning. The condition of the organs at this period predisposes the animal to septic infection, and this last must be regarded as the real cause of the train of symptoms.

Thorough cleansing of the cavity, the removal of shreds of membranes or other adhering matter, followed by injections of antiseptic solutions, form an indispensable part of the treatment.

M. STALKER.

BREEDING FOR SEX.

DOES THE WEAKER PARENT DETERMINE?

It is claimed by some breeders that, in the majority of cases, the sex of offspring is determined by the weaker parent. For example, if, at the time of service, the cow is, to a marked degree, in a poorer physical condition than the bull, the calf is more likely to be a heifer, or vice versa. Does your observation confirm this theory, and is any reliance to be placed on it?

"No"—After a Careful Trial.

I think that there is nothing in this theory. In 1881, I studied Prof. Manly Miles's Principles of Stock Breeding. In this book, he has a chapter devoted to sex, and gives a number of theories in regard to the regulation of sex, among them the theory mentioned above. Since that date, I have watched the breeding records to which I have had access, to see whether any of the theories given would find confirmation. None has been shown to be correct. Sometimes, for a year or two, the breeding records seemed to show that a certain theory was correct, and then, perhaps the next year, the results would be reversed. I have known some bulls whose offspring were, usually, bulls, and others whose get were, mostly, heifers, no matter what the age or condition of the cows. Some cows will produce heifer calves with almost uniform regularity, and others will regularly have bull calves without any ascertainable reason. I think the determination of sex is a subject about which we know absolutely nothing.

Ellerslie Farm. H. M. COTTRELL.

The Stronger Parent Prevails.

Under ordinary conditions, and with only a few animals, it seems impossible to get any hints in regard to the government of sex; but when we come to large numbers of animals kept under somewhat unusual conditions, we do seem to get some light upon this vexed question. One of my students owns a large island off the coast of South Carolina, upon which, from time immemorial, considerable numbers of swine have run wild. Here, it has been observed, time and again, that sex goes, in a large majority of cases, with the stronger parent, as do also the other characteristics. Seasons of scarcity of food quickly destroyed or weakened the females to a much larger extent than it did the males, and the

(Continued on next page.)

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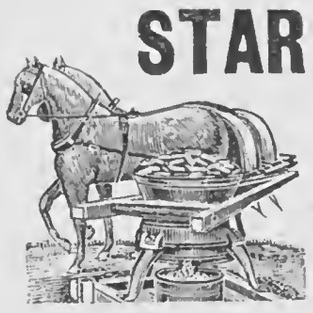

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Breeding for Sex.

(CONTINUED.)

following year, the male pigs were very largely in excess of the females. For years, this had been noted by the hunters who went out to kill the pigs for supplies for the camp.

It would seem strange if the stronger parent should not control the weaker, or tend to do so, along all lines of reproduction and transmission of qualities. Under ordinary circumstances, it is difficult to determine which is the stronger or more vigorous, since most domestic animals are kept entirely too fat for the highest physical vigor, therefore the *apparently* weaker parent is often the stronger.

It has also been noticed in France and in the Western States, that where large numbers of sheep are kept, a large majority of the first lambs which are dropped are males, and as the yeaning season progresses, the sex is about evenly divided. During the last of the season, a majority of the lambs are ewes. It is needless for me to explain that, under all such circumstances, the male is put in a high condition before he is turned in with the flock. In fact, every effort is made to make him, by feeding and exercise, strong and prepotent. Later, after he is weakened by use, the females are relatively stronger than the male.

Some years since, I kept 500 ewes, and some of my neighbors 1,000 to 1,500, and this assertion of the law, that the stronger prevails over the weaker in sex, as well as in other things, was very marked in all of these flocks. Like results have been reached many times with large flocks of sheep in France.

Cornell University. I. P. ROBERTS.

I am satisfied that the sex will more than probably be that of the stronger parent. I have had five calves since August 11, sired by what I would call "a runt of a bull" (a son of Pedro, sired when he was 16 years old), that is small and delicately built and, seemingly, physically weak, although very vigorous in service. Out of the lot, only one is a bull, the dams being in these cases the stronger of the parents. I have also Wine, a strong, large son of Ida's Stoke Pogis, whose calves are more bulls than heifers. I have noticed that a young cock gets more roosters than pullets, and that an old cock mated to strong, vigorous hens, will give a majority of females. (Is this so, poultry breeders?)

Pennsylvania. R. F. SHANNON.

Gave Up Experimenting.

From my experience and observation, I am led to believe that the laws of governing sex are entirely beyond the knowledge or control of man. No theory proves true, to a sufficient extent to be a certainty. In a long term of years, the males and females will be about equal, varying a little, one year with another. Some females will alternate male and female with great regularity, regardless of the bull; others will, usually, have males, while others still usually have females, all regardless of the bull. Some bulls seem to sire a preponderance of males, and others females. I gave up trying to control sex, several years ago. C. M. WINSLOW.

Vermont.

Opposed to the Theory.

In my opinion, there is nothing whatever in the theory. The folly of all these theories lies in the fact that the theorizers seem to think that masculinity or femininity is determined by one parent alone. They carry the idea that masculinity is determined by the male parent, and femininity by the female parent. Where, in all the processes of nature, can be found any warrant for such assumptions? On the contrary, it is just as confidently claimed that the male sex is determined by the mother, and the female by the father. In all my study and experience, I have never yet been able to look into the secret, or understand the philosophy of sex determination. I have had very strong, vigorous cows that produced heifers nearly continuously, and cows rather delicate in constitution which produced male calves nearly continuously. W. D. HOARD.

The claim made by breeders that the sex is determined by the stronger parent, was believed by me to be true until I had positive proofs a number of times to the contrary. A few years ago, many theories were advanced, and swindlers in some cases reaped the benefit by selling so-called methods by which any one could determine the sex of the young animal at the time of service. These methods have been experimented with by breeders who, I know, were careful in giving them every chance to confirm such theories. If I am not mistaken, the French Government caused careful study to be made, and the result was nothing of a character that could be positively used. From my observations, the sexes, year after year, are nearly equal in number. Some years, there are many more males than females, but the average still remains the same. In reference to the theory that the weaker parent determined the sex, I have seen this in swine, being exactly the opposite, more times than would make it a mere accident. Nature has, evidently, determined that we shall not know her method. Therefore, I put no reliance on such theories. WILLS A. SEWARD.

We experimented carefully many years, trying all the methods then recommended, to control the sex in breeding, and have concluded that all methods so far recommended are failures.

New York. SMITHS & POWELL.

Some Interesting Facts.

I have been on a silent, earnest hunt to solve this, the most hidden mystery of reproduction, for more than 20 years. I hoped that I should not be called upon to tell how little I know, until I had really learned more. Breeders could often enhance values greatly if the sex of offspring could be influenced or controlled. I have carefully tested every theory I have seen advanced in this direction, and have several times thought, after trial, that I had really found it out. The result of trials seemed, for a time, to prove the theory, but continued tests would, in all instances, prove only its fallacy.

There are some things that would indicate that the weakened condition of one of the parents has an influence upon the sex of the offspring amounting to its control, in a majority of cases. I will not claim that it does, but in this connection, will name some facts as they appear in my experience of 20 years.

In August, 1874, I bought the, then, two-year-old son of Hambletonian 10, now known as Haw Patch 1140. I had one stallion at that time, and the farm has never had less than two stallions upon it since, and much of the time more. Haw Patch got two foals when he was two years old; both were males. As a three-year-old, two-thirds of his foals were males and the same at four. As a five-year-old, a little more than half were females. At six and all the years that followed until he was 12, from 60 to 70 per cent were females. At 13, males and females were again even, the males increasing with each year until, in old age, I find nearly all males. This has been the result with every horse I have handled.

The immature colt gets a preponderance of males; in complete, full strength of horsehood, a preponderance of females. When the vital forces begin to wane, when nature starts down the plane on the shady side, the lever reverses, and at the end, we are again where we started. The weak, old sire, like the immature colt, has a large preponderance of male offspring. The exact reverse seems the result when we take the female; her first offspring, if she be very young and immature, will be female in a majority of instances. So, also, will the last of her colts, if she be very old. It is claimed by some that the reason the produce of the old are, in sex, like themselves is because of a law of nature to prevent the extinction of races. It does look that way, and the same law of nature may guard her secrets so closely as to prevent man's interference, for the same reason.

The constant association of the parents would seem to influence sex. Here are the cases in point: Ten mares were allowed to run during the entire time where they could come to the stallion paddock at any time. The paddock was an open picket fence where they could see and commune at will. Seven of these mares had female foals, and all looked very like the sire, seeming to partake more largely of his looks and actions than other foals by him. Five other mares of our own, bred the same season, were kept on a farm two miles away, and brought to the stallion only at stated periods; four of the mares had male foals, none of which looked as much like the sire as the foals of the mares kept with him. The thread is very tangled. Man has succeeded in controlling production in the animal kingdom most effectually, some strange and interesting things have been done in that way, which shows conclusively that man is nearly monarch of all he surveys. W. W. LATTA.

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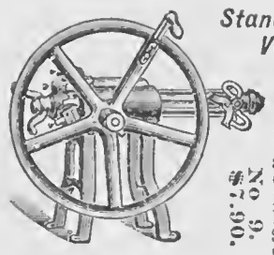

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The bard who wished to see himself
As others saw 'tis plain
Had never been a nominee
An office for to gain. —*Detroit News.*

MISS VASSAR: "Are you fond of Horace?" Miss Abat War (from Chicago): "Yes, indeed. He never said a better thing than, "Go West, young man."—*Life.*

LITTLE BOY: "The preacher says there is no marryin' in heaven." Little Girl: "Of course not. There wouldn't be enough men to go around."—*North Lacrosse Argus.*

MOTHER: "I gave you a penny yesterday to be good, and to-day you are just as bad as can be." Willie: "Yes; I'm trying to show that you got your money's worth yesterday."—*Modes and Fabrics.*

A YOUNG man took his watch to a jeweler and asked the reason of its stopping. "Well," said the jeweler, "there is a bedbug in it." "Why, how could a bedbug get in a watch?" "Easily enough," said the jeweler. "It went in between the ticks."—*Credit Lost.*

BILDAD JONES: "Father, kin I go down cellar an' git some apples ter eat?" Farmer Jones: "Yes, Bildad; but see ye sort 'em all over fust, an' don't piek out none but th' bad ones." Bildad: "But s'pose thar ain't no bad ones, dad?" Farmer Jones: "Then ye'll hev ter wait till they gits bad, Bildad. We can't afford ter be eatin' good, sound apples thet's wuth a dollar a bushel."—*Judge.*

"YES," said the principal of the young ladies' seminary to the proud parent, "you ought to be very happy, my dear sir, to be the father of so large a family, all the members of which appear to be so devoted to one another." "Large family! Devoted! What on earth do you mean, ma'am?" "Why, yes, indeed," said the principal, beaming through her glasses. "No less than eleven of Gussie's brothers have been here this winter to take her out riding, and she tells me she expects the tall one with blue eyes again to-morrow."—*Credit Lost.*

A GOOD-LOOKING, well-to-do bachelor was being teased by the young ladies of a club for not being married. He said, "I'll marry the one of you whom, on a secret vote, you select to be my wife." There were nine members of the club. Each girl went into a corner and used great caution in preparing her ballot and disguising her handwriting. The result of the vote was that there were nine votes, each girl receiving *one*. The man remains a bachelor, the club is broken up, and the girls are mortal enemies, united in the one determination that they will not speak to the man again.—*Modes and Fabrics.*

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BUILDING A WAR-SHIP, HON. HILARY A. HERBERT, Secretary Navy.
WHAT THE ATTORNEY-GENERAL DOES, HON. JUDSON HARMON.
THE LIFE OF A SENATOR, HON. HENRY CABOT LODGE.
THE LIFE OF A CONGRESSMAN, HON. THOMAS B. REED.

For Ambitious Boys.

THE HABIT OF THRIFT, Andrew Carnegie.
BECOMING A DOCTOR, Dr. Austin Flint.
HOW LINCOLN EDUCATED HIMSELF, Jesse W. Weik.
FORESTRY AS A PROFESSION, Gifford Pinchot.
THE LARGEST SALARIES, Carroll D. Wright.

For Ambitious Girls.

TRAINING THE VOICE, Madame Lillian Nordica.
A GIRL WHO BECAME FAMOUS, Mrs. Burton Harrison.
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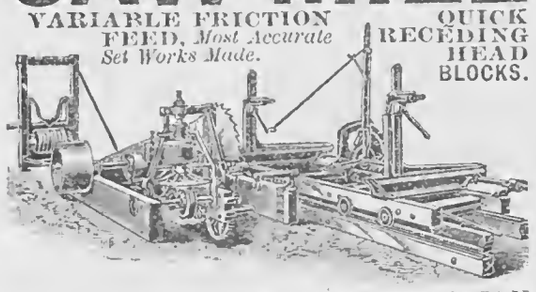

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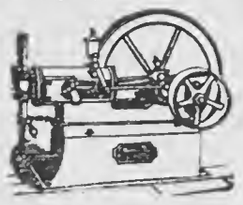

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LEARN TO USE GOOD TOOLS.

THE HANDY PART OF AN EDUCATION.

Turn Time Into Money.

A young man just starting for himself in farming, gardening or fruit growing, should be so educated that no matter what variety of work in the many departments of labor arises, he may say to himself, "A dollar saved is a dollar earned," and at once pull off his coat and go at it. There are so many ways of making money by saving it, that he will find that almost every day of the year his many-sided knowledge saves him more or less money. In the first place, he should strive for, at least, a good common school education; and the more he adds to this, the better able will he be to "box with the world, bare-handed".

One thing a boy should understand and that is the fact that a knowledge of the use of tools on the farm is not to be surpassed as a money saver by any other single branch of his education. There is not a single boy, I dare say, who has not, ever since he was a little "codger" in knee pants and copper-toed boots, now and then looked with longing eyes at the bright, carpenters' tools arranged in the window of some hardware store, or perhaps (but seldom is it the case), in his father's tool chest at home. Supposing the latter to be the case, and our boy wanted a tool or tools to make some little contrivance that his boyish mind had conceived, a toy gun, a sled, a sawmill or a "young bootjack" to pull off those little boots, and his father denies him their use, is not that father depriving his little one of a source of education that would go to make up the ideal farmer boy in a few years? It is more than likely that the same father would give this same little fellow a sound whipping if he refused to go to school. Isn't there something that reminds you of inconsistency in this kind of paternal solicitude? What if he were to dull a hatchet or unintentionally "saw into a nail"? the father should be thankful that his boy has developed a disposition to manufacture his own little contrivances, and grind the hatchet, and file the saw, with a "grin and a whistle", and bid the little man try it again, only to be as careful as he can hereafter. There would be just as much kindness in withholding from him his slate and arithmetic if he had accidentally torn one of its leaves, as to forbid the use of tools as the result of an occasional nick, providing he is old enough to use them with any degree of effectiveness.

A man who cannot use even the most common tools to advantage, is certainly a burden to himself, especially if he is not financially able to hire a carpenter at any time. How about having to procure help when the farm sled has to be shod? How about engaging help to cut an opening in an outbuilding large enough for a half-sash window? How about a man walking one-half mile to a blacksmith shop, carrying with him a piece of board which he wished squared and sawed off at one end? This man had no saw, he said. These are actual occurrences, and well illustrate the disadvantage under which a man may labor when the mechanical "lobe" of his education, as a farmer, is undeveloped.

On the other hand, I know a thrifty farmer, whose fine home I pass every time I go to the city, who has really built from the "ground up", himself. His large barn, cattlehouse, sheephouse, wagon and carriage houses, springhouse, etc., are all the work of his own hands. Is he too stingy to hire a carpenter? do you ask? No indeed! That is far from the true cause. It is because he educated himself for a thorough farmer; and by being able to do just as good work as any carpenter, he saved enough to purchase all that modern farm machinery which may be seen safely housed in these same buildings. He did his building at odd times when he could do little else. His farm, in every department, shows the result of careful training and practical common sense; and as a result, he has a model country home.

Another instance, on a smaller scale, of the advantage of being able to use tools on the farm, is one in which I have experienced the direct benefits myself. Having married and started out for myself seven years ago, when I was only 20 years old, I had to build from the "ground up", also. I hired the services of two carpenters to build our dwelling, but before they were done, they left my work and went to another place to build a house they had promised to have done by a certain time. This left our house unfinished, and they did not know when they could be back. I at once bought the necessary tools and made my debut by finishing the job myself, which consisted of almost the entire inside woodwork. I have not had a carpenter on the place since then. I built a poultry-house, woodshed, berry-packing house, springhouse and workshop combined, and also a barn and fruit cellar combined. I planned to have the last as handy as I could make it. Neighbors pronounce it the most complete little barn in the neighborhood. The cellar is entered by a small but efficient elevator which makes the storing away of barrels or crates of apples and potatoes, etc., almost as good as play. In excavating for the cellar, I struck a good vein of pure, soft water. By sinking a large, 18-inch sewer tile down until the top was level with the tile drain of the cellar, I have a fine spring in one corner of the cellar. The water is carried directly to the feed-room above by a pump, making one more valuable convenience than I had expected to have.

Besides the work done on our dwelling, I saved in four years, by a careful and sufficiently low estimate, the neat little sum of $91.50; this is exclusive of the thousand and one little odd jobs that are always to be found to do if one looks for them. Boys, it does pay! And the desire for tools and the making of little contrivances when you are young, "just for fun", only fits you for more prosperous men when you grow up. I cannot remember when I learned to use tools, as my father kindly allowed me the use of all that he had, whenever I wanted them. It is to him I feel that I should give all the credit.

Ohio. F. H. BALLOU.

IT NEVER RAINS BUT HE PORES OVER THE R. N.-Y. FIG. 253.

R. N.-Y.—There is no question about the value of a little shop on the farm. The ability to use saw, hammer and plane to advantage, is like putting a sixth finger on a boy's hand. And don't forget that books are also tools! So are papers and magazines—that is, those that aim at high standards. The man shown in the picture on this page is in his mental shop. It is a rainy day but, with his books and papers around him, he is forming plans and oiling up the "think works," so that the hour spent in the shop will be more useful than ever. A "reading habit" is a most useful thing for a boy if he be only directed so that he will select useful reading. Reading bad books or papers is far worse than nicking a hatchet or "sawing into a nail."

WHAT THEY SAY.

BURNING CORN IN NEBRASKA.—In this part of the State, very little coal is burned by the farmers; it sells from $5.50 to $7 for soft coal, and $12 for hard coal. Cobs, willow brush and cow chips are the fuel usually used. When corn, as at present, is worth only from 10 to 12½ cents per bushel, it is used during very cold weather, as it is cheaper than coal; it makes a very hot fire, and lasts fairly well. Although I live in town, on the main line of the Union Pacific railroad, I have burned some corn because I could buy it cheaper than I could buy coal. E. O. B.

Overton, Neb.

FEEDING STEERS IN WISCONSIN.—Prof. Henry, of Wisconsin Experiment Station, had a report about seven years ago about keeping dishorned steers loose, and said that they did fully as well as the stall-fed steers. At that time, the wolves were killing our sheep, so we had to sell them. Next, we fed three yearling steers in a small shed on tame hay all winter; they were as good in the spring as the ones we fed meal and hay, and stanchioned every night all winter. Having a farm of 150 acres, that spring we built an addition to the barn, with a basement 16x32 feet, and pinned the stanchions half open. At the same time, we formed a plan to buy good steers as young as we could after they were weaned from milk, take off the horns just after fly time, every fall, and sell them when worth not less than $25 each. We have had nearly a carload every spring, that sold readily; twice they were contracted two months before delivery. Surely, they pay for the feed and taxes, and make manure enough to more than keep up the fertility of the small amount of land tilled. The feed used has been early cut, tame hay mostly. This winter, grain is so cheap, that more is to be fed. Health permitting, I see no reason for a change.

Elkhorn, Wis. S. D. H.

A Grafting Machine.

The grafting machine ranks in the same class with the milking machine, just one class below aerial navigation and rainmaking, and two classes below perpetual motion. Various devices have been proposed from time to time, for substituting mechanical exactness for the manual skill required in making a good graft; but most of these contrivances have been so bulky or bunglesome that they have made no progress in popular favor. What seems to be a real step in the evolution of the grafting machine is marked by the announcement of M. Pradines's machine in the 1895 volume of Revue Horticole—see Fig. 254. This new machine is light, convenient and manageable. It weighs about 14 ounces, or only a little more than a pair of common pruning shears. It is about the size of a Wiss No. 3 pruner, has quite a family resemblance to grape shears in general, and is almost as easy of manipulation.

We have made a trial of this interesting tool merely in an experimental way. We have not attempted to use it on a large scale. In fact, our results thus far would not encourage us to hope for its success in extensive operations. The first oblique cut, as it is made in the whip graft, the splice graft and in some other methods, is easily, quickly and accurately made with this machine. If evenness and accuracy were a special consideration, and one had some hard-wooded stock to handle, the Pradines grafter would, probably, be quite useful. For cutting the tongue, however, in the ordinary whip graft, it is not a success as at present constructed. But it seems to me that some modification might enable it to do this part of the work also. The tool was originally designed for grafting grape vines in the vineyard; and here, upon stocks in place, it will, doubtless, cut the tongue to one's entire satisfaction. In such places, a tongue is peculiarly hard to make with a knife. On the whole, I would say that, for this country, it is a pointed suggestion, rather than a practical success. It is made only in France. F. A. WAUGH.

Vermont Experiment Station.

"Sales Days" for Country Produce.

I take pleasure in reading the views upon sales of farmers' produce and the attention given to the middleman. The idea of selling direct to consumers is right, but there are few, compared to all, who are so situated that they can do so; the great mass must, in the country, sell to the country buyer, and in the main, they do better than they can in any other way. As a rule, the country buyer pays all he can afford, and often much more. Competition and ambition to buy, and often mistaken ideas of what the market is or is to be, induce him to pay more than he can afford.

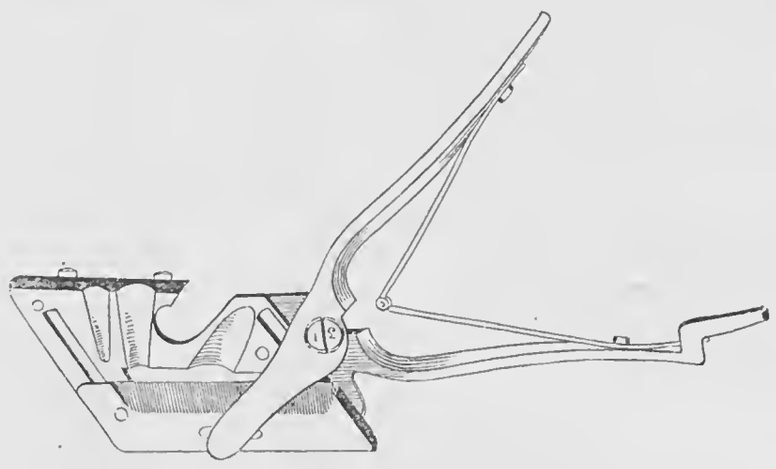
But of all ways, the most hazardous and unsatisfactory method of disposing of goods by country buyers or farmers, particularly the farmers, is to send the produce to a city commissionman to be sold. In this way, the goods are put into the hands of those whose chief interest is in getting their commissions, and the chances are by many odds that the returns will be much less than the goods could have been sold for at home, for it is a peculiar condition that, almost invariably, the market price is always down just the day the goods are sold, and just as surely the shipper is informed that prices will be better next week.

Market quotations are but a small guide to the price the shipper will get. It will be found, more often at the lowest or near it, than at intermediate or higher. Another thing; did any farmer ever send to a commissionman any produce that proved of good quality, that the report was not nearly always received that the goods were of poor quality, or in bad condition? Something is always wrong. Seldom are quality and condition right. The standard of requirement for city markets for produce, is higher than the ability of the farmer, on the average, is able to secure. If the change could be made, it would be more satisfactory if city dealers had to buy all their goods in the country. If all country produce could be sold at home, it would, in the end, I believe, be more satisfactory to seller and buyer, and far less loss to farmers, for if city dealers owned the goods, they would not sell at a loss, as so much of farm produce is, with present methods. Sales days for cheese and butter are established in Utica and Little Falls. Why could not every county have sales days for all kinds of produce, and meet city buyers there? Most milk is so sold, why not all other produce? C. O. N.

Homer, N. Y.

Colorado Second-Crop Strawberries.

Second-crop strawberries are found in the West, in nearly every strawberry plantation, but owing to the limited quantity produced in the ordinary way, very few growers have been enabled to market any.



A FRENCH "GRAFTING MACHINE." FIG. 254.

Mr. Page and myself of the Grand Valley, are the only growers marketing fall berries, Mr. Page having marketed, one fall, six cases; this I believe was three years ago. To raise second-crop strawberries in paying quantities, the grower must be enabled to control the moisture; he must also grow his stock plants different from the method now in vogue in growing spring berries. It is true that it requires more labor and pains to raise fall berries, but the high price obtained makes this crop more remunerative than June berries.

All varieties will not produce second-crop berries, no matter how treated; this includes all of the pistillates, and the majority of the staminates. Those which produce more or less second-crop berries in a natural way, in the West, are Beder Wood, Jessie, Enhance, Parker Earle, Crawford, Jucunda Improved, and Leader; but after a thorough trial of all of these except Jucunda Improved, I have settled on Jessie and Parker Earle as the most profitable for second-crop forcing. By having the right place, and control of both heat and moisture, I am enabled to obtain, besides the second crop, one early spring crop from my Parker Earles, the only variety that will do this, speaking from one season's trial. I have, for years, whenever I had occasion to mention this variety, called this its home, having always been enthusiastic over it since 1892, the first time it fruited with me. But since discovering its two-crop tendencies, I am more pleased with it than ever, and must truly say that this variety is yet a stranger, its good qualities being not yet known, although grown more or less throughout the country for a half dozen years or more.

The time when Mr. Crawford's prediction will come true, is not far distant, that is when we have ripe strawberries every month during the summer. We have now picked ripe ones every month from April to November, except August, but this gap will be filled up another season. I go friend Crawford one better, by predicting that a time will come when the strawberry specialist will market ripe berries every month in the year, just the same as the apple grower is doing now. G. W. HOOVER.

Colorado.

THE RURAL SCHOOL PROBLEM.

HOW TO HELP SOLVE IT.

Why is it that farmers do not show better acquaintance with educational matters? Occasionally one writes for some agricultural paper on country schools, and there is much usually to commend in these articles, but the writers do not seem to be at all familiar with the educational world. They have seen country schools, but have not read educational papers, and are not acquainted with the subject outside their own observation. The country school problem is not being ignored by educators. The great National Educational Association with its thousands of members, comprising the best teachers of all kinds of schools, has taken up the rural school question, and next summer at the annual meeting, a committee of experts will report on the matter. Last summer the American Institute of Instruction devoted a good deal of time and talent to this branch of school work. There is more interest in the subject among prominent men and women than ever before.

One of the hardest knots in the rural school problem is how to get money. A great many country districts are now taxed to their utmost. Many of them need more money in order to have better schools, and there is just one way to get the money, and that is to have the State provide it. It is a fact not generally known that the State of California supports all her schools from the State fund. You can see at once what a power for good that provision is to the rural schools. The smallest farm district school stands on a level with the great city schools. Let farmers mark this well that the larger the territory from which school moneys are drawn, the better for the country schools. The little districts which have to bear heavy burdens of taxation for the support of very poor schools, ought to be abolished and the town system substituted. Then the whole town, at least, is taxed for all the schools, unless some wretched law is concocted like the incorporated district system, which lets the villages raise school taxes and maintain schools independent of the farming part of the towns. Farmers should work in State legislatures with this in view: the town system instead of the district system, and large areas taxed for schools. Then in addition to this, they should seek to have expert supervision, with the salaries of the supervisors paid by the State.

We cannot have good rural schools without good teachers, and we can find no easier way to secure both good teachers and good schools than by having superintendents or supervisors who thoroughly understand their business to watch over the schools. The great success of the schools of Massachusetts is owing to the fact that she employs competent supervisors for her schools. A town is ordinarily too small for one person to supervise, a county too large. The happy mean is when two or more towns unite so as to employ a supervisor for each 40 to 50 or more schools. The girls who go into country schools to teach need help in many ways. A teacher has many difficulties, and not the least often is lack of sympathy, of good counsel, of words of encouragement. There are plenty to find fault, very few to give wise criticism and advice. This is the work of the supervisor, who should know what good teaching is, and how to help the teachers to do their best for the schools. Thousands of dollars are paid out for schools which accomplish almost nothing in the way of really educating the children. The gentle village girl teacher gets on quite well with the little ones in the summer terms, but when the big boys come in in the winter, with no idea of the value of education, bent only on having a good time, tormenting the life out of the teacher so far as lies in their power, that is where a strong arm is needed. Country communities do not realize the value of good schools, do not know how to secure them by firmness with their own children, or by doing that which makes for peace in the neighborhood. One work of the supervisor is to awaken the interest of towns and communities in education, help to develop the school spirit, and tone up people in their ideas of what a good school is.

But education is not everything; the education furnished by the schools is much criticised in the farm papers, and, perhaps, justly. To me, one of the greatest drawbacks to farm life is the fact that, as a rule, when farmers' children get old enough to go to a high school, they must leave home at great expense, and too often go where they are educated away from the farm. The farmer desires to have his children well educated, he is willing to lose their help just when they get to be of the greatest service; if he is at all well-to-do, he will gladly give the money for their higher schooling. But the high schools and academies are nearly all in large towns and cities, and it often results in leading the young away from the farm. With the town system and a high school in every town, many of these difficulties are met. The young people can board at home, drive to school, and the cost of tuition is no more for the

high school than the common school, that is, it is only the taxes. The short term and winter courses in the agricultural colleges are a wonderful help to sons of farmers. J. W. NEWTON.

Vermont.

NOTES ON FLORAL NOVELTIES.

NEW AND OLD GARDEN FRIENDS.

FERNS FOR THE TABLE.—Ferns in the little ornamental dishes of silver or china retain their popularity; the large dealers raise them by the thousand for this purpose. Florists who handle them largely say that their customers often beg them not to use the maiden-hair. This, the daintiest of all ferns, is not very satisfactory in house culture, especially under the conditions it must endure as a table plant. Various members of the Pteris family, particularly P. serrulata, P. cretica and P. cretica albolineata, P. Victoriæ, and the handsome, glossy Onychium Japonicum, are the leading varieties for this purpose. The feathery little palm, Cocos Weddeliana, is very often used as a centerpiece for the dish.

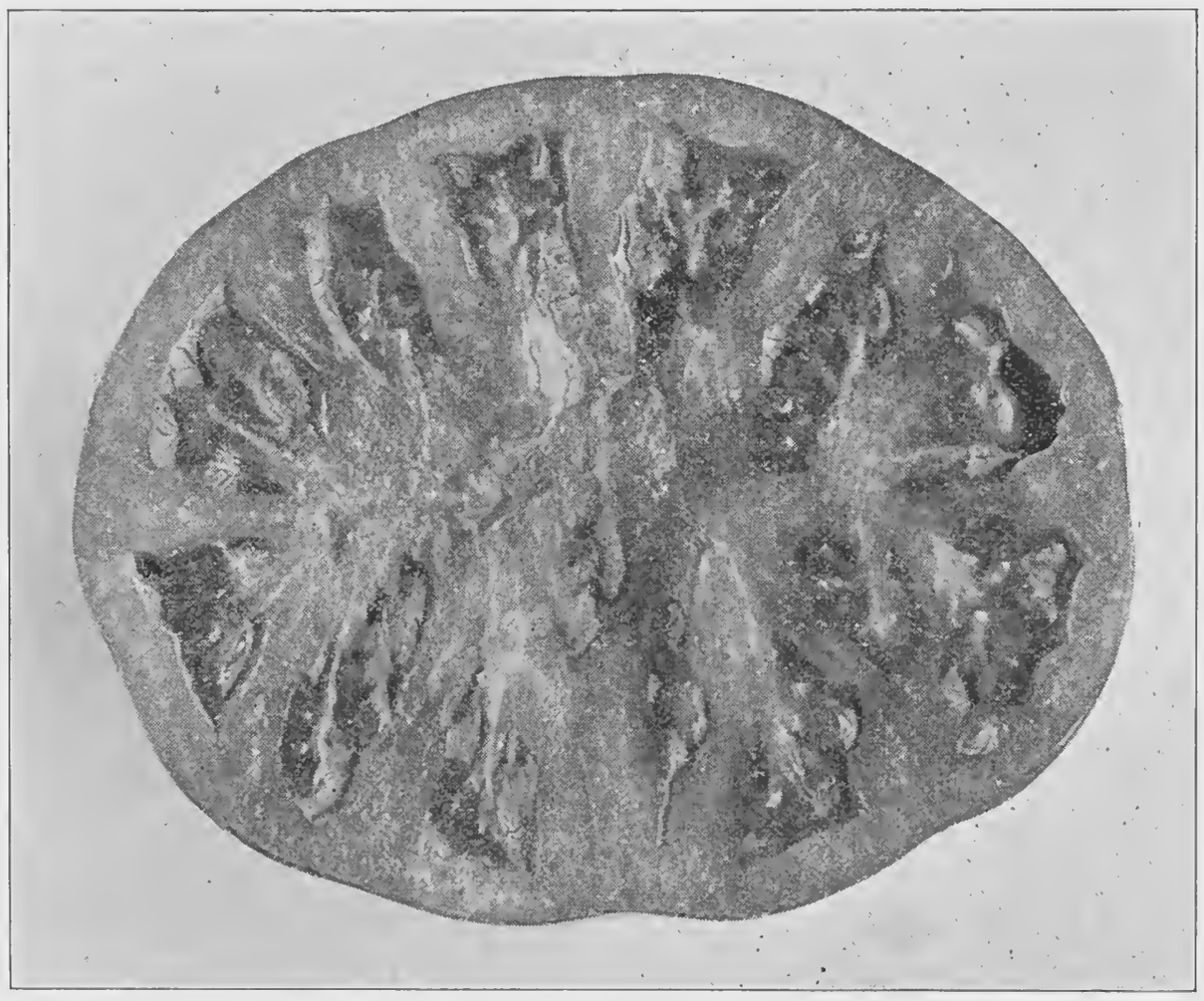
ARDISIA CRENULATA.—This handsome plant is a great favorite for the Christmas trade around New York. It has shining dark green leaves, slightly toothed at the edges, and clusters of bright red berries, a trifle larger than those of the holly. It is a fine house plant, and the berries are so persistent that one crop often hangs on until another is ripe. The flowers are small, greenish-white, and inconspicuous. The florists raise the plants from seed, a special point being to sow the berries while freshly plucked; otherwise they do not germinate freely. Buyers demand neat, shapely plants, so, as a rule, any of the less perfect plants are saved for stock. Their culture is not extensive away from the vicinity of New York.

CHINESE PRIMROSES.—Among winter market plants, fine Chinese primroses still hold their vogue. Among the finer strains, we find very fine flowers—white, clear porcelain blue, carmine, cerise and crimson, with fringed or crimped edges. They are very far superior to the washy shades of carelessly selected strains. Some of the so-called "fern-leaved" varieties are odd and beautiful, with their finely cut and divided foliage. In growing them, it should always be remembered that they dislike a high temperature, and care must be taken that water never lies on their leaves; they must be watered at the root only.

THE NEWER SWEET PEAS.—We are promised a number of sweet pea novelties for 1897, among them several of American origin. We are still indebted to Mr. Eckford, the English specialist, for some of our best novelties, and we now feel the influence of the Californian seed growers, who are devoting special attention to this flower. The climate of California seems especially favorable to the growing of this seed, and many acres are devoted to it in the Santa Clara district. Great care is taken in roguing—that is, rooting out of the seed patch all plants that do not come true to character—that the stock may be kept pure. Some varieties, as, for example, the mauve Countess of Radnor, very easily deteriorate from the true standard, and constant care is needed to keep it trued up to the original color; with careless seed-growing, we get a good many reddish shaded flowers, far inferior to the original delicate mauve.

Among striking departures from ordinary types, Cupid, introduced this year, created a marked sensation by its dwarf, stocky growth. But it does not appear to have given general satisfaction in the East; many complaints are made of both poor germinating power and sparse, tardy blooming. We have seen Californian photographs showing Cupid in the field looking like a sheet of snow, with its abundance of bloom; but this character has not been borne out, apparently, outside of California. It has been suggested as a window plant, for which its dwarf growth would make it suitable. We are promised another dwarf, of the Cupid type, but differing from it in color of bloom, which is clear pink.

Red Riding Hood, a Californian novelty to be sent out in 1897, is an entirely distinct form. The color is rosy pink, shading to blush white at the calyx, the keel nearly pure white. The standard is small and oddly frilled, drawn over the wings like a hood. Its appearance is very quaint, and it is said to be free, fragrant and lasting. The "double" sweet peas, which were brought out as a novelty during the last season, do not appear at all stable, in many instances not more than 10 per cent coming true from seed, and it seems likely that the best effort of our growers will, in future, be directed in the line of larger blooms, with more flowers to the spray.



HYBRID TOMATOES OF THE RURAL GROUNDS. FIG. 255.

In the Sweet Pea Review, an interesting little monograph published by the Sunset Seed and Plant Company, of San Francisco, Blanche Burpee is described as the finest white of the true grandiflora type. In those approaching yellow, Mrs. Eckford is regarded as superior to Primrose. Prima Donna, an Eckford novelty of 1897, is accorded first place among pinks. Firefly is the best scarlet, though not of grandiflora type. Mars (1897) is said to be the most intense and best-formed of all the reds. Coquette (1897) is creamy flesh with primrose wings, standard tinged purplish rose, very dainty in effect. Among variegated sorts, Mrs. Jos. Chamberlain is put at the head; white, heavily flaked and striped with clear rose. An attempt is now being made to classify sweet peas according to size and shape, rather than color, and, by degrees, we shall, no doubt, discard those that do not approach the true grandiflora type. There is also an effort to produce a symmetrical rounded standard, without a central notch. E. T. R.

DARK-COLORED HYBRID OF CURRANT TOMATO. FIG. 256.

For Description see Ruralisms, page 787.

THE NEW YORK AGRICULTURAL DEPARTMENT AND "OLEO."

ASSISTANT COMMISSIONER VAN VALKENBURGH TALKS.

THE R. N.-Y. has made several statements about the removal of B. F. Van Valkenburgh, who, for the past 12 years, has ably enforced the laws against "oleomargarine" and other adulterated foods. On November 12, Mr. Van Valkenburgh retired from office. Later he appeared before a meeting of members of the Butter and Cheese trade, and made the following statement:

"The fact is that this division of the Department has been run on business principles with the one object which was to enforce the laws relating to oleomargarine and adulterated milk. Every man has done his best, and we have succeeded in enforcing the laws pretty thoroughly.

"Way back, years ago, as many of you older members will recollect, we entered the fight against oleomargarine, and succeeded in getting the Fenner law passed. Under that law, we expended thousands of dollars. Then we went further and got the law of 1884 passed, which was unconstitutional. We then put up more money and continued the fight until we got the present law. In fact, this trade has spent over $20,000 of their money in this fight, first in obtaining the laws, and then in assisting to enforce them. A great deal was accomplished, and in 1888, oleomargarine had been pretty well driven out of the State. But in 1890, the United States Supreme Court rendered what is called the Iowa Original Package Decision. Under this decision, oleomargarine again got a foothold in this State, and large quantities were handled until, in 1894, the United States Court reversed itself, and we have since that succeeded in nearly driving the trade in these goods out of the State. Of course there have been, now and then, violations of the Oleomargarine law as with other laws on the statute books in the year past; but I think that I am safe in stating that we have kept the oleomargarine laws better enforced than any other laws on the statute books in this district.

"I want also to state that I have had under my direction 12 men. I also want to say that each and every one of these men has done his duty—did it well and proved himself honest. I have had, for a few years past, under me five men. These five men have been under me a longer time than the others, and I will say for them that there is not one of them that can be bought. I know that money will not buy them. These men are worth more in this division of the Department of Agriculture than 50 greenhorns would be. They can investigate 50 stores in a day, and examine 100 packages. Any one of them can tell instantly whether the contents are oleo or butter. Now take a green hand, a man that cannot do this. He would examine the same number of packages, but he would not know whether he had seen butter or oleomargarine; therefore, a green hand would be compelled to take 100 samples to a chemist who charges $7 for analysis and the expense to the State would be $700 spent for one day's work for what one or two experts would know at a salary of $4 per day. It, therefore, behooves you to do everything in your power to keep these men in their present positions. That they are to be dismissed I do not know, but I have indirectly been informed that, at least, two will be dismissed. If they be dismissed, they are Civil Service men, and you should exhaust every power in your hands to reinstate them.

"The enforcement of the dairy laws has saved to the farmers of this State alone over $2,000,000 per annum for the past 10 years, and it behooves you to see that these laws are enforced and the fight kept up. Whether my successor will be able to enforce the laws as well as they have been enforced in the past, is something I know nothing about. But as we are informed that politicians must have the office, that indicates that the office is to be run for political purposes. For this reason, I must say that I do not

feel capable to assist my successor, because I do not know how to run an office in the interest of politics. It has been run entirely on business principles, assisted by both Democrats and Republicans, and it is an honor to the trade that politics have been unknown to them."

SOME SWEET POTATO EXPERIMENTS.

THE GREAT NEED OF POTASH.

One of the enthusiastic and successful farmers in Kent County, Delaware, is Mr. J. W. Killen, who has attracted attention for some years past by his displays of fruit and vegetables at the State Fair. Mr. Killen is a young man, and only a few years ago took hold of a piece of very light, sandy land that appeared to the ordinary eye to be barren and forbidding on account of its apparent "leachy" character. But the land has improved, and Mr. Killen is prospering. He is not only testing a great many varieties of fruits, vegetables, and nut trees, as well as originating some of value, but has made some experiments in the use of fertilizers, and in spraying for peach rot. The latter work has been conducted under the direction of the Delaware Experiment Station.

This year, 10 plots of one-tenth acre each were devoted to experiments with fertilizers on sweet potatoes. The land had been in corn for two years. The field was first marked off in rows three feet apart; the fertilizers were applied nearly broadcast, except the nitrate of soda which was applied at different times, evenly distributed. Then two shallow furrows were turned towards the row, and later, the remainder of the ground was plowed by turning two other furrows towards every row. Cultivation during the season was thorough and frequent. The following table shows the results:

Plot.	Application.	Yield in Lbs. per Plot.			Yield, P Acre	
		1st Size	2d Size	Culls.	Bu.	Lbs
1	Nothing.	409	246½	124	129	55
1A	200 lbs. lime.	503½	219⅔	194½	152	56⅔
2	60 lbs. acid phosphate. 20 lbs. nitrate soda.	654	244½	130½	171	30
2A	60 lbs. acid phosphate. 20 lbs. nitrate soda. 200 lbs. lime.	857	241	127	204	10
3	60 lbs. acid phosphate. 20 lbs. nitrate soda. 12 lbs. muriate potash.	1,341	172	91	267	20
3A	60 lbs. acid phosphate. 20 lbs. nitrate soda. 12 lbs. muriate potash. 200 lbs. lime.	1,438½	176	73⅓	286	20
4	60 lbs. acid phosphate. 20 lbs. nitrate soda. 24 lbs. muriate potash.	1,564	255	62	308	30
4A	60 lbs. acid phosphate. 20 lbs. nitrate soda. 24 lbs. muriate potash. 200 lbs. lime.	1,588½	229½	50½	311	25
5	Same as 4 with 24 lbs. sulphate potash substituted for muriate.	1,246	182½	61½	248	20
5A	Same as 5 with 200 lbs. lime.	1,309	165	97	261	50

It will be noticed that the effect of the lime decreased as the quantity of complete fertilizer was increased. Where the acid phosphate and nitrate of soda were applied, there was a decided increase by the use of lime. No doubt the lime made potash available by its action upon the soil, for, of course, the crop is limited by the smallest proportionate amount of any one of the necessary elements of plant food.

Analyses of sweet potatoes show that a large amount of potash is necessary to produce a crop. We know that the application of excessive amounts of certain fertilizers is not only beneficial but, indeed, profitable upon certain crops. I do not know just what combination is best for sweet potatoes, but evidently, potash is a prime requisite. The average fertilizer on the market does not contain more than two to three per cent of potash. Many brands contain none at all, and the average amount in those on sale in Delaware this summer, according to the analyses published by the State Chemist, is less than two per cent. Leaving out bone and the various brands of acid phosphate and taking only the "complete" fertilizers, the average content of potash is only 2½ per cent. For sweet potatoes, the average Delaware farmer does not apply more than 400 or 500 pounds per acre. Mr. Killen applied to plot three fertilizers amounting to the rate of 920 pounds per acre, and containing nine per cent of phosphoric acid, 3¼ per cent of nitrogen and 6½ per cent of potash, with results that must be considered satisfactory.

When he added to plot four 12 pounds of muriate of potash—equal to 120 pounds per acre—he had 1,040 pounds per acre of a mixture that contained eight per cent of phosphoric acid, 3 per cent of nitrogen and 11½ per cent of potash. This addition was made at a cost of about $2.50 per acre, and resulted in giving an additional yield of 41 bushels per acre. Further comment seems superfluous. WESLEY WEBB.

Dover, Del.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Forcing Asparagus in Winter.

J. E. S., Columbus, N. J.—I have a hotbed heated by hot water pipes, and can keep it fairly warm. Could I force asparagus in it this fall and winter, before wanting it for plants in the spring?

ANS.—Asparagus is easy to force, but it is now much grown in Florida for the northern market, shipping well; consequently it does not pay for forcing after February. To prepare it for this purpose, it is grown in rows, planted shallow. When three or four years old, the rows are laid bare on either side with a plow, the roots plowed out, and the clumps stored in a shed or pit with a covering of leaves, so that they may be easily taken out when needed for successive crops. The hotbed heated by hot water pipes (which is, practically, a heated frame or pit), is an excellent place. It also does well under greenhouse benches. It is sensitive to heat, and soon starts in a temperature of 60 to 70 degrees. This, however, is regarded by the large growers as a wasteful method, as the roots never recover fully from the violent handling. The method practiced in the vicinity of Philadelphia is to place sashes over the roots, in the open ground, without disturbing them. A warm, sunny situation is selected. Three rows of asparagus are placed two feet apart. They are well cultivated in summer and heavily manured in late autumn. When the roots are three years old, they are forced. Lines of boards are set up on their edges on either side of the bed, and eight-foot sashes laid across them, thus making a cold frame. The warmth conserved by the glass hastens growth, and an early crop is secured. In summer the sashes are removed, so that the plant regains vigor under outdoor conditions. The roots are never disturbed. The expense of this process being light, it is usually quite profitable, even in competition with southern stock.

The Scurfy Bark-Lice on Apples.

M. M. B., West Fairview, Pa.—What is the matter with the inclosed Baldwin apple twig? What is the remedy? I have 1,000 four-year-old trees which are more or less affected, the Baldwin especially so, and a few have been killed by the disease.

ANSWERED BY M. V. SLINGERLAND.

The white scales, scarcely one-eighth inch in length, closely adhering to the bark of the branch sent, are commonly known as the Scurfy Bark-lice. They resemble a small fish scale adhering to the bark. At this time, or in the winter, most of the scales, or rather, the insects that secreted them, are dead. But if M. M. B will carefully lift some of the scales with a pin or knife, and examine the spot closely with a small microscope or pocket lens (an instrument that every fruit grower ought to own), he will find many minute, purplish eggs just underneath the white scale. The body of the mother insect, which secreted the scale, will be found all shriveled up at one end of the scale. She has fulfilled her destiny, and her scale affords a winter home for her progeny.

In early spring, usually in May, the eggs hatch out minute, purplish lice which crawl from under the scale and scatter over the tree. When a suitable place is found, they insert their little beaks in the bark and there remain, sucking the juices of the tree. They never move after once establishing themselves. The white scale soon begins to be secreted, and by midsummer, they render the insect quite conspicuous. Hundreds of them often occur on a small branch. All parts of the trunk and branches may be infested, and the thousands of little beaks pumping out the life-blood of the tree, may seriously weaken, and cause the death of the affected portion.

Although this scale is widely distributed and quite common, it is not often reported as killing the trees it infests. In short, it is not considered a very serious insect pest. Of course, when very numerous, it must greatly weaken a tree, and should, therefore, be checked as soon as possible. Its scale-like covering under which the insect lives, renders it hard to reach with insecticides. Poisonous applications would, of course, have no effect, as the insect sucks and does not bite its food. I would advise brushing off, with a stiff wire brush, all the scales practicable in the fall or winter; and early in the spring, as soon as the young lice are seen crawling about the tree, spray thoroughly with kerosene emulsion diluted with from five to eight parts of water. The young lice will begin to appear in May, and for a few days, will be unprotected by scales; they are thus easily reached by the spray, and the emulsion is death to every one it hits. Spray thoroughly and in time. Probably a good washing of the bark of the tree with whale-oil soap, one pound to a gallon or two of water, in the fall, winter or early spring, would also kill the eggs under the scales.

How Does the Silo Benefit a Corn Stalk? Is Ensilage Better Than Dry Fodder and Grain?

D. C., Delavan, Wis.—Why does the corn crop make better returns fed as ensilage than as stover and corn meal? Is is because of damage through weathering, or lessened digestibility, or actual loss in chemical value? Should corn be planted thicker for ensilage than otherwise?

ANSWERED BY JOHN GOULD, OF OHIO.

Some things are hard to understand, though brought to our attention almost daily. If 100 pounds of lawn clippings be fed to a cow, it is a full ration, and upon it she will do her very best; but if the same grass be dried into hay and fed to her, it is from the start a starvation ration, and the milk yield shrinks to next to nothing. Good pasture grass is in itself about a perfect balanced ration, but as soon as it has been made into hay, it has to be balanced up with bran or oil meal. In the drying, it has become a fuel supply, rather than a complete ration, and with this disadvantage—about one-half of the actual weight of the hay has become indigestible fiber, and is only makeweight and of no nourishing or digestible value. Every one holds that maturing corn, cut green and fed to the cows, is of great value as a food, and is eagerly eaten, but the moment it is dried into fodder, and the corn made into meal, all the doctors tell us that it is one-sided, and a large part has become woody, fibrous and indigestible, and we must feed five to ten pounds a day of bran, or some other highly nitrogenous meal, to give the cows a full supply of nourishment.

Now we begin to see why a succulent ration is better than the same plant dried. True, the chemist says that the juice of a plant or fruit is nothing but water, but dried turnips and spring water are altogether a different food for sheep from fresh-pulled turnips; or that in drying plants, nothing is lost in the drying, as solids cannot escape in the steam, but this question once came up at an institute, and the professor was astounded by an old farmer who asked what they put with the *steam* to make whisky. Corn fodder does lose largely by the weathering in the field, but much more by the simple act of drying. It is affirmed by the "books" that the corn plant, in drying, loses fully 20 per cent of its food value by converting food elements into woody matter, and the escape of material not explained, and the weathering which follows, tells largely, also. The Pennsylvania Station found that, as between feeding the corn plant green, and dry, including the waste of the latter as usually found in the barn, there was over 37 per cent of loss. Edward Van Alstyne, of New York, in a recent letter, puts the waste of the corn fodder of his locality at 70 per cent of the crop, aside from the corn ears.

The loss of the silo in the process of "heating up" is now computed, one year with another, with mature corn and a well-built silo, at 15 per cent. With the silo, there is a dispatch and completeness of work and subsequent handiness of feeding, that is nowhere equaled. As a rule, corn can be cut and put into the silo for about the same outlay that would be encountered in hiring the corn husked; with the silo, there is no husking, cribbing, going to mill, and tolling the grist, and "estimating the weight" of the miller's hogs. With the silo, one operation completes the job, and there is a winter's ease and comfort in store for the man who has his corn in the silo, but the woes of the man without one, are many. In no trial, as between the silo and dry fodder, has the corn from the field shock or fodder rick anywhere equaled the ensilage, and in any reported case where the comparative tests have anywhere approached each other, it has been where the fodder has been wilted only in the field, and then cured in sheds or racks, a thing which it would be perfectly impossible for a farmer to put into practice with his 10 to 20 acres of corn. Cattle thrive on ensilage like summer feeding, and present the same sleek appearance of summer and grass. So far as stover and corn meal are concerned, it is found by repeated trials, that cattle do much better, and on less food, to run the unhusked corn through a cutter, cutting into half-inch lengths, than to separate the corn from the fodder and grind into meal, again to unite them in the manger, a matter confirmed by Prof. Henry, of Wisconsin.

I should say plant about twice as thick for ensilage as for field corn. We put a kernel each six inches in the drill for ensilage, and prepare the ground so well before planting, that inch-deep cultivation is ample afterwards. Where there is no root cutting, we get a wealth of ears on our Virginia corn, and maturity early enough to escape the, about this time, fall frosts. We plant three feet six inches apart in the rows, and yearly send to Albemarle County, Va., to get their common field corn seed. We find that here

it is the finest and best, ears profusely, and is ready to go into the silos by September 15. We are learning that an acre of good ensilage will winter two cows, while by our old plan, it required two acres of corn to supply a cow with a winter's picnic, and impoverished her owner buying feed besides. Now we, with our ensilage, never feed to exceed five pounds of bran-shorts a day per cow.

Some Fruit Queries.

C. S. K., Reddick, Ill.—1. How should apple, pear and quince seeds be treated to make sure of their growing? Should they be planted in the fall or spring? 2. How can I rid the lawn of dandelions? 3. Has the Leader blackberry been tried on the Rural Grounds? 4. How can I prevent smut on oats?

ANS.—1. Perhaps the best way to treat such seeds is to stratify them. As soon as the seeds mature, place them in thin layers in boxes alternating with sand. The box may then be buried in well-drained soil, about a foot deep, cover it, and then fill the hole with soil. All this is merely for the purpose of preventing the seeds from becoming dry. 2. Without plowing the lawn, there is but one way. It is to cut or pull them out. When the soil is wet after a soaking rain, they may be pulled out easily enough if one be careful to gather all the leaves in his hand. 3. No. 4. THE R. N.-Y. has published what is known as the Jensen method of treating seed oats to prevent smut. In brief, two kettles are provided. In one, the water is kept at a temperature between 135 and 139 degrees, in the other from 120 to 130 degrees. The oats in sacks are placed in the latter for 10 minutes, then 10 minutes in the former. The sacks are stirred around constantly, that all parts may be thoroughly wet. Then they are taken out and thoroughly dried at once.

Kainit for "Salting" Stock.

J. A. N., Lenne, Va.—Will kainit or potash salts, used as an absorbent in barnyards, injure cattle eating it? Would it answer to salt cattle? I am a large cattle feeder, and think of scattering it over the hay and fodder in small quantities. Would there likely be any injury to stock? Could it be used in troughs to salt cattle?

ANS.—In my opinion, it would not do to use kainit or potash salts as a salt for cattle. Kainit, particularly, would be likely to be injurious, as it contains a high percentage of magnesium sulphate, which is a severe cathartic, and it is quite likely that the potassium sulphate would act in the same manner. The chlorides of both potash and magnesia would, also, be likely to cause inflammation of the internal organs. Kainit, however, may be used as an absorbent in the yards, either in the manure gutter or scattered over the manure, without danger, as cattle would not be likely to eat it when distributed in this manner.

E. B. VOORHEES.

How to Use Fish.

D. G. P., Olympia, Wash.—What is the best way to compost two or three tons of whole salmon for a vegetable garden? Last year, I composted with earth alone, but the fish were not well rotted and were unhealthful to have around. Will you give some cheap way that will thoroughly decompose and deodorize them? They cost nothing but the hauling a few rods, and I am not able to buy other chemicals to make a balanced fertilizer, so I have to get what I can out of the fish alone.

ANS.—Fish contain no potash, and that substance must be added in the form of wood ashes or potash salts in order to make a balanced fertilizer. In our own case, we would make a compost heap in the usual way—first a layer of rich soil, then a layer of fish—then more soil and so on. Over each layer of fish we would put a thick sprinkling of kainit, and at least once during the winter, work the whole pile over. We do not know whether the potash salts are to be obtained on the Pacific coast. You might use wood ashes, but this would not be so satisfactory. If the fish were mixed with horse manure, and land plaster sprinkled over them as the pile is made up, and the pile kept moist, they would be reasonably well rotted; or if some manure be put into the pile of earth and fish, the decay will be more rapid.

Do Chemicals Injure the Soil?

C. S., Frankton, Ind.—1. An impression is current here that commercial fertilizers leave the ground worse than it was before they were used. If so, what brand does it? 2. What kinds will be best for general truck gardening and small fruits? Where can they be had?

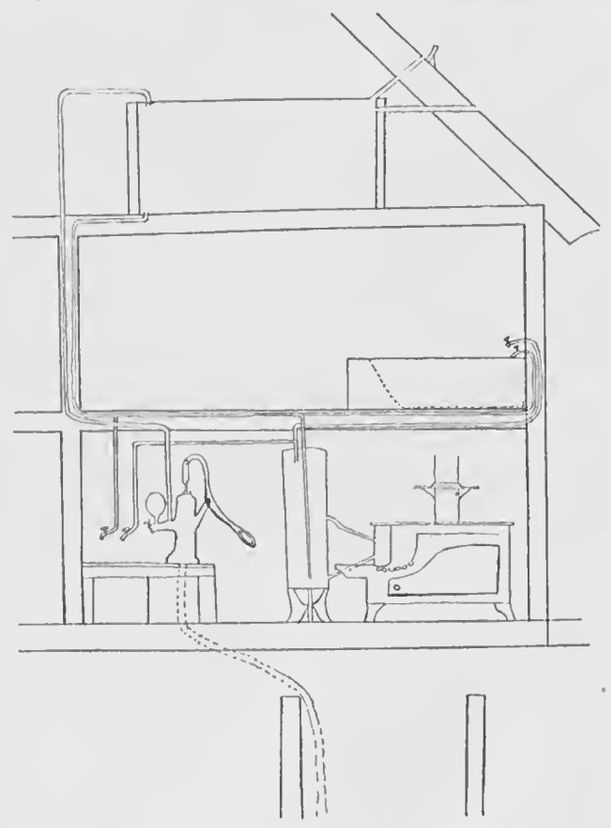
ANS.—A superphosphate, made of phosphate rock and containing too much sulphuric acid might have a bad effect in some soils. If enough were used, it might make such soils acid, so as to hinder the growth of such crops as clover. The chances of danger from this are not great, and hardly worth considering. The trouble could be remedied by using lime. On light loam or sandy soils, the continued use of fertilizers alone for a number of years might be injurious, but if a sod or some green crop were used in regular rotation, there would be no trouble. This "impression" that chemical fertilizers injure the soil is quite prevalent with some farmers, but there is little or no warrant for it. THE R. N.-Y. knows of farms where chemicals and sod have been used for 20 years, and the soil grows more productive all the time. 2. The special truck or vegetable fertilizers made by most of the dealers, are useful. As a rule, the western dealers use too little potash in their goods. We would demand at least six per cent of potash. If you wish to mix your own goods, you might use 300 pounds muriate of potash, 800 pounds fine ground bone, 200 pounds nitrate of soda, and 400 pounds dried blood. You might mix the potash, bone and blood, and use the nitrate alone in early spring—not too near the plants.

A Pump to Help the Pipe.

G. G., Heceta, Oreg.—I am about to bring water to my house through a pipe 1,000 feet long. The source of the water is 30 feet above the house. I was thinking of putting in a three-quarter-inch pipe, expecting, when the water was on, that it could be used in case of fire, and throw a stream over the house; but a friend tells me that the distance is so great that the pressure in so small a pipe would be used up in friction, and that the water would merely run out of the pipe without any force. If this is correct, what is the smallest size pipe I could use and get a good stream of water? The cost of pipe over one inch in size increases very rapidly; it is, therefore, an object in having the pipe as small as will answer the purpose.

ANS.—Your friend is very nearly correct when he tells you that the stream you would get through a three-quarter-inch pipe would not have force enough to be of any special use in case of fire. With a pipe of that dimension, you would be able simply to get a mere drizzle. The fall of 30 feet is, probably, from the spring to the foundation of the house, and to carry it to the top of your building, it would have to rise higher than its source. Should you use a pipe one inch in diameter, about one half of the head would be used up in friction, and the water could be carried up from 12 to 15 feet. This could be caught in a tank, and then used as a source of supply for the lower part of the house, and pipes laid from it to the barn or garden.

Every farmhouse should have its supply of water under pressure, and it can be obtained simply and



PLAN FOR HOUSE WATER WORKS. FIG. 257.

easily. Fig. 257 shows how the pipes should be laid and the connections made. No house can afford to be without its bathroom and water connection, and we usually think of these things as being city luxuries. A tank must be built in the upper story of the house, or in the attic. The water may be conveyed into this directly from the roof by a pipe, as shown. But this plan is not to be recommended, as a large quantity of dirt and debris will be carried into the tank. By means of a force pump, the water can be carried from the ordinary ground cistern to the top of the house, and the tank kept full. Five minutes' work a day by a man of ordinary strength and energy will keep the tank full, and an abundant supply of water is always ready for use in kitchen or bathroom. Fig. 257 shows how connections may be made with the range so that hot and cold water are always at command.

L. A. CLINTON.

Corn Meal or Cotton Seed for Manure.

A. J. P., Branford, Conn.—How would corn meal take the place of cotton-seed meal as a fertilizer? One costs $16 and the other $24 per ton.

ANS.—The best answer to this question will be given by comparing the two kinds of meal. Here we show the amounts of plant food in a ton of each:

POUNDS TO THE TON.

	Nitrogen.	Phos. acid.	Potash.
Corn meal.....	38	14	7
Cotton-seed meal.....	132	48	35

These are average samples, and will make a fair comparison. You will see that, of actual plant food, the cotton-seed meal contains nearly four times as much nitrogen and phosphoric acid, and five times as much potash as the corn meal, yet it costs less than twice as much. Figuring them out as you would for fertilizers, the corn meal contains about two per cent of nitrogen, less than one per cent of phosphoric acid, and about one-third of one per cent of potash, while the ton of cotton-seed meal has nearly seven per cent of nitrogen and far more of the other substances. If these substances were mixed with dirt and called fertilizers, you would not believe any one who told you that they were of equal value. Look at it in another way. For $16, you can buy 2,000 pounds of corn meal or 1,333 pounds of cotton-seed meal. See what they contain:

	Nitrogen.	Phos. acid.	Potash.
Ton of corn meal.....	38	14	7
1,333 pounds of c.-s. meal..	86	32	24

In other words, one dollar spent for corn meal buys two pounds eight ounces of nitrogen, 14 ounces of phosphoric acid, and seven ounces of potash. The dollar spent for cotton-seed meal buys five pounds six ounces of nitrogen, two pounds of phosphoric acid and 1⅛ pound of potash. If you were buying flour, butter and coffee, you would quickly decide as to which storekeeper would have your money. The corn meal contains a large amount of *animal* food that is of no value as manure. Bran, cotton-seed meal or linseed meal might, in some cases, be profitably used as a fertilizer, but corn meal, never.

That 100-Hen Ration.

M. O. R., Albion, Mich.—In THE R. N.-Y. of October 31, J. E. Stevenson gives the ration for 100 hens. 1. Are the meat scraps cooked? What do they cost per pound? 2. Of what do they generally consist? 3. When is skim-milk "bought right"? 4. How does he get his cut green bone—buy it at the market, or cut it himself? As to green bone machines, there are three in this city. None of us knows how to run them, or it is almost impossible to cut green bone by hand power. Two of the mills are not in use at all, and one is run by steam at the market, where cut bone may be had at 2½ cents per pound. 5. Is green bone at that price an economical ration every day?

ANS.—1. They are cooked, and cost from two to three cents per pound. 2. They are scraps gathered from the butchers, cooked and the grease pressed out. 3. Skim-milk may be used with profit when bought at one-half cent per quart. 4. I cut it myself with a Mann bone cutter. 5. Yes, feed every day what they will eat with avidity. It is one of the best egg producers known, and is also good for growing chicks.

J. E. STEVENSON.

How to Make Cider Vinegar.

H. P. R., Portland, Me.—How can I make cider into vinegar? I have only a few barrels. I wish to make the vinegar in the shortest time, also to have the very best vinegar possible.

ANS.—Exposure to the warm air will hasten the making of cider into vinegar. Simply place the barrels in the cellar or where they will not freeze during the winter. In the spring, place them in the open air, or in an attic, with the bungs out, but with the holes covered with coarse cloth to exclude insects. If it be arranged so that the cider will trickle slowly from one barrel to another, the process will be hastened. It would be well to rack off the cider after it works, to free it from all sediment.

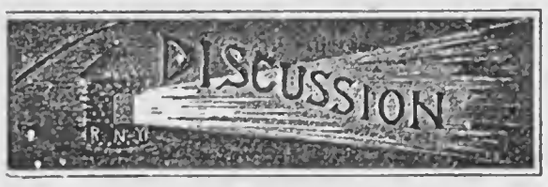
Southern-Grown Poultry Food.

C. S. E., Fulton Co., Ga.—1. Will green cow-pea vines or pea-vine hay do as well for food for laying hens as clover hay? I cannot, in this vicinity, procure clover. 2. Are whole dry peas good hen food, and pea meal a good food for young chicks? If fed to young chicks, should the latter be baked, and if so, is it prepared for baking as corn meal is? Should it be used alone or mixed with bran, corn meal or oatmeal? 3. Is cotton-seed meal a good feed for laying hens or growing chicks? If so, in what proportion should it be fed, and how? I tried feeding it a little while last spring, mixing in soft food, using about one-fourth cotton-seed meal, but chickens of all ages did not seem to relish it, and finally refused to eat food so mixed unless very hungry. We had been told that, for hens in confinement, it would, in a measure, take the place of meat. Afterward we were told that cotton-seed meal would kill hogs, and might kill poultry. Being recent southern settlers, and desiring to raise poultry to the best possible advantage, and at least cost, we ask for actual experience—if possible—of some successful southern breeder. 4. How would it do to plant a part of the poultry runs to peas for green foraging instead of all rye?

ANS.—1. There is no reason why pea-vine hay should not do as well as food for laying hens as clover. The composition is very similar, the clover being a little richer, while the pea-vine hay is more digestible. I have not tried either. In the form of ensilage, the results would, doubtless, be better. 2. Whole dry peas would make a very rich nitrogenous food for fowls, feeding just before going to roost, but it would be necessary to limit the quantity to reasonable amounts, because of the tendency to produce "crop-bound", the peas being inclined to swell unduly. If the same precaution be used, and the peas be cracked or ground into coarse meal, I think that it would be a good feed for chicks. I would not mix pea meal with wheat bran, but rather with corn meal, or skim-milk, because peas and bran are both highly nitrogenous foods. I think that I would feed both products raw, as the more natural condition. 3. Cotton-seed meal is very well suited as part of a ration for adult fowls, but I would not advise feeding, even in small quantities, to young animals of any species. One-fourth cotton-seed meal and three-fourths corn meal should make a fairly good theoretical ration. As to palatableness, it must be learned by experiment. Commence with a small quantity, and gradually increase up to one-fourth. The cotton-seed meal, however, would not supply the craving for animal food, though it might supply the same elements. 4. The peas would not take the place of rye because they will not grow except in warm weather, when the fowls can more cheaply supply themselves with green food. Moreover, the cow-pea would not survive the constant grazing. Alfalfa would answer a better purpose. Pearl millet might, also, be useful during spring and summer. I would also recommend the common Georgia "Collard" as an excellent food for fowls.

PROF. R. J. REDDING.

Georgia Experiment Station.



Peaches in Canada.

W. W. HILBORN, LEAMINGTON, ONT.—I have all the varieties you name, and many more, fruiting. I am somewhat disappointed in Crosby; on young healthy trees, it did not color quite as well as some varieties, and it is a little undersized. I think it nearly as hardy as Hill's Chili and quite productive. I would not plant it very extensively until I have tested it longer. I know of no peach ripening at the time of Smock that is as large as Late Crawford and as reliable as the former.

Flavor of California Peaches.

W. D. BARNS, ORANGE CO., N. Y.—Before attempting to account for the loss of flavor of peaches in transit from California, it is well to ascertain whether their flavor, when ripened on the trees there, is equal to that of those grown on the Atlantic coast. With the number of sunshiny days during the growing season, and the absolute control of water by irrigation, it would seem that the conditions were such as to insure fruit that is perfect in size, color and flavor. Now does success crown the efforts of the California peach grower? Are California peaches, when ripened on the trees, of the exquisite flavor of those grown here? These questions, it seems, might be readily and positively answered. On the contrary, there is a wide difference of opinion between those who have visited California, with whom I have conversed on the subject. Some are enthusiastic over the California fruit, and declare that they never found its equal here or elsewhere, while others are as positive that the best specimens grown there are far inferior in quality to our own peaches. A friend who is a lover of good fruit and a competent judge, recently spent considerable time in California. He said that he tried hard to get a good peach in the markets of San Francisco and other cities, but absolutely failed. In size and color, he had never seen the equal of the peaches there, but the delicious flavor was lacking in them all.

Prof. Van Deman and J. H. Hale should be able to settle the question of quality. If they agree that California peaches are equal at home, to ours in quality, it will be of great importance to growers there to find some method by which they may retain their flavor till they reach our markets.

Southern-Grown Peach Trees.

THE R. N.-Y. says that actual facts should decide whether peach trees from the South will prove hardy at the North. In 1887 and 1888, I procured peach trees from Georgia, 1,500 or more trees, set a small orchard and sold some. The knowing ones said that I was making a big mistake, but the trees proved entirely hardy, and have given me excellent crops. In 1892, I sold the crop from 4½ acres for $900. I have had a fair crop every year since they came into bearing; they are on good soil, with no manure. The varieties were mostly Early Michigan or Husted's Early, Hill's Chili, and Elberta. The Husted's Early originated near me, the Elberta in the South.

In the same field, I have northern-grown trees and seedlings of my own set one year later. No difference is apparent in any of the trees as to hardiness or bearing. One man whom I let have a few of the trees, lost some, which winterkilled. On inquiry, I found that he manured heavily, and his trees made a rapid growth, and did not get hardened up for winter. The next spring, he took more trees, and, on my advice, planted them on good land, using no manure to stimulate growth. The result was a fine orchard and good crops. The failure with many with peach and other trees, is too high feeding when the trees are young. The thrifty farmer knows that he cannot raise a good cow by overfeeding the calf. Too rich and too much food will produce an unhealthy condition of the digestive organs, and make the animal of little value. Trees are subject to the same laws as animals. Plant trees in good soil, with no manure; when they begin to bear, feed them as you would a cow giving milk.

Crimson Clover and Strawberries.

E. B. U., POUGHKEEPSIE, N. Y.—I have two different sowings of Crimson clover; the first was sown about August 1, among some sweet corn. It has made a fine showing—a perfect mat. Some plants were over one foot high—eight inches is about the average. The ground is rather poor. There are plenty of tubercles on the roots. The other sowing was made in late sweet corn, the early part of September. That has made a very good growth, also. It ranges in height from four to six inches; some of the plants have spread to cover a foot of ground. In each case, the corn was cultivated just before and after sowing, with a Z. Breed weeder.

I send a photograph of a section of strawberry patch which does not do it justice. It was set last spring under the most unfavorable circumstances. At least half of the plants died from the effects of drought, and had to be reset. The plants were set two feet apart in rows four feet apart. The plants in the picture average almost 12 inches in height. I have a few rows of Michel's Early that are as high as 16 inches in matted rows. I think that success in strawberry culture may be summed up as follows: Fertile soil and shallow cultivation, with lots of it.

R. N.-Y.—Unfortunately, the photographs were too dim for printing.

"Breeding for Sex."

W. D., EAST JAFFREY, N. H.—In this matter of breeding for sex, I have taken the ground that, probably, no one really knew anything about it. But the theory which appealed most to me, and which seemed fairly reasonable, was that, when the dam was bred at the beginning of the heat, the indication was that males were abundant and the result would be a female, while if she went to the latter part of the heat, males were lacking, and one would be supplied by her. In breeding mares, I have tried to carry out this plan as far as practicable, and from my own stallion have succeeded in getting about seven fillies to three colts.

But when this theory was presented by THE R. N.-Y., I went over my sheep record for the last 10 years, with great care, and was surprised to find how well the record bore out the theory that the sex of the offspring was determined by the weaker parent. I started with nine ewes, two and three years old, which were in fine order and kept so well that they came into winter quarters in show condition. The ram, 18 months old, seemed vigorous enough when I got him, but for some reason, failed gradually and died during the winter. The lamb crop consisted of 11 rams, not one ewe. The next year, I used a four-year-old ram, in fine order, that had access to not more than 12 ewes, and nine ewes gave birth to eight ewes and four rams. The third year, 41 ewes produced 25 ewes and 22 rams. The ram was two years old and unusually vigorous. In looking over the names of the mothers, with the notes of the condition of each, having this theory in mind, I surprised myself in being able to give, in almost every instance, the sex of the lamb, before verifying it by the record. The same is true for the record of following years.

Regarding the horse breeding, my mares have run in the pasture and done little or no work, but have at all times been in fine order, and have invariably made excellent mothers. The stallion is worked or driven nearly every day, and is ready for service immediately when called upon.

On the other hand, is the sex determined at the time of conception? The embryo is pretty well developed before any indication of sex is noticeable. How do we know that the condition of the mother during gestation does not settle the question? Though most of us may wish to raise more females than males, we should, I think, hardly care to do anything to impair the vitality of the mothers. We may, however, see to it that all our breeding sires are kept in the most vigorous condition possible. The conditions to be considered in this question are so many and varied, that it is improper to generalize from a small number of cases. I give my experience for what it is worth.

Those Butter Prizes.

MRS. R. A. BLOOMFIELD, ILLINOIS.—In reading of the prize butter at the New York State Fair, in THE R. N.-Y. of October 31, in the article by C. C. Wilcox, my attention was arrested by the following: "The tub that was entered as creamery was packed first, then the jar that was entered as private dairy, and then the prints. How there could be so much difference in the score, I cannot tell, when it was all from one churning." How did he make creamery butter and dairy butter out of the same churning? I don't know what the rules governing dairy exhibits are in New York, but in Illinois, the rule is, "Dairy butter shall consist of butter made on the farm, not in a factory," etc. "Creamery butter shall consist of butter made in a factory," etc.

Another thing that impressed me was the woman who made her butter in an old-fashioned dash churn, salted it three ounces of salt to the pound, and scored perfect in everything but flavor, while the package that scored 100 salted one ounce to the pound. If, as she says, she worked it until the brine was mostly

(*Continued on next page*).

All About Nebraska.

An illustrated pamphlet has recently been published by the Chicago, Burlington & Quincy R. R., giving complete information about the farm lands of Nebraska. Copies may be had without charge upon application to P. S. Eustis, General Pass. Agent, Chicago, Ill.—*Adv.*

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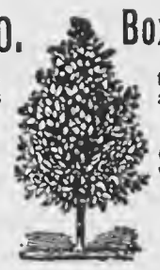

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

out, what prevented it from being overworked, and presenting that salvy appearance which all good buttermakers try to avoid?

At our State fair, which closed October 3, the dairy exhibit was a most interesting feature. The superb refrigerator, 20 feet long, and holding 500 exhibits, keeps the butter in excellent shape. It was filled to overflowing with first-class butter. The judge who scored the butter at the World's Fair, declared it to be the finest display of butter he ever scored.

I am glad that people are taking a stand against "side shows" and the like at fairs. It is a good thing! Push it along!

Incubators Are Not Toys.

J. B. P., NORTHVILLE, MICH.—I noticed an artice on page 667, by Mr. Moss, in regard to regulators. He claims that the expansion of liquids, such as alcohol and mercury, is worthless under all ordinary conditions, and cries, Beware of them! I do not like to dispute with Mr. Moss, but I fail to find the trouble Mr. Moss states. I find them easy to control, and the temperature alike in all parts of the machine. There are more poor hands that run incubators than there are poor incubators. Some men can't run a wheelbarrow. Incubators are not toys, and are not to be used as such.

Lumbago and Similar Ailments.

W. O. E., WHITBY, CANADA.—Such troubles as "a stitch in the side," "stiff neck," etc., are all forms of neuralgia affecting different muscles, or parts immediately contiguous thereto. They may all be recognized by the one symptom—pain upon motion. In a severe case of lumbago, while the pain when at rest, lying down, sitting down or standing erect, may be slight, any attempt to change the position, will cause such a sudden and acute pain as to check the attempt on the instant. Pain unattended with fever, affecting the limbs or back, may be pretty safely set down to this form of trouble. The general terms, or names, by which it is called are myalgia, and muscular rheumatism. It is often brought on by exposing the particular set of muscles involved to a draught of chilly air, more especially when these muscles have been exhausted by recent exertion. The attack is usually sudden, often indeed, instantaneous. The exposure to cold is, probably, however, only an exciting cause. It seems as though there must be a condition of the general system to suffice for its real cause. While there is other evidence to justify this opinion, the single statement that it is almost invariably relieved by a month or six weeks' course of cod liver oil, would seem to be sufficient.

Now, don't be misled by a fling at the doctors which you may have lately read, in which it was said that cream or butter will fill the place of cod liver oil. The statement is a purely theoretic one. It is quite useless to oppose a fact established by a long and wide experience by any such theory. Butter and cod liver oil, though in some respects similar, are yet two different things. I have no theory to offer in explanation of the benefit to be obtained from the use of cod liver oil. I know that it will cure such cases, and more than that, the patient so cured will be a physically better man for a year thereafter.

Some New Tomatoes.

J. W. ADAMS, MASS.—We have been trying some of the new tomatoes, getting the seed from the originators. Dwarf Aristocrat is not as good as Dwarf Champion, for the reason that it cracks about the stem of every fruit, though the tomatoes do not incline to rot. The New Stone is so nearly perfect in size, shape, color and quality, that we should grow it in preference to any other if in the market garden business.

Ruralisms

MR. HENRY BELL, of King William County, Va., kindly sends us a box of second-crop Concord grapes. The vine was cut back in the spring and bore its first crop which ripened about August 1. We have had vines at the Rural Grounds bear a second crop, though none of the berries matured. The first blossoms were killed by frost and the second crop was borne by latent buds which, probably, would not have developed until the next year, had it not been that the first blossoms were destroyed.....

THE results of our tomato crossing, begun about 10 years ago, and continued every year since, were more interesting last season than ever before. It was six years ago, we think, that our first crosses were made with the little Currant tomato, using the pollen of the best varieties then known. The Currant tomato, which bears its fruit in racemes of a dozen or more, the individul berries being scarcely larger than Cherry or Fay currants, was the mother at first, and its progeny always thereafter. That is to say, pollen of the Currant progeny was in no instance used upon the other tomatoes. The first hybrid seeds gave tomatoes varying from half an inch to an inch in diameter, still borne in racemes. The foliage was slightly changed, and the habit of the plants somewhat less sprawling. We need not dwell upon the changes from year to year as a result of continued crossing. Last summer, many of the plants bore tomatoes as large as those borne by ordinary plants. Some of the plants were more heavily laden than any we had ever seen or raised. But the tomatoes of these extra prolific plants were, for the most part, under size, though as round as an orange, ripening perfectly and uniformly in all parts, free from rot, firm and excellent keepers. Such a strain might prove of some value for canning purposes.

Fig. 255 shows us a solid, heavy tomato with few and small seeds, while the pulp in which they are imbedded takes up but a small portion of the fruit. The proportion of solid flesh to pulp is as great as that of Ponderosa, and the quality is of the best.

Whether these hybrids are fixed or not, we may not say. We began last season for the first to select the finest specimens from the thriftiest and most productive plants, with a view of improving and fixing them, if possible.

Fig. 256 shows a remarkably dark-colored Currant hybrid. The color of the flesh is a darker red than that of any tomato we have seen, and the quality is superb. The tomatoes are of perfect shape, the skin is of a brilliant crimson; the flesh about the stem ripens with the other parts. Could we preserve these qualities and breed out the cavities or air spaces between outer and inner flesh, we should regard it as an almost perfect tomato.

We have kept up our crosses with the Peach tomato begun many years ago. From these Terra Cotta sprang, and was introduced some four years ago. It is certainly different from any other tomato in shape, color and quality. But it does not seem to have received a disconcerting amount of praise. Many of last season's varieties showed none of the peculiarities of the Peach, and we made several selections that may prove, some day, worthy of introduction.

Up to this time, the tomatoes which have originated at the Rural Grounds and have been introduced, are Longkeeper, Lemon Blush, Terra Cotta, Autocrat and Democrat.....

NOVEMBER 10. Still our California violets are blooming, and the fragrance as sweetly violet as ever.....

MR. W. ATLEE BURPEE hopes to have a sufficient stock of his pink Cupid pea to introduce in 1898.....

PARADISE DWARF APPLES.—It is more than 22 years ago that we planted in the Rural Grounds one tree each of the following varieties of dwarf apples, that is, apples grafted on the so-called Paradise stock. The Paradise tree, though variable, may be described as a bush rather than a tree, growing only three to four feet high, and reduces the apple worked upon it to six or eight feet. The varieties we purchased were as nearly as we can now recall, Alexander, Porter, Gravenstein and Baldwin. They were planted in holes dug in the lawn, and some of them began to bear the second year; others the third and fourth year. We remember that the Alexander bore so many apples one season that it was necessary to prop up the branches, and they were large and beautiful, too. Later, 17 years ago, we planted a little orchard at the Rural farm of these trees. The orchard was really an experiment poultry yard. The little trees were protected by laths nailed together so as to form a skeleton platform about the trunks, lying flat upon the soil The laths were nailed so close together that the hens could not scratch the soil away from the roots. In this little orchard we added, Oldenburg, Lady apple, Northern Spy, Twenty-Ounce and Wagener to the several mentioned above. All of them grew thrifty, several bore early and were much admired by our friends. From that time until now we have, from time to time, advocated the planting of these dwarfs in gardens and limited grounds. We have further advocated planting them in large orchards between the standards, the same as we have advocated dwarf pears, to be destroyed when the standards come into bearing or need the entire field to themselves.

Notwithstanding our advocacy during all these years few of our readers have said much about dwarf apples, and we now call upon them to favor us with their experience.

Bulletin No. 116, issued by Cornell Experiment Station (Ithaca, N. Y.), is written by E. G. Lodeman. It tells us about dwarf apples, and it tells us about them in a most interesting and instructive way.

The summary of evidence that Mr Lodeman has gathered is that these dwarfs have been so little and so carelessly grown that no definite evidence of their value can be obtained. All seem to agree that they are unprofitable for commercial planting, although all admit that they may be satisfactory as single specimens, or as ornaments in the garden Generally it is admitted that the apples grown on Paradise stock are handsomer and of better quality than those grown as standards. Dwarf trees may be planted as close as eight to ten feet apart. They can be easily sprayed and cared for, and the fruit can be properly thinned out. Mr. Lodeman estimates from the information he has gathered that a mature dwarf which has been well grown, may average two to three pecks of apples each year.

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Never mind if you have "tried everything" and failed. Never mind if you feel discouraged and hopeless. Never mind if your case has seemed incurable. **Try once more** and you will never regret it. We will tell you frankly if we can't help you.

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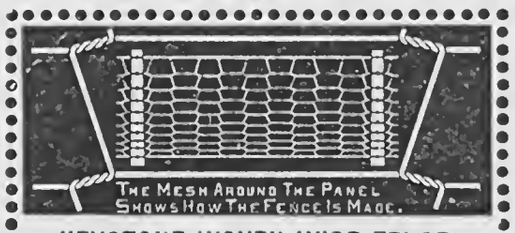

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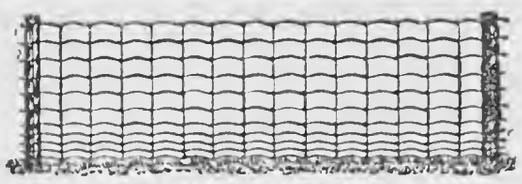

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COWS
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The Rural New-Yorker.

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Corner Chambers and Pearl Streets, New York.

SATURDAY, NOVEMBER 28, 1896.

E. S. CARMAN'S address, until next May, will be No. 5 West 82nd Street, New York.

⊙

READ John Gould's "Primer Science" article about ensilage on page 784. We would like to add to what he says that milk is a perfect food, yet no man would care to live on skim-milk and butter! Condensed milk is ahead of cheese and water. Who will choose stewed sun-dried peaches when he can obtain prime canned goods? Analysis is all very well for picking Nature's combination apart, but synthesis, or the opposite of analysis, fails to give man the power to duplicate these combinations.

⊙

"AN enemy at our doors!" That is the heading we frequently find in the southern papers nowadays. The "terrible pest" which is said to be creeping over the southern farms, is our old friend, Johnson grass, which THE R. N.-Y. sent out for trial in one of its free seed distributions years ago. It has, certainly, become a trial to those farmers who permitted it to spread over the cultivated fields. It yields immense crops of forage; but woe betide the corn or cotton field in which it secures a fair start. It has gone so far that special tools for killing out the grass have been devised. Any good plant out of its place becomes a weed.

⊙

WE advise our readers to examine Mr. Van Valkenburgh's statement, printed on page 783. This man has made a clean and honest official. After 12 years of valuable service, he is retired because he is not classed with the dominant political party. There may be Republican dairymen in the State of New York who prefer, for this office, a Republican who has all the details to learn, to an honest Democrat who has had 12 years' experience. There may be such dairymen—but we doubt it. In any event, the strongest effort should be made to retain the assistants who, as Mr. Van Valkenburgh says, know all the details of the business.

⊙

L. D. GALE tells, on page 789, about having to hustle around to fill the orders that come to him, whereas, only a few years ago, he had to hustle around to get people to buy his products. This change is the result of just two things—the production of a good article, and judicious advertising. The founder of one of the greatest of our New York dailies used to say, "First print the news, then make a big fuss about it." If you have a good thing, advertise it, get people to talk about it, then after that, it is pretty likely to advertise itself. Farmers should do more advertising, varying the methods according to circumstances.

⊙

NO! THE R. N.-Y. has no candidate to suggest for the position of Secretary of Agriculture in President McKinley's cabinet. We have suggested and nominated people for State or National positions before now, and have found, as the result of it all, that we used a lot of valuable space to no purpose. We have in mind several men, any one of whom would fill a cabinet seat with credit, but we don't expect to see any of them selected. The Secretary of Agriculture will be one of the President's advisers. The President will fairly be held responsible for the National affairs of the next four years. He would be foolish to let some one else select his advisers for him. If we were President, we would put in the chair of agriculture some personal friend whom we knew to be competent and in whom we had full confidence, and then keep a general oversight of the affairs of the department. We would not try to "recognize" this section or that, or this organization or the other, but would carry out the same principles we would in conducting a private business. President McKinley knows what he is about, and THE R. N.-Y. will not waste its words in suggesting or petitioning.

⊙

THE Farmers' National Congress met at Indianapolis recently and, after some discussion, passed a resolution to the effect that the tariff on all shoddy, woolen rags, etc., used to adulterate cloth should be made so high as to prohibit imports. We regard this as a step in the right direction, and we would go further and place the manufacture and sale of this shoddy cloth under government control on much the same principle that the manufacture of oleomargarine is handled. We believe that the fraudulent use of shoddy does more harm to American wool growers than the loss of the tariff on wool, and wool growers are as deserving of government protection as are dairymen.

⊙

MR. WEBB, on page 784, makes a good point in showing that the sweet potato crop requires a large amount of potash, while the average fertilizer sold in Delaware contains less than three per cent of this substance. The western States are passing laws to regulate the trade in fertilizers, and the various experiment stations issue tables of analyses. We notice that in these western brands the per cent of potash is usually very low. The mixture is usually one of bone, blood, tankage and other slaughter-house refuse, with a small amount of kainit or muriate of potash. Our advice to western fruit growers is to demand at least seven per cent of potash in such goods, and to buy only on guaranteed analysis.

⊙

READ what Mr. Gale says on page 789 about his exhibit at a street fair. He seems to have worked up a perfect gale of trade from a small "starter" of a breeze. What he says about developing the home market is as sound as a rock. The writer often sees farmers driving through his town to New York with sweet corn and other vegetables. Twelve hours later, peddlers will come back from the city with the same class of vegetables and sell them from house to house at a good profit. There is a neglected "home market", and it is much the same in any large town. The street fair is an excellent thing. Now that the larger fairs are surrendering to "freaks" and questionable exhibitions, we advise those farmers who oppose such things, to stay away from the large exhibitions and give their time and work to developing smaller fairs which they can control. The way to make the managers of the big fairs clean up is to stay away from their grounds.

⊙

IT is evident from the letters we receive that some of our readers have taken very kindly to the idea of serving on the New York police force. We understand that already 300 men from the country are serving as policemen, and still more are wanted. There was a time when a New York policeman was generally regarded as a big brutal fellow who delighted in smashing heads with his club. The time has gone by when beef ranks above brains on the police force. The mental examination is now the hardest for applicants to pass. What the department now wants are clean and sound young men of good character and clear head. There was a time when petty politicians could dictate to the police department. That day has gone by, and the men have reason to know that merit will win. The New York police force, as at present conducted, certainly offers better opportunities for an ambitious young man than either the army or the navy.

⊙

As reports continue to come in, we find that many farmers are succeeding this year with Crimson clover who were sadly disappointed with it in former years. Of course, much of this success is due to the more favorable weather conditions we have had this fall, but it is also true that the leguminous plants like clover, beans and peas, require characteristic ferments or bacteria in the soil before they can thrive. It has been noticed by many that such plants will gain in vigor when successive crops are grown, year after year, on the same ground. This fact has often puzzled farmers because it could not be accounted for by any of the accepted rules of cultivation or manuring. The truth was that the bacteria needed to develop the crop were not present in the soil first. As crop after crop was grown, these bacteria spread so that, at last, all the conditions needed to produce a good crop are present. This simple explanation will account for many so-called failures with Crimson clover that have, at last, grown into successes.

WHAT a noise there would be if you should pass through the kitchen some day and find your wife pouring out a quart of nice cream for the dog's dinner, or deliberately throwing half a pound of good butter into the dish water. There would be such a storm that the lights of home would be just about blown out. Yet, how much worse is that dog feeding than your own scheme of feeding good grain and hay to those scrubs out in the barn? On general principles, we will back the dog to give the better returns for the food. How much worse is it to put butter right into the dish water than to feed the cows an unbalanced ration containing so much fat that they cannot digest it? We give you the floor for a reply!

⊙

THE henwife suspected an occasional large louse on the hens, though seldom could one be found. Kerosene oil is bad for such vermin, and a little goes a long way, though its application to the individuals is a tedious process. A wholesale method was desired. A strip of cloth was suspended across the little door through which the hens made their exit to the yards, so that, as they passed through, it would brush lightly over their backs; this was then saturated with oil. So far so good, but a number of them resolutely refused to risk their lives by passing through any such trap, and it was many days before some of them could be prevailed upon, by gentle urging, to make the venture. Even yet, some of them go through with a jump as though expecting something to drop on them. The cloth should be of some quiet color like gray or brown, as hens are often afraid of bright colors.

⊙

BREVITIES.

A BABY'S SYMPATHY.

I sat in sorrow one sad, lonely day—
The shadow of a coming trouble near.
Grim doubt came creeping with its arms of gray
From the damp fog where lurked remorse and fear.
No hope came to me in that bitter hour,
No friendly hand reached out in sympathy;
Despondency, with cruel, grasping power
Had chained my soul, and would not set it free.
But baby came to me as though she knew
The doubt that bound me—climbed upon my knee
And said, "I love you fader—yes I do—
Because I know my fader does love me."
Oh mighty faith of childhood—doubt and fear
Fall back before the baby's soft caress.
Content—if her weak father's love is near,
To trust her life to him in happiness.
Ah! If we larger children could but keep
The baby's faith to ward off doubt and sin,
We would not fear the slow and steady creep
Of Time while bringing our life's harvest in.
But somewhere—on the road from babyhood,
We lose our faith within the world's rough play.
Forgetting that the loving Father stood
And said, "I love you" all along the way.

THE next currant event is pruning.

A CHIP on your shoulder is a chip o' war.

MAKE your hog a present of a pen wiper.

DON'T apply for a pen *shun*. Write your thoughts out.

THE palm will drink twice as much water as the baby.

"A TABLE of Contents." The happy farm family at dinner.

THE Leghorn rooster's comb unfits him for a brush with his rival.

THE way to create *interest* in the farmers' institute is to run it on sound *principles*.

THEY tell us that the mills and shops are opening. How about that shop on *your* farm?

WILL southern poultrymen give us actual facts about feeding cotton-seed meal to poultry?

LAUGHTER and good feeling are the oil of a meal. This is the old process of aiding digestion.

BAD men making good roads do more for their country than good men making bad roads.

IN the farm live stock shop, you may use the Leghorn hen as the *lay*the for turning out cash.

FIRST call for Sir Walter Raleigh potato came Friday, November 13. The mails are now full of them.

OUR friend on page 787 says that some men can't run even a wheel-barrow as it should be run. Is he right?

OUR women folks are glad that the bedbug articles are over. Hereafter, they say that they want "bugology" in another pew!

NO! Grass will not turn green with envy when you put all the manure and fertilizer on other crops! Nitrogen is the green painter!

YOU wouldn't loan your money to a stranger without an immediate account. Don't send your property to a strange commission man without demanding prompt returns.

T. C. KEVITT has a "strawberry barrel" which he purposes to keep under glass through the winter by placing a sash on each of four sides around it with boards on top. It will not do to let the barrel freeze solid.

PROF. REDDING advises against feeding whole cow peas to poultry, since they might swell and burst the crop. One way to open a human skull for the study of anatomy, is to fill it with dry beans and pour in water. The swelling of the beans will burst the skull apart.

CLOVER hay is a better food than Timothy. Every one knows that, yet Timothy brings a higher price. There is a prejudice against clover, chiefly on account of its dust, though this might easily be overcome by moistening it. If clover cannot win against prejudice, there is a poor chance for shredded fodder.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

ONE enterprising individual, probably with a desire for some spending money for Christmas, sent down a trial shipment of a bale of moss. This, when fresh and green, is used, sometimes, in decorations, in lining baskets, etc. But this shipment was very dry and brown, and the receiver said that he doubted whether he could sell it. If one had a special place to put such stuff, it might pay to send it; otherwise, the chances are against it. It should be sent to a regular dealer in florists' supplies.

‡ ‡ ‡

DURING the past week, a car-load of Canadian geese arrived at this market, the first for a long time. Prices were so low that the geese were held outside the city, to be fed for a short time. In this way, they are likely to improve in condition, and can be put on the market whenever there is a demand for them. It is said that the yards where these geese are being fattened, now contain more than 6,000 geese. Many of these came from Indiana and Illinois. There is a better market for geese at Christmas.

‡ ‡ ‡

EGGS took a big drop during the early part of the week. Previous prices had been high. Shippers sent in large quantities. The previous high prices had decreased the demand, hence there wasn't so much of an outlet, and prices declined heavily. But the lower prices increased the outlet, and prices again advanced. There were precious few fresh laid eggs, but the large arrivals and lower prices of limed and refrigerator eggs, caused a decline in the prices of fresh laid, also. The market is now in much better shape.

‡ ‡ ‡

A VERY fine lot of White clover honey was nicely packed in paper cartons. Each section, weighing about three-quarters of a pound, is inclosed in one of these, and about 25 of them packed in a neat case together. They seem to carry in better shape than do the common glass-covered sections, and stand handling better. The honey does not show off so well, but on the side of each carton is a fancy design formed of an old-fashioned straw hive with the little busy bees flying all about, and giving the name and address of the shipper. It ought to be a taking package.

‡ ‡ ‡

THE R. N.-Y. received word that a grower in western New York had sent on a car-load of "Danish" cabbage, and asking that I go and take a look at them. I went. They were very hard, almost if not quite as hard as the imported ones which we get here in late winter and spring. They were smaller and rounder than our Flat Dutch, but very heavy. They had arrived in fine shape, too. But a big mistake was made in shipping such cabbages to this market at this season. The market is too freely supplied with stock from Long Island and New Jersey, and the price is too low. Besides, such hard cabbages as these are the best to keep, and would, probably, sell toward spring for double the price they will bring now.

‡ ‡ ‡

THE past few days have been unseasonably warm, and have been very destructive to perishable products. Fruits are decaying badly. Dressed poultry and game that have been shipped without ice have arrived in bad order, much of it nearly or quite spoiled. I saw several car-loads of cabbages in the freight yards at Jersey City that were badly decayed. They had, evidently, heated, and some of them looked as though they were fairly cooked. Much loss has resulted from this unexpected heat. Receivers are hoping for cooler weather. If this warm weather should continue through the Thanksgiving market, it would be extremely disastrous to poultry shipments. Probably many will not ship unless conditions be more favorable, but will wait for a later market.

‡ ‡ ‡

I SHOWED the article relative to Thanksgiving poultry, published in last week's R. N.-Y., to several wholesale poultry dealers of long experience, and asked their opinions of the statements there made. The general verdict was that it covered the ground thoroughly and fairly. One man said that many of the directions given should be set in large type, and that special attention should be called to the article. He said that the following of the directions there given would be the means of saving hundreds of dollars to the shippers; but his concluding remark was the discouraging one, "But they won't follow them." I hope that, so far as the readers of THE R. N.-Y. are concerned, this remark will be disproved. Many of the directions apply with equal force to shippers at all times of year. As a general thing, results are more uniformly satisfactory if shipments are distributed along for some time than if all are rushed in for the market of some special holiday. F. H. V.

STREET FAIRS PAY THE FARMER.

On page 757, I endeavored to give a general outline of some of the leading features of a street fair, the object, and how conducted. The question will likely arise in the minds of many whether it is a benefit to the farmer. I know of no better way to illustrate than to speak from my own experience as an exhibitor, and of the benefits derived from placing my products on exhibition. The fall of 1895 found me, like nearly every one else, with a large stock of potatoes on hand, and the markets overstocked. I was trying to sell; the street fair was advertised. I thought a show of potatoes might help me out. I planned and put up an exhibit of potatoes that people have not forgotten yet. I constructed a large table with a slight drop at the front; partitions about two inches high were made to keep the varieties separate. It was then covered with light-blue muslin, and edges draped with the same, letting it hang to the floor.

The potatoes were arranged according to color, shape and size to produce the best effect. The pearly whiteness of the Orphan, the creamy-skinned Freeman, the russet of the Rural-Carman group, the red and scarlet of the Rose family, the 15 varieties, all named, resting on a blue background, made a handsome show. A back was then fixed to the table 2½ feet high by six long; this was covered with tinted paper such as druggists use. On this, my name, GALE, was made of potatoes, in colors, the first letter of red, the next of white, the third of blue, the E mixed. It had the desired effect, judging from the crowd that surrounded the exhibit. I was there to answer questions, and the result was, when night came, that I had booked orders for several hundred bushels of potatoes, besides some small orders from distant States, one going to California. I had the stock to back my samples, and Gale's potatoes have been in demand from that day to this.

My cards were laid on the exhibit, and it took care of itself. Some may wish to know how the potatoes were made to stay in place on a perpendicular surface and over the top. It is done by driving wire nails through from the back of the board, so that the points project about one inch, forming the lettering; the potatoes are then pressed to their places. On the top edge, finishing nails are used.

An exhibit was also made of comb and extracted honey, with about the same result. I won a silver ice pitcher as a premium, and found a market for all the honey I had left on hand, with orders for more. I wish now that I had the honey back I shipped to a Cincinnati commission house nearly two months ago, and which will, probably, not be sold for some time yet, and when it is, it will net me two or three cents less per pound than I could get here.

Moral—develop your home market first, for everything grown upon the farm. Have as little to do with commission houses as possible; their sales rarely meet quotations made. The market is almost sure to drop about the time your shipment arrives. Two years ago, I was practically a stranger in the village of Westfield, working hard to sell my products; now I am working as hard to fill my orders which come in unsolicited, the result of exhibiting at a street fair.

L. D. GALE.

THE NEW YORK HORSE SHOW.

POINTERS TOWARD THE FANCY POINTS.

Fancy horses bring fancy prices. These are the horses purchased by men of wealth and horse fanciers. So long as the horse fills the bill, these men are not likely to haggle over the price. This show points the way for the breeder to learn what is required. A study of the different classes reveals the characteristics which go to make up the animal which pleases the buyer and lines the pocket of the breeder and trainer. I add trainer, because the training is as important as the breeding, and often more so.

Fancy carriage horses are largely in demand. They are driven singly, in pairs, and tandem. To fill the bill in any of these classes, they must have life, good action, be well trained to drive anywhere and everywhere, and not be easily frightened. A horse that is continually shying at everything along the road, is of little use as a carriage horse in the city, where all sorts of sights and sounds, elevated trains, and trolley and cable cars are on every hand. Good saddle horses are also wanted, for the bicycle has not yet displaced the horse, and never will with many who prefer horseback riding. For most classes of fancy driving horses, good size and weight are required. The undersized horses that some breeders have been putting on the market of recent years, are not wanted. Such horses bring very low prices.

When it comes to fancy carriage horses, the Hackney again comes prominently to the front. The knee-action so much prized, is a conspicuous characteristic of this breed. Breeders say that now good hock-action is also required, and that breeders are seeking this. The infusion of Hackney blood gives good results, and the characteristics of the breed crop out strongly in the crosses. A "roadster" should not be under 15 hands high. In judging, the conformation, color, style of going, manners, hock and knee-actions, weight of shoes, style of check and bit, etc., are all considered. All horses were required to pass a satisfactory veterinary examination.

Saddle horses are judged by quality, manners, paces, conformation and ability to carry the weight specified in the different classes. Some classes required the carrying of weight up to 200 pounds, others up to 160 pounds. The gaits required to be shown are the walk, trot and canter. The judges had the privilege of riding any of the horses shown, and they often did this before giving the final decision. One class contained 32 animals, all or nearly all, of good quality and style, and to pick the winners from these is no easy task. The ring was not large enough to show off all at once, so a part were put through their paces at a time. Those which showed inferiority of quality or style were shown out of the ring. Then another section was sifted, and so on until only the best of the different lots were left; then these were again put through all the different mancuvers, until the final decision was made.

Four-in-hand driving is a great fad among the horsey set, and it always holds a conspicuous place at the horse shows. The horses must be good ones, but here training counts largely. The most of the prizes here are captured by a dealer simply because of the superior training of his horses, and his unequaled handling of the reins.

Tandem driving is also another fad, and here training also counts. More attention is paid to the quality of the horses than with the four-in-hands. Some very high steppers were shown in these classes.

Other classes that interest society greatly are the hunters and jumpers. Farmers generally fail to admire a horse that is a jumper, but here the horse that jumps the highest fence wins the most praise, and takes the blue ribbon. In the high jump, the bars are placed first at a height of five feet, then gradually raised until the maximum of six feet six inches is reached.

The smallest, but in the estimation of the little folks, the greatest of all were the ponies, and the Shetlands were the prime favorites. Many of these were shown which were 40 inches or less in height. But they were active little fellows, and though not stepping so high or carrying their heads so jauntily as some of their larger cousins, attracted just as much attention.

It must not be forgotten that this show is held in one of the best horse markets in the country; that it demands good horses, and that above all, they must be thoroughly trained. Still, at the auction sales held after the show, many horses sold for low prices. There are as great extremes in horse prices as there are in quality of the horses. F. H. V.

BUSINESS BITS.

IT is usually to the advantage of all concerned that readers who write advertisers mention the paper in which they find the advertisement. We are always glad to have THE RURAL NEW-YORKER mentioned in this connection.

THE Reliable Incubator and Brooder Co., Quincy, Ill., send us their catalogue containing, in addition to a description of their goods, a great deal of useful information pertaining to the poultry business, and artificial incubation. It will be sent free on application.

THE Foos Mfg. Co., of Springfield, O., offer their customers something entirely new in a feed mill, this season. This is a double-action, triple-geared mill, in which both plates revolve in opposite directions. With this machine, they claim to do more work with given power than can be done with any other mill in any given time. This mill can be operated with either two or four horses, and has power attachment so that a corn sheller, feed cutter, wood saw, or any machine of that nature can be operated at the same time that grinding is being done, or the machine may be used as a power alone if so desired. They will send full description and catalogue on application.

WE are sometimes asked what papers or books we would recommend for the children. We cannot always give a full list of the books, because there are many good ones, and there is more than one paper that we would gladly see in every farm home; but the one above all others that we would see there first is the Youth's Companion. Some of our readers may be surprised to learn that the first thing we look to in a paper for the home is the advertising columns. These columns usually reflect the character of the whole paper. If we find advertisements that we know are not fit to read over the breakfast table, or that are frauds on the face, we look no further. If we find the advertising columns clean, we usually find merit in the other departments of the paper. The Youth's Companion is particularly careful about its advertising, and the reading matter is the very best that can be secured at the present time. No other Christmas present could be procured for double the money, that would do the growing-up boy or girl so much good during the year to come, as a year's subscription to this paper. We can send it with THE R. N.-Y. for $2.25 to those who are not now subscribers to the Youth's Companion, or $2.75 to their old subscribers. New subscribers get four holiday numbers, and their handsome 1897 calendar.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

FROM DAY TO DAY.

NEXT in importance to the bill of fare comes the arrangement of our Thanksgiving table. It is not at all difficult to give a very charming effect with the simplest materials, and without aceess to a greenhouse. The greatest fault, as a rule, with amateur deeorators—often, too, with professionals—is the tendeney to overload with material. An effective decoration must give ample room for the table serviee. Where the dinner is served from a side table, there is room for specimen glasses and eandelabra, but in the usual family dinner, the decoration must consist of centerpieee only. Care must be taken, too, that the table is not "eluttered up" with unnecessary dishes; many excellent housekeepers fall into this error. The little bone plates that we were all buying a few years ago have now disappeared; they are out of date. A multiplicity of small dishes, containing pickles or relishes, is also a mistake, detracting from the appearanee of the table.

*

IF we used flowers on the Thanksgiving table, we should certainly select chrysanthemums, either yellow or pink. But if the woods must supply material, a combination of evergreen ferns, bronze leaves, and the red berries of Bittersweet or Climbing waxwork may be most attractively arranged. A low basket of rough braid, loosely filled with these materials, and surrounded by a flat garland of leaves and berries, laid on the cloth, is pretty, or the foliage may be stuck into a firm mound of moss, arranged on a flat dish, the outer row of ferns drooping over on the cloth. The centerpiece should always be low. If there be room, some loose garlands of leaves may be laid on the cloth, between the dishes.

*

IN arranging the table, care must be taken to avoid unsuitable material, such as ribbon or tinsel; it always gives a cheap look. And put the dishes on "just so"; no matter how plain both crockery and linen may be, a good effect can always be produced by accurate neatness and perfect cleanliness. And don't make the dinner too long or too ambitious in the multiplicity of the dishes; better a simple arrangement, well served, at which the hostess may sit with easy mind. Be sure that no difficult dishes are attempted, for the first time; they have such an exasperating trick of failing at the critical moment; better familiar viands, often rehearsed. Let the hostess have a chance to give thanks, as well as the guests.

ANGELICA'S MAKING-OVER.

NOT the prosaic making-over of old gowns that absorbs the best efforts of so many women; it is not that which I think worth telling about Angelica. Still, it is true that the great idea came to her as she was engaged in the Herculean task of making big sleeves and a seven-gored skirt out of a three-seasons-past gown with small sleeves. She was discouraged; and no wonder! For, in addition to the trial of these impossible sleeves, the waist utterly refused to fit at the back, but just held away as though loath to have aught to do with such a defective figure. The Angelica of those days (now many moons ago) was flat-chested, round-shouldered, and hollow-backed, with a tendency to prominence of the abdomen at which she often shuddered as she beheld herself. She couldn't walk far, and she was sallow and ill-nourished. In short, though nowhere deformed, she gave almost the impression of deformity.

The Angelica whom I saw yesterday, stands much straighter than the average woman. She is not a beauty; but she is fairly well formed, her chest is grown fuller, her back is no longer hollow. She has a good color, and steps off as though walking were a joy; indeed, she can walk two miles if occasion demands. The waists of her gowns fit as though no longer ashamed of her, and she has lost the uncomfortable feeling that people are commenting on her defects. For now, they are constantly saying to her: "How well you look."

For her dressmaking, Angelica had used the cut paper patterns, which do really fit all figures so remarkably well, when we consider that they are fitted to a type or a composite woman rather than to the individual. On the discouraged day about which I began to tell you, she suddenly resolved, since that horrid back *would not* be made over to fit, she would cease the ever-recurring task of trying, season after season, to make it fit, and would, instead, make over the back to fit the pattern. Mrs. Jenness-Miller's ideas as to correct standing helped her much; but she was aided still more by certain directions for overcoming the tendency to stooping and to round shoulders. At first she stood before the mirror to practice, and the difference between herself as she then was, and the figure which she could temporarily make of herself by correct posture, gave her a very strong incentive to perseverance. For, the girl found that when her weight was properly balanced, and her chest held up and well forward, the extra and irritating prominence in front was magically transferred to the very hollow in the back which was so distressing to her sensitive feelings. In a word, she found that she herself, and she only, was responsible for all her worst defects of figure; merely because she carried herself in a faulty fashion. Now, at once, the one problem in happy Angelica's mind became how to make the improved carriage a habit. You will, doubtless, be as surprised as she was to find that the two changes in posture referred to were all that she needed! And she was equally surprised to find that the new carriage became a habit with one-tenth the effort she expected to give. Doubtless this was because the correct carriage is the natural one.

To get a good balance, Angelica first brought all her weight on the balls of the feet, instead of on the heels. Keeping this constantly in mind, she stood as erect as she could, and practiced swaying forward and back (from the ankles only) for 10 minutes at a time, once or twice a day. Soon she found that she did not stumble so easily as before practicing, and that she could far more easily recover her lost balance at any time.

The second change she found a little more difficult in her first efforts to assume the new posture, but easily acquired when once the knack was grasped. Indeed, she practiced formally only when walking on the street, yet was mistress of the new carriage in a month's time. She had had dinned into her ears since earliest childhood that she should throw her shoulders back. But this admonition had been of no use to her. When, however, some one told her simply to raise the chest by using its own muscles, she found that, in this effort, the shoulders at once assumed their proper position. As soon as she was mistress of her muscles to the necessary extent for raising the chest, behold Angelica, a "new woman."

This is the kind of new woman which it is desirable to urge at least one-half our girls to be. And it is just as practicable for any one with a faulty carriage as it was for Angelica. If you don't think so, ask Mrs. Miller, who affirms that it is the exception to see a woman with a good carriage, whereas it ought to be the rule. I've looked, while in the New York stores, where, if anywhere, you find the average woman; and I find that Mrs. Miller's affirmation is too true. Rich or poor, ill-dressed, or luxuriating in costly robes and wraps, almost nine out of ten of our women stand with abdominal prominence, and walk far less well than they may. Would that they might pattern after Angelica's courage and persistence, and become new women of a sort that would antagonize no one, but of whose appearance all might be proud. MYRA V. NORYS.

WASHING LAMP CHIMNEYS.

OF course, every woman has her ways, and feels deep down in her unconfessed self-sufficiency that few have better. Is your way of dealing with the lamps better that this? After the lamps have been filled and the wicks made fresh and even (pinch them off and never cut them if you like, but I want scissors to even off the rough edge and slightly slope the corners after the charred part is pinched off), after an old cloth has rubbed lamp and burner to a shine, collect all the chimneys and prepare a basin of strong soapsuds, which need not be too hot for comfort to the hands. Have a pan containing clean water on the range; then, with all the freshly washed chimneys set on a pan or tray, seat yourself with drying cloths—generous-sized pieces of old cotton—and rolling a chimney in the clean, hot water, dry it at once. One-tenth the rubbing necessary in any other method I have tried, will give a surface perfectly clear and transparent. The chimneys being somewhat warm, do not break, though the water be nearly boiling, the hot glass dries quickly, the drying cloths are so little dampened that one will suffice for several chimneys. Also, one may warm her feet and rest while the polishing is in progress—that is, she can rest her feet, but I hope that she has not the bad habit of frequently toasting her soles at the fire, though that is, perhaps, less of an evil than going with them cold. Now do not ask if I sit by the range when drying chimneys in warm weather. I think, on reflection, that I usually scald two or three chimneys at a time, and sit on the veranda while drying them. I do all work there that can possibly be carried out of the house.

To have clear chimneys, the washing and drying cloths must not be anything that happens. Old calico is liable to hold a sufficient remnant of starch to make it unfit for the purpose. Pieces from discarded undervests are excellent for use in the soapsuds bath, but often too linty to make good driers. A set of lamp cloths, if dried and folded away in drawer or bag, will keep sufficiently clean for a long time. Pouring water through a smoked chimney will remove most of the lampblack, and make the washing cleaner and easier. A wash-cloth that nearly fills the chimney is preferable, if it be of pliable material, to a small one, and driers need to be about a yard long, that the hands need not come in contact with the glass. Handle clean chimneys by the extreme base or top, and where they fasten with a screw, turn it up close, and then back one turn to leave room for the glass to expand when heated by the lighted wick. P. T. PRIMROSE.

WHAT the children are to eat is one of the perennial questions in a household. We may decide on a family bill of fare that is desirable for old and young alike; still there are many relishes, wholesome in themselves, that should not be allowed the juvenile palate. Similarly, while the various cereals, in the form of mush or porridge, should form a part of the children's breakfast, every child cannot eat them. Many of the oatmeal preparations are found indigestible by delicate children, and, in warm weather, this particular cereal may be the cause of various trifling but disfiguring eruptions of the skin. We have known several cases where young children suffering from such ailments have been cured by the change from oatmeal to cracked wheat. Where mush or similar preparations seem indigestible, the trouble is often caused by too hasty eating, and this is obviated by teaching the child to eat a little thin bread and butter with the mush.

Home Parties

And Church Sociable Ideas

Are made a constant feature in The Ladies' Home Journal. Experienced home and church entertainers originate and furnish them. A page of "Home Parties" is in the November issue; in the December number there will be two pages. Succeeding pages in other issues, all new ideas.

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

THE GARDEN

Protection and Propagation of Roses.

A few months ago, a writer in THE R. N.-Y. spoke of grafting and budding as the only way of propagation for out-of-doors. Several years ago, I was connected with Franklin Academy, Nebraska. The young ladies were very desirous of securing white roses for commencement. I found that Madame Plantier was the best. But this would winterkill. One great trouble in the West is the warm sun in February, which dries up the top while the root is frozen. There were two difficulties with this rose: It was tender, and I found it very hard to propagate; it defied me in every way. Then I thought of a plan by which to avoid these drawbacks. One season the bushes made a fine growth—four and five feet high. I laid them all down like the spokes of a wheel, and covered them with six inches of fine, rich soil. I reasoned that they were so full of life, that they would push their way through. I did not take the earth off in the spring, but let the roses work their way up. About 50 vigorous sprouts showed themselves, and grew with amazing rapidity. I had a vast mound of beautiful flowers. Burying them retarded their bloom, so they were a week later than usual. People came from near and far to see them. That was not all. I kept them well cultivated, and thought that I could solve another difficulty—that of propagation, and sure enough, when I came to dig in the fall, I had from the one cluster 35 very fine, strong, and well-rooted plants. Since then, I have used this plan largely. Before me as I write are 18 fine, strong General Jacqueminots from layering one bush. This plan gives roses on their own roots, hardy and vigorous, that will bloom the first year. If you wish to protect, and increase your half-hardy roses, pulverize the earth about them thoroughly, bend down your bushes, cover with six inches of fine earth, four inches will do if the winter is not severe. Do this in November, just before the ground freezes. If your soil is heavy clay, mix with fine manure, and you will be rewarded with a glory of bloom and strong plants. Be sure to cover the tips well and keep them covered. C. S. H.

Nebraska.

R. N.-Y.—The process of layering is much practiced for hardy roses and for many of our outdoor shrubs. It is especially valuable to those who do not possess a cold frame or cool greenhouse. The usual way is to bend down a branch elbow fashion, making a slight cut in the bark at the point brought to the ground; this is pegged down and covered with earth, the tip projecting; when a good start has been made, the rooted tip is cut from the plant. This is a most satisfactory way to increase most of our common flowering shrubs.

The Madame Plantier rose is, as a rule, so hardy, that it needs no protection in our severest winters. We imagine that, in Nebraska, the trouble is from the sunscald, rather than the cold. The earth covering is a most satisfactory protection, the usual practice being to remove it by degrees in the spring. It has the advantage of staying in place, and does not afford a refuge for field mice; these little pests find a congenial home in such a mulch as strawy manure. We have seen the earth mulch applied in the form of sod; the rose bushes were first laid down and pegged in place, then a layer of sods placed over them, grass side down. Dry earth may then be put over the sods, in the case of more tender subjects. Some of the tender Hybrid Tea roses, such as Mme. Caroline Testout, Kaiserin Augusta Victoria and Duchess of Albany, are described as wintering perfectly under this treatment, in northern Indiana. In a rigorous district, raspberry canes are the better for this sod covering, and in our latitude fig trees are sometimes treated in this way.

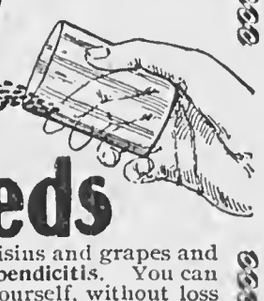
Prize-Winning Chrysanthemums.

Each year sees a difference in the leading chrysanthemums exhibited at the shows; the favorites of one season are often pushed aside by the debutantes of the next. Two years ago, the great prize-winning white was The Queen; it is not a very lasting flower, and has a habit of showing its center, a serious defect, but its many good qualities as a show bloom gave it decided vogue. Last year, however, it was thrust aside by Mayflower and Mrs. Henry Robinson, the latter taking high rank among early whites. Gretchen Buettner, introduced this year, is another of the new varieties likely to possess permanent value. There is such a long list of the Japanese whites now that a variety must possess distinct character, or it is soon discarded.

In pink, year after year, the well-known Viviand-Morel appears to lead all the others as a show bloom. The color is often uneven and streaky, but size, graceful shape, and good constitution make it almost indispensable. Last year, a very favorable impression was made by Mrs. Perrin, a new variety. The clear color, a regular rose pink, fine shape and foliage gave promise of a valuable sort for trade use. It must be remembered that, as a rule, the florists look at a variety from one standpoint only, that of its value for cut flowers, and while the varieties they indorse certainly represent the cream of the list, comparatively few of them are useful outside. At the present time, the two great points the raisers of new chrysanthemums look for are dwarf, stocky growth and distinct color. They are, also, experimenting for the encouragement of early blooming, and assuredly this will give us the garden chrysanthemums we want. Among the novelties exhibited this fall, but not yet introdueed, we find one which seems to meet these requirements, the Midge; it is a very early white, blooming at the same time as Mme. F. Bergmann (our earliest white), very dwarf, clothed with abundant foliage right up to the flower. This impresses us as a good thing for garden or window, for we don't want giraffe-necked chrysanthemums in the house garden.

CARNATION GROWERS have discussed, for several seasons, the practice of summering their plants in the field. Some of the more delicate sorts suffer so much from the check received when taken indoors, that they do not recover their vigor in time to give a remunerative midwinter crop. The standard yellow variety, Buttercup, is one of these; in many localities, this unfortunate weakness has almost driven this carnation out of cultivation. Some of the growers, especially in the neighborhood of Philadelphia, have kept the plants continually under glass with good results, planting on the benches early in the summer like roses. In the old style of greenhouses, with removable sash, this could be managed very well, all the glass being taken off; but in modern houses, it is a little difficult to give sufficiently free ventilation. The plants are treated just as they are in the field, being topped and prevented from blooming until it is advisable to permit flowering. But in spite of the control given by indoor summer cultivation, a great many growers still think that, in all cases, they procure a healthier growth in the field.

Throw out the Seeds



of your raisins and grapes and **prevent appendicitis.** You can seed them yourself, without loss of time or tax of patience, with the

Enterprise Raisin and Grape Seeder

Removes seeds without waste. Always ready for use, never gets out of order. No. 36, seeds a pound in 5 minutes, $1.00. No. 38, seeds a pound in a minute, $2.50. At hardware dealers.

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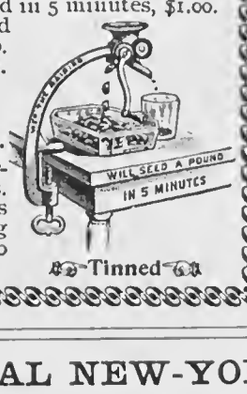
Makers of the Enterprise Meat Choppers. Send two 2c stamps for the "Enterprising Housekeeper" — 200 recipes.



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75,000 in use. to wash as clean as can be done on the washboard and with much more ease. This applies to Terriff's Perfect Washing Machine which will be sent on trial at wholesale price; if not satisfactory money refunded. Agents Wanted. For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 14 Portland, Mich.

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A description of the current styles of baskets, boxes, crates and barrels used in marketing fruits in all parts of the country. How to grade and pack fruit. Illustrated. Paper, 20 cents.

THE RURAL NEW-YORKER, NEW YORK.

CALIFORNIA

If you are going there

by all means inquire about the Burlington Route Personally-Conducted Excursions to San Francisco and Los Angeles, which leave Chicago every Wednesday with a Pullman Palace Tourist Car through to destination. The Route is via Denver, the Denver & Rio Grande Railway (Scenic Line) and Salt Lake City. The cars are fitted with carpets, upholstered seats, mattresses, pillows, blankets, bed linen, berth curtains, toilet rooms, heat and light, and, in fact, all the conveniences of a standard Pullman Palace car; they lack only some of the expensive finish of the Pullmans run on the limited express trains, while the cost per berth is only about one-third (⅓) of the price.

Write for full particulars to T. A. GRADY, Excursion Manager, C. B. & Q. R. R., 211 Clark Street, Chicago, Ill.

THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we wil return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

"It will go away after awhile."

That's what people say when advised to take something to cure that cough.

Have you ever noticed that the cough that goes away after awhile takes the cougher along? *And he doesn't come back!*

Ayer's Cherry Pectoral Cures Coughs.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best** —*Adv.*

To Our Club-Raisers.

Last week, we gave an outline of rewards for club-raisers, from November 16 to January 1. It will be remembered that, in addition to the usual commissions, we give a fine watch every week, and also nine Sweepstake Premiums January 1, to the largest nine clubs. Here are the premiums again :

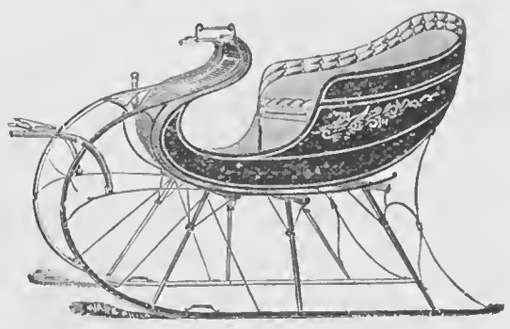
$50 IN CASH.

A Kalamazoo Sleigh or Cutter.
A Washing Machine.
A Superior Land Roller.
A Cheshire Pig.

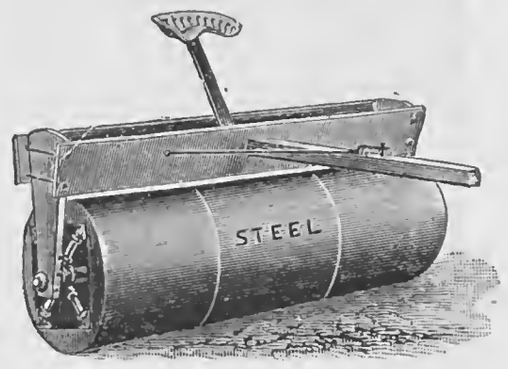
A R. N.-Y. Sewing Machine.
$15 in Cash.
$10 in Cash.
$5 in Cash.

The four cash premiums need no description. The Sewing Machine is illustrated and described in another place in this paper. The Pig we hope to describe next week. It is bred by Mr. W. E. Mandeville, Brookton, N. Y. It will weigh 200 pounds, and be a first-class Cheshire in every respect. We will also tell you more about the Washing Machine next week.

This week we want to show you what the sleigh and roller look like. This is just the season for a cutter. This is a Kalamazoo sleigh, and we know it to be just as good as any man wants. If you want to know all about it, send to the Kalamazoo Wagon Co., Kalamazoo, Mich., for full description. We gave one of these sleighs as a premium two years ago, and the young man who won it had the pleasure of giving his best girl the first ride in it. That girl has since become part owner in the sleigh, we believe. Now that couple don't want another sleigh, so here is a chance for the next young man.



Then here is the Superior Land Roller. It is all steel, and we think that there is no better roller made. This style costs $56 complete. Send to John Moore's Son Co., Raritan, N. J., for full description. You will need it in the spring, and here is a chance to get it cheap and easy.



The first watch went last Saturday, to CORNELIUS MESLER, New Jersey, for a club of only 2 names. He cannot win the watch again, but if he send the largest weekly club again before January 1, he will get the chain, and the next largest club will get the watch.

THE RURAL NEW-YORKER, NEW YORK.

CROP AND MARKET NOTES.

Receipts of western ducks have been light this season.

The peannt crop is reported to be only about two-thirds of an average.

Latest cable advices report an improved condition in the foreign apple market. Fancy fruit is wanted for the holiday trade.

The Hampshire Down Breeders' Association of America, will hold its annual meeting at the Murray Hill Hotel, New York City, November 25, at 7 P. M.

The world's supply of raw sugar is said to be larger than that of last year, notwithstanding the enormous Cuban deficit. One factor in this is the great increase in the production of beet sugar.

The Ohio State Horticultural Society will hold its annual meeting at Athens, December 2 to 4. There will be exhibits of fruits, flowers, vegetables and horticultural tools and appliances. The question box forms a prominent feature of a very interesting programme. W. W. Farnsworth, secretary, Waterville.

The Madison Square Garden Live Stock Show, ending November 28, gives promise of being even more successful than the initial one of last year. Premiums offered were liberal, and have secured large entries. A special feature is made of dairy products, and this must prove of especial interest. The collection of live stock is hard to beat.

The Missouri State Horticultural Society will hold its 39th annual meeting at Marceline, December 8 to 10. Premiums amounting to $100 are offered for fruits and flowers. New varieties are desired. The programme is excellent and varied. We note one unique topic—"The Birds the Fruit Grower's Best Friends." Much attention is given to flowers. L. A. Goodman, secretary, Westport.

The annual meeting of the American Guernsey Cattle Club will be held at the Colonnade Hotel, 15th and Chestnut Streets, Philadelphia, December 9, 10:30 A. M. This is an important meeting, as changes in the constitution are to be considered, and matters relating to the rules regarding importing animals. A large attendance of members is desired. Wm. H. Caldwell, secretary and treasurer, Peterboro, N. H.

A State horticultural meeting has been called by the Vermont State Board of Agriculture, to be held at Burlington, December 3 and 4. The programme is an excellent one, the topics being practical and the speakers experienced and well-known authorities. A fruit exhibition will be held, and fruit for this is solicited. A meeting will also be held to consider the organization of a permanent State Horticultural Society. Further information may be had from C. M. Winslow, Brandon, or F. A. Waugh, Burlington.

Growing Children

One-third of all the children die before they are five years old. Most of them die of some wasting disease. They grow very slowly; keep thin in flesh; are fretful; food does not do them much good. You can't say they have any disease, yet they never prosper. A slight cold, or some stomach and bowel trouble takes them away easily.

SCOTT'S EMULSION of Cod-liver Oil with Hypophosphites is just the remedy for growing children. It makes hard flesh; sound flesh; not soft, flabby fat. It makes strong bones, healthy nerves. It changes poor children to children rich in prosperity.

Book about it free for the asking.

☞ No substitute for Scott's Emulsion will do for the children what we know Scott's Emulsion will do. Get the genuine.

For sale by all druggists at 50c. and $1.00.

SCOTT & BOWNE, New York.

Our Clubbing List.

If you subscribe for any other paper or magazine, we may be able to save money for you. Look over the following list. If you don't see what you want, let us know, and we will get prices on it for you. The prices below are for the papers mentioned, and THE RURAL NEW-YORKER, both one year. If you want more than one of the other papers, deduct $1 from combination price given below, and you will have our price for the other paper.

The Thrice-a-Week World.

Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1.65, both one full year. Send now and get both papers free for the rest of this year.

Daily Press, New York.

Many farmers now like a daily newspaper, in order to be well informed on news throughout the country. The Press is one of the brightest New York Dailies. It is Republican in politics and a strong advocate of protection. We can send it daily, and THE R. N.-Y., weekly, both one year for $3.

Daily Journal, New York.

No other daily paper ever made so great a success in so short a time as the Journal. It gives all the news, and is one of the brightest and ablest papers of the Metropolis. It is Democratic in politics, and an able expounder of free silver. We can send it and THE R. N.-Y., both one year, for $3.50.

The Atlanta Constitution.

This is the great national weekly of the South. It has, probably, done more for the South than any other paper has ever done for any part of the Union, and, naturally enough, the people in the South believe in it and go by it. But besides its devotion to the interests of the South, it gives all the news of all the world every week, and is a great family paper. It abounds in stories, fiction, romance, wit and humor, fun and puzzles. It is Democratic in politics, and a great exponent of Democratic principles. It gives 12 pages—84 columns—of reading matter every week, and all for only $1 a year. We are able to send it and THE R. N.-Y., both one year, for $1.75.

Strawberry Culturist.

This is a bright little monthly, edited and published on a strawberry farm by a strawberry grower. We can send it and THE R. N.-Y., both one year, for $1.15.

Farm Poultry.

There is no poultry paper published anywhere which takes the place of FARM POULTRY. It stands alone as the best up-to-date, practical guide to profitable poultry raising. Edited by men who practice what they preach, and teach facts, not theories, about how to make money with a few hens. Published semi-monthly; price, $1 per year. We can send it and THE RURAL NEW-YORKER, both one year, for $1.75.

American Gardening, New York

The Family Money Maker. Worth $100 a year, and more, to all who practice intensive cultivation, whether in the open or under glass. Covers in plain language, the care and cultivation of Flowers, Small Fruits, Vegetables, Plants, Shrubs, Bulbs, etc., and tells how to make Home Grounds attractive. Its contributors are the ablest writers in their respective fields. Sample free. We will send it with THE RURAL NEW-YORKER, both one year for $1.80.

WHERE ARE THE POTATOES?

WHAT PROPORTION STILL ON THE FARMS?

Potatoes have been a fair crop in this county—about two-thirds of last year's crop. About 10 per cent have rotted where they were not sprayed. About one-third of the crop is still in the growers' hands. A. B. R.

Queens County, N. Y.

The potato crop is nearly all in the farmers' hands yet. Ten cents is the highest price offered by the buyers. The growers are holding the crop with the hope of getting better prices. Potatoes are the money crop with a large portion of the farmers in this section. L. D.

Oceana County, Mich.

My potato crop was good, only a few rotted. Some report that one-quarter of theirs rotted or froze, but the crop is a fair one around here. Most are selling at 18 cents, while in a few places, 20 cents are paid. I don't think that it pays to hold potatoes. F. M. A.

Steuben County, N. Y.

The crop in this section, on heavy land, was about one-half, on account of wet weather. Some pieces blighted. Mine on sandy loam were very good. I used Leggett's dry powder gun with Fungiroid. I fertilized with fine stable manure and ashes. I would like to get some Rural New-Yorker No. 2 for seed. A. F. B.

Dunn County, Wis.

The crop in this section is not yet half sold. Some farmers are holding for higher prices, and not a few are holding because there is no market for them. What have been sold have gone for 18 and 19 cents. The rot has prevailed to a considerable extent, and buyers have been cautious about handling them. The R. N.-Y. No. 2 has outyielded any other variety here this fall. One year ago, some buyers would not handle this variety; this year, buyers have sought it, and some would buy no other. W. A. B.

Seneca County, N. Y.

Many potatoes are grown in this section for the Scranton market; as they are hauled from Wyoming and Susquehanna Counties past here, I have a good opportunity to inquire about the crop. Most farmers report only a half crop as compared with last year. A few gardeners about here report a better yield than last year, but they are an exception and not the rule. I think that the crop may safely be put at one-half compared with last year. Rural New-Yorker No. 2, Carman No. 1 and Green Mountain, which is supposed to be a seedling of the No. 2, lead as to yield. The quality is much better than last year's; no signs of rot. At least 75 per cent of the crop are marketed; prices have been ruinously low. While there has been no glut as last year, the market has been well supplied all the time, and I don't think that prices will average over 32 cents, at least mine won't. Sweet potatoes are so cheap that people use more of them, and that is one thing that keeps prices low. I can't see that there will be any material rise in price till late in the spring, if at all. E. P. B.

LaPlume, Pa.

There is certainly less than one-half, and probably not over one-third, the quantity of potatoes in this section that there was a year ago. The yield varied greatly, some fields giving a good crop, while many others were hardly worth digging. The quality of the tubers varies as much as the yield, some growers reporting that their potatoes are unusually clean and smooth and cook unusually fine, while others say that their crop is eaten and scabby, and of poor cooking quality. Good potatoes are now selling for $1.25 to $1.50 per barrel in our local markets. The opinion seems to be very general that they will advance considerably in a short time, and that not less than $2 per barrel will be the settled price. M. M. C.

Westchester County, N. Y.

One of our potato dealers says that his early shipments have been heavier this year than ever before, and that the same is true of other shippers. He buys at a number of stations, and has shipped over 500 car-loads to date (November 14), one-fourth of them from Plainfield. The hard times and last year's unhappy experience in holding have induced many to sell early, yet at least three-fourths of the crop is still unsold. Possibly we grow too many. Portage County, this year, grew 23,236 acres, an increase over the 22,777 acres of last year. The crop was fair, quality good; prices have ranged from 8 to 14 cents at the stations. Some talk a 25-cent market later on. Nevertheless, a 5 or 10-cent rise would cause the stock to move freely and, probably, overfeed the market demand, unless a shortage develops. F. J. F.

Portage County, Wis.

The past season has been rather discouraging to the potato grower. The season at the beginning was very flattering, but just as soon as the early planting was up, the bugs tackled them. After we had a battle with the bugs, wet weather set in, which greatly retarded cultivation; then blight struck us—the result is about half a crop. I planted a crop of R. N.-Y. No. 2 in June; the ground was rich and in ideal condition, and I expected a large crop. But alas! Wet, blight and bugs told the tale. The result is that I shall never plant potatoes again in June. What I planted in April, and the first of May, made a fair crop. The main part of the crop is still in the farmers' hands. It is too much to sell potatoes for 25 cents per bushel when we have only half a crop. From reports, denoting the shortness of the crop, I think that it will pay us to hold our potatoes, with an assurance of a higher price. M. C. T.

Champaign County, O.

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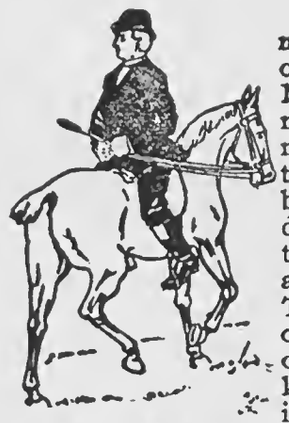

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MARKETS.

SATURDAY, NOVEMBER 21, 1896.

BUTTER—NEW.

Creamery, Western, extras	22	@—
Western, firsts	20	@21
Western, seconds	16	@18½
Western, thirds	13½	@15
State, fancy	19½	@20
Common to prime	12½	@19
State dairy, half-firkin tubs, fancy	18	@19
Firsts	15	@16
Seconds	13	@14
Welsh tubs, fancy	18	@18½
Welsh tubs, firsts	13	@16
Welsh tubs, seconds	13	@—
Tubs, thirds	11	@12
Western imitation creamery, firsts	13	@14
Seconds	10½	@11½
Western dairy, firsts	12	@13
Seconds	9	@10
Thirds	8	@ 8½
Factory, fancy	11½	@12
Factory, firsts	10	@10½
Factory, seconds	8½	@ 9
Factory, thirds	7	@ 8
Rolls, fresh	10	@14
Old butter	5	@ 8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10	@10¼
White, fancy	10¼	@10⅜
Choice	9¾	@10
Good to prime	9	@ 9½
Common to fair	7	@ 8½
Small, colored, fancy	10¼	@—
Small, white, fancy	10	@10¼
Small, good to choice	9	@ 9¾
Small, common to fair	7	@ 8½
Light skims, small, colored, choice	8	@ 8¼
Light skims, large, choice	7¾	@ 8
Part skims, good to prime	5½	@ 7
Part skims, common to fair	3½	@ 4¼
Full skims	2½	@ 3

EGGS.

Near-by, new laid, fancy, selected, per doz	25	@ 26
State, fresh gathered, average best	24	@ —
Penn., country marks, average best	25	@ —
State and Penn., fair to good	22	@ 23
Western, northerly sections, fancy	23	@ —
Western, fair to good	21	@ 22
Western refrigerator, prime, early pkd.	18	@ —
Western refrigerator, fair to good	16½	@ 17½
Western limed, choice	15	@ 16
Western dirties, per 30-doz case	3 50	@4 20
Western checks, per 30-doz case	3 00	@3 50

FRUITS—GREEN

Apples, Snow, per bbl	1 25	@2 00
Baldwin, per bbl	85	@1 00
Fall Pippin, per bbl	1 25	@1 50
Greening, per bbl	85	@1 00
King, per bbl	1 00	@1 50
N. Spy, per bbl	1 00	@1 25
Pound Sweet, per bbl	1 00	@1 25
Nearby, open heads and common, per bbl	50	@ 75
Cranberries, Cape Cod, extra large, per bbl	5 25	@6 00
Fancy, per bbl	4 50	@5 00
Good to prime, per bbl	3 00	@4 00
Defective, per bbl	1 00	@2 50
Per crate	1 25	@1 37
Jersey, per crate	1 00	@1 25
Grapes, West'n N. Y., Niagara, fancy	22	@ 24
West'n N. Y., Delaware, plain	10	@ 13
West'n N. Y., Niagara, plain	14	@ 18
West'n N. Y., Niagara & Del., inferior	8	@ 10
West'n N. Y., Catawba, per small basket	7	@ 10
West'n N. Y., Concord, per large basket	10	@ 11
West'n N. Y., Concord, per small basket	7	@ 8
Wine grapes, black in bulk, per lb	1½	@ 2
Wine grapes, white, in bulk, per lb	1½	@ 2¼
Wine grapes, red, in bulk, per lb	1½	@—
Pears, Clairgeau, per bbl	3 00	@4 25
Duchess, per bbl	2 50	@3 75
Anjou, per bbl	2 50	@3 50
Vicar, per bbl	2 25	@2 75
Swan's Orange, per bbl	2 25	@3 00
Kieffer, per bbl	2 00	@3 50
Lawrence, per bbl	3 00	@3 50
Nearby cooking, per bbl	—	@ —
Quinces, choice bright, per bbl	2 25	@2 50
Fair to good, per bbl	1 50	@2 00
Seconds, per bbl	1 00	@1 25

GAME.

Quail, choice, large, per doz	1 75	@2 00
Small, per doz	1 25	@1 50
Woodcock, average, per pair	75	@1 00
Partridges, nearby, per pair	90	@1 00
Western, undrawn, prime, per pair	75	@ —
Western, drawn, prime, per pair	50	@ 60
Grouse, Western, prime, per pair	1 00	@1 25
Grouse and partridges, inferior, per pair	25	@ 40
English snipe, choice, per doz	1 75	@2 25
Plover, golden, choice, per doz	2 00	@2 50
Rabbits, per pair	15	@ 25
Wild ducks, canvas, choice heavy, per pair	2 50	@3 00
Red heads, per pair	1 50	@2 00
Mallards, per pair	40	@ 85
Blue wing, teal, per pair	40	@ 50
Teal, green wing, per pair	25	@ 30
Common, per pair	20	@ 25
Venison, per lb	17	@ 18
Whole deer, per lb	10	@ 12

GRAIN.

Wheat	85	@87¼
Rye	40	@41
Barley feeding	28	@29
Barley malting	40	@48
Buckwheat, silver	37	@40
Buckwheat, Japan	37	@40
Corn	29¼	@30
Oats	22¾	@23⅜

HONEY.

State, white clover, comb, fancy, per lb	12	@12½
Buckwheat, comb, per lb	8	@ 9
White clover, extracted, per lb	5	@ 5¼
Buckwheat, extracted, per lb	4	@ 4½
California, comb, fair to prime, per lb	—	@—
Extracted, per lb	6	@ 6½
Southern, in bulk, per gallon	50	@—

MEATS—DRESSED.

Veals, country dressed, prime, per lb	—	@ —
Fair to good, per lb	7½	@ 8½
Com. to med., per lb	6	@ 7
Small, per lb	5	@ 6
Buttermilks	4½	@ 5½
Grassers	4	@ 5
Pork, conntry dressed, 10 to 25 lbs., per lb	6	@ 9
40 to 60 lbs., per lb	6¼	@ 6½
60 to 80 lbs., per lb	5¾	@ 6
80 to 120 lbs., per lb	5¼	@ 5¾
125 lbs and up, per lb	4	@ 5

POTATOES.

Long Island, in bulk, per bbl	1 25	@1 37
Maine, per sack	1 00	@1 10
State, per 180 lbs	75	@1 12
Jersey, per sack	90	@1 00
Jersey, per bbl	90	@1 12
Sweets, Va., yellow, per bbl	65	@ 85
Jersey, yellow, per d. h. bbl.	1 00	@1 25
Vineland, per bbl	1 25	@1 75

POULTRY—LIVE.

Spring chickens, per lb	6	@ —
Fowls, local, per lb	8	@ —
Western, per lb	8	@ —
Southern, per lb	7½	@ 8
Roosters, old, per lb	4½	@ —
Turkeys, mixed, per lb	8½	@ 9½
Ducks, local, per pair	70	@ 90
Western, per pair	65	@ 85
Southern, per pair	55	@ —
Geese, local, per pair	1 25	@1 75
Western, per pair	1 12	@1 37
Southern, per pair	1 12	@ —
Pigeons, old, per pair	25	@ —
Young, per pair	20	@ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	11	@ 12
Young, dry-picked, per lb	12	@ 12½
Young, scalded, per lb	10	@ 11
Young, inferior, per lb	6	@ 9
Spring chickens, Phil., selected, per lb	13	@ 14
Philadelphia, poor to good, per lb	9	@ 11
Western, dry-picked, good to choice	8½	@ —
Western, dry-picked, inferior	7	@ 8
Western, scalded, choice, large	8	@ —
Fowls, Western, dry-picked, choice	8	@ —
Scalded, choice, per lb	7½	@ 8
Old cocks, per lb	6	@ —
Spring ducks, Eastern, per lb	8	@ 15
Spring ducks, L. I., per lb	8	@ 15
Spring ducks, Penn. and Va., per lb	10	@ 12
Spring ducks, Western, per lb	10	@ 12
Old ducks, Western, per lb	7	@ 9
Spring geese, Eastern, per lb	8	@ 12
Squabs, tame, white, per doz	2 00	@2 25
Mixed lots, per doz	1 50	@1 75
Dark and poor, per doz	1 25	@ —

VEGETABLES.

Cabbage, L. I., per 100	2 50	@3 00
Red, per 100	3 50	@ —
Carrots, per bbl	60	@ 75
Cauliflower, L. I. and Jersey, per bbl	75	@1 25
Celery, fancy, large, per doz	30	@ 50
Average, prime, per doz	20	@ 25
Small, per doz	8	@ 15
Cucumbers, Florida, per crate	75	@1 75
Egg plant, Florida, per ½-bbl box	1 00	@1 50
Florida, per bbl	75	@2 00
Lettuce, Boston, per doz	25	@ 35
Local, per bbl	75	@1 00
New Orleans, per bbl	3 00	@4 00
Charleston, per basket	50	@ 60
Onions, Eastern white, per bbl	2 50	@4 00
Eastern red, per bbl	2 00	@2 25
Eastern yellow, per bbl	1 75	@2 00
Orange County white, per bag	1 50	@2 75
Orange County yellow, per bag	1 00	@1 50
Orange County, red, per bag	1 00	@2 00
Jersey and Long Island yellow, per bbl	1 25	@1 50
Jersey and Long Island red, per bbl	1 50	@2 00
Jersey and Long Island white, per bbl	2 00	@3 00
State and Western yellow, per bbl	1 25	@2 00
State and Western red, per bbl	1 50	@2 00
Pumpkins, per bbl	1 00	@1 25
Spinach, Norfolk, per bbl	40	@ 50
Baltimore, per bbl	35	@ 40
Squash, Marrow, per bbl	75	@1 00
Hubbard, per bbl	75	@ —
String beans, Norfolk, per half bbl basket	—	@ —
Charleston, green, per bushel basket	59	@1 25
Charleston, wax, per bushel basket	50	@1 00
Florida, per bushel basket	75	@1 25
Turnips, Jersey and L. I. Russia, per bbl	60	@ 70
Canada, per bbl	60	@ 65

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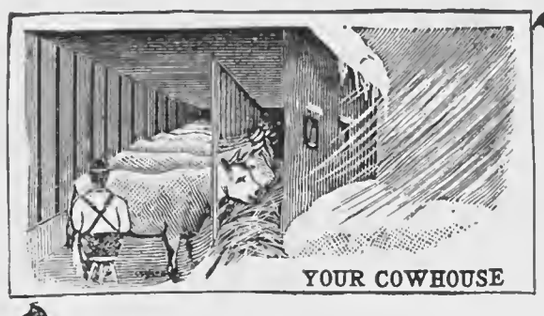
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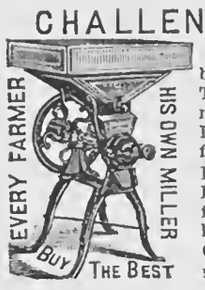

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THE RURAL NEW-YORKER NEW YORK.

OIL MEAL FOR LIVE STOCK.

As most of our readers know, "oil meal" is the ground product of crushed linseed or flax seed. The oil is first taken out of the seed, and then the residue is ground into a coarse meal. In the "old process," the seed is simply crushed with a powerful pressure to extract the fat. In the "new process", the fat is taken out by the use of naphtha, and any excess of naphtha is removed by steam. As a rule, the "old-process" meal contains somewhat more oil or fat than the other. The following questions were sent to farmers who have used this meal:

1. For what kind of stock is it best?
2. How much is it safe to feed?
3. With what other grain would you mix it?

Good for Young Stock.

I think highly of oil meal, especially for young stock. I begin feeding it to the calf when from four to six weeks old; at first, a teaspoonful at each feeding, mixed with two tablespoonfuls of "daisy" flour; the mixture is scalded and stirred into the milk. As the calf becomes older and stronger, the quantity of both flour and meal is increased. When the calf goes into winter quarters, and is put upon dry forage, a quart each of ground oats and bran with the addition of a half pint of oil meal at each feeding, night and morning, with a half peck of sliced Swedes at noon, should start the young animal off well for the winter. Without the ground oats, the ration would be too laxative in connection with the Swedes.

For a yearling, coming two years old, one pint of the oil meal, with four quarts of bran, or bran and oats, would make a good feed, night and morning. The Swedes or mangels are as good for the yearling as for the calf.

To the cow, I would not feed the oil meal until a day or two before calving; then a pint with two quarts of bran at each feeding for a few days. After the fever has gone out of the cow's system, I would advise a mixture of one quart of oil meal, and two quarts each of bran and corn meal. Even this quantity of the different ingredients should always be made dependent upon the size and physical condition of the animal.

It is to be presumed that the successful feeder studies the habits and characteristics of each cow in his herd, carefully watching the effect of her feed, both as regards milk and condition. Fed in too large quantities, oil meal is liable to make the butter salvy, but fed judiciously in connection with corn meal, oats or a little cotton-seed meal, it is a very health-giving food to the animal, and profitable to the farmer. I have always preferred the "old process" as being more palatable and giving better results. D. M. CAMPBELL.

Oneonta, N. Y.

Never Feed it Alone.

Our experience with oil meal has been wholly confined to calves and cows. We should never feed it alone to milch cows, but always in connection with other grain. For young calves, as soon as they learn to drink, a tablespoonful mixed with the skim-milk, increasing the quantity gradually until they will use from a half pint to a pint twice a day. We know of nothing better to feed to calves. For milch cows for milk alone we think it better when used with bran, about three parts bran to one part oil meal.

The meal has a tendency to make soft butter, but if an equal quantity of cotton-seed meal be used where butter is made, the butter will be all right. A good mixture of grain, I believe to be 200 pounds wheat bran, 100 pounds oil meal and 100 pounds cotton-seed meal, giving from four to ten quarts per cow per day, depending on the milk given and period of lactation. We believe in feeding all that a cow will consume and turn to a profit. We find that it pays to study each cow's ability to use food and the use she makes of the food. Some cows will eat almost all you may give them, but return no more than if less were fed. Others with increase of feed give increased product to a certain extent, while still others will use so much and do well, a little more keeps them thrown off their feed, and a loss in product follows. For our own use, in mixing with cotton-seed or other heavy concentrated grain, we prefer the coarse spring bran, as it seems to make a more palatable mixture for the cow.

Connecticut. H. G. MANCHESTER.

For All Kinds of Stock.

I have used oil meal in the rations of all kinds of stock, including chickens, with much satisfaction. Animals soon learn to relish it. Oil meal is a highly concentrated food, containing all the food elements found in our ordinary feeding stuffs, but in different proportions. It contains more of the nitrogenous—muscle-making—element than any other feed obtainable, except cotton-seed meal. Although oil meal contains all the food elements, it is not a complete food, and should never be fed alone. It would not be economical, or conducive to the health of animals. The proportion of the different classes of food elements is not right. It contains a disproportionate amount of the muscle-makers. Water, lime and hair are the three requisites for making plaster. No one or two of them can supply a deficiency in the third. This is true, in a less limited way, of the food elements. Hence the character of oil meal indicates that it should be fed in a limited quantity, and in connection with some fodder lacking in the nitrogenous element, as the straws, Timothy hay, corn stover, or corn in the case of hogs fed that grain with little or no milk. United with feeds of this class, oil meal reduces the total amount of feed required to supply the nutritive demands of an animal.

Last winter, I kept a large, coarse team gaining in flesh through the winter upon wheat straw, five ears of corn and a pint of oil meal each twice a day. No amount of wheat straw and corn that the horses could have eaten would have compensated for the loss of the oil meal from the ration. On the other hand, had the straw been replaced by hay, largely clover, the oil meal would have been as superfluous as sugar on buttered bread. Again, oil meal could not have displaced the corn profitably to a much greater extent. Two pounds a day per 1,000 pounds of live weight are about the limit of the profitable use of oil meal for horses. Where oats, bran, or clover hay enter the ration very largely, oil meal is not needed except that it is a pleasant appetizer and enables animals to digest more than when confined to a narrower list of foods. Animals in lactation may have a little larger proportion of oil meal than work or store animals. The amount must always be regulated by the character of the other foods. Here are two rations for cows, being approximately the proper amount for one day, and containing the right nutritive ratios:

1.—45 pounds corn ensilage.
15 pounds clover hay.
3 pounds oil meal.

2.—20 pounds corn fodder (containing the grain)
10 pounds clover hay.
4 pounds oil meal.

These indicate about the proportion in which it may be fed to advantage. But animals should be accustomed to it gradually, as it may have a cathartic effect.

Oil meal may advantageously be mixed with ground wheat or wheat middlings, to make a slop for hogs fed largely on corn. It is of advantage for young, growing animals. But a mistake that is frequently made in its use is in adding it to skimmed milk for young calves. The skimmed milk has a narrower ratio than new milk, and should have corn meal rather than oil meal added.

The relative prices of oats, wheat by-products and oil meal determine which may most economically be employed to supply the nitrogenous elements. When bran is worth $15 a ton, oil meal is worth about $20.

For horses and sheep, I get it ground more coarsely than for cattle and swine. They eat it more easily. I buy direct from the factory in any quantity desired, and find that I save the middleman's profit. H. P. MILLER.

Delaware County, O.

As Medicine and Food.

As a medicine, old-process meal is loosening, worm-killing, and animals fed with it fatten more rapidly and have shiny, smooth hair. As a food, it is concentrated, and seems to give the animal strength. The best results were observed when fed to horses. A pair of work horses were fed oil meal and wheat bran for 18 months, without any other grain. I never had a team in better heart, do more work, or look better than they did. The mixture was two parts wheat bran to one of oil meal, and they were fed nine quarts of the mixture per day.

The next best results were when fed to young pigs eight to twenty weeks old, to be kept for breeding. It put a finish on them equal to corn meal without the ruinous fat. It was fed in milk, and is best when made into a gruel by pouring boiling water on it, but we usually stirred in a quart of the dry

(Continued on next page.)

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Oil Meal for Live Stock.

(CONTINUED.)

meal to a pailful of milk. It is made a part of the warm mash fed to the hens in the morning—one to two quarts to each 100 hens—and seems to take the place of meat, or nearly so. It is cheaper and more convenient than most forms of meat. A single handful mixed in the milk or grain of very young calves, will do wonders for them. I have fed as high as two quarts per day to milch cows, and find that it softens the hard, crumbly Jersey butter a little in winter, which pleases some customers. I feed small doses at first, gradually increasing until I see the animal is gaining and putting on a glossy coat.

I cannot tell how much it is safe to feed, as I never yet fed enough to make an animal sick, and do not think that any amount within reason would harm an animal accustomed to it providing it were sweet and had not baked in the bag. I would feed it with wheat bran, oats and buckwheat, one or all, for cows, with bran for horses, with fine middlings for pigs and with boiled potatoes, ground oats and wheat bran for hens. It will take the place of corn in a good many cases. It is said to have a manurial value of $18 or more per ton.

A few years ago, when grain was much higher, it was a cheap feed, but at the present time, the use of more than enough to act as a tonic may not be profitable, unless one lives near the factory and can save freight.

New York. C. E. CHAPMAN.

"SOUTHERN CATTLE FEVER."

CAN IT BE PREVENTED?

Is there any real preventive for murrain or acclimation fever in northern cattle? Which would be the safest time in the year to ship cattle from Pennsylvania to Virginia, or vice versa?

Killing Off the Ticks.

It has been pretty conclusively shown that the Southern Cattle tick (Boophilus bovis), is the "carrier" of the germ that causes this disease. Dr. Cooper Curtice of the Bureau of Animal Industry, has made most extensive investigations of the disease, and is now engaged in locating the "quarantine" line, south of which the country is found to be infested with the ticks, etc. The Secretary of Agriculture has inaugurated a system of rigid inspection and quarantine. The State of Virginia has enacted a quarantine law. The general conclusions that have been reached are: Cattle brought to the south of the quarantine line at any time between March 1 and November 1, are liable to become infested with the ticks, and to contract the fever. If brought south after November 1, and before March 1, the cattle will, probably, have a mild attack of the disease in April or May, from which they will generally recover. This recovery is especially predicated of young cattle. The theory of this is that such cattle, brought south in the winter, will get a few ticks on them early in the season, sufficient to produce a mild type of the fever, but not usually fatal. The ticks do not survive the winter, but a few of their eggs do survive.

This station received, on August 27, 1895, two adult cows from northern Maryland. These cows had never been exposed to ticks, never had the Texas fever, therefore, were not "immune." On the day of arrival, the animals were placed in a pasture from which the ticks had been carefully destroyed, but in constant association with native cattle running in the same pasture. The result has been that neither has had any disease whatever, although they have passed two summers in the same pasture. Therefore, we safely conclude that the only precaution necessary in moving cattle from the North to the South, at any time, is to prevent ticks getting on them.

The Bureau has made some elaborate experiments in inoculation, with a view to discover whether the disease may not be prevented, or attacks greatly modified in severity, by inoculating subjects with attenuated virus cultures, etc.

I am satisfied that there is nothing in the climate, the water, or the pastures of the South, excepting the cattle ticks, that is calculated to produce sickness in cattle brought here from the North, at any season whatever. The Texas fever is the only disease to which such cattle become subject, and this may be prevented, or modified in severity, as I have suggested. After an animal has once had the disease, even in very mild form, it is ever after "immune". Even our native cattle must take precisely the same risk, and are just as likely to die of Texas fever, as are northern cattle, if exposed in the same way. It is no uncommon thing for an adult native to contract the fever from being exposed to tick-infested pasture after having been kept free from ticks up to the time of such exposure.

Ticks are almost everywhere throughout the South. As a matter of fact, our cattle, probably, take the disease in mild form while calves, getting a very few ticks on them in the early spring, and thereafter are "immune". This fact amounts to practical immunity from the disease. In the matter of ridding a pasture of ticks, we find no difficulty at all. It is only necessary carefully to pick off the ticks from the herd of cattle, say once or twice a week, throughout one season, not permitting any females to reach maturity, and the job is accomplished. We have done this on the Station farm, and also on an adjoining farm (above referred to).

The danger in moving cattle from Virginia to Pennsylvania relates not to the cattle so removed, but to the cattle that may be associated, or herded with, the newcomers. In such case, it is only necessary to quarantine the southern immigrant cow for a week or two, or until every tick has developed to view and been removed and destroyed.

Georgia Ex. Station. R. J. REDDING.

Ticks in Virginia.

Years ago, I stated that the cattle ticks abound only in some States, only in some sections of those States, and more so in some localities of those sections than in others. All that I said then and since about the so-called Texas fever has been more than corroborated by a recent protracted trip. In those sections where the cattle ticks abound, cattle are less numerous and their appearance would indicate that they do not receive proper attention. But the truth is that they really receive more care, and are a greater expense to their owners than the cattle in sections naturally more favorable to their well-being. The home of the tick is a poor home for the cattle. Sometimes a large stream marks the difference between successful cattle raising and the reverse. A strict quarantine is maintained by some counties separated from others only by a river. Up in Botetourt County, for example, I saw some of the finest cattle I ever laid eyes on. This was not the exception, but the rule. Into such sections, I would not hesitate to ship cattle from non-tick infested regions at almost any time, but the safer plan would be to ship between December 1 and March 1.

There is no such thing as a preventive for murrain, or tick fever, with the possible exception of keeping the cattle from ticks in such sections where the disease abounds. Even this exception will, in practice, be found to be an impossibility. To such sections, mature cattle should never be shipped unless one has plenty of money to afford the risk. A cow, in 99 cases out of 100, would prove a dead loss. A good bull at a moderate price and used at once with a number of acclimated cows, might prove a profitable investment in his progeny, even though he might not survive himself. Calves shipped where ticks abound stand a fair show when shipped during the winter months. Personally, I have never lost an animal with which these precautions were taken, although it is more than I can economically do to keep the ticks constantly from their skins.

Summing up, then, my advice in general would be never to ship mature cattle into counties where the cattle tick is known to abound. Calves should be shipped only after cold weather sets in. Even with these there is a risk to run, but the possible profits induced me years ago to take the chances, and I have never regretted having done so. As regards the counties where the ticks do not exist, and where native murrain is no more to be dreaded than in Pennsylvania. I can see no valid objection to introducing healthy cattle at any time when the authorities of those counties will permit it. The thing for the intending shipper to do is first to ascertain whether a given locality is safe as regards murrain, and next, when he will be at liberty to ship in case there are any restrictions. J. C. SENGER.

Virginia.

Our only daughter had a severe Cough. It continued to grow worse for over a year. We thought she was going into consumption and were very anxious about her. Jayne's Expectorant was recommended. After the first two doses, we saw a change, and in a very little time, she fully recovered.—A. H. MASSEY, Shieldsville, Minn., Nov. 8, 1895.

For constipation take Jayne's Sanative Pills.—*Adv.*

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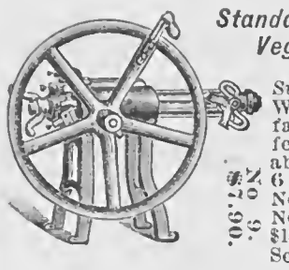

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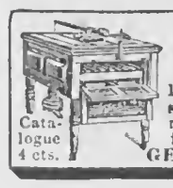

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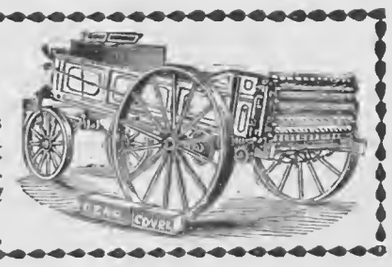

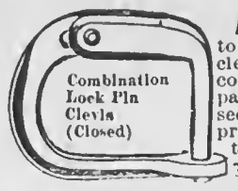

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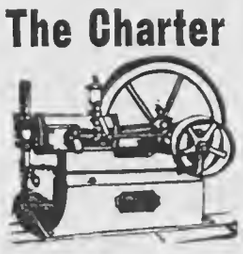

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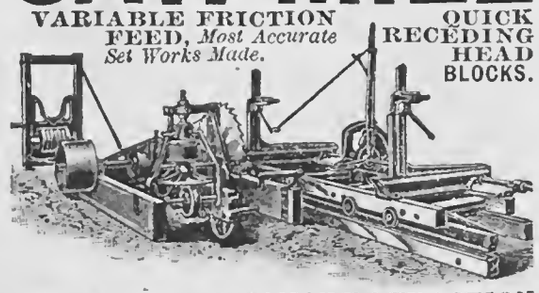

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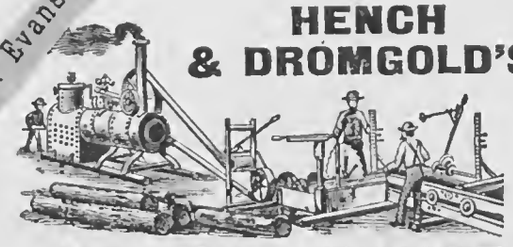

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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A GLIMPSE AT "CELERYVILLE".

DEVELOPMENT OF OHIO MUCK LAND.

The Training of a Wild Swamp.

Near the thriving town of Chicago Junction, Huron County, O., is situated what is known as the New Haven marsh. This and other property was transferred by the United States Government to Connecticut parties, who had been sufferers from the raids of the British, and is known as "fire lands". Until recently, these lands have been considered of little value, and were covered with water a great part of the time. First a small drain was put through a portion of them, which made the tract possible for use as pasture land and for raising cranberries. However, little was done in the way of reclamation until about five years ago, when the present owner of the portion which is the subject of this sketch, H. C. Johnson, unavoidably came into possession of 1,000 acres of this marsh, which is variously said to contain from 5,000 to 7,000 acres. Under the drainage laws of Ohio, a canal about five miles long and averaging 40 feet wide and 10 feet deep, was constructed which gives ample drainage

If one could pick up and examine this marsh as he could anything that it were possible to handle in such a manner, and if he could cut it in two in a horizontal section, he would find that this whole marsh is underlaid with blue clay forming a perfect basin from 15 to 18 feet below the surface in the deepest part, gradually sloping up until it reaches what is called the "shore". The body making up what is called the marsh is like a large sponge which is cut to fit a basin.

The marsh or muck land is almost entirely of vegetable mold. The soil is of a chocolate color, or what is commonly called red peat, which by cultivation changes its color to a dark brown, resembling rich bottom land to the uninitiated. But a little experience soon undeceives the novice, for there is little plant food in its consistency; yet every year found a crop of weeds seemingly larger than that of the year before—indeed, so heavy and tall were they that one might almost get lost in their depths. This vegetable deposit is a peat and burns readily when dry; it is a great absorbent and, notwithstanding the large canal mentioned has been opened to drain this large tract, it does not become dry or release all of its moisture in the driest seasons. This is owing to its nature, not to the lack of proper drainage. I drove upon this tract of land one fall during a dry season, and there was every evidence from the looks of the soil that it was dry, and had it been of the nature of the "powder lands", so well known, it would have been blowing away into the next township. I found that, on removing not over an inch of the surface, and squeezing some of that below in my hand, I could bring drops of water from the lump.

With a tract of land on one's hands like this, which was spoken of as being good to raise only sand-hill cranes and rattlesnakes; which when farmed, had been treated after the manner of upland; land which no one wanted; what could be done with it? Here, indeed, was an opportunity. In January, 1895, the Ohio Celery Company was organized with H. C. Johnson as its president, and E. J. Hollister, manager, the latter a man who had made a life study of muck soils and the placing of them under a proper state of cultivation. Previous to this, as indicated, the attempts to cultivate this tract had been marked with very limited success, adding to the already strong prejudice against the land.

The first season, the Ohio Celery Company had small tracts in different parts cultivated. This was done both where the land had been cultivated previously, and where it was still in a state of nature, unbroken and covered with the rank growth of goldenrods, ferns and weeds. Good results were obtained, and the company succeeded in producing a handsome crop of celery in September, in places that had been occupied by the ferns and reeds in June. The first work was, of course, the breaking of the soil, which was done with a sulky plow with three horses attached; then the peat was cut with disk harrows, rolled and recut, and leveled with levelers made of planks. The proper plant foods were applied to produce the result desired, as the soil is deficient in all plant foods except nitrogen. Commercial fertilizers are used to a large extent and with marked success, but the largest supply of fertilizer that this tract has conveniently at hand is furnished by the Baltimore and Ohio Railroad. Chicago Junction is a divisional point on this railroad, and stock cars are cleaned here on their way West. The result is thousands of loads of manure annually which can be had for a nominal figure.

The second work was the making passable of a public road through the marsh, by covering the former muck road with clay. With the taking up of land, it was necessary to provide houses for the people, and now a hamlet of a dozen houses of neat and homelike appearance and a tasty school house have been built on the high land adjoining the marsh. There is also a commodious packing and shipping house for the convenient handling of the product of the land. It is equipped with modern appliances, among which is the Hollister patent washing machine, which washes and cools the celery at the same time, securing a safe shipment of this delicate table luxury. See Fig. 259. In the hamlet of Celeryville, 10 families of Hollanders from Kalamazoo have purchased houses and small holdings of muck land, which is plotted in five-acre lots and sold at prices ranging from $60 to $100 per acre, on time payments running five years. This is mentioned to show what has been accomplished in the short space of 12 months with undesirable property.

This season, 80 acres of celery have been cultivated with phenomenal success, commanding the highest prices in the leading markets of the country. This is now being rapidly shipped by five or six shipping companies, which find a ready sale for the product, especially in the many cities adjacent to this tract.

The illustrations give us an idea of some of the newer processes employed in modern celery production. Fig. 258 shows how celery is cut, on the large plantations, by horse power. A machine formed like a large draw-knife is mounted on wheels and hauled by two horses. The knife passes along under the ground and cuts off the roots. The plants are then picked up into crates and hauled to the washing room.

Fig. 259 shows the Hollister device for washing celery. A perforated pipe is hung so that it rotates sufficiently to throw water the entire length of the celery. Under this pipe is a sliding platform. The man puts the celery as it comes from the field at one end. This is put under the revolving pipe which turns back and forth so as to throw its water on all

CELERY BY THE ACRE; CUTTING BY HORSE POWER. FIG. 258.

parts of the celery. While this is being done the workman puts on another row of plants. When the first row is clean the platform is pushed along, bringing the second row under the water, and moving the clean row out so that it can be packed. Thus it goes on all day long without loss of time.

A striking contrast is shown on page 799. Fig. 261 shows how the original marsh looked when operations were begun, and also the first house erected in Celeryville. Fig. 262 shows a part of this same marsh. This field was unbroken on June 1. This picture was taken 90 days later, and shows how this wild land has been tamed and trained to produce a cultivated crop. Fig. 260 shows a part of the marsh the second year under cultivation. Here the celery is banked with earth for late use.

There are many spots scattered throughout this country where communities could be made to thrive. Muck land is, no doubt, growing in favor, but there are few men who know its real needs. There is a great field open for future developments of this nature in Florida—the land of sand and muck. Mr. Hollister has made several visits to that State, and has been experimenting there for the past three years with a view to a development on a large scale.

CHARLES BRUCE STEVENS.

OCTOBER STRAWBERRIES.

On page 722, Mr. M. Mattison, of Bergen County, N. J., told us of picking ripe strawberries on October 8, from plants that bore a heavy crop in July. Mr. Mattison now sends us the crop history of these plants:

"The land from which I picked my crop of October strawberries, has been almost continuously occupied with strawberries since 1880. I have grown, at least, 10 crops of strawberries on the same land since 1880. Before renewing with a new plantation, I usually pick two crops, sometimes three, from the same planting. The plantation from which I picked my October berries, was planted in the spring of 1894, in rows 3½ feet apart, 18 inches apart in the rows. The ground was prepared by plowing under an old patch in July previous, then plowing September 1, and again November 1, each time harrowing thoroughly. I then put on about 20 cords of manure to the acre, well-rotted and harrowed in.

"In the spring of 1894, I plowed again May 1. Here is a point that should be considered: the preparation of the land by frequent plowing. And do not plow the last time until the ground is dry enough to pulverize well, and then plant all selected transplanted plants. By transplanted plants I mean plants that have been dug early in April, and root-pruned, by cutting off at least one-half of the roots. Then dig a trench three inches deep, and place the plants in so that the collar of the plant comes just to the surface, one-half inch apart; four inches from this trench put in another row, and so on, each time pressing the ground gently, with the four-inch strip used to make the trench. It will be seen that 10,000 plants can be transplanted in this way, in a few rods of ground, and it can be done by a skillful handler of the spade in about two days. Let these plants grow in the trenches for about three weeks, or until they have developed good tops, and are about ready to bloom. Then take them up, leaving a portion of the earth adhering (which can be easily done with the mass of roots accumulated), and plant at once in land freshly plowed and harrowed, and rolled with a light roller.

"Some experienced growers will say that transplanting plants in this way is foolishness. It would seem so. There is, however, much wisdom in the practice, first, because the plants have developed in root and top, so that one can readily discriminate between the weak and the strong ones; don't ever replant a weak plant. Second, because the plants are like transplanted trees; instead of commencing to run at once, they will develop into large stools by July 1. Third, best of all, because there will be no failures in the plantation, and whether one grow strawberries in hills, in narrow rows or wide matted rows, he will always have the ideal strawberry row that we are all looking for. The plants are Shuster's Gem, Long Island Beauty, Enhance and Beder Wood alternated every three rows. The Beder Wood gives the pollen for the early flowers and the Enhance for the later ones. These kinds all bring large, fancy fruit. Long Island Beauty is simply an improved Bubach.

"Whole crates of these berries measured 2¼ to 3 inches across the berries. This plantation covered about 65,000 square feet, about 1½ acre, and was covered in December, 1895, with leaf mold two inches deep (not leaves), flanked on each side of the row with about the same quantity of rotted manure. The yield was about 8,000 quarts, which sold for over $900.

THE HOLLISTER WASHING AND COOLING MACHINE. Fig. 259.

Average per quart, 11¼ cents. This, however is unfair as to yield, as if the plantation had all been the four leading kinds, they would have brought $2,250. A large part of the patch was made up of about 90 kinds for testing. The plants that bore my October fruit have borne three crops of fruit—June, 1895; June, 1896; October, 1896 The Beder Wood bore from September 20 to October 1. Enhance from October 1 to 10, when Jack Frost appeared. The plants at this date were full of flowers and green fruit. Had the plants all been of these two kinds, and Jack Frost delayed his visit for 10 days, I could have picked, at least, 2,000 quarts of October berries, worth, at least—but excuse me from naming the price, for I do not care to be quoted as telling 'big stories' about my fruit."

THE SECOND YEAR OF CELERY GROWING. Fig. 260.

APPLES FOR NEW JERSEY.—Is the Paragon apple a more profitable variety to grow for the shipping trade than the Ben Davis? Is it as great a yielder? Will it succeed as well in this part of New Jersey as the Ben Davis? M. O. T.

Red Bank, N. J.

NOT ALL "SUCCESS" WITH EARLY LAMBS.

FRAUDS BY LIVE-STOCK DEALERS.

The reading of "Success in Early Lamb Raising," by L. A. Clinton, calls to my mind my own experiences and those of others I know, and the fallacies of it. There are individual successes in hothouse lamb raising, as in everything else, but all things must be favorable, location especially, for express charges represent a large factor in figuring the profit. The writer of the article did not tell the public how much expressage and commission he had to pay, but gives only the price the lambs brought in the market. If he figure out these items, it may change his profit until it would show that he would have had more money if the lambs had been kept longer and run and fattened in the rape. It costs money to raise hothouse lambs. It costs more to put lambs in the market at 60 days old than at four months, the one weighing about 50 pounds, the other 100. Extra preparation of warm, roomy quarters, extra care and feed of the ewe, before and after lambing, are necessary. As soon as the lamb will eat at all, it must do so, and every means be used that can be devised to induce large consumption, for the lamb *must* fatten if it is to go to market. The ewe must be fed an extra amount as well, and with all these, many lambs will grow but refuse to fatten enough to make them prime, at so young an age. It is impossible to have lambs dropped as wanted; I have never been able to get a lamb dropped before December, and many more in a flock of 100 ewes will come in February. Hence, as the lambs come from December to March, if one attempt to send them to market at 40 to 50 pounds, the high feeding is continued a long time, and the marketing is, like L. A. Clinton's, a few each week or two. Those that do not fatten and those that are dropped too late, must be carried into the summer or fall anyway, and I believe that fully as much could be made upon the whole lot if they were fed more moderately, came later and were marketed from the rape later in a bunch, and sold to the shipper at home.

If the lambs be dropped in March—or February, if you prefer—they will come faster, and give the shepherd in a flock of 100 or more plenty to do to look after them. There should, at that time, be from five to ten every 24 hours, and the lambs will be so nearly one age, that they will be even and feed and look more uniform. The ewes and lambs can be fed upon a fair ration all together, thus saving much time. They will grow and frame up nicely, and, when grass comes, can all be got ready for market in a few weeks when it may suit the owner best to do so. They will average, if fat, 100 pounds at any time after July 1, and will, I think, generally speaking, bring more money than the lambs from the same ewes would if they had been bred for early lambs. Besides, where would the fancy winter lamb market be if any considerable portion of those who raise lambs should try to get them to market early?

These extra out-of-season productions will and do give a profit to a few, but it is bad advice to give that it shall be engaged in by any considerable number of the producers. Loss will surely follow if undertaken by the many. There may be secrets known only to a few about the early or fall production of lambs I know that there are such, for we see them sometimes, but by what manner they are produced I know not. It is claimed by some that it is in the breed of the sheep, but my experiences do not bear out this statement. I have five imported Dorset ewes and their produce by imported rams and pure home-bred ewes and rams, with plenty of grades three-fourths bred; but though I have kept the rams with these ewes the year 'round, and kept the flock, some in high, some in low flesh, have let the lambs run with some, sold the lambs of others in February, do what I would, never a lamb dropped until the middle of December. The Shropshire and South Down ewes were only about 10 days behind them. The Dorset ewe is a good mother, a good feeder and milker; the lamb has an enormous

appetite, and if fed liberally, will grow rapidly. If he grow faster than other lambs, it is because he eats more. He is a great feeder. It is the only difference I have found between them and other breeds of sheep.

It would be interesting and instructive to know how the October lamb was produced. I was told that if I would buy imported Dorsets at $40 each, I would have it. It is expensive and those I bought have not done such a thing, they and their produce being just like other sheep in this. How I wish that I could wipe out as with one stroke of the pen the delusions and snares of the unprincipled breeder or dealer, by which he deceives the farmer or producer, not only out of his money, but out of his time and worse than all, out of his confidence in the honor and integrity of mankind. The shark of the fancy live stock industry is its worst enemy, and does so much harm, it neutralizes largely the good there is in it. I believe that a united effort should be made to expose all the tricks, frauds and fallacies of the trade in every branch. Some good must result; perhaps more than at first imagined. The subject of early lambs brings vividly before me the last subject as stated, and I feel fully able to defend it, too.

Indiana. W. W. LATTA.

THE ORIGINAL MARSH. WILD LAND WITHOUT A MASTER. Fig. 261.

NORTHERN CATTLE IN THE SOUTH.

In reply to transferring cattle from the North to the South, I don't think that it has been made clear that Virginia is not so much affected by the local and seasonal disease of cattle in the South as are other more southerly localities. Neither is the common belief that the South is unhealthful for northern cattle, altogether, whatever time of the year they may be imported hither, at all well founded. It is true that animals brought from the North into the South during the summer, run almost inevitable risks of the southern fever, and many may perish of it; yet if they come here in the winter, they become acclimated the next summer, and withstand the risks of disease as well as the cattle of the locality. It is unfortunate that this disease should not be eliminated from the list of obstacles to the increase of the dairy in the South. It would greatly advance the interests of southern agriculture if it were. Whether or not the wood-tick, as it is called, is the cause of the disease or not, it is true that the disease is known where the tick is not to be found, and I believe that the disease is, to a great extent, malarial, and due to other causes than the tick, although it is very reasonable that this pernicious insect is the means of infection or inoculation of cattle, that, otherwise, would not be attacked by the disease. It is quite reasonable and true to some extent that it is so, but not always, as I have reason to know, for many cattle that are infested by these ticks do not take the disease.

Here, in the mountain region, which is held by the law of North Carolina to be exempt from the disease, and the transfer of cattle back and forth during the summer is forbidden by law, we have plenty of these same ticks. I have seen mules and oxen covered by them, and eaten into large sores by the wounds of these insects, but never a case of the disease has occurred in cattle, or mules, or horses, on account of them. The reason is that we have none of the class of diseases commonly called malarial here, and while the tick is here sometimes, it does not communicate the disease.

Hundreds of fine cattle have been sent from the North to the South in the fall and winter, without any disease occurring in them the next summer; yet the ticks abound, as said by Prof. Emery in his notes, page 763. They have been acclimated, that is all; and this result goes to show that the disease is one of climate and not wholly of the contagion introduced into the blood by the ticks. Southern cattle escape, and an animal coming here in the fall or winter becomes a southern animal, as far as this risk goes. The sun's heat is excessive; it is not the heat of the atmosphere which hurts; this may be far below that of the North, where sunstroke is the result of it, while I have never known or heard of a southern person being killed in this way. So it is the direct heat of the sun which seems to affect the system more than that of the air. Cattle suffer in the same way, being enervated by the roasting sun almost directly overhead, which scorches like a fire the unprotected skin. It is this direct heat which kills the white pigs, leaving the black ones safe, because of the unharmful absorption of the heat by the black skin. It is the same with the cattle. A sheet strapped over the cows will so modify the sun's heat as to keep the animals comfortable and avoid the loss of milk which would otherwise happen with unprotected animals. It is on this account that the pastures in the South should be made under the shelter of spreading trees, or the soiling system be practiced. Everything here favors the winter dairy with open pasture for the cows, which are able to be in the open field seven-eighths or more of the time during the winter. Thus it may be said that all risks, every way, may be avoided by bringing cattle to any part of the South from November to April, and protecting them from the direct rays of the sun, notwithstanding the ticks.

Macon County, N. C. H. STEWART.

R. N.-Y.—We are informed that the business of stock-growing and fattening in the Middle South is assuming large proportions. We expect to give our readers all the facts concerning the business.

NINETY DAYS FROM THE WILD MARSH. TAMED BY A CELERY CROP. Fig. 262.

HORSE SHOE FARM NOTES.

GEMS OF HEALTH OR GERMS OF FEVER.

"It will soon be Thanksgiving Day! Have we anything to be thankful for?" I overheard one boy say to another. The remark set me thinking. At first, the low price of our principal crops suggested itself. It takes a good deal of labor to bring in a few dollars, then the unbearable antics of an irresponsible hired man, and a much needed improvement hindered by the rainy weather, came into my mind, and it did seem as though I did not need the news that a brother had been taken with typhoid fever to make a feeling of thankfulness difficult. I suppose that it is human nature always to look at the troubles first, but it is very uncomfortable. I am thankful that I am a farmer. No threatening whistle sounds the warning, every morning, "Be on time or lose your job." I am not dependent on any man's whim or favor for a way to provide for my family, and my work is of a nature to bring out all that is best in me.

Not long since, I was in the shops of a large plow manufacturing company. One man was sawing out plow beams. He was working by the piece, and had been doing it so long that he had learned to do it in the quickest manner possible. The stick was not pushed an inch farther, or turned once more, than was necessary. He had been doing that and nothing else for 10 years. His motions were as perfect as the rest of the machine of which, in reality, he had become a part. What a life! To do one thing without change for 10 years. No new ideas, no growth, nothing but monotony. Excuse me! In another room, huge stones were revolving rapidly, throwing dirty water all over the attendant who, clad in nothing but a pair of black, dirty cotton trousers, was pushing a heavy swinging frame, back and forth, back and forth, day after day, for years. In the frame was fitted a moldboard which was being ground and polished. As it swung back and forth, the grinding wheel flung from it a fiery stream, which lighted up the dark, lonesome corner, revealing the sweaty, swarthy, grimy fellowman, who is thus heroically toiling for daily bread. I came out of the work rooms thankful that my life is in the clean fields. Should the shop shut down, I would not suffer, for our cellar is full of stores, gathered from the fields, and there is enough to last till they grow again next season.

Our membership in the reading club secures to us for $2 all the leading magazines and papers. Instead of wondering what we shall do if the work fail, we can eat, read and rest in content. Last, but not least, should we be thankful for health. As long as we are not sick, how little thought or attention do we give the matter. When the days lengthened into months, last spring, and I tried in vain to lift my foot from the floor, I said: "If I ever get well again, I will not grumble at anything." My friends, as you look around your family circle and see the beloved wife smiling, healthy, and, perhaps, happy children, think what it would mean to see one of them burning up with a fever. Thank God in your heart that they are well, and never mind the low price of apples,

Because they are well now and you can be thankful, do not become careless. You know that drain needs renovating. "She" has reminded you of it often enough; women are cleaner than men, but they can have fevers. You did mean to fix it, but, but—didn't.

"The cistern does not need cleaning, for fresh water runs into it every time it rains," said one well-meaning friend. A disagreeable odor and resolute wife compelled him to take off the somewhat dilapidated cover. A dead skunk explained the odor and confirmed the wife's opinion that men "needed watching."

Wells are numerous, that from their position must receive drainage from barnyards and outhouses. It is said that water soaking through soil will purify itself in going 10 feet. If this is so, which I doubt, it must be fresh soil. After water has worked through unbroken soil until little passages have been formed, there is no purifying. Typhoid fever is produced by a germ. That germ can be carried any distance in water, and even oysters that feed in waters containing the wastes of the city, become infected, and if eaten by man, produce fever. That germ, when dry, can be carried any distance, and if breathed in by any one who is weakened by care, work, exposure or a cold, will germinate at once. The chief danger is, however, that this floating germ will drop into that drain, cistern, rubbish pile or any other spot where there is decaying organic matter, and at once breed fever germs enough to produce an epidemic. Even that spring of cold, pure water of which you feel so secure may have some rotten leaves, or decaying sticks lodged in some crevice during high water, that offer a home to this terrible germ.

Do not delay because cold weather is coming on. Cold and frost do not kill these germs. Cold water or cold air is not necessarily pure. Clean out that drain and give it a thorough priming of chloride of lime, or better still, fill it up and place a barrel on wheels in its place, only be sure if you do, that you empty it yourself. Clean out the cistern and whitewash it inside and out. Put a big chunk of stone lime in the spring after a careful cleaning, and let it soak for a day. If the well is on lower ground than the barnyard or outhouse, move one or the other. Have a bored well that goes down below the first seam of rocks; it's so small that nothing can get into it from the surface. Somewhere in my travels, I met one of these germs. My brother is a physician, and has had as many as 15 cases this fall at once. In some way, he has got one of these germs into his system. From the effects on myself and him, I am anxious to awaken interest in and watchfulness over the house supply of water, and disposal of wastes.

C. E. CHAPMAN.

WHAT THEY SAY.

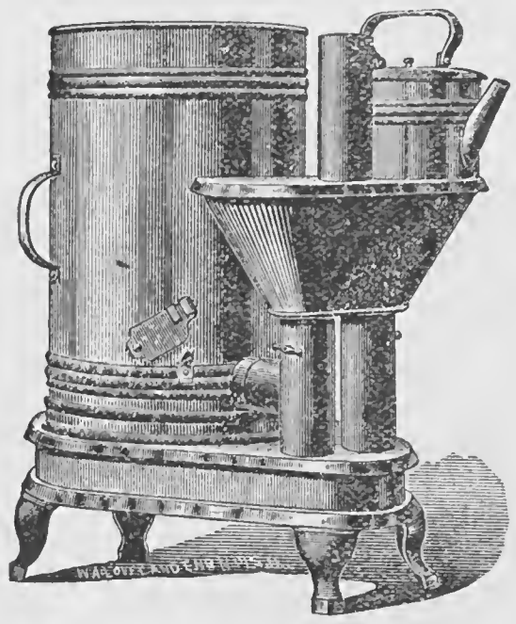
CORN OR HARD WOOD.—It was my fortune to live west of the Missouri River from 1880 to 1890, and I have frequently seen corn used as fuel. Dry corn makes an exceedingly hot fire, and lasts about as long as an equal bulk of wood or soft coal. At the comparative prices of corn and coal in western Kansas and Nebraska, it is frequently good economy to burn corn. To a resident of the treeless plains, there is nothing repulsive in the thought of burning corn for fuel; custom sanctions many things that seem extravagant at first sight. In fact, the first years after I came east to live, I thought it positively wicked to cut down sound, healthy hardwood trees for fuel. Should the Nebraska man repent the burning of his corn, but few months will be required to refill his cribs; but if the New England farmer put ax to his maples and birches, a half century will elapse before a new growth will have taken their places. It is a source of frequent regret with me that the pioneers of the East, in their zeal and haste to clear their farms, cut everything clean as they went, and now we see many farm homes in the open field, not a tree or a shrub within 40 rods of the house, as bleak as the homesteader's cabin on the plains of the West. A little forethought and care might have left giant oaks, elms and maples to shield the home from the glaring sun in summer, and the howling winds in winter. Plant corn for present necessity, and plant trees for posterity. C. W. SCARFF.

Vermont.

Crimson Clover Hay for Stock.

We have seen the little Government bulletin on this subject, and also your answer to W. W. H., page 753, both warning against feeding this hay when made from matured or nearly matured plants. That there is some danger we do not doubt, but that it may be minimized by some means, or that it is not so imminent as to warrant withholding it from horse stock, I am sure. At this station, there has been raised more or less Crimson clover every year for six or seven years. For five years, some seed has been thrashed, and the straw and chaff fed mostly to a horse and pair of mules. Whenever there has been ensilage to feed, these three animals have been fed ensilage twice daily, and as long as the Crimson clover straw and chaff lasted, their last feed each day was of that material. It served the purpose admirably. It is better than the Timothy and mixed grasses hay we could buy at $17.50 to $21 per ton, and served to "balance" our ration of corn ensilage.

We are so far from fearing any evil that we expect to feed, at least six months of 1897 on similar Crimson clover straw, or earlier cut hay, but shall not be too sure until our clover escapes all the vicissitudes of the season. If the danger be very imminent, then the division of each day's feed by the mass of heavy, damp ensilage was an effectual preventive of harm.



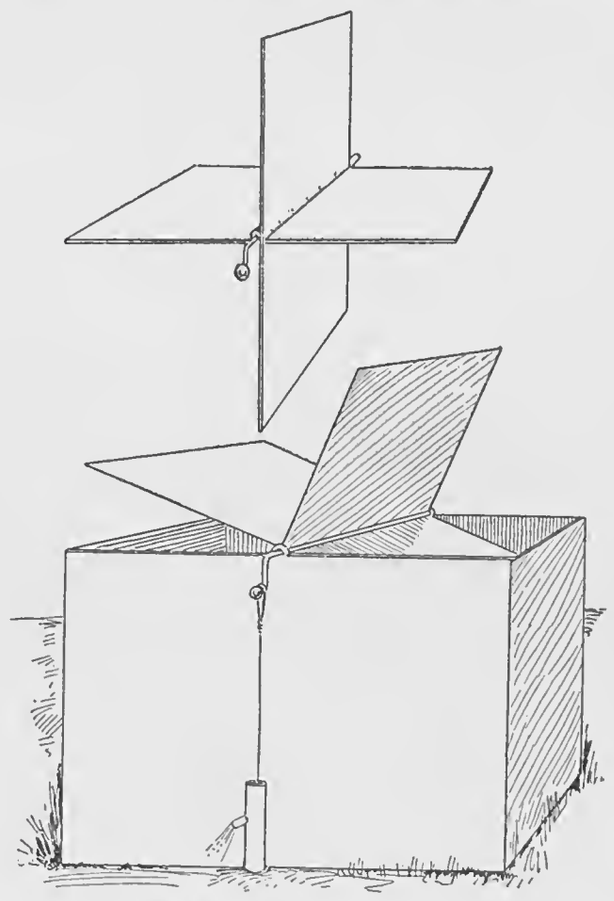
A STRAW-BURNING STOVE. FIG. 263.

We do not deny the danger, but if it exists, behold in ensilage a considerable portion of the ration, or perhaps, if the straw or late hay is soaked until limp before being fed, the same effect may be attained. But we rather think of the one daily meal of straw and chaff or hay as carried past the possibility of clogging by the heavier mass of the next two meals of ensilage before another meal of hay or chaff is eaten. This it seems would prevent any accumulation of material which could clog in the stomach. FRANK E. EMERY.

North Carolina Experiment Station.

Some Notes from the West.

STRAW-BURNING STOVES.—The notes about burning corn for fuel in Nebraska, have called out considerable comment from our western readers. A friend in South Dakota sends an account of the stove pictured at Fig. 263. This is designed for burning straw or stalks, and is said to give good satisfaction, as it produces a hot fire, or may be fixed so as to carry a mild heat for some hours. This stove will burn hay, straw, cobs, or other light materials, and, as the picture shows, may be used for cooking, if need be.



A HOMEMADE WINDMILL. FIG. 264.

HOMEMADE WINDMILL.—We are located on the Platte River bottom, which here is about nine miles wide. A more fertile country does not exist; the great drawback is lack of rainfall some seasons. That is being overcome in this (Dawson) County by irrigation; many miles of ditch are now in successful operation. Some windmill plants are also doing good service on a small scale. We use sandpoints driven to the depth of 16 to 24 feet, where we get an endless supply of water. Windmills may be turned on and run the year around, and never affect the water supply. A great many in this part of the country use homemade windmills, of which I send a drawing, see Fig. 264. An old buggy axle is used for the shaft, which is set in boxes at the top of the tower, which is a square box. Our prevailing winds are north and south, so the mill is set to face that way. It will run with any wind except a direct side wind. The cost of such a mill is about $6, and answers the same purpose as a high-priced mill. By using large tanks or reservoirs, water may be obtained for irrigating small areas at very little outlay of money, by using this device. E. O. B.

Overton, Neb.

R. N.-Y.—This form of windmill is called a "go-devil" in some parts of the West. As will be seen from the picture, it is a box without top or bottom set firmly on the ground. The "windmill" is made like an old-fashioned water wheel, and is set on the box so that the upper surface is exposed while the ends of the box protect the lower parts. The wind, blowing over the top of the box turns the wheel over and over, since the blades outside of the box are the only ones that feel the wind.

FUEL IN NEBRASKA.—Corn will be burned in this part of the State quite extensively, unless the price take a boom. In fact, I have already sold several bushels to parties to burn. It makes a very intense heat, but it is not exactly the best fuel for a new stove, since there is so much oil in it that it seems to burn out the inside grating. I think that your correspondent from Lincoln is in error when he states that shelled corn sells for one cent less per bushel than ear corn. It is the reverse here, as most parties who own shellers here will take the cobs for the shelling, and the farmer would hardly shell his corn at a loss. C. V. D.

Tecumseh, Neb.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

The Life of the Peach Borer.

J. O. B. E., Setauket, N. Y.—Will you give a brief description of the Peach borer. At what time, and in what way, does it injure the trees? How can its presence be detected?

ANSWERED BY M. V. SLINGERLAND.

The Peach borer is a common name properly applied to a white, grub-like caterpillar, about an inch in length when full grown, that is often found in a burrow which it has just eaten out just beneath the bark on the large roots, or base of the trunk below ground, of peach trees; a similar borer sometimes works on plum trees. When a healthy growing peach tree is injured it always exudes more or less sticky, mucilaginous gum at the point of injury. This fact renders it easy to determine whether a peach tree is infested with borers. Oftentimes so much of this gum exudes from the injury of the borer as to form a ring around the tree on the surface of the ground; I have seen a large handful of gum exuded from the injury of one borer on a small peach tree. Sometimes the borers work so far below the surface on the roots that the gum does not come to the surface, but if a little of the soil be removed from around the base of the tree, this tell-tale mark of the enemy will soon be seen. No gum ever exudes from the work of the Apple borers, which are quite different insects and work farther into the solid parts of the wood of the trunk, only revealing their presence by throwing out sawdust from their back door or entrance holes.

In the latter half of the last century, the Peach borer was recognized as the most destructive peach pest, and it has the same reputation to-day. People think that they can not grow peaches now in many localities in New York and other States where the finest crops of this delicious fruit were grown to perfection years ago. In most cases, I believe, the fault is not with the supposed changed climate or the tree, but is with the man, for he fails to give the tree the proper care. "Timothy yellows," as Prof. Roberts aptly puts it, meaning lack of cultivation, and allowing the orchard to grow up to weeds and grass, and the unchecked ravages of this Peach borer, are the principal reasons why the peaches won't grow as they used to do in these localities.

The white, grub-like caterpillars of this Peach borer may be found in the trees, almost always just below the surface of the soil, at any time during the year. In the fall and early spring, they will be small, ranging from one-fourth to one-half inch in length. Their small size, and the fact that their then slight injuries to the tree have caused but little gum to exude, render it more difficult to find them to dig them out at these seasons of the year. From the middle of

June until the middle of July is the best time to dig out Peach borers in New York and similar latitudes. Why? The caterpillars mature about July 1 and, coming to the surface of the soil, they spin about themselves a cocoon, made of silk and sawdust from their borings; this cocoon is usually attached to the bark of the tree at the entrance to their burrows. In this cocoon, the caterpillar soon transforms to a brown, apparently lifeless object, called a pupa. Two or three weeks after the caterpillar spins its cocoon, the pupa pushes its way about half way out of its home and, its skin splitting open down the back, a beautiful wasp-like creature emerges; it is the adult insect, one of our prettiest moths. The female moth looks very different from its mate. Their expanded wings measure nearly an inch from tip to tip, and they have considerable resemblance to the large, blue wasps common in our attics. Usually moths have their wings covered with scales, but there is one group or family known as the Clear-winged moths, and to this family our Peach borer (Sanmina exitiosa) belongs. In the male moth, all of its four wings are transparent, barring only a few blue scales around the margin, and in a narrow stripe running nearly across the front wing; the body a dark, bluish black, with some narrow yellow stripes on the thorax and around the abdomen. The females, which are usually a little larger, have their front wings thickly covered with dark blue scales while their hind wings are clear; their bodies are of the same dark blue color, but a broad, dark orange-colored band passes around the abdomen. The moths fly very swiftly during the hotter parts of the day, and frequent flowers, thus increasing their resemblance to wasps. Usually most moths that we breed emerge in our cages during the night, but the Peach borer moths invariably appear during the day.

The adults of this peach pest begin to emerge from their cocoons at Ithaca, N. Y., about July 15, and most of them are out by August 1; but stragglers continue to appear for two or three weeks later. The females soon lay their small, brown, hard-shelled eggs on the bark at the base of the tree or, possibly, on the ground around the base. The young caterpillars, doubtless, hatch out in a week or 10 days, and begin their destructive work under the peach bark. Their work continues until cold weather sets in, when they ensconce themselves in a loose, cocoon-like home, and there remain all winter without feeding. They seem to begin work again in our latitude about May 15, varying, of course, with the forwardness of the season. From this time on they feed much and grow fast; I have seen caterpillars not over one-fourth inch long on April 19, get their full growth and transform to the moth by July 20. Thus most of the damage is done by the borer in the spring, in May and June, when it gets most of its growth.

This brief life-story of this insect shows that there is but one brood of the caterpillars each year, the one-fourth or one-third grown ones wintering over. The insect is destructive only in the caterpillar stage, as the borer, and, as it works beneath the surface, it is difficult to get at it with remedial measures. Several borers often work in the same tree. I have dug out 13 borers from a tree less than two inches in diameter. Fortunately, the peach tree heals quickly and will thus endure and recover quite rapidly from the attacks of several borers or from wounds made by a knife in digging out the pest.

As to what is the best method of fighting this pest, I am not yet sure but that the "digging-out" method will have to be our main reliance. There can be no question about its effectiveness, and it is the method now relied upon by our most successful peach growers. Dozens of different washes have been recommended to prevent the borers from gaining entrance to the tree, or to dissuade the moth from laying her eggs near the trees. But after three years' experience with all of these washes on about 450 young and badly infested peach trees, I cannot yet feel safe in recommending any of them; most of them are entirely useless. This experiment is still in progress, and is the only extensive, careful and scientific trial ever made of washes for Peach borers. We are trying everything recommended, and anything else that may suggest itself to us; and we shall continue the experiment for a year or more longer. The German caterpillar lime (Raupenleim) and its American imitation, Dendrolene, are among the most promising substances yet applied, so far as preventing the entrance of the borers is concerned; but we have killed several trees and injured many others this year, with applications of these substances; and similar reports from other experimenters have recently appeared in THE R. N.-Y. Therefore, I can only advise, at present, the digging out of the borers between June 15 and July 15, or earlier in the spring, and in September or October in the fall, if one can then find the little caterpillars. Many of those who report success with washes against this insect, admit that they first dig out and kill the borers before applying the wash; and then they confidently attribute their exemption from borers to the wash!

To be effective, a wash must have the qualities of forming a good, continuous coating over the bark from July 15 until September 1, and it must not contain anything that will injure the tree. We once killed several young trees within two weeks by an application of a mixture of Paris-green and glue. Washes containing lime usually crack and peel off in a week or two, and we have thus found them quite ineffectual. Dig out and kill the varmints for a year or two longer, when we may be able to tell you some easier way to get at this king of peach pests.

The "Strawberry Barrel" and "Black Bugs."

S. H. W., Weston, Mass.—In the directions for planting strawberry plants in barrels, a linseed oil barrel was recommended. There must have been some mistake, or the barrel that was used was an uncommonly large one, for I used a common linseed oil barrel that was two feet in diameter in the center, making it about six feet in circumference. I followed the directions, and I could get in only 16 plants to the row, and five rows made 80 plants. Some one asked how to get rid of the little black beetles that eat the strawberry leaves. I have grown strawberries 40 years, and have had some experience with these bugs. I find nothing so effectual as small chickens. Shut up the mother hen in a coop and let the chicks run at large over the vines. Small chicks won't hurt the vines, and they will eat lots of insects of all kinds, but are particularly fond of the little black beetles; 25 chickens will soon clear an acre of strawberry plants.

ANS.—The article on the barrel culture of strawberries was written from the description given me by the man who introduced the method in our town. The mistake referred to was due to my not understanding him, and not having in mind the size of the barrel. It should have read, "Eight rows of plants around the barrel and 17 plants in a row," thus making the plants about four inches apart each way; but the arrangement of the plants may be varied to suit one's pleasure. When the barrel is filled with plants, all that is then required is to put in sufficient water to keep the soil in it moist, and in winter some posts may be driven around it, and some straw put around it to protect it from too hard freezing.

W. H. JENKINS.

Strawberry Culture in Florida.

F. J. W., Bartlett, Tenn.—What are the best points in Florida to raise strawberries for early shipments to northern markets?

ANS.—The strawberry grows well in nearly all parts of Florida. The climate and the soil are such that the management of a strawberry plantation here is quite different from the management in the northern States. Plants are set in the fall, in September and October, giving the largest crop in March and April following. New plants are grown during the summer, and new plantations are made during the fall. A good deal of fertilizer is used, as most of the land is somewhat sandy.

At Starke and Lawtey, in Bradford County, in north Florida, there are, perhaps, more strawberry growers than in any other locality in the State. These growers seem to do well. There are now so many of them, and they have so large a crop, that they have some advantage in the way of transportation, which is, of course, a very important matter. One who intends to go into the strawberry business here should look carefully into the transportation before he buys land. There seems to be no doubt that knowledge and industry will bring success in strawberry growing in this State. This has been abundantly proved. While I have mentioned Starke and Lawtey because of the prominence of this industry in that section, so far as climate and soil go, that section is no better than the whole of north Florida north of an east and west central line. Even south of that central line, strawberries do well, the main drawback being the lack of transportation facilities, and the cost of getting the crop to market.

O. CLUTE.

Florida Experiment Station.

"Divining Rods" and Hidden Treasure.

Subscriber, Delaware.—I inclose a circular and some testimonials received a few days ago of certain "magnetic mineral rods" for locating hidden treasure. I know a place where money is supposed to be buried. Will these rods locate the place as the circular claims?

ANS.—The circular contains pictures of these so-called "rods", and states that they "work like a compass." They "will not mislead the operator in the direction of water," but will surely find "the exact locality of the treasure." We would not buy any so-called "magnetic mineral rod," or "dip needle." These divining rods are relics of a former age of superstition. They cannot in any manner reveal treasure, springs of water, or anything else. A short time ago, one was taken to a certain large geological museum, and the victim told to find gold with it. None was found; but gold was in considerable quantities in various parts of the room. It is true that the magnetic needle is deflected by certain agencies in and on the earth. Gold and silver are not among these agencies. In the Literary Digest, of June 8, 1895, an account is given of a vast bed of iron under the city of Moscow, Russia. This bed was found by the magnetic needle and other instruments. It was calculated to be seven miles below the surface of the earth. In their circular, the company quotes an article entitled "Minerals Located by Magnetic Needles." Possibly the account is true, but it relates to iron, and iron only. No other mineral is mentioned, but the company apparently thought that the little word "iron" which appears only once would be overlooked by the prospective treasure hunter. Magnetic Mineral Rod and Spanish Dip Needle are two fine sounding names for the old witch hazel water and ore finders. The time spent on a wild goose treasure hunt could be more profitably spent tilling the soil.

A Balanced Ration Worked Out.

J. W., Springfield, Ill.—How shall I feed the following, and have a balanced ration: Corn ground cob and all, cost, $6 per ton; bran, $10; oats, 20 cents per bushel; oil meal, $25 per ton; clover hay, $6 per ton; Timothy, $8.

ANS.—Let us see what average specimens of these foods contain for each 100 pounds:

POUNDS IN ONE TON.

	Muscle-makers.	Fat-formers.	Pure fat.
Corn and cob	130	1,125	56
Bran	240	825	56
Oats	180	960	80
Oil meal	560	640	140
Clover hay	135	700	32
Timothy hay	56	860	28

This comparison is made on the basis of the average amounts of digestible matters in these foods. As between clover hay at $6 and Timothy at $8 per ton, there can be no choice. Good clover is always worth, weight for weight, 50 per cent more than Timothy for feeding cows. Clover at $6 per ton is the best roughage you can get, and we would feed to each cow, at least, 15 pounds per day. Of the grain foods, at the prices named, bran is the cheapest, but we would use a mixture made up of, say, one part oil meal, three parts cob meal and four parts bran. The clover and cob meal are constipating foods, while the oil meal and bran are laxative. We would take this mixture as a basis, and vary it somewhat after watching its effect on the cows. The muscle-makers and pure fat are the most valuable parts of the food, and in making comparisons of value, these substances are the ones to consider.

Strong Food for Poultry.

J. R., Derby, Manitoba.—I am feeding my poultry dried blood in boiled wheat with bean soup in place of milk. Is this good feeding?

ANS.—We should consider this ration too strong, though we do not know how much of the blood you feed. Judging from our own experience and observation, we should not feed more than one part of blood to five of wheat. The best use of blood is to balance some bulky food like potatoes, or some concentrated, starchy food like corn. As to bean soup as a substitute for milk, the following comparison is, probably, a fair one:

POUNDS IN 100.

	Muscle-makers.	Fat-formers.	Pure fat.
Milk	3½	5	4
Bean soup	8	20	½

This means a pretty fair sample of milk, and a thick bean soup, thicker than is generally used on the table. If a piece of fat beef were boiled with the beans, the per cent of pure fat would be increased, but though the bean soup is "stronger" than the milk, we do not think that it will prove a substitute for it. With all the skill of chemistry, we are never able to make an artificial mixture that can equal milk as a food.

Swelling on a Mare's Neck.

J. N., Newark, Del.—My mare has a lump about the size and shape of a dessert saucer, on the neck just back of the bridle head piece. Can I remove it by any application that will not cause a severe blister? I had a good veterinarian about four years ago and blistered it, which removed it for, probably, two years. He said that it was not poll evil. The lump does not appear sore, or to cause any inconvenience, but it is a blemish and is growing, with a smaller one on the other side of the neck; that is, one on each side of the top of the neck about two inches back of the ear. The mare is eight years old and sound in every other respect.

ANS.—An active blister would, undoubtedly, give the best results. The compound tincture of iodine, applied two or three times a week, is often effectual, but requires longer time. Since you have already once removed the swelling by blistering, the wisest course, in my opinion, would be to repeat the same treatment.

F. L. K.

Lumpy Jaw or Tuberculosis in Cattle?

H. W., Fennville, Mich.—A valuable cow of mine has a large lump, about the size of a man's fist, under the lower jaw; it is not very hard yet, but as it has been there only a short time, it may harden more. She eats well, and gives a good quantity of milk. I have read and heard a good deal of lumpy jaw in cattle, and am afraid that this may prove serious.

ANS.—If not due to an injury, in which case it will be liable to go away without treatment, it is more likely to be an enlarged tuberculous gland, than lumpy jaw—actinomycosis. I would advise subjecting the cow to the tuberculin test for tuberculosis, if there is a competent veterinarian near you, who can conduct the test. Should it prove not to be tuberculosis, and its continued growth indicates lumpy jaw, give the iodide of potassium treatment. The dose of the iodide is one to two drams, to be given once daily in the feed and continued for a week or 10 days. Then omit for two or three days, and repeat as before until a cure is affected. If symptoms of iodism occur, as shown by loss of appetite, weeping eyes, and a general catarrhal condition of the mucous membrane of the nose and throat, the iodide is being given in excess and should be withheld for a few days. The bowels should be kept moving freely by a laxative diet, roots, bran mashes or other sloppy food, or an occasional dose of glauber salts if necessary. F. L. K.

THE INFLUENCE OF HORTICULTURE UPON LITERARY LIFE.

Parts of E. S. Carman's talk before the Literary Club of New York, November 18:

I would be glad if the Club and its guests would consider this question from a practical point of view. We all know that horticulture influences literary life. We do not need to prove it. What we should aim at is to have it influence literary life a hundredfold more than it does or has ever done. No more telling or refining influence could be brought to bear upon literary life.

Until a subject is pressed upon us in some way, we are unlikely to give it due attention. How many of us, for example, realize that the beauty of this little world of ours, or what we regard as beauty, rests almost wholly in plant life, and that all animal life is wholly dependent upon plant life? Without plant life, animal life could not exist — could never have existed, except under different conditions of which we cannot even conceive. Well, what is horticulture? A very essential part of plant life. Then it may readily be admitted that the "Influence of Horticulture upon Literary Life" is second to that of no other influence whatever.

It is a pity that terraculture is not a popular word—the culture of the soil of the earth. We may fairly divide it into two classes; agriculture, the culture of edible plants in the field, and horticulture, the culture of all other plants whether in the field, about our homes, or in the so-called garden.

If I wanted to educate my child so that he would be best fitted to make his mark in literary life, and do the most good as a writer or speaker, I would seek to interest him in horticulture, using the word in its broad sense, more than in any other study, and this, too, whether he were to be a minister, a lawyer, a politician, a physician, a historian, a scientific writer, a poet, or a novelist. Why? Because it is the study of God's own most fascinating Nature, and stimulates us, more than any other one study, to study all other studies, and that, too, from a growing motive of benevolence, a refined sense of doing good for the sake of doing good, and from a desire to get nearer to Nature's Creator. May we claim the same for mechanical, mathematical studies or the study of the languages? Now, my friends, I am not going to weary you with further generalities.

I have been the editor of a rural paper for nearly 25 years, and I have been successful beyond any hopes that entered my head in those early days. What led to this sort of literary life—a life that, in my case at any rate, has proved singularly free of worry, solicitude, overwhelming disappointments and the jealousies and hatred that are too often a part of success or failure in other literary vocations? First, a study of botany; next, the pleasures of gathering and tracing native plants and grasses; next, collecting all of the choicest ornamental shrubs and trees suited to the climate of our country home; last, crossing or hybridizing plants. From this last, I have derived more real comfort, delight and cumulative incentive than from any other study or work of my life, and it has been chiefly a work of love. At the age of nearly 60, my regret is that time flies quite too fast, and I am warned that, while the spirit was never before so anxious to keep up and go on with this fascinating work, a marked indifference on the part of the flesh is beginning to manifest itself.

It is natural enough that we should love our children, because we created them and because they are part of our flesh and blood. But it is natural, too, that we should feel a deep interest in the plants—whether economic or ornamental, which we create, though not a part of our flesh and blood.

We now know that we may change plants by cross-breeding just the same as we may change animals by a judicious or injudicious selection of parents. The field, however, in the vegetable world is infinitely greater—more varied—than that in the animal world, because the genera, species and varieties, are infinitely more varied.

Well, I am bold enough to assume that my audience may be interested to know what plants *I* chose in my early days, and partly since, as the parents of my purposed creations. In this brief presentation, I may touch upon only a few of them.

My first essay was with pelargoniums, or geraniums as they are popularly called. These plants might well be selected by those who would begin the work of crossing. I dare say that any sunny window—even in the city—would answer the purpose, and I would beg my fairer hearers to bear this in mind. I procured all the best varieties of those days—the plain-leaved and the tricolors—several hundred in all. I worked at them for two winters, the result being some 5,000 cross-bred seeds; and from these seeds nearly 2,000 seedlings. I could not tell you all that was interesting and instructive about this wholesome work in an evening's talk. There were strange forms, deformed leaves, peculiar flowers, all sorts of variegations—yet there were less than a half dozen plants, superior in all ways to their parents.

A disappointment? Yes, truly; but a disappointment that goaded one on to further disappointments, or to possible successes. This led me to field and garden work. My next endeavor was to cross wheat and rye, which, in so far as we know had never been attempted, as, botanically, they belong to not only different species, but genera. The result of my first season's work was nine hybrid seeds. These were carefully planted in the early fall and carefully protected.

Judge of my joy and surprise when, the next year, eight of the nine plants (one died) bore heads as different from one another as rye is different from wheat. Every year since, until the present, the work of inter-crossing has been continued. Upwards of 20 varieties have been introduced. Some of them are distinctly neither rye nor wheat. The great trouble has been that they would not become fixed. They still vary from year to year, and it is quite problematical whether these new cereals will or will not prove of more value than the best kinds of wheat.

I must pass over my failures and successes for several years, to dwell upon what may most interest my audience. Many of you are familiar with the Japan rose, Rosa rugosa. It is among the hardiest of roses. Its foliage is charming, quite different from that of all other roses. The leaflets are very large, thick—almost leathery—and wrinkled, so to say; hence the specific name rugosa. It blooms during the entire summer and fall. The flowers are single (five large petals), white in one variety, light pink in another and about three inches in diameter when fully expanded. The bud is pointed. * * * I could not learn that any crosses with this and other roses had ever been attempted. An inquiry in the London Garden failed to call out any replies to the contrary. Rosa rugosa bears seeds freely. The fruits or "heps", as often called, are large and when ripe, of a bright red color, and these fruits persist until after severe frosts. We made the pink rugosa the mother and in our first efforts, used the pollen of Harison's Yellow—an Austrian rose also of extreme hardiness. This bears double yellow flowers during June. The leaflets are notably small. Many viable seeds formed which gave us a dozen plants the next spring. The very first to bloom bore leaflets closely resembling the thick, beautiful leaflets of the mother. Now, my friends, judge of our surprise and delight when this hybrid developed buds closely resembling those of Gen. Jacqueminot. The buds unfolded. The flower was semi-double and so closely of the fragrance and color of Jacqueminot, that the one could not be distinguished from the other. It blooms more or less during the entire season. Here was a revelation to be sure. The father has small leaflets and yellow flowers. The mother large leaflets and pink, single flowers. The child has leaflets larger than the mother's and dark red flowers. Nature, in this instance, combined pink and yellow to make a dark red. We have kept up this work every season since, using Teas for the pollen parent, hoping to get a yellow flower with rugosa foliage. Thus far, we have failed. It would take an entire evening to tell you of the remarkable seedlings we have grown—few of them of any value except as curiosities and as alluring one on and on to develop the hidden possibilities of rose hybridization.

Most of my hearers are aware that some plants bear male, others female flowers, others both male and female, though in separate flowers. Of the last, the corn plant is the most familiar illustration. The "tassel" bears the male or pollen flowers, the "silks" are the pistils of the females. Every kernel has a so-called silken thread — the pistil. Every silk must, when receptive, receive pollen from the tassel, or there will be no kernel.

A familiar example of plants, some of which bear female or pistillate flowers only, some of which bear both stamens and pistils, is the strawberry. If we make beds of the pistillates only, far away from the perfect or pollen-producing kinds, our plants will be utterly barren, except as insects may carry pollen from neighboring plantations. It would be very easy for our friends to cross strawberries either in the country or in the city yards. The seeds germinate as freely as do those of poppies or balsam, and the seedlings usually fruit the second year. *Oh*, the pleasing watching and the waiting for our vegetable

(*Continued on next page*).

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RURALISMS—Continued.

children to show us what they are like! If they prove to be children of which we are not proud, there is nothing to cry over. No harm is done. We'll try again and again, until at last, it may be, we succeed in originating a fruit conspicuously better in some or all ways than has been born before. Then we may justly feel that we have succeeded in making two blades of grass grow where but one grew before.

Horticulture leads to a study of entomology, bacteriology, ornithology, chemistry, medicine, etc., directly of course. But it must certainly influence most branches of so-called polite literature as well; the literature of philology, history, religion, and poetry, and all writings distinguished for beauty of style or expression.

I assure you, my friends, I am absolutely "*gone on*" horticulture and its enchanting possibilities; and the older I grow the more I am "gone." I doubt not that the time is not in the far future when I shall be so "gone" that I can not "go." Byron's Maid of Athens is familiar to all:

> Maid of Athens 'ere we part,
> Give, Oh! give me back my heart,
> Or, since that has left my breast,
> Keep it now and take the rest.

Etc., etc.

There was "onee upon a time", in this very city, a young man who was deeply in love with a young woman. It is *absolutely* so! The man's name was Mr. Literary Life; the woman's name was Miss Horti Culture. They were together one evening—and it was growing late. She *yawned*. He said:

> Maid of Gotham I am *gone;*
> Think of that, Sweet, when alone—
> And—what's more—I'm gone on *you*—
> Think of that sweet maiden too.
> You yawn; that 'tis late I know.
> But I'm so gone I *cannot* go.

That's what I trust may happen to you, members and guests of the Literary Club, and I further trust that you will so impress Miss Horti Culture with your sincerity and devotion that she will never give you cause to regret that you fell desperately in love with her, and may it be long ere you go so far that you may not go further.

Fresh Sawdust as Mulch.

PROF. E. S. GOFF, MADISON, WIS.—I do not recall any experiment in the use of a heavy mulch of fresh sawdust for peach or other trees, and I should much prefer to expose the sawdust to the weather a few weeks or months before using it. I have noted that young trees and other plants do not start freely about sawmills where sawdust has been liberally spread upon the ground, and while I am by no means certain that any evil effects would follow the use of fresh sawdust as a mulch, I should hesitate to use it except in a limited way as an experiment.

PROF. W. F. MASSEY, RALEIGH, N. C.—Let the sawdust severely alone. It would have to be rotted to the state of perfectly black mold and then be composted with lime before I would use it for any manurial purpose. Better burn it if practicable, and put the ashes on the land. The evolution of organic acids from the sawdust would do more harm than the mulch would do good. Sawdust is of no value whatever on land till completely decomposed, and then acted upon by lime.

DR. E. H. JENKINS, CONNECTICUT STATION.—Sawdust may be used as litter for cattle with no bad effects on the land. There seems to be a popular tradition that fresh sawdust poisons land or is injurious to crops, but I have never been able to find a single authenticated case of the kind. I do not see why hard-wood sawdust should be any more injurious as a mulch than straw or leaves. Your correspondent can be of service to the community if he will mulch 10, 20, or 100 trees with sawdust in large quantity, and report results a few years hence.

DR. T. H. HOSKINS, VERMONT.—I have used both hard and soft-wood sawdust freely around my trees, having a wood-working establishment but a few rods off, and have never seen any injury from the practice. I should not, however, mix it with the earth around young trees in planting, as its rapid decay might produce fungus, and, certainly, will leave cavities, which would be very objectionable. My reason for using it as a sort of mulch is that it keeps down the grass and weeds, and is the cheapest thing for that purpose that I can get.

Carman Potatoes Are Mealy.

P. C., MILFORD, N. H.—In regard to Carman No. 1, we had about 22 bushels this fall, of the very best quality, the most floury and the driest potato we ever have eaten at this time of year. The only trouble is that, after eating it a few days, we do not want to go back to other kinds. We have not tried the No. 3, as we have only a few of them, but they look nice and smooth. R. N.-Y. No. 2 has done better with us this year than before, growing very large (considerable rot among them), but, as we grow them, they are not dry and mealy as we like a potato. Others that we let have seed think highly of them, but we think that the Carmans are far ahead of them.

Roses and Potatoes.

C. A. GREEN, ROCHESTER, N. Y.—Some years ago, THE R. N.-Y. recommended the Rosa rugosa rose. We at once secured two plants, and set them in a bed of shrubbery at one side of our front yard. These bushes have delighted us for several years. First, they are marvelous and vigorous growers, with bright green foliage never attacked by insects. Second, the blossoms have extended over a season of two or three months, more or less, scattering, of course, during the latter end of the flowering season. Third, the large red globes of fruit have held on until well into the winter. Fourth, we are enjoying, at the present hour (October 27), the golden hue of the foliage, which still remains intact upon the bushes, and is equal to that of almost any attractive autumn foliage, hardly excepting the dogwood. These bushes now stand fully five feet high, and cover an expanse of five feet in width. While the blossoms are single and will not attract close inspection as will the Gen. Jacque and Prince Camille de Rohan, I consider these two bushes a great attraction to my place.

For several years, I have read accounts of the Rural New-Yorker No. 2 potato. Not being a potato man, I resisted the temptation to secure seed. Not so with my foreman. He planted the Rural New-Yorker, and sent me a load of the potatoes. I found them of large size, fine shape, and of superior quality, but the most remarkable feature is that this potato will keep later in the spring than any other potato I know, and with less sprouts. While in the late spring our potatoes have sprouted several inches, the sprouts of the Rural New-Yorker have scarcely started. It is, also, a fine yielder. I consider it one of the most valuable late potatoes.

Strawberries Out of Season.

GEO. BITTNER, OHIO.—Strawberries out of season in northern Ohio are seldom heard of, although I have picked ripe berries six or seven months in the year the past three years. At this writing, I have green berries and blossoms under glass. An early fruiting season, a light crop, a good growth after fruiting, followed by a drought or some means of holding the plants dormant a short time, followed by a wet, seasonable fall, and the proper variety, are natural causes for a second crop. If nature fail to furnish the right circumstances, and one care to experiment along this line, he should apply artificial means. The proper variety for that purpose one must determine for himself. I have found the Crawford the most desirable with me, when grown with high culture. I fruited over 40 varieties the past season in hills, matted rows, and half-matted rows. Hill culture is desirable when one thoroughly understands the requirements. I think I keep far within the truth when I say that nine-tenths of those who grow their berries in hills have never given the proper care to insure the best results. A disinterested party counted 282 berries on one plant in my patch, and this after the crop had been nearly half removed.

Gasoline Explosion.

L. H. G., FLORIDA.—That gasoline explosion, page 726, is so utterly opposed to anything of which I have ever heard that I should be pleased if some more light could be had on the subject. I run 25 or so burners in one room, for weeks at a time, and as it is attached to the house, can get no insurance. If gasoline is so erratic, I desire to know it. I have investigated a good many so-called accidents, within the past five years, and every one was the result of carelessness. I have never seen it "jump" a foot from a flame or match, and don't believe that it would unless there were a large quantity. I consider it as safe as dynamite or powder, if fire be kept from it. Has Mr. Agee something more to say about it?

The Vineless Yam.

C. R. S., JORDAN, S. C.—In reference to the report of Mr. Alva Agee about the vineless yams, on page 738, in this section, after two years' trial, we are so well pleased that, in the future, we shall plant no other kind. Several of my neighbors planted them this year, and every one is delighted with them. They surpass every other variety we plant here in yield, they are equal to the best in quality, and they are much less trouble to make and gather. It is true, they have a short, stumpy vine, but nothing like the old varieties, and I don't think that we should condemn what is good because it isn't better. If Mr. Agee will try them another year, he will, probably, like them better.

Burning Corn in Nebraska.

J. L. G., HAZARD, NEB.—When corn ranges in price from 10 to 12 cents, as it now does, we find it cheaper for fuel than coal. The only objection is the fact that it burns and warps a stove much faster than wood or coal. Some object on account of its being a food product. But we must have warmth as well as food; and, surely, it is no worse to burn it for our personal comfort, than to make it into whisky, to feed the fires of his satanic majesty.

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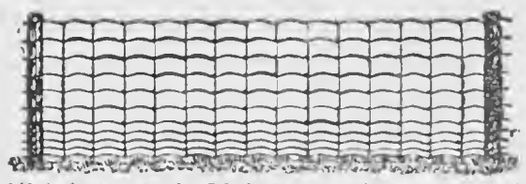
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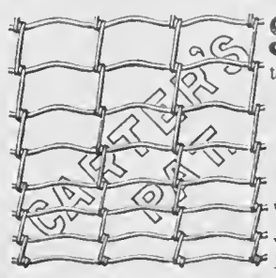

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Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, DECEMBER 5, 1896.

SIR WALTER RALEIGH POTATO.

Small tubers of this excellent potato will be sent to all subscribers who apply for it and send a two-cent stamp. The potatoes will be sent next February. A picture of this potato will be given next week.

⊙

AT the barn of the New Jersey Experiment Station, we found a pile of tobacco stems which were used as a bedding and absorbent. They cost $6 a ton, while their manurial value, as compared with other manures, is $10. Mixed with straw they make a good bedding. There is a bargain for you! It pays to know what these waste products contain. The man who finds out first reaps the advantage of a low price. The price does not rise until knowledge spreads and competition begins. Bones, ashes and other substances are considered wastes and are given away until their effects as fertilizers are so evident that dozens of farmers ask for them; that creates demand and the price rises. Get in ahead by studying the manurial values of wastes.

⊙

WE are receiving letters from good friends urging THE R. N.-Y. to support various men for the position of Secretary of Agriculture under coming President McKinley. At least 10 different men have been suggested in this way. As was stated last week, THE R. N.-Y. has no candidate to suggest; we think that Mr. McKinley may safely be left to make his own selection. We have, also, been asked to advocate certain men for the position of *Assistant* Secretary. This official has charge of the scientific work of the Department, and would naturally be selected by his chief. The character of the work is such that we would think that a valuable man should be kept in office just as long as he does efficient service. There should be no "politics" about such a position, and it seems to us absurd to "urge" the claims of any one for Assistant Secretary.

⊙

THREE years ago, THE R. N.-Y. touched up the small clique of men who were controlling the destinies of the Dorset Horned Sheep Breeders' Association. These men were, at that time, doing the best they knew how to injure the reputation of an excellent breed of sheep. They have, apparently, succeeded. We hear very little about the association now. Their official organ has, apparently, suspended publication, and the men who were accused of importing inferior grades and selling them as thoroughbreds, no longer advertise. The Dorsets had a genuine place in American sheep breeding, and if they had been honestly introduced, they would have been largely used. As it is, a few greedy speculators secured control of the association to further their own ends, and killed the bird that might have laid the golden egg.

⊙

LARGE quantities of Sap Sago cheese are sold in this country. It is retailed in little, hard cakes weighing about three ounces. It has the odor of a fertilizer containing a high per cent of phosphoric acid, but is very soluble, an excellent appetizer, and is highly esteemed by many persons. Each year Americans import about $700,000 worth of cheese from Switzerland alone, and the question is often asked why this money is not saved by making this cheese in America. With regard to Sap Sago cheese, the following note from Mrs. F. X. Bannert, a celebrated cheesemaker, will be interesting to many:

There is no Sap Sago cheese made, neither can there be any made in this country, for the reason that it is made with a combination of milk and herbs which are fermented together for months, and then pressed and the cheese made from the liquor. As the herbs grow only in Canton Clanis, Switzerland, the cheese is made only in that part of the country, and sent abroad from there. As the duty on the herbs is 25 cents per pound, while on the cheese it is only four cents, and as it takes a considerable quantity of the herbs to make a little cheese, you can see that it is impracticable to make it in this country, even if we had the process.

We are all familiar with the remark made by a Swiss dairyman to the effect that, in order to make Swiss cheese on this side of the water, we must first bring over the Swiss mountains and the Swiss air and soil. This is, probably, too large a job for the American dairyman to undertake.

⊙

THERE is a demand from poultrymen for good clover suitable for poultry feed. It should be the rowen—not the large, full-grown plant—be nicely cured so as to preserve its green color as much as possible, and be cut up short. So far as the latter part is concerned, many poultry establishments are now provided with clover cutters, so that they can cut the clover as needed. But the most of the so-called clover rowen sold for the purpose of poultry feeding, is poor stuff, and the farmer of enterprise who will furnish what is required, and then let people know it, will find a good demand awaiting him. Our old friend, Crimson clover, is even better for poultry feed than the Red, and a crop might be grown to sufficient size for this purpose in a very few weeks, and then marketed the same season as sown.

⊙

THERE used to be a time when the great majority of gardeners thought that they could not heat a hotbed without manure. The heat arising from the fermenting of horse manure seemed to them about the only available supply for this purpose. Now steam pipes are used with excellent success, and it is generally understood that manure is not an absolute necessity. Years ago, it was believed that stable manure was the only rational food for plants. Even at the present day, there are many who still believe that fertilizers will "poison the soil." Good farmers live and learn. Two things they learn about stable manure are that there are some cases where it does not pay to give money for it, and that it always pays to add potash and phosphoric acid to the manure pile. The plan of "feeding the manure pile" by using kainit and bone with the manure, is just as legitimate as is feeding the animal on certain foods because they have a high manurial value.

⊙

THE successful, progressive farmer must look a long ways ahead in planning rotations, anticipating probable demands, etc.; even then, his calculations sometimes come amiss. But other trades suffer in the same way. Seed growing is one branch of farming. One of the great seed firms in this city employs regularly about 100 hands, and in the busy season, double that number. It also has large quantities of seeds grown on contract. Its plans on many varieties must be made two or three years ahead. The demand doesn't always prove what was expected, and a glut of those varieties results at great loss. Last spring, large quantities of potatoes which were grown on contract at extra prices, for seed, were thrown on the market and sold for what they would bring. New vegetables, too, sometimes do not fulfill their earlier promise, and large stocks of seeds grown before the weaknesses were developed, are a total loss. The ordinary farmer is not the only one who must plan and anticipate, neither is he the only one whose best laid plans meet failure and disappointment.

⊙

The element of chance which centers in all kinds of insurance has been nearly determined by taking the average for many years, and the companies can make premium rates that will nearly meet all losses. The difference between stock and coöperative fire insurance is that the first is a speculation for profit, while the second is a scheme for mutual protection against loss by fire—no fire, no loss, no cost. The growth of these coöperative companies has been very rapid and so many of the best risks have been transferred to them that the stock companies have been compelled to raise their rates to meet the increased per cent of loss from the remaining poor risks. More than 100,000 property owners in New York State now belong to some one of these companies. A combination for an object without seeking a profit is, essentially, a farmers' insurance, and the remarkable growth is proof of the honesty and ability of those who are often derided as lacking in business sagacity. Their business teaches practical application and frugality. It is safe to say that no officer will amass a fortune, or any company build a granite block in New York City. To the Patrons of Husbandry, belongs the honor of building up this "saving union" and the teaching of the value of organized groups of men for mutual benefit. The number of companies reporting to the Central Organization was 112, number of policies, 102,641; amount insured, $178,468,131; amount of loss and expense, $994,851. Cost of insuring $1,000 for three years, $6.005. Saving for three years on the basis of $7.50, formerly charged by stock companies, $245,977. This is a nice little plum saved to the farmers. This is the average, some companies have done better.

⊙

THE newspapers report that a farmer in Wayne County, N. Y., has been arrested for selling hard cider to his neighbors. Excise Commissioner Lyman tells us that under the new Raines liquor law, fermented or "hard" cider is considered as much a "fermented liquor" as beer. A special ruling covers this point, as follows:

A sale and delivery at one time of any single kind of liquor by the barrel, keg or other package, if in quantity of five wine gallons or more, is subject to the United States internal revenue law, and otherwise is as free from taxation in this State as the sale of any other commodity. This department, however, holds that aggregation of *different kinds of liquor*, in quantities of less than five wine gallons, to constitute the prescribed quantity of five wine gallons, is an infringement or evasion of the law, and requires the proper liquor tax certificate to legalize the transaction. This law does not affect sales of liquor, except those of quantities *less than five wine gallons*.

Cider manufacturers do not require a certificate. Cider when not fermented, is exempt from tax; but when the process of fermentation is completed so that it becomes that which is commonly known as "hard" cider, a certificate is required for its sale in quantity of less than five wine gallons.

Vinegar is exempt from tax.

Wine requires a certificate for its sale in quantity of less than five wine gallons.

Thus it appears that the selling of less than five gallons of "hard" cider to one person without a certificate or license from the State, is really a violation of the law. We do not understand just where the line is drawn between "sweet" cider and the "hard" article, and we should think that it would be difficult to show just when cider selling is illegal. The Raines law seems to be very satisfactory to most New York State farmers. The law evidently gives better satisfaction in the country than in the large cities, as it brings a large income to county treasuries.

⊙

BREVITIES.

Mother-in-law and wife and I walking from church together,
Eager for shelter safe at home—out of the rainy weather!
I could run in my younger days, wife has a walk that's speedy.
Mother-in-law has flesh to spare—breath may be classed as needy.
I'd get home at a sudden spurt—wife would be close behind me,
Mother-in-law would fall behind—that is the way you find me,
Chopping steps till I almost limp here in the rainy weather,
Family ties were tied to stay so we walk on together.
Long may mother-in-law remain, setting our Sunday pacing.
But, young man, here's a thought for you—now as your life you're traeing,
That is ever the way through life—when from our bonds we'd grow, sir,
Surely we find the paee is set just by the part that's *slow*, sir.
Mind and muscle may both be strong—eager for deeds of daring,
But, if the heart in cowardice shrinks from an honest sharing,
Mind and muscle must clip their steps down to the heart's dull beating,
Chained to Coward they lag behind while their best years are fleeting.
Mind and muscle and heart and soul—if you'd get home, remember,
Your pace-maker will ever be only your *slowest* member.

LET the hen "fill her bill."

"COLD storage"—eating ice cream.

MAKE life a bore for the peach borer.

WHAT is the death rate among your good resolutions?

SHALL we clip the horse? Read the answer on page 811.

DEATH sometimes uses a swill bucket for a door knocker.

GET good varieties! Don't use the small fry among small fruits.

VERY well, sir, we will take our Christmas present in the form of a new subscription.

THE Crimson clover is having a glorious time this fall. It covers the ground completely.

WANTED! A first-class early potato that will get up a week earlier than Early Ohio!

IT is against the law in New York State to sell a glass of "hard" cider. Don't sell any to yourself.

SECOND-CROP clover would seem to be bad food for pugnacious animals. It has too much *row* in.

DON'T wait for a course in typhoid fever in order to educate yourself away from that bad drain.

THE R. N.-Y. never had cause to blush because it sent out the Rural Blush potatoes to its readers.

THE waste of paper mills has little value as a fertilizer. Use it as an absorbent or bedding, if at all.

A SENSIBLE article on the developing of a dairy cow—page 810. Don't forget to give your cow enough to eat.

Is there any place like home? *Your* home we mean. If there is, don't run to the other places, but put your home ahead.

APPLES and pears have "scalded" in cold storage this year. No one seems to know what causes this growth. It is, probably, a chemical change due to close and musty quarters.

YOU don't "jail" the setting hen to punish her, but to cure her. You kill the surplus rooster and the scrub, not for punishment, but to protect yourself against loss. Prisons should not be for punishment, but for society's protection.

AN English farmer writes to his agricultural paper, that he believes in "The Three S's," viz., Short-horn cattle, Shire horses and Shropshire sheep. This combination of live stock, he claims, suits his farm better than any other. There are too many farmers who keep "Three S's" of the wrong kind, viz., *Scrubs* of all sorts.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD.

How much should a good cauliflower weigh? A commission merchant showed one which weighed, trimmed ready for market, nine pounds. He thought it a heavy weight. It was a beauty, but I am under the impression that smaller ones would be more acceptable to the general trade.

‡ ‡ ‡

"WHATEVER you do, don't tell any one to ship me any apples," was the plaint of one commission dealer. The docks and stores have been nearly swamped with them, and prices have ruled low because of the large quantity. Cold weather is likely to come at any time, too, so that it is necessary to dispose of them as soon as possible in some way. People should eat more apples.

‡ ‡ ‡

IN the Philadelphia market, Monday is "potato day," and shippers tell me that so well is this understood, that buyers flock in on that day, and a little higher price is usually obtained—only a cent or so per bushel, perhaps, but enough to make it an object to be around when the buyers are looking for goods. It always pays to be ready when customers are ready to buy.

‡ ‡ ‡

HAVE you noticed how very gradually the price of butter has been advancing during recent weeks? That is a good, healthy way for the market to work; much better than the extreme and sudden changes we sometimes see. The moderate supply is given as the cause of the advance, and there is said to be a scarcity of the best grades, both of creamery and dairy butter. The export demand is moderate.

‡ ‡ ‡

INTEREST in the foreign apple market seems to be well sustained. The British markets have improved, and higher prices have ruled. Baldwins and the best red varieties are the most in demand. Shipments will be lighter from now on, as the steamers have curtailed the space usually occupied by apple exports, hence prices are likely to keep up. There will be a good demand for apples for the Christmas market. Only the choicest fruit, sorted and packed in the best possible shape, should be sent. Prices received last week are reported to have netted from something over $1 to upwards of $1.70 per barrel. Some recommend half barrels for packages. The total arrivals in Liverpool up to November 19, were 784,882 barrels against 128,283 barrels last year. It costs in the neighborhood of $1 a barrel to ship to the English markets.

‡ ‡ ‡

THE most prominent market feature during the past week, has been the poultry. The weather, on the whole, was favorable, though it became too warm at the last end of the ante-Thanksgiving market. It is surprising what a big difference the weather makes. Not only does cold, clear weather insure better condition of dressed poultry, but the receivers feel more confident, and are less anxious to force sales. But let the weather turn warm and moist, and immediately efforts are made to crowd the poultry on the market, and prices are often sacrificed to accomplish this. So it is easy to see how a change of a few degrees will affect the returns. The supply of turkeys was limited, and those of good quality and condition sold for excellent prices. Choice ducks were not received so largely as had been expected, hence sold well. Fowls and chickens were sent in in large quantities, and prices were low. Live chickens and fowls came in so freely from the South and Southwest that the market was nearly swamped, and prices went to five cents for the former and seven cents for the latter. These extreme low prices are likely to check shipments, and prices are likely to go higher. One now sees many of the patent wire poultry cars in the freight yards; they are a great improvement over the old methods of transporting live poultry. F. H. V.

THE COST OF NEBRASKA CORN.

HOW IT COMPARES WITH COAL.

I send you the following figures on my corn crop of 1889, most of which was used for fuel, because at the moment it was cheaper than coal. I do not follow farming as a business, but I know what it costs when I do raise a crop. This piece of land was used for corn because I could not use it for the purpose it was intended when rented:

Plowing eight acres at $1 per acre	$8.00
Harrowing at 12½c. per acre	1.00
Planting at 25c. per acre	2.00
One bushel seed	.25
Cultivating two times at $3	6.00
Rent, cash, at $2 per acre	16.00
Gathering 520 bushels at 2c per bushel	10.40
Total cost	$43.65

This crop of corn, as you will see, cost about 8½ cents per bushel. The market price then was eight cents. For soft lump coal we had to pay $7.50 per ton and haul it. The corn cost less than $2.50 per ton, and would last nearly as long as a ton of coal. I could have exchanged it for coal by paying for shelling and hauling to market, which was only 2½ miles away. Corn on the cob makes an excellent fire, and is cleaner to use in the stove than coal. We had the corn, we burned it, but the outcome shows that it was a very foolish way to dispose of the crop. It is true I had no money to buy lumber to make a bin to store it in, but at that time we all had credit and a good name in Nebraska. I could have borrowed the money easy enough, but farming was not my business, and I thought I would dispose of the crop the easiest way, and in the way that would benefit me most with the least trouble and expense. Our crop was a complete failure in 1890, and I had to pay 60 cents per bushel for corn and 50 cents per bushel for oats to feed the team. It would have been pretty nice to have had 400 bushels of corn to unload to the "sufferers" at 60 cents per bushel before another crop could be raised. Now if we had got a "bumper" crop in 1890, our foresight would have been all right.

On page 756 of THE R. N.-Y., you say, "We have often wondered if it is really true that sound grain is ever used for fuel." In order that you may see for yourself the quality of corn often burned in the west, I send you two ears by mail, and I expect it will cost me the price of a bushel of corn to pay the postage. The sample is no better than we burned. I have selected medium-sized ears, for if I should send the largest and heaviest I could find, it might cost me the price of two or more bushels. Think of hauling 10 bushels of such corn down town to pay for THE R. N.-Y. one year.

I have a little corn crop this year, and as it may be of interest to some of your readers, I will give you its yield and cost. It may appear to many that my charges for doing the work are very low, but I assure you I could hire the work done for the amount. In fact, I did hire a man to come with a planter, check rower and team, and he boarded himself and planted the 24 acres for just the amount charged for planting, viz., 20 cents per acre:

Breaking stalks on 24 acres at 12½ cents per acre	$3.00
Raking stalks and burning at 25 cents per acre	6.00
Plowing 24 acres at $1 per acre	24.00
Harrowing two times at 12½ cents per acre	6.00
Planting at 20 cents per acre	4.80
Three bushels seed at 30 cents per bushel	90
Cultivating three times at $2.50 per day	22.50
Gathering 1,120 bushels at 1½ cent per bushel	16.80
Total cost	$84.00

Thus you will see that this piece of corn cost not quite 7½ cents per bushel, but we pay two-fifths, or 448 bushels of the crop for rent, so that my share costs me nearly 11⅓ cents per bushel. Corn is quoted on our market at 12 cents per bushel to-day, and in spite of past experience, many people will again burn corn this winter. In fact, a man living in a neighboring city, told me he had already laid in a supply of corn for fuel at 10 cents per bushel, as it was much cheaper than buying coal. When a man can get 50 bushels of ears of corn for $2.50, it is cheaper than any coal we can buy. If people East would come here now, they would see thousands of bushels of corn piled on the ground like stacks of straw, and thousands of acres yet to be gathered. J. L. B.

Kearney, Neb.

R. N.-Y.—The ears sent were perfect specimens of a deep yellow dent corn, 16 rows, and 50 kernels to the row.

THE NEW YORK LIVE STOCK SHOW.

The second annual exhibition of the National Association of Exhibitors of Live Stock was held at Madison Square Garden during Thanksgiving week. It is almost exclusively a show of cattle, sheep and swine, though a half dozen Shetland ponies represented the equine race. The entries were much larger than last year, and the quality of the stock was of the best. Probably the cream of the leading American herds was here. The attendance was not what it should have been, partly, perhaps, because of the prohibitive admission fee—50 cents during the day and $1 at night. The attendance at the initial show last year was light, and it was generally acknowledged that the admission—$1 at all hours—was too high. So a concession was made this year by reducing the admission during the day. During the latter part of the show it was reduced to 50 cents during the evening, when the great mass of people, most of whom are lovers of fine stock, are at liberty to attend. The horse show is the only attraction of this character that will stand an admission fee of $1. A first-class live stock show in the Metropolis is most desirable, but the management must be on liberal lines to insure its continuance.

The show was admirably managed in many respects. The arrangement of exhibits was superior to that of last year. The premiums offered were liberal. The show was managed by the Madison Square Garden Company. The judges were experts on the various breeds handled by them. Music by an excellent band added to its charm. Nowhere else could be got together cattle which represent so much wealth. Many of the owners are what are called the Wall Street farmers. Here were the Guernseys of A. J. Cassatt and J. B. Duke, the Normandys of Chester W. Chapin, the Jerseys of E. L. Clarkson, the Holsteins of A. A. Cortelyou, and the Simmenthals and Normandys of T. A. Havemeyer, who is said to feed his cattle on sugar—indirectly, probably. Among the sheep, too, wealthy owners are represented by Wm. Rockefeller, W. Bayard Cutting, G. Howard Davison, Rutherford Stuyvesant, Miss Iselin, and others, and hogs by Wills A. Seward. It isn't likely that these farmers realize large returns from their investment, but they are doing the live stock industry of the country a great service.

The Simmenthals, both purebred and Jersey crosses, attracted much attention. These are strong, hardy-looking animals, as are the Normandys. Several calves from the crosses of each of these breeds on Jerseys were shown, but as they are not yet six months old, it is impossible to say how they will develop.

The beef breeds were well represented by the Shorthorns, Herefords, and Aberdeen-Angus in about equal numbers. These were almost entirely from the West, some from as far away as Iowa. The breeders of these animals seemed well pleased with their experience here, as these shows have helped them to introduce their stock to eastern butchers, and sales have been made at prices that are far ahead of those they received at Chicago. Sales are what tell the story with these men. Many special prizes were offered for the best animals in these and other breeds, by the breeders' associations of the different breeds.

The dairy breeds were well represented by the Jerseys, Guernseys, Holstein-Friesians, and Ayrshires, the last two breeds coming out in large numbers, the Holsteins leading all others in number of entries. Farmer Morton didn't send his Guernseys.

The sheep were about all of the mutton breeds, Shropshires, South Downs, Oxford Downs, Hampshire Downs, Cotswolds and Dorsets, the first leading in point of numbers. There were some Lincolns and Leicesters, some half dozen French Merinos, and quite a showing of grades and crosses between the different breeds. The fad of coloring exhibition sheep is not a pleasant one for those who wish to see things as they are. Exhibitions of driving and penning sheep by dogs were given, one of which was stopped by the S. P. C. A. Some of the sheep shown were immense animals, fit only for exhibition purposes.

There were not so many hogs as sheep, but they were a weighty lot. Berkshires and Poland-Chinas represented the blacks, Duroc-Jerseys the reds, and Small Yorkshires the whites. Some of them were so fat that their eyes were almost hidden, and their shape was entirely changed. One monster was said to weigh over 800 pounds. As examples of what may be accomplished by feeding, they were great successes.

There was an exhibit of butter comprising about a score of entries. Some of it was entered by creameries, but most was by private individuals, some of whom have a fancy butter trade. In one corner, samples of milk from Normandy cattle were being given away to introduce it to the public.

There was talk before the show of a trial test between the different makes of separators; but none of them seemed anxious to engage in such a contest, as they evidently realize that single tests prove nothing. The Vermont Farm Machine Company, The De Laval Company and D. H. Burrill, who is just bringing out a new make of separator, each had exhibits. The De Laval people have a small separator with a capacity of 175 pounds per hour intended for from one to five cows.

Incubators, brooders, and all conceivable kinds of poultry appliances were shown by the Excelsior Wire and Poultry Supply Company, and the Pineland Incubator Company had samples of their goods. No poultry was shown this year. F. H. V.

BUSINESS BITS.

IF you don't feel that you can make your wife or daughter or sister or best girl a present of a piano or a gold watch, just order her a subscription for The Ladies' Home Journal when you renew for THE R. N.-Y. Both will cost you only $1.90, and with each monthly visit your kindly remembrance will be reflected in her gratitude.

WE have so often referred to the discussions as to the advantages of grinding grain at home that we do not attempt to repeat them here, but wish to say, nevertheless, that there is economy in home grinding with the right kind of a mill. We also think that the O. S. Kelly Company, Springfield, O., makes one of the mills that are the right kind. This firm makes mills in several sizes, and fully guarantees all.

A. B. FARQUHAR, a manufacturer of traction engines, has written THE R. N.-Y. that there are some things that they will not do and are not intended for. That is one of the good things about this house, they will tell you what their goods will not do as well as what they will do, and you can depend pretty safely on both. They also make saw mills and other farm implements. If you need their catalogue, send to A. B. Farquhar, York, Pa.

Women-make the-Homes

WOMAN AND THE HOME

Homes make the Nation

FROM DAY TO DAY.

A DECIDED convenience in sickness is a bed-tray for serving meals, forming a handy substitute for a regular invalid's table, which is often quite expensive. It is a board, two feet six inches long and 18 inches wide, one side slightly hollowed out, the other side and ends straight. On the under side, a leg is screwed at each corner, about 12 inches being a good height. When one is sitting up in bed, this tray may be placed across the knees with perfect comfort, and without any danger of upsetting. It may be made by the home carpenter, and prettily painted with enamel paint, would form a very useful Christmas gift for an invalid friend.

*

SEVERAL of our readers express decided disapprobation of that "Biography of a Bedbug" as a feature of the Woman's Department. Says one, "We always expect something dainty and nice in that department, and to think that it should have been so invaded was too bad. I hereby move that Mr. Slingerland move his 'bugology' into another pew!" That biography was smuggled into the Woman's Page during a brief period when the household editor was represented by an empty chair. The new incumbent assures her readers that if Mr. Slingerland's cimex ever does acquire wings, as he suggests, she will see that the invader is compelled to fly into another department of the paper.

*

THE first convention of Jewish women to be held in this country opened in New York, November 15. It is called the National Council of Jewish Women, and is an outgrowth of the Congress of Women at the Columbian Exposition in 1893. In different parts of the country, there are now nearly 50 sections in existence, with a total membership of more than 3,000. The stated purposes of the Council are "to bring about closer relations among Jewish women; to furnish by an organic union a medium of communication and a means of prosecuting work of common interest; to further united efforts in behalf of Judaism by supplying means of study, and in behalf of the work of social reform by application of the best philanthropic thought." Jewish women are well-known for their earnest and far-reaching philanthropic work, and this convention shows that they are fully abreast of their sisters of differing faiths in modern intellectual activity.

THE NOONDAY REST.

AMONG the helpful institutions that owe their birth to the club idea among women are the noonday rests or lunch clubs, now in operation in most of the larger cities. Chicago has a number of these organizations, one of the best known being the Greek Letter Club and its branches, Alpha, Beta, and so on. These must not be regarded as charitable institutions. They are self-supporting convenicnces for the benefit of self-supporting women, and the charity idea is entirely lacking.

The main idea is the same in all these clubs; it is the providing of a wholesome lunch, neatly served, at a moderate cost. But to this they add social and educational advantages of a varied class; they seek to create a home atmosphere for the many working women who must live in boarding houses, and they afford sisterly help and sympathy to the isolated. The club members pay monthly dues (usually 25 cents), but they may bring a visitor at any time on payment of a five-cent fee, in addition to the cost of their meal. The serving is done on the cafeteria plan; that is, the guests select their table and provide themselves with knives, forks and plates; they are then served by attendants at the large table, where the entire list of viands is displayed, but there are no waiters. They receive a check for their lunch, and, after finishing, are required to remove their empty dishes from the table and place them on a dumb waiter or butler's tray. The food is varied, excellent and well cooked. Prices charged are extremely moderate; five cents for meat, three cents for all vegetables, three cents for tea, coffee or milk; three cents for pie. The bill of fare always includes seasonable fruits and vegetables, and while the portions of meat served are necessarily smaller than in ordinary restaurants, they are sufficient. The moderate prices permit one to select a varied meal for a very small amount; from 11 to 15 cents gives one a good meal. There is always a comfortable sitting-room, with books and magazines, where the club members may rest if they desire; very often the lunch hour is enlivened by excellent music, performed by some friend who gives her talent to the club.

The educational advantages include lessons in languages, literature, Delsarte, music, embroidery and art. The teachers are always capable and experienced, and the charge to club members is but 10 cents a lesson. The lessons are usually given in the evening, as a rule, between six and eight, and the students may then get their evening meal at the club. A woman physician is in attendance certain days, and her fees are very moderate. The Alpha Club, in addition to its other conveniences, has dormitories, so that a club member unexpectedly belated may find a place to sleep.

The purely material advantages of these clubs become almost insignificant when compared with the great good they accomplish in other ways. They afford sympathetic companionship to many a friendless girl; they fortify her self-respect, and teach her that she is more than a mere working machine. The loneliness of country life is often commented on—far worse is the loneliness of unfriended life in a great city. The continual procession of strange and unfriendly faces, with a background of bricks and mortar, gives one a far keener sense of isolation than an unchanging country landscape. To many of the girls the officers of the club are their closest friends, to whom they go for help and sympathy.

Many of the clubs assist in the organization of boarding places or club homes, where a sort of coöperative housekeeping gives greater comfort, with less expense, than in an ordinary boarding-house. This plan is now being tried by a good many of the girls; it enables them to obtain better accommodations than a boarding-house supplies, at far less cost.

The active management of these clubs is in the hands of good women who freely give themselves and their labor for this purpose. For example, the Silver Cross Club is managed by the King's Daughters; it is the headquarters of the organization in Chicago, and while by serving lunch they cover the rent of the rooms, there is no attempt to gain any other profit. All the attendants in charge belong to the order, even the neat-handed colored women in the kitchen displaying the little silver cross. It is a pleasant relief from the monotony of business life to enter their big, airy lunch room, on the thirteenth floor of a tall office building; to see the little tables with a few flowers or bit of green, surrounded by gaily chattering girls, or to peep into the pretty sitting-room, with lounges, rocking chairs, book-case and piano. To many a working woman, this is the only glimpse of home, and it certainly arouses a spirit of mutual helpfulness among the members. Only those who have been compelled, day after day, to eat a tasteless lunch with a herd of other hurried workers, in a crowded cafeteria or lunch-room, can fully appreciate the blessings of a woman's lunch club.

TABLE NAPKINS.

THE subject of providing a sufficient number of pretty table napkins, at a small cost, is interesting both to the woman with a large family, and also to the one who must, of necessity, count the value of each penny. The provident housewife has learned that it is far cheaper to make her own napkins. She chooses two materials—linen, either the very coarse woven, or else the smooth such as we use for aprons, and Indian Head domestic. The first named materials are used for best napkins; these are ornamented with embroidery or drawn-work as taste and time decide. The last named material is for napkins in constant use. This particular brand of domestic is especially good for this purpose; it is coarsely, not loosely, woven and resembles cotton duck to some extent. The usual price is 15 cents a yard, but in some places it may be found at a cheaper price. Where one finds remnants they may be bought for a mere song, yet answer the purpose nicely. One yard makes four good-sized napkins, and will make six if smaller sizes are preferred.

As for the ornamental part, that rests chiefly with the maker. A fringed edge is preferable to a hem. After the napkin is cut in a square shape, measure from the edge an inch, or 1½, for fringe. Draw a thread at this distance all around the napkin. Then measure another half inch inside the drawn thread space, and this is where the drawn-work begins. A simple design is to draw the thread in three-quarter-inch wide stripes about an inch apart, on all the four sides, drawing the threads completely out. On one side of the napkin, hemstitch the side of each stripe nearest you, then turn the napkin upside down and hemstitch the other side. When you begin those last rows of hemstitching, leave half the threads in the first bunch of stitching, take up the last half of the first bunch and the first half of the second bunch, and so on to the end. This makes a fence-row which is very pretty. The open squares at the corners may be filled in with a spider, or left open.

Another pretty style of hem-stitching is to draw the threads so as to form a row of squares. Hem-stitch these, letting the thread go through the center of the square at each stitch. This work is very effective done with red thread, as the stitch shows more plainly.

Many outline some pretty figure on the napkin; any figure could be used, and one who has a stamping outfit needs no suggestions. The colored plates in the flower catalogues may be used very nicely. Mark over the outline of the flower on tracing paper laid above the cloth; when the paper is removed, there is the pattern. Turkey-red cotton is well liked for outline work, but all the fast colors may be found in the linen threads; and this affords a pleasing variety.

MARY HARDY.

CALLIOPSIS AND NARCISSUS.—I can indorse what Linda Wilton McNeil said, on page 647, of the calliopsis. I had a plant last winter, that made my window gay. In June, it was set in the flower bed, where it bloomed very freely all summer. The branches that broke off were stuck in the earth, where they rooted, and after a time, bloomed.

Last October, I took up three thrifty, though belated, seedling phlox plants. The largest one soon began to bloom, and kept right at it all winter. At no time was the stalk without its small cluster of bright flowers. The others were not so early, but constant when they began. These outdoor plants were a very great pleasure to the household all winter.

Why do narcissus buds dry up and not bloom? The buds half open, then dry and drop off. The plants look very thrifty, and have many buds. This has happened for three years. White Sweet narcissus is the variety. MATER.

[Probably it is owing to some injury to the roots or bulbs.—EDS.]

When Mr. Beecher Sold Slaves in Plymouth Pulpit

The most marvelous scene ever witnessed in a church, when men and women almost lost themselves in hysterical excitement, and threw watches, rings and jewels on the platform and in the collection baskets. Mrs. Henry Ward Beecher describes the great event in the Christmas Ladies' Home Journal, while De Thulstrup shows the actual scene in a realistic picture.

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

THE GARDEN

Protection for Climbing Roses.

J. W. G., Boston, Mass.—What protection should be given to climbing roses for the winter? The varieties are Baltimore Belle and Queen of the Prairies. They have made a growth of 12 feet this year, and I wish to preserve as much of it as possible. They were boarded up last winter, and, notwithstanding this, all last year's growth was killed and had to be cut off in the spring.

ANS.—These varieties are usually regarded as our hardiest climbing garden roses, and should endure the winter with little or no protection. Perhaps they made too much soft growth last year, which was not properly ripened when winter set in. We should suggest laying the canes down on the ground and covering with two layers of sods, grass side down. In the early spring, remove a layer at a time, when the cold begins to moderate.

Outdoor Chrysanthemums.

W. H. G., Newark, N. J.—I want a bed of chrysanthemums for outdoor blooming, sorts that will stand considerable cold. What varieties should I select?

ANS.—The hardiest garden chrysanthemums are to be found in the Chinese and Pompon sections, and, though they are smaller and, perhaps, less showy than the Japanese, they will not only stand our winters, with rare exceptions, but endure the cold of late autumn better than the latter. The plants should be left undisturbed, with a light mulch over the crowns. We would recommend the following Pompons: Golden Fleece, yellow; Black Douglas, crimson; Fairest of the Fair, blush; Gaillardia, brown and yellow; Golden Circle, golden orange; La Fiancee, white; Orange Quill, striped orange; Bob, crimson; Snow Drop, white; White Travenna, white.

Among the Chinese, we would recommend Diana, white; Empress of India, white; Queen of England, white; King of Crimsons, crimson; Mrs. Geo. Rundle, white; Beauty of St. John's Wood, blush; Geo. Glenny, sulphur; Lady Selbourne, white; Princess, white, anemone; Dr. Brock, golden yellow; Beauty of Stoke, amber; Baron Beust, tawny chestnut.

In the Japanese section, we often see plants which have done well year after year, protected by thorough mulching; yet there is always some uncertainty about their endurance. It is always necessary to select the early blooming sorts. We may suggest among yellows, Firenzi, Gloriosum, Rohallion, Mrs. J. G. Whilldin, Marian Henderson. For white, Elaine, Harvest Queen, Soeur Melanie, Jessica, Ivory. In pink, probably, Ivoire Rose and Miss Agnes L. Dalskov would be good; both new varieties, sports from Ivory. Chrome red, Red Dragon. The big Japanese varieties that make such a feature at our shows are, in most cases, too aristocratic for outdoor culture.

EXHIBITION CHRYSANTHEMUMS.

THE show reports each autumn give us a very good idea in their list of awards, of the prevailing standard in type and variety. It is interesting to note that Mayflower, which stood at the head of prize-winning whites last year, still holds that eminence. Mrs. Jerome Jones is another white which continues to hold a good place. In pink, Viviand-Morel has held supremacy for three or four years, though Maud Dean holds good rank among prize winners. In yellow, Eugene Dailledouze is always a standard bloom, ranking higher than the new introduction Modesto, though that variety receives high praise. Few varieties of red are seen, but Fisher's Torch, of recent introduction, appears to be displacing Cullingfordii, the standard red for many years.

The anemone varieties, which include many oddities, always attract much admiration from the public, but they are not much grown. A recent prize collection included Satisfaction, saffron yellow; Enterprise, pale pink; Judge Hoitt, light pink, fine; W. W. Astor, single row ray florets, center light yellow; Garza, pure white, yellow center; Condor, magenta. Another very showy anemone variety is Rider Haggard, light pink, with quilled center, and ray florets like a ribbon fringe.

Very few Chinese varieties are seen at the shows, but some winners among them this year were, Mrs. Kingston, pink; Charles Curtis, yellow; Louise D. Black, saffron yellow; Gladys Spaulding, white.

The hairy varieties, which created such a sensation on first introduction, have not held a very high popularity, but few plants being seen at the shows. Of these, Mrs. Alpheus Hardy, the original hairy variety introduced to cultivation, is rarely seen, its growth being poor and spindling. It is displaced by L'Enfant des Deux Mondes, which may now be called the best hairy white. Louis Boehmer holds its place as a good hairy pink, in spite of a livid bluish tinge. Golden Hair is a favorite hairy yellow.

Grafted plants, showing half a dozen different colors or types on a single stem, always interest the public, though this grafting is not at all a difficult matter. It is much practiced in Japan. Another effective style of exhibition plant is made by twisting together two or three standards (tree form) as they grow. One combination thus made was the two hairy sorts, L. Boehmer, pink, and L'Enfant des Deux Mondes, white; another was Mrs. Gov. Fifer, white, Hicks Arnold, bronze yellow, and Geo. W. Childs, crimson lake. Odd varieties or combinations always prove an attractive feature at a show. E. T. R.

CLOTHILDE SOUPERT, during the past season, has again proved itself one of the best possible roses for bedding. It has a very neat habit, and the flowers are produced freely and continuously. We have a good report of the Pink Soupert, also.

GOLDEN GATE ROSE.—Among worthy roses not very largely grown in the cut flower trade is the Golden Gate. The color is creamy flesh shading to salmon, a very pleasing and delicate shade, and the blooms last, when cut, better than any other rose we know. It is a free bloomer.

THE METEOR ROSE, now the most popular crimson variety grown for forcing, is an example of the uncertainty of all things floral. Some years ago, a Philadelphia florist purchased the entire stock of The Puritan, a new white rose, from its English originator, paying a very large sum for it. When the English rosarian sent over The Puritan, he "threw in," as a bonus, the stock of Meteor, saying frankly that, while an attractive flower, he did not expect it to possess any value as a trade variety. Every one took it at the raiser's valuation until an enterprising florist discovered that all the poor Meteor needed was a higher temperature than ordinary Teas or Hybrid Teas. It is now so successfully grown that the General Jacqueminot is very little used as a forcing rose. The magnificent Puritan, with which the Meteor traveled to this country in the capacity of poor relation, has proved worthless as a forcing rose, and so subject to mildew that it is of little use outside; it is almost entirely dropped from American cultivation.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children **while Teething. It is the Best** —*Adv.*

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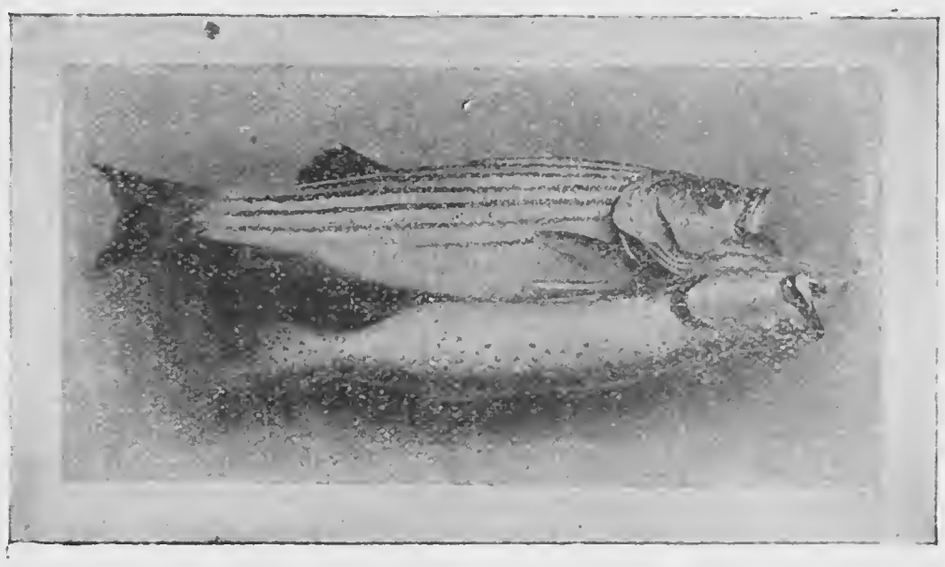
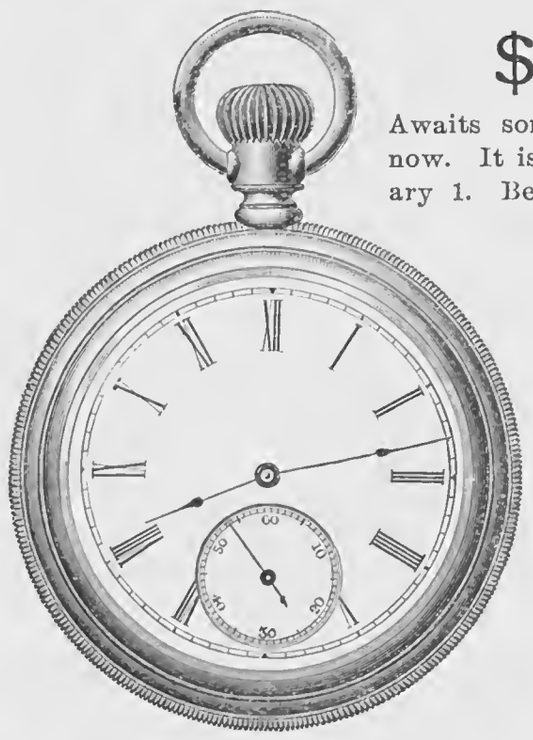


We have something here in the way of a picture that every lover of art will appreciate. Of course, a printed cut can give no idea of the art or beauty of a picture. It gives only the outline. These are companion pieces of Le Roy's latest pastels. They are fit for any dining-room in the land, and we would like to send both to every RURAL subscriber. They are in 12 colors, and produce a very soft and artistic effect. They are 12 x 24 inches, with oak frame 2½ inches wide, and ¾-inch oxidized inside, and oxidized corners. In most places, we think that these pictures would sell for about $4 each. We do not want to sell them at all. We want to give away, at least, 1,000. We will give one to every person who will send

us five new yearly subscriptions with $5. If not satisfied with the picture, send it back, and we will pay you for the time spent in getting the subscriptions. Send the names all together or one at a time. When you get one of these hung up, you will want the other, and we will want you to have it. Who will have the first one?

THE RURAL NEW-YORKER, NEW YORK.



$50 IN CASH

Awaits some one for less than three weeks' work now. It is due to the largest club sent in by January 1. Besides, if any one miss this, he is amply repaid for his work in other premiums and commissions.

Have you forgotten this fine Elgin Watch that goes out every Saturday night for the largest club sent during the week? Here is a cut of it again. Last week it went for a club of eight yearly subscriptions; the week before it went for a club of two. It is plain that any one could earn it in a few hours. Remember, that renewals count the same as new names for these premiums. This is just the time now for subscription work. Can't you take a day and look up a club?

THE RURAL NEW-YORKER, New York.

AS WE GO TO PRESS.

"TEETH AND EARS."

About a year ago, I had something to say about deafness and the "anchylosis" or growing together of the little bones in the inner ear. I have now to relate what, to me, is a singular and interesting fact—showing as it does how intimately connected are the parts of this wonderful machine we call the human body.

In my younger days, people thought that the legitimate ending for an aching tooth was a hole in the gum. In those days, teeth were pulled out at the least provocation, and it so happened that several of my teeth that ought to be still in my service were discharged years ago. Good dentists at the present time never pull a tooth unless they can't help it, and it is really wonderful how they can patch up some old molar and keep it at work. My opinion is that, 20 years from now, sets of false teeth will be almost unheard of.

About a month ago, my friend, Dr. Blank, told me that I ought to have at least four new back teeth. I realized that every time I undertook to eat anything harder than potatoes; but where were those teeth to come from? You can't make them grow—like a crop of oats—that's sure. The doctor proposed two plans; one was to bore a hole in my jaw and graft in a living tooth. That work is actually being done, and he agreed to guarantee it for, at least, five years! The other plan was to take one of my old stubs for a base, and to cement on to it a "bridge" of metal containing two so-called teeth. I chose the latter plan, and he went at it. After much grinding and fitting and hammering, the "bridge" was in place and the toughest steak has now no terrors for me.

But now comes the strangest part of the whole thing. There was this large piece of metal soldered to my jaw within two inches of my deaf ear. It wasn't long before I found that I was shouting to myself. Whenever I started to talk, whistle or sing, an entirely new and metallic sound seemed to roll in upon my ear. I never did think that I was so noisy. No use talking—I could hear *myself* better than I could before that tooth was put in.

Now I will freely say that my own voice has no particular charms for me except as an indication that I am to hear the voices of others more distinctly than I now do. The aurist tells me that the metal tooth has certainly increased my ability to hear my own voice. There are a number of cases where deaf people have had their upper teeth pulled out and a new set fitted on a metal plate put in. This has always increased or magnified the sound of their own voices. One of the best aids to hearing is the audo-fan, in which a metal edge is held against the teeth. The teeth and the ears are in close connection, and one may actually "hear with his teeth."

But what good will it do me to hear my own voice calling out like a fireman? The outer passages of the ear are no better than they were before. How would you make your left hand equal to your right? You would *make* it work and practice by putting your mind right on it and putting a part of your will into each finger joint. Now a deaf man should try to *make himself hear* by putting a part of his mind right into that little bone of the inner ear which is tied up by the "anchylosis". The increased ring and rumble caused by that metal tooth close by my ear is *exercise* for it—that's just what it is—and that exercise, in connection with other treatments, is one of the most hopeful things about it. I have heard of a man who was cured of a slight deafness by simply gargling his throat! The constant working of the muscles of the throat opened up the little tubes that supply the inner ear with air, and *exercised* the ear itself. It would not surprise me at all if, in future treatment of deafness, use is made of metal plates in the mouth to magnify sound and thus stimulate the hearing. I don't advise deaf people to have their teeth pulled out, but I certainly do urge them to adopt every rational device that will *make* the ears hear or exercise the muscles of the upper throat.

*

But now, of course, you have been impatiently waiting to see how we can apply all this to THE R. N.-Y. Well, here is one illustration: A farmer's wife away out in Illinois is a great friend of THE R. N.-Y. A noted cattle breeder took dinner at her house recently—but we will now quote from her letter:

"He is a fine man, but not much of a reader except of markets and stock. He spent the day with us yesterday, and I read your article, 'The Rope Walk,' in 'As We Go to Press,' and I wound up by saying, 'Now Mr. D——, give me $1 to send for THE R. N.-Y. 14 months to furnish one of those little ropes or strands, and if you are sorry for it in three months, you have your dollar back.' Out came the dollar bill! He was perfectly delighted with that article, and said that he did not want his money back; that piece was worth the dollar."

Now that was just like the metal on the tooth. That man heard a new sound—something, perhaps, that he had not listened to in a long time. He will continue to hear it and, may be, there will be new music for him as the result of it.

And now, here is what a New Hampshire man did:

"A few days ago, a townsman called to look over my raspberries. I put in a good word for your paper, as I always do. The result was a subscriber (one year)." C. H. J.

Now you see that townsman was stone deaf to the merits of THE R. N.-Y. The sight of those raspberries made his teeth ache for a chance to eat some of them. Our friend just filled them up with the gold of "a good word" and right in an instant the other man heard the true ring of THE R. N.-Y. "A subscriber!" What a happy result that was!

And now to top it all off, here is a note from a man far off on his way to the Island of Java. He writes from Roumania and says:

"I go there to manage a large oil company, but feel that wherever I go, I must have THE R. N.-Y. to read, otherwise I would feel lonesome without it. I hope on my arrival, about December 15, that I shall find THE RURAL waiting for me. I think this is the longest trip THE R. N.-Y. has been called on to make; it will take 40 to 45 days to reach its destination. Wishing all success with your good paper." NEIL SINCLAIR.

Now here is an American—born and reared on a Yankee farm—who has wandered through Europe and Asia, and seen many strange sights. It would not be strange if he forgot about American farming during his long absence, but he doesn't want to do that. His ear has lost the sound of home voices, but here he is taking THE R. N.-Y. like the deaf man with a metal tooth, because it stimulates his mental hearing and brings back old-time scenes and ideas.

You see the point, of course! Don't you know some mentally deaf man who needs the metal of a new idea on his teeth? We suggest THE R. N.-Y. for a metal tooth. You turn dentist for a short time and let the patient provide $1 for soldering on the tooth!

SECRETARY MORTON'S REPORT.

The last report of Secretary of Agriculture Morton is a mild document compared with some of his previous publications. Mr. Morton must be credited with an economical administration of his department. The government has given him $11,179,455.45 during his term of office, and of this he has saved $2,066,661.19, which is now on hand. The application of civil service rules has helped very much in this economy.

Mr. Morton says that a new office is needed, viz., a "Director of Scientific Work." He says:

"No permanent and adequate direction and supervision is provided in the present organization of the department. It is not to be supposed that the Secretary of Agriculture, a member of the President's Cabinet, even if a farmer and an experienced executive, will necessarily be a technically trained scientific man. Even if he should be, he occupies the position only four years, and thus scarcely becomes familiar with the difficult and complex work of the department before he leaves it. The Assistant Secretary of Agriculture is subject to the same conditions. Because he must represent the Secretary in the Administration, he must go with the Administration."

The scientific work of the department ought to be in charge of some one who will continue in office from year to year without regard to any change in the national administration. There should be a settled policy and a settled official.

Mr. Morton also says that the salaries of higher officials ought to be increased. During the past year, the government officials inspected 35,917,479 live animals that were offered for sale as food. Of this number, 89,399 were condemned. In the same time, 23,164,858 carcasses were inspected, and 41,003 were condemned. This meat inspection has proved a valuable help to the trade, and Mr. Morton would increase and extend it.

Considerable space is given in this report to the cattle and meat trade of Great Britain. The people of Great Britain consume every year 1,100,100 tons of meat, or about 100 pounds for each man, woman and child. About 75 per cent of this mountain of meat is produced at home, while the rest comes from America, Australia, Argentina and Europe. Vast quantities of frozen beef and mutton are sent from South America and Australia, but the English much prefer to import live animals and slaughter them. The chances are that the live cattle trade will develop, as our beef animals are superior to those from any other country except Canada. In 1895, Great Britain imported 1,421,356 live animals to be used as food. Of hog products, about 450,000,000 pounds of ham and pork were imported during the same year. It is said that American bacon sells at a low price because it is overfat and too salt to suit the English taste.

American horses are in growing demand abroad. There has been a perceptible increase in shipments during the past year. Mr. Morton also calls attention to the trade in American apples, though he tells nothing new about it.

Considerable space in the report is given to describing the work done in the various bureaus

(Continued on next page.)

LOOKING AHEAD.

If you could look ahead a few months and see what was coming from those spells of weakness, loss of appetite, wasting of flesh and energy you wouldn't wait for disease to get a grip on you. You would begin right away to tone up your constitution with Dr. Pierce's Golden Medical Discovery. It doesn't work miracles; but it does what other medicine can't do and what doctors say can't be done—until they see it done right under their noses—it cures consumption.—Not always; to say that would be an exaggeration, but in a large majority of cases; in advanced cases which have been given up as hopeless.

The "Discovery" is not called a consumption-cure; it is a blood-maker. It gives energy to the blood-making organs to create new blood, full of healthy red corpuscles. This rapid supply of pure, rich, red blood drives out all diseases that have their roots in the blood: Consumption is one of these; scrofula, malaria, eczema, erysipelas, catarrh—are others. It is absurd to doctor them separately as lung, or skin, or head diseases. They must be driven out of the blood. You can rely on the "Golden Medical Discovery" to do this every time.

It is not a patent medicine. It is the perfected result of 30 years, practical experience by one of the most skillful physicians and eminent medical authorities in this country:—Dr. R. V. Pierce, Chief Consulting Physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y.

Dr. Pierce's 1008 page book, "The People's Common Sense Medical Adviser," reached the enormous sale of 680,000 copies at $1.50 each. This enormous sale having paid him a fair profit on the great amount of labor and money expended in producing it, he is now *giving* away absolutely free 500,000 copies, the recipient only being required to mail to him, at the above institution, 21 one-cent stamps to cover cost of mailing *only*, and the book will be sent post-paid.

(Take notice to-day. This ad. will not appear again.)

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Who can form the greatest number of words from the letters in INDUSTRIOUS? You can make 20 or more words, we feel sure, and if you do you will receive a good reward. Do not use any letter more times than it appears in the word. Use no language except English. Words spelled alike, but with different meaning, can be used but once. Use any dictionary. Plurals, pronouns, nouns, verbs, adverbs, prefixes, suffixes, adjectives, proper nouns allowed. Anything that is a legitimate word will be allowed. Work it out in this manner: In, into, industrious, no, not, nut, nuts, dust, dusts, us, sit, sits, etc. Use these words in your list. The publisher of WOMAN'S WORLD AND JENNESS MILLER MONTHLY will pay $20.00 in gold to the person able to make the largest list of words from the letters in word INDUSTRIOUS; $12.00 for the second largest; $10.00 for the third; $8.00 for the fourth; $5.00 for the 10 next largest, and $2.00 each for the 25 next largest lists. The above rewards are given free and without consideration for the purpose of attracting attention to our handsome woman's magazine. 24 pages, 96 long columns, finely illustrated, and all original matter, long and short stories by the best authors; price, $1.00 per year. It is necessary for you, to enter the contest, to send 12 two-cent stamps for a three-months' trial subscription with your list of words, and every person sending the 24 cents and a list of 20 words or more is guaranteed an extra present by return mail (in addition to the magazine), or a 200-page book, "Doris's Fortune," by Florence Warden, a love story of intense interest. Satisfaction guaranteed in every case or your money refunded. Lists should be sent at once, and not later than January 20. The names and addresses of successful contestants will be printed in February issue, published in January. Our publication has been established nine years. We refer you to any mercantile agency for our standing. Make your list now. Address JAMES H. PLUMMER, Publisher, 905 Temple Court Building, New York City.

Our Clubbing List.

If you subscribe for any other paper or magazine, we may be able to save money for you. Look over the following list. If you don't see what you want, let us know, and we will get prices on it for you. The prices below are for the papers mentioned, and THE RURAL NEW-YORKER, both one year. If you want more than one of the other papers, deduct $1 from combination price given below, and you will have our price for the other paper.

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Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1 65, both one full year. Send now and get both papers free for the rest of this year.

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Daily Journal, New York.

No other daily paper ever made so great a success in so short a time as the Journal. It gives all the news, and is one of the brightest and ablest papers of the Metropolis. It is Democratic in politics, and an able expounder of free silver. We can send it and THE R. N.-Y., both one year, for $3.50.

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This is the great national weekly of the South. It has, probably, done more for the South than any other paper has ever done for any part of the Union, and, naturally enough, the people in the South believe in it and go by it. But besides its devotion to the interests of the South, it gives all the news of all the world every week, and is a great family paper. It abounds in stories, fiction, romance, wit and humor, fun and puzzles. It is Democratic in politics, and a great exponent of Democratic principles. It gives 12 pages—84 columns—of reading matter every week, and all for only $1 a year. We are able to send it and THE R. N.-Y., both one year, for $1.75.

Strawberry Culturist.

This is a bright little monthly, edited and published on a strawberry farm by a strawberry grower. We can send it and THE R. N.-Y., both one year, for $1.15.

Farm Poultry.

There is no poultry paper published anywhere which takes the place of FARM POULTRY. It stands alone as the best up-to-date, practical guide to profitable poultry raising. Edited by men who practice what they preach, and teach facts, not theories, about how to make money with a few hens. Published semi-monthly; price, $1 per year. We can send it and THE RURAL NEW-YORKER, both one year, for $1.75.

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The Family Money Maker. Worth $100 a year, and more, to all who practice intensive cultivation, whether in the open or under glass. Covers in plain language, the care and cultivation of Flowers, Small Fruits, Vegetables, Plants, Shrubs, Bulbs, etc., and tells how to make Home Grounds attractive. Its contributors are the ablest writers in their respective fields. Sample free. We will send it with THE RURAL NEW-YORKER, both one year for $1.80.

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(CONTINUED.)

or departments. There have been 376 publications sent out during the past year, aggregating 6,561,700 copies. A law has been passed limiting the edition of any publication of 100 pages to 1,000 copies unless otherwise ordered by Congress. The publishing business of the Department cost $172,740 last year.

Of course, the Secretary is opposed to the free distribution of seeds, and makes some strong arguments against the present system. Last year's seeds would have planted a garden containing 115 square miles, or a strip of land one rod in width and 36,817 miles long. This strip would reach 1½ time around the world. A passenger train running at the rate of 60 miles per hour would require 51 days, 3 hours and 14 minutes to pass such a strip of garden!

The Secretary discusses the agricultural colleges and experiment stations at some length, and makes some forcible suggestions which we shall refer to at another time.

Of course, any document from Secretary Morton would be incomplete without some reference to political or social questions. This time it is the mortgage question, and the Secretary shows that, in his opinion, farmers are much better off than many politicians and so-called authorities would have us believe. One thing he says, and we think truly, that the Homestead law, under which 160,000,000 acres of land were given away, has brought a fierce competition to the farmers who were obliged to pay for their farms.

The Secretary kept out of "politics" pretty well until the last sentence of his report. Here it is:

"It is, probably, quite safe to declare that, at least, 2,000,000 American workmen, on farms and in factories, subsist almost wholly upon employment based upon foreign demand for American commodities. And in this contest for feeding and furnishing mankind—notwithstanding the fierce competition which it meets all over the globe—American agriculture, manufacture and commerce are steadily gaining more trade, and thus furnishing an enlarged wages fund, on a gold basis, out of which some millions of American laborers and skilled artisans draw their yearly remuneration, and upon which they and their families largely depend for employment and comfort."

CONDENSED CORRESPONDENCE.

OAKS CORNERS, N. Y.—In regard to holding potatoes for a higher price, nearly the whole crop is put in the cellars here, as the price is from 16 to 18 cents per bushel. Farmers are not willing to sell at that price. J. K. M.

ITHACA, MICH.—While the potato crop in this section was not a large one, it was considerably larger than was expected. I think that a comparatively small portion of the crop has been sold. Farmers here are holding their crop for want of a market at any price. They don't expect a large price, but expect a better market in the spring. F. W. B.

MUNCIE, IND.—THE R. N.-Y. is a welcomed and a looked-for visitor at our home every week; we could not get along without it in our business. Blue grass pasture is good, corn well in the crib; a good many farmers are through husking. Corn never was better, and the cribs are all too small; rail pens are common this fall, well-filled and more building. Prices so far, 18 to 20 cents. Hog cholera is bad in sections in Indiana. W. A. H.

CORTLAND COUNTY, N. Y.—It is my opinion, from all that I can learn, that a large part of the potato crop in this county is being held for higher prices. The market price this fall ranged from 22 cents down to 18 cents per bushel, and the yield averaged about 100 bushels per acre. Some fields rotted quite badly. I had one acre of R. N.-Y. No. 2, and a few Carman No. 1, which yielded 200 bushels. The Carmans were a little better. E. F. W.

NORTHERN GEORGIA.—More wheat has been sown in northern Georgia, and it has been put in in better shape, than for many years. The corn and cotton crops are about all gathered, and they are very short at that. Peaches and apples very poor. Crimson clover did well last winter and spring; very little was sown this fall—too hot and dry. Wild blackberries were a big crop; all they cost any one is just the gathering. This is a good lazy man's country. J. C. H.

MUTTON SHEEP IN ILLINOIS.—In the report of the State Board of Equalization, the number of sheep reported assessed in 1896 in Illinois, is 515,816 and these are valued at $410,531, one-fourth the supposed actual value. From 1893, when the sheep industry in this State was in reasonably good condition, to 1896, there has been a loss of 403,869 sheep of the value of $2,177,344. While this great decline in the sheep industry has for a time almost destroyed the raising of sheep for wool, it has increased the demand for good mutton, so that this production has been benefited. There is a surety that sheep raising for the better quality of mutton will be profitable, and the sort that will bring the best results can be raised in small flocks on the farm at less cost and trouble than any other farm animal. If wool production again become profitable, the farmer will have two good sources of income instead of one; in the meanwhile having a supply of the best of meat for family use. J. G. S.

MT. VERNON, S. D.—The extent to which farmers here are benefited by the rise in wheat, is measured by the extent of the rise in Chicago, Milwaukee or Minneapolis; local buyers pay that price less the freight and two cents a bushel commission. Probably about half the wheat raised here is yet in the farmers' hands. The average 160-acre farmer will raise 400 bushels to sell, besides keeping sufficient for flour and seed. His taxes will be $20, and he is likely to have a mortgage of about $400 on his place, bearing 9 or 10 per cent interest; so if he has not been forced to sell early, the increase in price to date (15 to 17 cents) will pay his taxes and interest. These figures will average about right for this part of the State. A. W. M.

A FAYETTE COUNTY, PA., INSTITUTE.—We had our first institute here November 13 and 14. Among the speakers were Mr. Hess, of the State College, and your contributor, Alva Agee. The latter was well received, and made a good impression on all, I think, as a good, practical, up-to-date farmer. The attendance was pretty slim till the last session, when the house was pretty well filled; this was our first institute here, and I think that was one reason for the slim attendance at the first sessions. Still, there are many farmers around here that don't take the interest in such matters that they ought. Some farmers were there that did not know there was such a thing as the State College of Agriculture; of course, they don't take very many farm papers. FAYETTE.

FOR IRRITATION OF THE THROAT caused by Cold or use of the voice, "*Brown's Bronchial Troches*" are exceedingly beneficial.—*Adv.*

MARKETS.

SATURDAY, NOVEMBER 28, 1896.

BUTTER—NEW.

Creamery, Western, extras	22½@—
Western, firsts	20 @21
Western, seconds	16 @18½
Western, thirds	13½@15
State, fancy	20½@21
Common to prime	13½@20
State dairy, half-firkin tubs, fancy	18 @19
Firsts	15 @16
Seconds	13 @14
Welsh tubs, fancy	18 @18½
Welsh tubs, firsts	13 @16
Welsh tubs, seconds	13 @—
Tubs, thirds	11 @12
Western imitation creamery, firsts	13 @14
Seconds	10½@11½
Western dairy, firsts	12 @13
Seconds	9 @10
Thirds	8 @ 8½
Factory, fancy	11½@12
Factory, firsts	10 @10½
Factory, seconds	8½@ 9
Factory, thirds	7 @ 8
Rolls, fresh	10 @14
Old butter	5 @ 8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10 @10¼
White, fancy	10¼@10⅜
Choice	9¾@10
Good to prime	9 @ 9½
Common to fair	7 @ 8½
Small, colored, fancy	10¼@—
Small, white, fancy	10 @10¼
Small, good to choice	9 @ 9¾
Small, common to fair	7 @ 8½
Light skims, small, colored, choice	8 @ 8¼
Light skims, large, choice	7¾@ 8
Part skims, good to prime	5½@ 7
Part skims, common to fair	3½@ 4¾
Full skims	2½@ 3

EGGS.

Near-by, new laid, fancy, selected, per doz	27 @ —
State, fresh gathered, average best	24 @ 25
Penn., country marks, average best	25 @ 26
State and Penn., fair to good	22 @ 24
Western, northerly sections, fancy	23½@ 24
Western, fair to good	22 @ 23
Western refrigerator, prime, early pkd.	18 @ —
Western refrigerator, fair to good	16½@ 17½
Western limed, choice	15 @ 16
Western dirties, per 30-doz case	3 50 @4 50
Western checks, per 30-doz case	3 00 @3 50

FRUITS—GREEN

Apples, Snow, per bbl	1 25@2 00
Baldwin, per bbl	85@1 00
Fall Pippin, per bbl	1 25@1 50
Greening, per bbl	85@1 00
King, per bbl	1 00@1 50
N. Spy, per bbl	1 00@1 25
Pound Sweet, per bbl	1 00@1 25
Nearby, open heads and common, per bbl	50@ 75
Cranberries, Cape Cod, extra large, per bbl	5 50@6 00
Fancy, per bbl	4 50@5 25
Good to prime, per bbl	3 00@4 00
Defective, per bbl	1 00@2 50
Per crate	1 25@1 37
Jersey, per crate	1 00@1 25
Grapes, West'n N. Y., Niagara, fancy	22@ 25
West'n N. Y., Niagara, plain	16@ 18
West'n N. Y., Niagara & Del., inferior	8@ 10
West'n N. Y., Catawba, per small basket	8@ 11
West'n N. Y., Concord, per small basket	7@ 8
Wine grapes, black in bulk, per lb	1¼@ 1½
Wine grapes, white, in bulk, per lb	—@ —
Wine grapes, red, in bulk, per lb	1½@ —
Pears, Clairgean, per bbl	3 00@4 25
Duchess, per bbl	2 50@4 00
Anjou, per bbl	2 50@3 50
Vicar, per bbl	2 25@2 75
Swan's Orange, per bbl	—@ —
Keiffer, per bbl	2 50@3 50
Lawrence, per bbl	3 00@3 50
Nearby cooking, per bbl	—@ —
Quinces, choice bright, per bbl	2 25@2 50
Fair to good, per bbl	1 50@2 00
Seconds, per bbl	1 00@1 25

GAME.

Quail, choice, large, per doz	1 75@1 90
Small, per doz	75@1 25
Woodcock, average, per pair	75@1 00
Partridges, nearby, per pair	90@1 00
Western, undrawn, prime, per pair	75@ 80
Western, drawn, prime, per pair	50@ 60
Grouse Western, prime, per pair	1 25@1 40
Grouse and partridges, inferior, per pair	25@ 40
English snipe, choice, per doz	1 75@2 25
Plover, golden, choice, per doz	2 00@2 50
Rabbits, per pair	15@ 25
Wild ducks, canvas, choice heavy, per pair	2 50@3 00
Red heads, per pair	1 50@2 00
Mallards, per pair	40@ 85
Blue wing, teal, per pair	40@ 50
Teal, green wing, per pair	25@ 30
Common, per pair	20@ 25
Venison, per lb	17@ 18
Whole deer, per lb	10@ 12

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9 @ —
Fair to good, per lb	8 @ 8½
Com. to med., per lb	6 @ 7½
Small, per lb	5 @ 6
Buttermilks	5 @ 6
Grassers	4 @ 5
Pork, country dressed, 10 to 25 lbs., per lb	6 @ 9
40 to 60 lbs., per lb	6 @ 6½
60 to 80 lbs., per lb.	5½@ 6
80 to 120 lbs, per lb	5 @ 5½
125 lbs and up, per lb	4 @ 4½

POTATOES.

Long Island, in bulk, per bbl	1 25@1 37
Maine, per sack	1 00@1 10
State, per 180 lbs	75@1 12
Jersey, per sack	90@1 00
Jersey, per bbl	90@1 12
Sweets, Va., yellow, per bbl	60@ 80
Jersey, yellow, per d. h. bbl.	1 00@1 25
Vineland, per bbl.	1 25@1 75

POULTRY—LIVE.

Spring chickens, per lb	6 @ 6½
Fowls, local, per lb	8 @ 8½
Western, per lb.	8 @ —
Southern, per lb.	7 @ —
Roosters, old, per lb	4 @ 4½
Turkeys, mixed, per lb	8 @ 10
Ducks, local, per pair	70 @ 90
Western, per pair	70 @ 85
Southern, per pair	50 @ —
Geese, local, per pair	1 37 @1 75
Western, per pair	1 12 @1 50
Southern, per pair	1 00 @ —
Pigeons, old, per pair	25 @ —
Young, per pair	20 @ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	11 @ 12
Young, dry-picked, per lb	12 @ 12½
Young, scalded, per lb	12 @ —
Young, inferior, per lb	8 @ 10
Spring chickens, Phil., selected, per lb	13 @ 14
Philadelphia, poor to good, per lb	9 @ 11
Western, dry-picked, good to choice	8½@ —
Western, dry-picked, inferior	6 @ 8
Western, scalded, choice, large	8 @ —
Fowls, Western, dry-picked, choice	8 @ —
Scalded, choice, per lb	8 @ —
Old cocks, per lb	6 @ —
Spring ducks, Eastern, per lb	— @ —
Spring ducks, L. I., per lb	— @ —
Spring ducks, Penn. and Va., per lb	— @ —
Spring ducks, Western, per lb	12 @ 13
Old ducks, Western, per lb	8 @ 10
Spring geese, Eastern, per lb	— @ —
Squabs, tame, white, per doz	2 00 @2 25
Mixed lots, per doz	1 50 @1 75
Dark and poor, per doz	1 25 @ —

VEGETABLES.

Cabbage, L. I., per 100	2 00@3 00
Red, per 100	2 50@3 50
Carrots, per bbl	60@ 75
Cauliflower, L. I. and Jersey, per bbl	1 00@2 00
Celery, fancy, large, per doz	40@ 50
Average, prime, per doz	20@ 25
Small, per doz	8@ 15
Cucumbers, Florida, per crate	1 00@1 50
Egg plant, Florida, per ½-bbl box	75@1 50
Florida, per bbl	1 50@3 00
Lettuce, Boston, per doz	25@ 50
Local, per bbl	—@ —
Norfolk, per ½-bushel basket	75@1 00
Charleston, per basket	50@ 60
Onions, Eastern white, per bbl	2 50@4 50
Eastern red, per bbl	2 00@2 25
Eastern yellow, per bbl	1 75@2 00
Orange County white, per bag	1 50@3 50
Orange County yellow, per bag	1 25@1 75
Orange County, red, per bag	1 25@2 00
Jersey and Long Island yellow, per bbl	1 25@1 75
Jersey and Long Island red, per bbl	1 50@2 00
Jersey and Long Island white, per bbl	2 00@3 50
State and Western yellow, per bbl	1 25@2 00
State and Western red, per bbl	1 25@1 62
Pumpkins, per bbl	1 00@1 25
Spinach, Norfolk, per bbl	40@ 50
Baltimore, per bbl	35@ 40
Squash, Marrow, per bbl	75@1 00
Hubbard, per bbl	75@1 00
String beans, Norfolk, per half bbl basket	—@ —
Charleston, green, per bushel basket	1 50@2 50
Charleston, wax, per bushel basket	2 00@2 50
Florida, per bushel basket	1 25@2 00
Turnips, Jersey and L. I. Russia, per bbl	60@ 75
Canada, per bbl	60@ 65

MILK AND CREAM.

The total daily supply has been 21,052 cans of milk, 165 cans of condensed milk and 404 cans of cream. The average price paid for the surplus on the platforms has been $1.55 a can of 40 quarts.

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FEED AND CARE OF A DAIRY COW.

THE WHOLE STORY.

I aim to have my heifers drop their first calves at about two years old. I think that this is better than to allow them to run dry and grow until three, for they are likely to develop too much of a beefy form, and we also lose the use of them for a year.

If the heifer is to drop her first calf in the fall, the work of developing her is a very simple matter; just give her a good pasture to run in, supplemented with some forage crop as the pasture becomes short towards fall, and she will develop a good udder on her own account, if it is in her make-up to do so. Do not be afraid to let her have plenty to eat, only see that her udder does not become swollen and hard before she freshens, in which case begin milking her, and also bathe the udder in warm salt water with plenty of hand rubbing. This will, generally, bring her out all right in a few days.

If she is to freshen in the spring, she should be well fed during the previous winter. During the fore part of winter, I feed them in addition to corn fodder, about four quarts of bran daily, but this should be regulated according to the quality of coarse fodder, and the individuality of the heifer. In fact, feed her up to the point where you think that she is as fleshy as desirable. As she nears the time of dropping her calf, some corn meal should be added, also a little linseed meal to keep her bowels in proper condition. Do not by any means, allow her to become constipated. As her udder begins to expand, spend a short time daily in gently pressing and rubbing it. This will get the heifer used to being milked, and also help her udder to expand. Spend as much time in this way as you can afford; it will not hurt her.

The first year, the heifer should be milked close up to the time of dropping her second calf. If she is small, it is a good plan to allow her to go 18 months between the first and second calves; but milk her as long as possible. Above all things, don't be afraid to feed her. Remember that she is growing as well as giving milk, and a heifer weighing only 600 or 700 pounds will often require as much feed as a mature cow weighing 1,000 pounds. What her ration should consist of, depends largely upon the individuality of the cow.

The knowledge of how an acquaintance managed a heifer, may keep some other man from spoiling a grand cow in the same way. This man is an old-time farmer, who has been in the habit of milking his cows in the summer, and when the pasture gave out, allowing them to dry off and be a bill of expense all winter. He bought a Holstein heifer a year ago last spring, that gave 35 pounds of milk in a day. This pleased him so well that he gave her some bran to encourage her to keep at it. The heifer was encouraged and kept at it in a wonderful manner; in fact, she gave so much milk that she began to get poor. Now the old man thought a great deal of his heifer, and did not like to have her get poor, and as he was already giving her as much bran as he thought she ought to have, he came to the conclusion that he must dry her off to save her life. When his mind was settled on this point, he dried her off as soon as possible, so that she would not get any thinner. She grew finely all winter, and dropped her second calf last spring, but gave milk out of only two teats. "Ruined by over feeding!" In vain I pointed out the fact that "drying off" the heifer when she wanted to give milk was what spoiled her, and that she might have been kept in good flesh by giving her a sufficient quantity of corn meal with her bran. He contemptuously replied that corn meal was the worst thing in the world to feed a heifer, and if I had had her, she would, probably, not have had any teats at all left. Now I am considered a heavy feeder, and I have never had but one cow lose a teat in the past seven years, and this was caused by another cow goring her udder.

On the other hand, if the cow is of a rather beefy tendency, do not give her a ration containing too much fat-forming substances; many good cows are spoiled in this way, also. I will give you an example: Several years ago, a neighbor bought a purebred Jersey cow that gave him 40 pounds of milk daily. She was the largest and finest-looking Jersey cow I ever saw, not lean like most Jerseys, but a big, squarely-built, robust animal. This man was a high feeder, and as he kept but one cow, he bestowed a great deal of good care and corn meal, among other things, upon his pet Jersey. But she did not improve with this care. She got very fat, and shrank in her milk, and to make matters worse, she refused to breed, also. In despair, he sold her to a butcher and declared that he would never own another Jersey. I bought this cow and gave $50 for her, too. I reduced her flesh, and in the course of time, she presented me with a fine calf. I gave her a good supply of bran and middlings, but no fat-producing foods whatever. She gave a pretty fair amount of milk that year, came in the following spring, and did better, and this fall, took first prize at the Chenango County Fair as a dairy cow.

I aim to produce all the feed I can upon my farm. I lay my plans for the following year in the fall, and begin September 1, by sowing a piece of rye, enough to last my cows about two weeks in connection with their pasture. This is ready to feed about May 20, and is followed by a piece of wheat sown soon after the rye. By the time the wheat is gone, I begin to feed peas and oats which were sown as soon as possible in the spring, and then by some sown two weeks later. After this comes millet sown about May 25, and this is followed by later millet which lasts until September 1, when early corn is ready to feed. My cows are also allowed to pick some of the aftermath from the meadows, but not to crop them close, as I consider this too valuable as a milk producer to be allowed to rot for manure. I also raise quite a quantity of fodder corn planted three feet apart one way and 18 inches the other, which I cut and put up in very large shocks for late fall and winter feeding. I leave this out until I feed it, and it keeps very nicely, not molding or, on the other hand, getting too dry.

I have never built a silo, for, making butter for a private trade, I go more on quality than quantity, and, as the condenseries and shipping stations object to ensilage milk, I am a little afraid of it. I raise as much corn and oats to grind for feed also, as I can, and this is pieced out with bran, middlings and other mill feed.

Each cow is fed to what I consider the limit of profitableness (until she begins to put on too much flesh), regardless as to the quantity, and scarcely two cows are fed alike. They are allowed to go dry from one to two months, and become fresh at all times of the year, as my trade requires it.

As to care in winter, my cows are kept in a warm stable, and each cow has a stall, and is hitched with a common web halter. She is supplied with bedding, and is groomed daily. The cows are turned out in the yard to drink twice a day, and the stable is well aired when they are out, and is cleaned whenever we go to the barn. I should prefer to water cows in the barn; but this is not practical in my case; but if I did have water constantly before my cows, they should be turned out of doors just the same, excepting in stormy weather. I will admit that a cow will give more milk if kept in out of the cold air altogether; but if not allowed to exercise or inhale the pure, out-door air at all, I think that she will, eventually, suffer in health.

Do not, for a moment, think that I am in favor of cows standing all humped up outdoors and getting chilled through. I let them go out to drink and come back as soon as they wish. When it is cold, they will do this immediately; but on warm, sunshiny days, they will enjoy an hour in the yard. I think that if this plan were more generally followed, there would be fewer cases of tuberculosis in the land, and more cows that would recover if already affected. My own case makes me think this way about the tuberculosis scare, as I have had a little experience in that line. My mother died of consumption when I was but one year old, and I was allowed to nurse her until six weeks before her death. My sister, older than myself, died of the same disease at the age of 12 years, and it was, of course, thought to be only a matter of time with me. But at the age of 13, I was put to work on a farm, and made to get up at 5 o'clock in the morning to help milk the cows, all the year 'round. From a little, white-faced, puny, coughing boy, I got to be a man that is a terror to a lazy farm hand when we get out in the field together. If I do not die until that foe of the hothouse plant, consumption, rakes me in, I expect to live to milk cows and read THE R. N.-Y. for many years to come. J. GRANT MORSE

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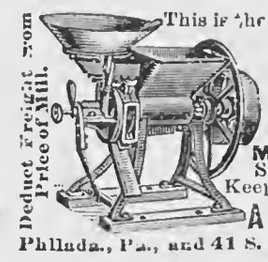

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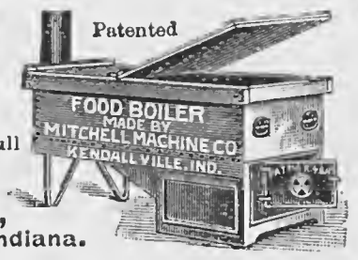

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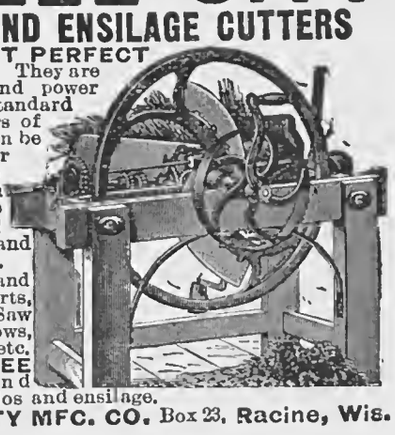

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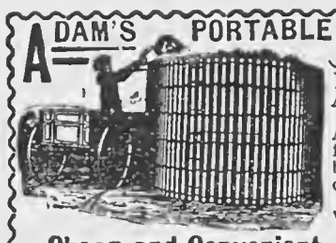

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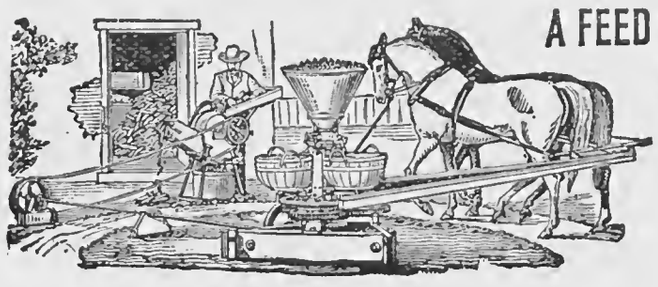

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SHALL WE CLIP THE HORSE?

WHY AND WHEN?

Is the custom of clipping horses on the increase or decrease? Would you clip a heavy-coated driving horse? Would you clip a draught horse? What time is best to clip—when the winter hair is fully grown, or sooner? Is a clipped horse more or less likely to "catch cold"? In our climate (south Jersey), our horses sweat very much when driven unclipped, the hair staying wet a long time after they are put in the stable. Is clipping a safe preventive of this? G. A. M.

New Jersey.

Always Clip Race Horses.

It is now and always has been our custom to clip our driving horses. We know by actual experience that they do much better. Clipping in no way destroys an animal's coat, and he will come out in spring just as well. Heavy-coated horses should, certainly, be clipped to avoid sweating and taking cold from not being able to groom them dry. Thin-coated horses need not be clipped, provided they are properly cared for in the stable. We have often clipped our race horses in the fall before the season was finished, and have found it a benefit to avoid their taking cold. C. J. & H. HAMLIN.

New York.

Col. Geo. E. Waring's Opinion.

In my opinion, the clipping of horses is on the increase. I should always clip a heavy-coated driving horse, and should clip a draught horse, if he were much given to sweating at his work. It is best to clip when the winter hair is nearly, but not quite, grown. A clipped horse is less likely to "catch cold" than an unclipped one. Clipping seems to me to be the best remedy for the conditions stated.

New York City.

Clip the Heavy-Coated Horse.

I think that the custom of clipping horses is on the increase in this section; I know that it is among the horses sent to my farm. I would, by all means, clip a heavy-coated horse, as it lessens the danger of colds and the horse is more comfortable. Of course when he is brought in, he should have a warm stable and be properly covered. When the long hair gets wet it will take some hours to dry, and the horse experiences much discomfort besides running great risks. I would advise the first clipping the latter part of October, and again as soon as the hair begins to get a strong growth, presumably the end of December. We clip a great many driving horses every fall, and the benefits derived are pronounced. My neighbor, Mr. Kimball C. Atwood, of Northland, an enthusiastic horseman and the owner of a number of very fast ones, clipped a weanling this fall, and has given it the same treatment as another that was not clipped—both the same age, and sired by the same horse. At this writing, the advancement of the clipped one is something wonderful. They are both worked in the kindergarten every day. I have no doubt that the long, wet hair on the one proves very exhaustive. By all means clip the heavy-coated driving horse, but be particular to take the very best of care of him. JOHN B. LOZIER.

New Jersey.

A Veterinarian Talks.

The practice of clipping horses is undoubtedly on the increase, both in the city and country. I would clip a heavy-coated driving horse if I were to drive him myself, or could be reasonably sure that he would be properly cared for when driven by others. I would not, as a rule, advise clipping draught horses. Clipping is practiced both in the fall and spring. Fall clipping should be done before the severe cold weather sets in, which should be before the winter coat is fully grown. This will enable the horse to become somewhat accustomed to the loss of his coat, and thus be better able to withstand the cold. In this climate, November is the month for clipping. With warm stables and a little extra care, it can be safely done at any time.

Spring clipping is generally practical the last of March or first of April, in this climate; earlier as you go south. A fall-clipped horse would not require to be clipped as early in the spring as one that had not been clipped.

The clipped horse is no more liable to "catch cold" if properly cared for; otherwise, more so. In several instances I have observed that horses have improved and been more thrifty after clipping. In my opinion, clipping could be safely practiced to advantage by G. A. M.

In general, the advantages of clipping are the greater readiness with which the perspiring horse will dry, and the ease with which the skin can be kept clean and healthy. I would advise clipping only in the case of horses that are to be used mainly as drivers, and are to be returned to the stable as soon as through driving, or that can be well blanketed while standing. The clipped horse should wear a light woolen or a linen stable blanket continuously in the stable during the winter, and whenever left standing out-of-doors, be covered with a warmer woolen blanket, even though the stop be only for a few minutes. It must not be forgotten that the clipped horse has lost his winter coat, and will chill very quickly if left uncovered. The clipped horse also requires warmer quarters, free from drafts of air.

Draught horses, as a rule, and others that, from the nature of their work are left standing around, or where warm, comfortable quarters cannot be provided, are better not to be clipped.

New York. F. L. KILBORNE.

"SOUTHERN CATTLE FEVER."

CAN IT BE PREVENTED?

Is there any real preventive for murrain or acclimation fever in northern cattle? Which would be the safest time in the year to ship cattle from Pennsylvania to Virginia, or vice versa?

Keep the Cattle Up.

The only preventive I have ever found for acclimation fever in northern cattle brought South, is to keep them up in the barn lot, allow them to drink only well water, and make no radical change in their feed. Have plenty of shade for comfort, and allow no ticks to get on them. I should prefer to bring young cattle, as there is less danger than with older ones. If less than a year old, I do not think that there is much danger even when no special care is given them. I should prefer to bring the cattle South in the winter months, though I have succeeded with them brought as late as May, by pursuing the course I have advised. T. B. PARKER.

North Carolina.

Ship South in the Fall.

I have never seen a case of the fever developed in this region in cattle brought here in the fall, and properly cared for the first winter. I deem it fair to conclude that there is a reasonable certainty of exemption when so treated. I have seen many northern cattle brought here, and of those brought and treated as above, all have done well. On the other hand, a friend took a herd of very fine Holstein cattle from Illinois to Birmingham, Ala., in the spring of the year, and lost all of them by this malady. I conclude that there is something in the growing vegetation in that region, which causes it as much as the change of climate, and that, if cattle are brought south late in the fall, fed on cured provender, and sheltered from the cold rains and bad weather, there is little if any danger; at least, that is my observation here. The altitude of this region may have something to do with its exemption from the disease. I should say that the best time to move northern stock of any kind, and especially cattle and horses, south, is late in fall. Then don't expect them, because the weather is mild, to stand out and take it, with a straw stack for feed, but give them, at least, a good roof and plenty of hay as fodder; by spring, they will be sufficiently acclimated to be reasonably safe. On the other hand, if I were taking southern stock north, I should prefer the early spring for the change, or the late summer, so as to give them a few months before either winter or summer came on.

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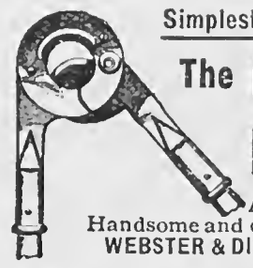

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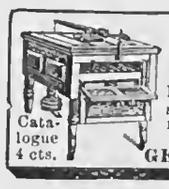

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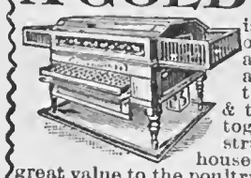

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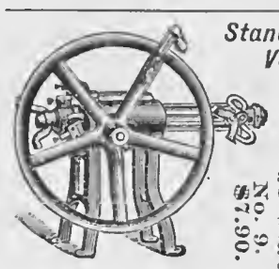

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"I MAY not be very wealthy, but I can afford my own carriage and pair," said the fond father as he wheeled his twins along the sidewalk.—*Yale Record.*

MOTHER: "Robbie, didn't I tell you never to let me see you do that again?" Robbie: "Yes'm; but I didn't know you was a-lookin'."—*New York Press.*

SHE: "Our wedding day seems to me almost as a dream." He: "It does to me, with one exception." "What was that?" "I distinctly remember that my collar got loose behind and crawled up my back as I went up the aisle."—*Indianapolis Journal.*

"WHAT do you wish, madame?" said the election officer to Mrs. Tenspot. "You have already voted once to-day; you voted before noon, you know?" "Oh, yes, I know that," replied the voteress, "but I want to change my ballot."—*Harper's Bazar.*

MRS PARVENUE: "I'm going now, mamma." Mrs. Parvenue (turning from Lord Sanssous): "Now, above all, Harrietta, don't forget to find out how Mrs. Topnotch makes her faux pas. I heard she made one last week, and we'll make some too, no matter how much it costs."—*Texas Siftings.*

"HAS your husband been stumping any this fall?" asked the candidate anxiously. "No, sir; he ain't," answered the good woman. "He's dug his potaters and stacked his corn, but he ain't goin' to stumpin' till after election; the stumps come out easier after it's frozen."—*Detroit Free Press,*

"UPDIKE," said Fosdick, who had answered the telephone ring, "here's a message saying that your house is burning down." "Thank heavens!" replied Updike fervently. "What makes you say that? Is it insured for several times its value?" "Oh, no but my wife has cards out for a pink tea to-morrow afternoon, and now she can't have it."—*Judge.*

MRS. HAYFORK (who had summer boarders): "Yes, Mrs. Hayseed, the i'gnoranee of city folks about country life is just amazin'. Ye know I had two families from New York last season." Mrs. Hayseed: "Yes, I see 'em galavantin' around." "Well, it's an actual fact, them people brought toothbrushes with 'em, just as if we were such savages out here as not to have such a simple thing as a toothbrush in the house."—*New York Weekly.*

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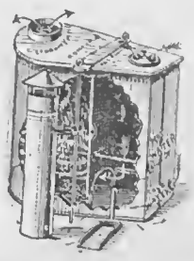

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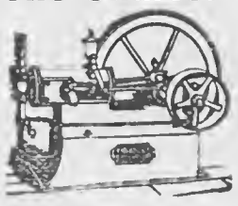

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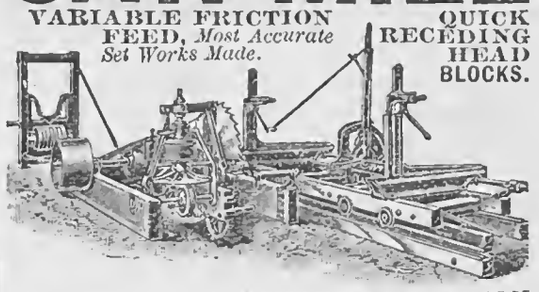

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A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

PHOTO ENG. CO. N.Y.

VOL. LV. No. 2446. NEW YORK, DECEMBER 12, 1896. $1.00 PER YEAR.

GEO. W. CAMPBELL

THE INTRODUCER OF THE DELAWARE GRAPE.

Sketch of His Life and Public Services.

Not long since, THE R. N.-Y. received a notice of the golden wedding of Geo. W. Campbell, the veteran horticulturist of Ohio. It is not often that such events are recorded, and we take a double pleasure in speaking of this one. Mr. Campbell, through his association with the Delaware grape, has become known to fruit lovers everywhere. For nearly 40 years, that delightful little cluster of sweetness has been passed about the land, until we are sure that our readers have pleasant thoughts and memories of the man who started it on its rounds. Few men reach their 80th year with a greater share of the love and respect of friends and neighbors than Mr. Campbell may show. THE R. N.-Y. is, therefore, doubly glad to present an excellent picture of Mr. Campbell, and a brief sketch of his life and services.

Geo. W. Campbell was born in Cortlandville, Cortland County, N. Y., January 12, 1817. His father, David Campbell, was the editor and publisher of a weekly newspaper, the Cortland Republican, from 1815 to 1821. In 1822, he emigrated, with his family to Ohio, and commenced the publication of a newspaper at Sandusky, named the Sandusky Clarion, the first number of which was issued in May, 1822. At the age of about eight years, the subject of this sketch learned the art of type setting, and much of his time afterwards until his majority was spent in the printing office of his father. In 1839, he became associated with him in the publication of the paper, and the Daily Sanduskian, together with the business of book-selling, until the year 1849, when he removed to Delaware, O., his present residence, where he engaged in mercantile, agricultural and horticultural pursuits. In 1857, he discontinued the mercantile business, and became interested in propagating and disseminating the Delaware grape, which was first brought to public notice from this place, Delaware, O., and was named the Delaware by A. J. Downing.

Mr. Campbell developed, early in life, a decided taste and inclination for horticultural pursuits, and before he was 16 years of age, had his father's garden, in Sandusky, filled with the choicest varieties of fruits then attainable, among which were, probably, the first cultivated grape vines planted in that lake shore region, which afterward became, with the adjacent islands of Lake Erie, one of the most important vineyard and fruit-growing sections of the country. The general subject of fruits and fruit-growing, has continued to be an object of special attention until the present time.

Since 1857, the improvement of some best varieties of flowers, vegetables and fruits (grapes especially), through experiments in hybridizing and crossing, has occupied the time of Mr. Campbell, and the following from Dr. Jno. A. Warder, in Vineyard Culture by DuBreuil, Adapted to American Culture, in 1857, will show how his work was regarded at that time. At page 67, of that work, Dr. Warder says:

"One of the most reliable operators in this line of investigation is the careful experimenter and accurate observer, Geo. W. Campbell, of Delaware, O., who is satisfied that he has effected veritable crosses between native varieties, and that he has, also, produced hybrids between the foreign and American species. Mr. Campbell has communicated some of the results of his experiments in papers to the Ohio Pomological Society, and in an article in the Report of the Department of Agriculture at Washington, 1862, page 209. In it the subject of hybridizing, cross-breeding and selection of the seedlings is pretty freely discussed. Mr. Campbell does not give a flattering or encouraging view of this pursuit, when he says that about 10 years of further care and culture (after fertilizing the blossoms) will be required before determinate results are reached, and that the chances may be 10, or, perhaps, 100 to 1, that the product will be of no value. A good deal of enthusiasm, as well as a sanguine temperament, will be necessary to enable the hybridizer to find much encouragement in his pursuit. He must be, emphatically, one who is willing

To labor and to wait."

GEO. W. CAMPBELL OF OHIO. FIG. 265.

Since that time, hundreds upon hundreds of seedlings and crosses have been produced of varied degrees of merit—some of remarkably fine quality—but none of sufficient excellence in all respects to warrant its introduction or recommendation as notably superior to others already in cultivation. They were, therefore, grown only to be discarded, until about the year 1887, when a carefully conducted effort by successive crosses of other varieties, to produce a substantial improvement upon the Concord grape which was begun in 1874, seems to have been crowned with success; having received the sanction and approval of the Pomological Division of the United States Department of Agriculture, and other high and competent authorities, it has been introduced to the public as Campbell's Early. It is not thought unreasonable to expect that it will mark an epoch in American grape growing as distinct and important as that of the introduction of the Concord or Delaware.

The efforts of Mr. Campbell in the way of producing new and improved vegetable products, were acknowledged by the Ohio State Board of Agriculture in 1875, in a voluntary testimonial, signed by every member of the Board.

Mr. Campbell has been associated with the principal horticultural and kindred societies of the country since about the year 1850, when he became a member of the American Pomological Society, and is now the vice-president for Ohio, and one of the oldest living members. He has been, also, a member of the Ohio State Horticultural Society for the same period, and has been successively its treasurer, secretary, vice-president and president. He has been, also, a member of the American Horticultural Society since its first organization as the Mississippi Valley Horticultural Society at St. Louis, Mo., in 1882. He has also attended nearly all the great horticultural and industrial expositions: The Philadelphia Centennial International Exhibition, in 1876, where he assisted in making the horticultural exhibit for Ohio, of 1,100 plates of fruit, including 16 varieties of new grapes of his own production, and the World's Industrial Cotton Exposition also at New Orleans, when he had charge of the fruit exhibit of Ohio, and seedling grapes. He was also appointed by President Hayes, Additional Commissioner for the State of Ohio, to the French Exposition Universelle at Paris in 1878, whose report upon horticulture may be found in the official publication, Vol. V, pages 243 to 418. He is also the recipient of certificates, testimonials, bronze and silver medals from the Ohio State Board of Agriculture, the American Pomological Society, the Massachusetts Horticultural Society, the World's Industrial Cotton Exposition at New Orleans, the Centennial International Exhibition at Philadelphia in 1876, the French Exposition Universelle at Paris in 1878, and the World's Columbian Exposition at Chicago in 1893.

In a recent lecture on "Improving the American Grape", Mr. Campbell used the following words. They give us an idea of the patience, skill and faith required to produce new varieties that will really show improved characteristics:

"In my own experience, after producing and testing for many years hundreds of delightful grapes, nearly all were rejected, because they developed some faults or weaknesses which rendered them, in my judgment, unworthy of recommendation as positive improvements, substantially better in all important respects than others already introduced and in cultivation. These first experiments were what might be called general, making crosses somewhat at random with some of the finer exotics and the most popular natives, also combinations of our best native varieties. The result from these efforts, though interesting and in some instances apparently valuable, were not satisfactory. They did not come up to my standard.

"Afterward, my whole attention was directed toward the fixed and definite improvement of some of our most popular favorites, such, for instance, as a type of the Catawba, without hard and acrid pulp about the seeds, and ripening as early as the Delaware,

with increased vigor, health and hardiness of the vine; or a Delaware grape, of larger size, borne upon a strong, hardy and vigorous vine, with heavy, healthy and mildew-resisting foliage; or a Concord or Worden, with firmer berries and finer flavor, possessing better shipping qualities. If these, or similar improvements, could be made and demonstrated, their value would at once be recognized by every grape grower in the land.

"It is, perhaps, not desirable to follow the successive steps that led to the accomplishment of one of these contemplated improvements further than to say that, after about 20 years working in this direction, always with a definite object in mind, and a predetermined combination to produce the desired result, I achieved the greatest success in my life, in a really improved Concord that satisfied my most exacting requirements, after the most careful observation and rigid tests for the past 12 years; a variety having every good point of the Concord without any of its faults or weaknesses. Far more healthy and vigorous in growth, larger in bunch and berry, finer in flavor and quality, firmer in its consistence for handling and shipping, earlier in ripening and later in keeping either on or off the vine. From the first year of its seedling growth to the present time, it has positively developed no fault, has never shown a mildewed leaf or rotten grape, and has never been sprayed with Bordeaux or any other mixture. That it will always remain so, even in its native home, or always be free from faults in other localities, I dare not say, any more than I could declare that a healthy and vigorous man who says he has 'never been sick in his life' would always remain so. I think, however, that all who have grown many kinds of grape vines know that there is a great difference in varieties as to their tendency to rot in their fruit, and their liability to mildew or blight in their foliage, and from its record to this time, I have much confidence that this grape will prove and remain at least as healthy and successful in all grape-growing localities as any of our standard native varieties, for during several of the years of its existence in the same locality, and under the same conditions, other kinds have nearly all rotted and been affected with mildew in its immediate vicinity, while it remained exempt."

SIR WALTER RALEIGH.

A FAMOUS NAVIGATOR; A REMARKABLE POTATO

The world owes much to Sir Walter Raleigh. He will always remain a striking figure in history. He was one of the great characters who had to do with the discovery of a new continent on which were to be worked out the highest ideals of freedom and helpful civilization. It may be a prosaic way of looking at such matters, but we believe that America has made the world better chiefly because her soil has provided abundant supplies of strong and healthful food for the millions of the old world. In the potato and Indian corn, America furnished two wonderful plants which have not only provided food, but given the material for dozens of manufacturing operations. America has kept the Indian corn plant at home, but the potato she gave freely to the old world, and it is one of her greatest gifts.

Sir Walter Raleigh enjoys the distinction of being the first to introduce the so-called Irish potato into Ireland from America. It is supposed that he took some tubers with him to Ireland on his return from Virginia in 1586, but 1597 is the earliest date of which there is any record of its cultivation. It is, however, doubtful whether he was aware of the value of the tuber, for it is said that he gave his gardener the potatoes as a fine fruit from America, and ordered them to be carefully planted in his garden. In August, the plants flowered, and in September, produced the fruit; but the berries were so different from what the gardener expected, that in an ill-humor, he carried the potato balls to his master and said, "Is this the fine fruit from America you praised so highly?" Sir Walter was or pretended to be ignorant of the matter, and instructed the gardener, since that was the case, to dig up the weed and throw it away. The gardener, however, soon returned with a fine lot of potatoes.

The name, Irish potato, has, no doubt, been given because they were used for food in Ireland long before they were even known or cultivated in England. From Ireland, the potato made its way into England, some say by the accidental shipwreck of a vessel on the coast of Lancashire, at a place even now famous for the production of this vegetable in the greatest perfection. It was, however, nearly half a century later before it received any attention in London, and even then was considered a mere article of luxury. In the year 1662, the Royal Society recommended its general cultivation as an edible food, but it was still half a century later that they were grown to any extent in England.

In 1725, they were introduced into Scotland, where they were cultivated with much success, first in gardens, and afterwards, about 1760, when they became more plentiful, in the open fields. Except in Germany, where it seems to have been quickly appreciated, its introduction to the continent of Europe was slow, owing to the marked prejudice against it, and it is related that, during a famine in Italy, a ship-load sent there was allowed to waste, as the mere name of potato as food carried with it such dread that they preferred to bear the horrors of starvation rather than eat the potatoes.

The Gardeners' Association of Ireland recognize the year 1897 as a tercentenary of the introduction of the potato into Ireland, and they will celebrate it in an appropriate way. One of the most interesting things about this celebration will be a collection of varieties of potatoes. Sir Walter Raleigh knew nothing of varieties. The chances are that the tubers he took to Ireland were very poor specimens. Since his time, and particularly during the past 50 years, the potato has been wonderfully improved in every way, and it will be an exceedingly interesting thing at this Irish celebration to compare varieties from all over the world and see how the climate and culture of Russia, Australia, Japan, Canada, Mexico, Germany, Africa and Iceland have modified and changed this plastic vegetable so that it meets the requirements of almost every known soil and climate.

America will, of course, be represented by hundreds of varieties, but to Mr. Carman's new seedling will be accorded the honor of bearing the great Sir Walter Raleigh's name. A picture of a fair specimen of this potato is shown at Fig. 266. It represents the product of three centuries of potato improvement, and we are confident that its future behavior in the hands of skillful growers will be such as to prove it worthy of the name it bears. Mr. Carman has already given the history of this potato. A tuber of the old R. N.-Y. No. 2 was sent across the ocean to Belgium. There the vines produced seeds. These seeds were sent back to America and from them was grown the plant that produced the Sir Walter Raleigh. It seems fitting, therefore, that this potato should now cross the sea as the leading American representative at this Irish potato convention.

THE SIR WALTER RALEIGH POTATO. FIG. 266.

VEGETABLES UNDER GLASS.

The cultivation of vegetables under glass is now an increasing business in the neighborhood of our large cities, and a system of intensive culture, with labor-saving devices, is necessary, in competition with the open-air products of the South. The three styles of glass gardening used by vegetable growers are cold frames, hotbeds, and forcing houses. The first of these, the cold frame, is cheap and easily managed, and many a farmer will find it valuable either for the benefit of his own table, or for the home market. The construction, in a commercial place, is extremely simple, merely a long bed, six feet wide, inclosed on either side by inch boards. The ends are, of course, inclosed, but there are no cross-bars, so after removing the ends, the entire length may be cultivated by horse power. For covering, six-foot sashes are merely laid across the frames. Alleys four feet wide are left between the frames; these are also planted, no waste space being permitted. The soil of the frames is very rich and well drained, and it is recommended that the top earth at least, to the depth of two or three inches, be removed and replaced each season.

Fig. 269 (taken from Dreer's book) shows how these "boxes" look while "at rest"—that is, while the glass is off during the summer. The alley, four feet wide, is planted with radishes, while the boxes themselves contain a summer crop of celery. The picture shows how easily these boxes may be worked by horse power. As fast as one crop comes out, another is started.

Some of the cold frame rotations, practiced by Philadelphia market gardeners, are thus given in Dreer's Vegetables Under Glass, a very useful little manual recently published:

Spinach, sown about September 15, cut at Christmas; radishes, sown in February, pulled in April; bush beans, sown in April.

Corn salad, sown about September 15, cut in April and May, followed by beans.

Lettuce, sown about September 15, cut in April and May, followed by beans.

Spinach, sown about September 15, cut at Christmas; lettuce (plants from the seed bed or seed), in February, followed by beans. Beets are frequently sown in February.

Of winter market garden crops, the following may be grown without heat: Spinach, spring cabbage plants, corn salad, endive, onions, daisy, pansy, violet. With heat: Tomato, cucumber, cauliflower, beans, melon, mushroom, potato. Grown both ways: Lettuce, radish, parsley, beets, water cress, carrots, rhubarb, asparagus, mint.

The culture of potatoes under glass may seem odd to some of our readers, but it is no new thing in England, where a kidney potato of early maturity is used. We are informed, in the little manual we have quoted above, that during the present year, a Pennsylvania market gardener succeeded in growing ordinary potatoes under glass in time to compete with the new potatoes from the South. These tubers from indoors were sold for the same price per half peck as he afterwards obtained per bushel for those grown out of doors.

At Fig. 268, is shown a picture of a simple forcing house made by placing the movable sashes on a frame. This picture was taken in summer, and shows the construction of such a house. Such a house marks a step above the cold frame and hotbed, for it provides shelter, and permits the introduction of inside heat by means of steam or hot water. In this house, the glass roof can be wholly removed. The peak or highest part of the roof is about six feet above the surface of the middle bed, while the permanent glass sides are two feet high. The beds are made directly upon the ground separated by sunken walks.

Another curious illustration found in Dreer's book is shown at Fig. 267. This represents a scheme for irrigation in operation at Belmont, Mass. There is an elevated two-inch central pipe running the length of the field and held up by iron posts made of pipe. At points about 18 feet apart, cross pipes reach out with a revolving sprinkler at the end of each. A water pressure of 25 pounds to the square inch is used, and 60 sprinklers are run at one time. Of course this is used on very rich ground where large crops of fresh vegetables are expected. It would not be practicable for farm culture, but for gardening, it is the best imitation of a genuine rain one is likely to find.

SOME USEFUL FLOWERS.—As a catch crop, gladiolus is grown in carnation houses, coming into bloom in early spring. It does not materially shade the carnations, blooming at a time when the sunlight is growing stronger. A favorite variety for this use is The Bride, a form of Gladiolus Colvillei, white stained with faint pink. Light colored varieties are preferred for the cut flower trade. Sweet peas are grown in the same way, blooming much in advance of those outside.

THE yellow flax (Linum trigynum) forms a very useful plant for window or small conservatory, owing to its abundance of successional bloom. The flowers do not last long, but they are so freely produced that the plant is a mass of golden-yellow bloom through the flowering period. The only enemy likely to trouble this flax is the red spider, which may be kept in subjection by careful spraying. After flowering, it should be cut back quite severely, and planted outside in May, being taken up in September. After taking indoors, it should be watered freely and kept in the shade for two or three days. It is easily propagated from cuttings. While outside, the longest and most straggling shoots may be nipped off, so that a symmetrical shape is maintained.

HOW MANURE IS HANDLED IN WINTER.

PRACTICES IN VARIOUS PARTS OF THE LAND.

What is the usual method of handling manure in your locality? What are the reasons given for the local practices? What system seems to give the best results? From your experience and with your soil, what would you do with this winter's supply of manure, if you could have things arranged exactly to suit you?

Purchased Manure on a Fruit Farm.

Circumstances vary so much, that no uniform practice for handling manure during the winter months can be adopted. Different crops grown, quality of soil, face of the ground, whether hilly or level, and condition of roads, are all factors to be taken into consideration when planning for taking care of the manure that accumulates during the winter. On dairy farms, or where milk is the chief product, the manure is generally applied to the soil as fast as it is made. The next season's crop, whether corn or grass, will doubtless receive a maximum benefit from manure applied during the fall and winter. The reasons for this are obvious; all the fertilizing elements are applied without extra work in handling, and the soil receives the full benefit.

On our hilly lands, where fruit is the main crop, many other things must be taken into account when considering the economical application of manure. During the season of growth and cropping, it is impossible to apply stable manure to the fields. If the supply be continuous, some plan for holding it with as little waste as possible must be adopted. As we gather from three to four tons of stable manure a week, I will briefly give our method of caring for it. As drawn home, it is put in a pile near where it is to be used, and about a peck of kainit is spread over each load. By this a double result is sought. The chloride of sodium (common salt), as it dissolves, attracts moisture from the atmosphere and checks rapid fermentation, thus preventing drying and fire-fanging. The potash contained in the kainit adds a needed element for fruit to the manure. After the season of growth, this manure is applied late in the fall to grape vines, currant and gooseberry bushes, and covered with earth by a shallow plowing.

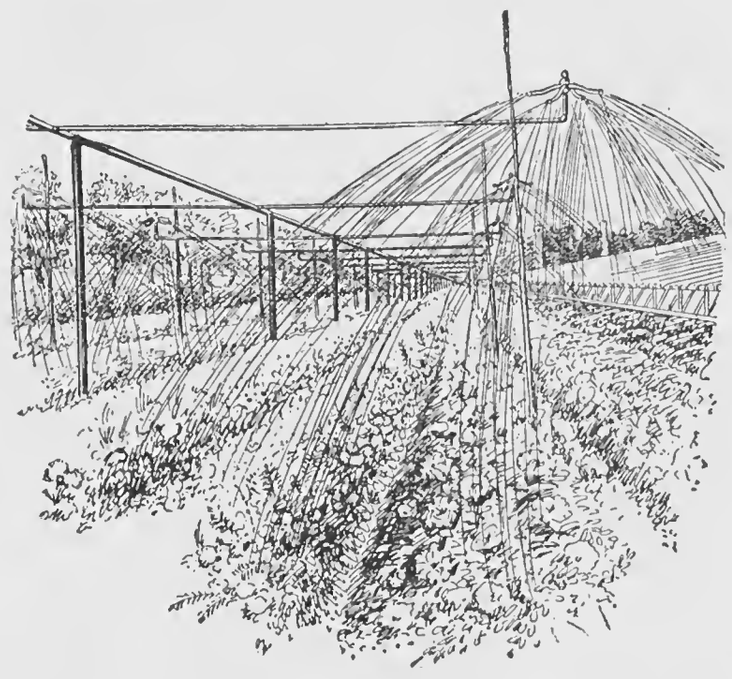
A large portion of the manure collected, is used for mulching strawberries; that which has been on hand but a short time and is but partly rotted, is saved for this purpose. It is not applied until the ground is frozen so that it will bear a loaded wagon. This is our practice, but some very successful strawberry growers cover the beds before the ground freezes. Their theory is that the light freezings and thawings in the fall heave the ground, destroy many of the fibrous roots of the plants, and injure them permanently. This they argue is prevented by mulching early with stable manure. We have considered the matter carefully, and do not think that the facts in most cases warrant the conclusion. Strawberry plants set in the spring, under favorable circumstances, form a matted row that covers the ground thickly with foliage. Beds planted the year previous, have a still heavier coat of leaves that cover the ground. This covering prevents the ground freezing in the row till steady cold weather sets in, or until the frost of the previous night is not thawed during the day. Thin, feeble beds, or plants set during August or later in the season, have not enough foliage to keep the ground from freezing around them early in the fall, and would, no doubt, be benefited by an early covering. A large part of the manure used by the fruit growers in the Hudson River Valley, is brought from New York by cars or barges. This is classed as rotten or fresh manure. Most growers purchase some of each. It is generally applied as soon as received, to grapes, and plowed under. The fresh manure is used for mulching strawberries. Not as much stable manure is used as formerly. Commercial fertilizers are being applied more largely each season. For winter preservation of manure on a fruit farm, there seems no better way than to pile it as near as possible to where it is to be applied. Horse and cow manure should be mixed or placed in alternate layers. If piled snugly, there will be but little waste.

Low prices of farm products emphasize the necessity of economy in labor, as well as in outlay in every item of production. A water-tight floor for the manure heap, with a cistern for the drainage, or a covered manure shed, would, doubtless, tend to save some fertilizing material. By using kainit or salt on the fresh manure as it is piled, and placing in snug piles, it seems doubtful whether the waste that ensues would pay for the investment required to build a shed or a waterproof floor and cistern. W. D. BARNS.

Orange County, N. Y.

An Ideal Scheme for Iowa.

I am happy to say that it is the almost general practice among my neighbors to save all the manure, and the practice is just as well established of scattering it on the corn ground in the spring and plowing it under. A few throw the manure out under the eaves, some wheelbarrow it to a pile away from the barn, some who have only a little stock carry it on the fork



A NEW PLAN FOR IRRIGATING GARDENS. FIG. 267.

or scoop clear of the barn, and one man, at least, a Short-horn breeder, throws the manure into a small sled, or box with runners on, which is hauled by one horse and is dumped in a big heap eight or ten rods from the barn, there to lie till it is carted out in the spring. Manure spreaders are used on some farms; probably there are half a dozen in the township. I do not know of a manure shed or covered barnyard in the county. Of course, where cattle are fed outdoors or in open sheds, which is done considerably, the manure is not touched until it is time to haul it to the fields.

Nobody composts manure or uses it as top-dressing. This refers to the farmers, and not to the gardeners around town. Some of the farmers think enough of manure to haul it from town, where it can be got for the asking. Here is another scheme which is advocated by one of our agricultural papers, but I do not happen to know of any one who practices it. It is to throw the manure each morning as the stables are cleaned into a wagon that stands handy, and when the wagon is full take it to the field where needed. There are several evident objections to that, but the principle one is that it would waste the undigested kernels of corn, which make prime hog food.

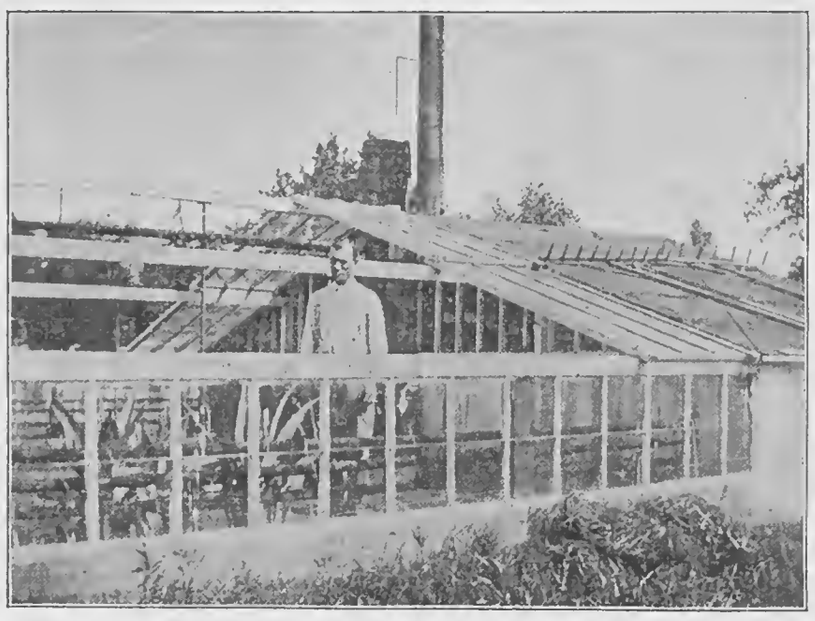
I am very well satisfied with the system that deposits the manure in a pile clear of the barn, where the hogs can work it over, and then hauls it out in the spring. The objection to this is that it requires the manure to be handled twice. The loss occasioned by leaching or evaporation is not worth considering, or at least, is not great enough to pay to prevent it. Of course surface water should not run to the heap, and the pile should be cleared up at least every six months. Some of my eastern friends may not agree with me about the harm in exposing manure, but here are two things entering into this problem that have helped to bring me to that conclusion: First, the Illinois Experiment Station, after repeated field trials, came to the conclusion that, on good prairie soil, stable manure applied to corn ground paid only a very small profit over the cost of hauling it out. Our soil here is practically the same as the prairie soil of Illinois, and figuring on a money basis, we must not put extra work or expense on the manure, or we shall lose that profit. How much corn will a load of fresh manure produce? And when manure is fresh, it is in its prime. After we have taken pay out of that for handling the manure, how much lumber will it buy? A neighbor is hauling corn past our house to get lumber to build cribs for the rest of his crop; he exchanges 100 bushels of corn for 1,000 feet of lumber. So we see that the margin is very narrow, and I can not see any profit in giving protection to manure. All that is left for us to do is to get it to the fields as fresh as possible. Second, my observation and experience with clover (Medium) lead me to think that there is an easier and cheaper way to restore lost productiveness. Not that I value manure any the less, but I value clover more. Our next step forward must be to save the liquid manure, a large part of which is now wasted.

Personally, the manure problem has given me many weary hours of study and planning to arrange ideal schemes to fit my farm, and then more weary hours of backache in working out these schemes. My ideal now is about as follows: Cement floors in all the stables to save all the manure; plenty of bedding and litter to absorb the liquid portion; a heap about 30 feet from the barn and on ground four or five feet lower; a low, tight fence around three sides of the heap, so that the hogs will not scatter the manure too far, leaving the side next the barn open; back of the cows, have a track similar to a hay-carrier track, and to the carrier that runs on this track have a car attached, which car will have a hinged bottom that may be unlatched so that it will drop down when a rope that reaches back to the barn is pulled, which will be, of course, when the heap is reached. Some arrangement would need to be made for raising and lowering the car for convenience in filling. Then, if the track, as soon as it left the stable, had a downward slope, the car would run itself, and when it reached the heap it would be unloaded and brought back by the rope. The manure from the horse stables should be carried out the same way and to the same heap, to be worked over and mixed with the cow manure by some Duroc-Jersey hogs. In the spring, a good, willing hired man should move the manure out, while I sat in the house writing about it to THE R. N.-Y. Pat should put the manure on ground intended for corn, or, possibly, potatoes, never on grass or where small grain is going in. Again, after harvest, the heap would be cleared up and go to the oat stubble, and again some time during the fall.

Iowa. E. B. WATSON.

Practice of a New York Dairyman.

In the last two years, a large number of silos have been built in this county. The amount of corn raised for fodder and ensilage is, probably, four times as great as it was five years ago. Other conditions being favorable, excellent corn can be grown on clover sod manured during the winter and carefully prepared for the crop in spring. Modern dairy barns are so constructed that a team can be used in cleaning the stable. With a water-tight gutter and suitable litter, all the manure can be saved. If it is drawn directly to the field and spread on a clover sod, there will be no loss of fertilizing material; if spread on snow, very little loss will occur on level fields. A farmer is supposed to know the conditions of his own farm and, of course, he will not spread manure where melting snow will be likely to develop a strong current of water. This method of applying manure insures a good corn crop. There is very little loss of fertilizing material. It saves the labor of piling the manure in the yard or field, and subsequently reloading it. A large part of the work is done in winter, in a time of comparative leisure. All the manure can, in this way, be put to profitable use the same year in which it is made. When the cattle are kept in the stable all the time, it is quite practicable to have the barnyard



A FORCING HOUSE WITH SASH ROOF. FIG. 268.

"BOXES AT REST." COLD FRAMES IN SUMMER. FIG. 269.

and adjoining premises wholly free from unsightly and unsavory accumulations of manure during the entire year. A low wagon, with tires four inches or more in width, is essential for use in spring and fall. A mud sled with runners six inches in width, can be used at all times when the snow is two or more inches in depth.

Formerly my practice was to draw the manure in winter, and place it in piles of 20 or 30 loads each in the field where it was to be used in spring. After the land was plowed, the manure was spread and well worked in with the cultivator to the depth of four or six inches. The manure being partially decomposed, gave quick and profitable returns. With this method, the manure spreader can be used to advantage. Where the manure is not wanted for the corn crop, or when it is impracticable to spread it during the winter, I believe this to be the best method of application. In this way, it is of great advantage when seeding to clover or grass. The disadvantages of the method are that it requires so much labor to be done in the most busy season of the year, and more or less of the soil will be made lumpy by the wagon passing over it at the time of spreading. Manure should never be put down in small heaps in the field. I do not know of any better or more economical way of handling, and applying manure than by the methods above indicated.

Lewis County, N. Y. C. S. RICE.

The Cheapest Manure Yet.

The usual method of handling manure here, is to haul it out on the meadow land in August and September, when work is slack. It helps out the clover and Timothy, and shows on the corn when the land is finally broken up. Most farmers pay but little attention to the manure, and haul it out mainly to get it out of the way, for they have the idea that the land is already rich enough. I am in the garden business, near town, and can get all the manure I need at 15 cents per load in trade, hauled to me. The men are paid to haul it away by the town people, and the 15 cents is clear gain to them. During the fall and winter, I have it spread directly on the ground, and during the spring and summer, when the ground is in use, I have it piled till fall and then spread it. It hardly pays to save my own supply when I can get it hauled to me and spread for 15 cents. HENRY FIELD.

Page County, Iowa.

How They Operate in Kansas.

Our soil is an alluvial mold of a dark chocolate color, about 16 to 20 inches deep, and underlaid with a water-tight clay called yellow gumbo. A description of my own barnyard, or corral, as we call it here, will answer for the whole country around here. My land has a slight slope towards the south, and the barnyard is on the north side of the farm. The yard is entirely surrounded by buildings on the north and west sides, with a good stone wall for the east and south sides. The wash of the hogyards, sheepyards and dooryard passes into the barnyard, that contains about one acre of land, also the drippings from the eaves of a large sheepbarn, hogbarn, cowbarn, stable and corn-cribs. For every one inch of water that falls in the barnyard, about three more are added from the other yards and buildings. The barnyard has been scraped out in the middle, and the earth hauled to the surrounding edges, making the center of the yard a pond of about one-third of an acre. A slight ditch prevents its filling full, and carries the red liquid manure off under the wall on to a field of 12 acres that is kept subsoiled; never a drop of this rich liquid manure gets across this field, and I have seen six inches of rain fall in a few hours, or a total of 24 inches for the barnyard. This center of the yard is kept full of stable manure, all old straw and everything that can be utilized; the cattle feed rack is there also. Soon after the yard is cleaned out, the accumulated matter in the middle of the yard makes it a good, dry place for the stock, and at no time can the manure heat, because of the moisture. This plan answers the same as Mr. Terry's covered yard does in Ohio, only that we would not have it covered at any price.

The winter's accumulation of manure is always hauled out in March on to a clover sod that is used for potatoes the same season, followed by corn, then by flax and clover. The manure does not lose its strength here for 10 years on account of the subsoil preventing leaching. It seems as though Nature could not improve on our soil and climate. Our annual rainfall is 37 inches, and for three weeks in July and August, we always have a drought. We have learned to subsoil and secrete enough moisture to tide us over this dry spell, and to get in our best licks in the hay field in the meantime. Everything is here, and it needs only the hand of man to insure a large yield. THE R. N.-Y. is a great educator for us, and is worth many times its cost in a year. Natural gas at a pressure of 200 to 400 pounds per square inch can be struck at 800 feet, and petroleum at 900 on any farm around me, and my neighbors have 19 wells.

Allen County, Kan. CLARENCE J. NORTON.

On a Connecticut Dairy Farm.

We keep all our manure under cover until hauled to the field. Our horse manure is daily put into the drops back of the cows, and sprinkled with plaster. During the fall, we use all the manure made for top-dressing grass land, trying to go over all the meadows at least every other year, and frequently using commercial fertilizer the alternate year. We spread as hauled on most land until the ground is covered with snow; then if the land is level, we still spread, but if steep sidehill, we put in small piles, say eight to the ton, and spread in the spring. This is done to avoid its being carried away by heavy storms. We aim, however, to dress our sidehills early in the season. A good coat of stable manure acts as a mulch, and we have never yet found a commercial fertilizer for grass, that will equal the stable manure made from cows fed on cotton-seed meal and wheat bran. After snow comes, we allow the manure to accumulate in the cellar until we get good sleighing, when we haul it to the farthest fields where we are to have corn the next season, and put it in piles of 50 to 75 loads on the highest ground of the piece. This is broadcasted just after plowing, or if the land is fall plowed, just before the first harrowing.

We like a heavy coat of stable manure for corn with a little fertilizer in the hill or drill. The next year, potatoes without stable manure, but with 2,000 pounds per acre of commercial fertilizer. As soon as the potatoes are dug, we seed down and allow it to remain so as long as we can get a good crop. If Timothy land is not pastured, or the second crop cut, it will almost reseed itself every year, and keep in condition much longer than where pastured. Pasturing meadow lands is a common practice with many farmers, but it is expensive.

It was formerly the custom in this section to haul out manure in winter in small piles and spread in spring, on account of the supposed washing, but this practice is dying out. If we could have things just as we wish, we should use all our manure finely broadcasted on Timothy grass land, as Timothy hay here will pay better than almost any other style of farming. First-class unbaled Timothy will always sell and at a good price, to the townspeople who keep a horse for pleasure or business purposes.

Connecticut. H. G. MANCHESTER.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

"Good Grass Crop" in Delaware.

J. N., Newark, Del.—Owing to the past two seasons being excessively dry, our grass is badly run out in this section, and I would like to know, from experience if possible, whether either of these two methods is likely to be successful in securing a stand of grass that will last three years: 1. Pulverize the corn stubble with a spading or Cutaway harrow to a depth of three inches, seed to rye or wheat with Timothy not later than October 10, and sow clover in the spring? 2. After harvest, plow a field which has been in grass four years, mixed Timothy and clover, mostly Timothy, seed to rye or wheat with Timothy, and sow clover in the spring? It is possible to get a crop of Timothy for one year by plowing and seeding to Timothy alone, but it is not a success for more than one crop. Our land is what you would probably call a medium loam.

ANS.—The two methods of preparation of the land for seeding as given by J. N. are both good, but he says nothing about the application of manure or fertilizers, which is very important in order to secure a good stand of grass. The application of from 100 to 200 pounds per acre of nitrate of soda to grass lands early in the spring will prove of great benefit, and will amply repay the expense in the increased yield of grass. To secure a stand of grass for three years as J. N. desires, he must give the land a liberal top-dressing of manure or fertilizer each season. In some sections, an application of acid phosphate proves valuable, while in other localities, ground bone gives the best satisfaction. One of the principal reasons that grass runs out so soon is, I believe, the treatment which it receives after seeding. In Delaware, as well as in many other localities, the grass land seldom receives any manure or fertilizers after it has been seeded. The farmers seem to think that it needs none until it is again plowed for some other crop. This is a very great mistake, as grass land will most readily respond to liberal applications of manures by greatly increased yields. You might as well expect a steam engine to run a thrashing machine the entire season by once filling the fire-box with fuel after steam has been generated. The recent articles in THE R. N.-Y. show very plainly what can be done by liberally feeding the land devoted to grass. The soil must be fed, or else the stand of grass will, of necessity, become poorer each year; but by the application of manures, it can, at least, be continued in its normal condition. The pasturing of meadow lands during the late summer and early fall is very commonly practiced, and is one of the worst things for the stand of grass. More meadows are ruined by this means than by any other. M. H. B.

Sugar Beets; Homemade Syrup.

C. S., Defiance, O.—What kind of soil is best for raising the sugar beet? How is the juice extracted? Can it be ground to a pulp and pressed on a cider press, or are the beets first steamed? Will Ohio-grown beets make syrup?

ANSWERED BY L. A. CLINTON.

The best soil for the growth of sugar beets is loose, open and porous. A sandy loam is preferable, because the beets grown on such a soil have a larger percentage of sugar. Though a larger yield of beets might be obtained from mucky, peaty ground, the percentage of sugar would be so reduced as to render its manufacture unprofitable. If the sugar content fall below 12 per cent, then the roots cannot be worked with profit. The soil should be made fertile by means of phosphates and potash. If stable manure be used, it should be put on the land and plowed under the previous fall. An excess of nitrogen in the soil will cause excessive growth of top, and will delay the ripening process in the fall. A clay soil is not adapted to the growth of beets, and if the sandy loam is underlaid with a hard, compact subsoil, this should be broken up by means of the subsoil plow.

The seed must be planted early, and may safely be put in the ground before corn is planted. The rows should be, at least, 20 inches apart, so that culture can be done with a horse. The best seed is at the present time imported from France or Germany.

The manufacture of beet sugar is a very costly operation, requiring a large outlay for machinery and buildings, and then expert operatives must be secured. There are two prineipal methods of extracting the juices from the beet. First, by the grinding of the beet to a pulp, and then by means of hydraulic pressure or centrifugal force, the juice is separated from the solids. The second method is by the diffusion process. In this case, the beets are sliced and put in pans, and water is allowed to flow over them from the higher pan to the lower. The principle on which this method of extraction works is that two liquids of different density separated by a membrane will pass through the membrane until the liquid is of the same density on both sides. By repeating this process, the sugar contained in the beet may be almost entirely removed. If now the juice extracted from the beet were simply a solution of sugar, the problem would be an easy one, and the sugar trust would soon go to pieces; but the difficult part has just commenced. There are mixed with this juice various gums, acids, nitrogenous matters and salts. These are combined very closely, and are removed only by intricate chemical operations. It is first treated with lime and carbonic acid, and then filtered through animal charcoal. You can grind your beets and press them with a cider press, but the product obtained will not be worth your trouble. You would get an acrid juice that could be made valuable only by a most costly and intricate process.

"Worms" That Ruin Quinces.

G. F. P., Milford, Conn.—How can quinces be grown so that they will be free from worms? We usually have something over 100 bushels of this fruit every year, but notwithstanding the fact that we cultivate, fertilize and spray, the fruit has always been seriously injured by knots and worms. Spraying, undoubtedly, is of great benefit to apples, for the egg of the Codling moth seems to be laid in the blossom end of the apple, while it is quite small, just where the poison will reach it; but in the quince, the eggs seem to be laid all over the fruit after it is half grown; at any rate, the fruit remains fair and smooth till about September 1. I can think of no remedy that promises to be effective except that recommended by Downing for destroying the moth of the apple worm or Codling moth, namely, building small bonfires among the trees in the evening during the early part of June. I should think that a lantern set over a tub of water would be less trouble and, perhaps, destroy as many moths as a fire. Quinces are often seen in the markets that are fair and free from worms, but they are, probably, grown in localities where the insects are not troublesome.

ANSWERED BY M. V. SLINGERLAND.

Before we can definitely discuss the question of how to grow quinces free from worms, it will be necessary first to determine just what insect is meant by "worm." I do not know that the Codling moth of the apple ever attacks the quince. The Plum curculio, I am quite sure, often attacks the quince, but I think that most of the "wormy" quinces are due to the grub of the Quince curculio (Conotrachelus cratægi). This curculio is a broad-shouldered snout-beetle, looking very much like, but larger than, the Plum curculio, and it has a longer snout. It is an indigenous insect, having its original home in the wild

haws. It appears on the quince trees in May, and, working its snout through the thick, fuzzy coating on the recently-set quinces, it eats round holes in the young fruit. Apparently, egg-laying does not begin until the fruit is considerably larger, and the fuzzy coating is thinner, probably in June. I am inclined to think that much of the knotty, pitted appearance of the matured fruit is due to these early punctures made by the beetles in feeding in May and June; each puncture checks the growth of the fruit at that point and forms a hard kernel and depression. Other insects, and, possibly, the curculios themselves, seem to eat round holes in the fruit after it is half or two-thirds grown; we know but little about the authors of this work, however.

To lay an egg, the Quince curculio makes a cylindrical hole in the fruit a little larger than is sufficient to admit the eggs, and enlarged at the base. Within this receptacle, the egg is placed, and there hatches in a few days. The grub, which resembles that of the Plum curculio very closely, but is larger, is said to burrow in the fruit near the surface, not going in to the core as do the Codling moth and Plum curculio larvæ; the caterpillars of the Codling moth have well-developed legs, while the grubs of the Quince and Plum curculios have practically none, so the former should be easily distinguished. The Quince curculio grub gets its growth in about a month, when it leaves the fruit through a cylindrical opening, and buries itself two or three inches in the ground, where it remains as a grub until the next spring, when the change to a beetle takes place.

From this account of the life story of this quince pest, I cannot see how or when it could be reached with a Paris-green spray. In one of the large quince orchards at Geneva, N. Y., the insect is very numerous, and is held in check only by jarring the trees over the Plum "curculio catchers". Jarring begins soon after the blossoms fall, and continues every day as long as curculios are caught; usually the "bugging" season is over in two or three weeks. In this instance, many of the quince trees had to be severely pruned so that the "catcher" could be run under them to advantage. Last May, I saw Quince curculios being caught by the pint in this manner. It is the only method of successfully checking the pest that I can suggest.

There is no question about the effectiveness of the Paris-green spray against the Codling moth on apples, but I do not believe that the statements in the books as to how we kill the worms are correct. They certainly do not agree with my observations this past season. In the first place, the Codling moth rarely, if ever, lays her egg in or on the blossom end of the young apple; it is laid anywhere on the surface of the skin of the fruit. There are several other interesting points about how we kill this Apple worm that I hope to illustrate in a bulletin from the Cornell Experiment Station in the near future. It has been shown several times by careful experiments that bonfires, lanterns or bottles of attractive liquids will attract but very few Codling moths, certainly not near enough to pay for the trouble in applying the method. The moths are attending to their business of egg-laying at night, and are not to be deterred from their work by lights; rarely does one of the moths fly into an open window in the evening when hundreds of other moths are attracted therein by a light. I have no faith in any of the above methods to check the Codling moth, Plum curculio, Quince curculio, or whatever insect it is that makes G. F. P.'s quinces "wormy."

How Many "King" Apples?

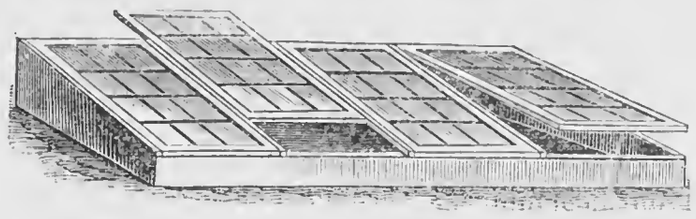
G. F. T., Derrick City, Pa.—How many kinds of King apples are there? Some tell me that there are three kinds—the King, the Tompkins County King, and the Green King.

ANS.—There are Tompkins County King, King Philip, which, we believe is the same as Jonathan, and King of the Pippins. Downing gives, also, King Apple, King George the Third, and King Tom, besides several others which have the name King as one of their synonyms.

Storing Celery in Virginia.

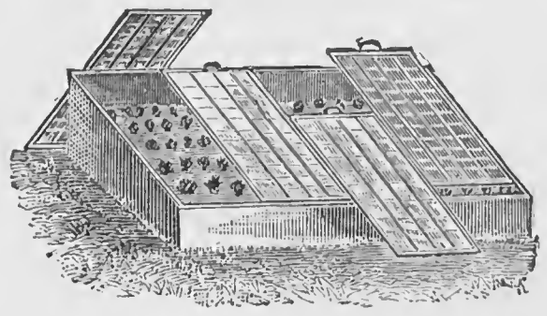
O. O. G., Aylett, Va.—I have been quite successful in raising celery for family use, but very unsuccessful in keeping it. I have now about 150 nice plants about two feet tall (mostly Giant Pascal), raised with level culture and well earthed up, but not covered over, as we seldom have freezes to do harm here before December 1, about which time we put away cabbage, turnips, etc. How can I best protect this from cold without injuring its flavor or crispness? I have tried covering over with straw and earth, also setting in mud in the cellar and in trench in garden.

ANS.—This inquiry is very pertinent, as it is not possible to follow closely the practice of northern growers in regard to many of our crops which must be stored. In the first place, celery which is to be kept for winter use must be grown late. Here at the College I expect to mature it about the middle of November, but in tidewater I should expect it to grow until December 1 to 10. In fact, I find that a temperature of 25 degrees does not injury celery if well earthed up. By a late crop, I do not mean to hold the early-grown crop, as this will not keep well, but a crop which has been grown chiefly after September 1. For winter storage, I provide a pit about 30 inches wide and as long as may be necessary or convenient. As many pits can be made as one may desire. They should, preferably, be located in a cool spot and where drainage is good. The depth should be such as to bring the tops just even with the surface of the ground. Into this pit, we pack the celery tight, taking great pains to keep it up straight and, usually, crowd about 40 plants into a foot of the trench. The plants are carefully dug with abundant roots, and all decayed stems and leaves removed before putting into the pit. Fine earth is packed in



COLD FRAME. FIG. 270.

tightly about the roots and then carefully wet until the plants are virtually puddled, but the stems and foliage are kept absolutely dry. When the pit is filled, a span roof is put over it. This can be made of cheap lumber, but must be so tight as to prevent any drip on the plants. The ends of this structure are left open at all times, except when the celery would be injured by freezing. As the winter advances, it becomes necessary to cover the roof with straw or earth, or some litter to prevent freezing, but the aim should be to keep the plants cool and as well aired as possible without injury by frost. Stored in this manner, our plants grow in the pit, become more perfectly blanched, and improve in flavor. The crop will



SMALL HOTBED. FIG. 271.

keep perfectly if rightly handled. If the crop is bulked in square pits, there is great danger from rot.

Virginia Experiment Station. WM. B. ALWOOD.

Making a Hotbed.

A. S., Eminence, Mo.—Will you give me information on how to set out a hotbed?

ANS.—The situation for the bed should be sunny and sheltered; a slight slope facing south or southeast is desirable. Two styles of structure are used; one where the bed is above ground, and one where it is constructed in a pit below the ground level. When

SASH AND SHUTTER. FIG. 272.

the latter style is used, it effects a saving in manure and shelter, but unless the situation is very well drained, there is risk of water lodging in the bottom, making the bed practically useless. If, however, the soil is sandy or gravelly, the sunken bed is much the more economical. The manure bed should be 2 or 2½ feet below the ground level, the frame one foot high in front, and 18 inches at the back, thus giving a gentle slope to the sashes. It should be banked with loam or coal ashes to hold the heat. If the pit be lined with boards to the bottom, the manure will not cool so readily as when it comes into contact with the soil. It is better still to have a double wall of boards, with an air space between them. The boxing should be pine plank, beveled at the top, so the sashes may fit snugly.

The heating material is fresh horse manure, thoroughly moistened and heated. Throw it up in a heap to heat; turn and shake it well. When quite hot, make into the bed, treading very firm and level, settling it well into the corners and under the rafters. It is very necessary that it should be firm, otherwise it will settle unevenly. Never use manure that is not hot when put in, even though new. When heat is up, the manure should be about 12 inches from the sash, with four or five inches of loam over it. Keep the sash closed until the loam is well warmed. Seed may be sown when the heat of the bed is 110 degrees, but it should be allowed to drop to 100 degrees before setting out plants. When steam arises, the sashes should be raised for ventilation. In cold weather, mats or shutters may be used for extra protection. But, while cold frames may be left closed for weeks at a time, in severe weather, the hotbed must be regularly ventilated, or the plants suffer in the close, moist atmosphere. In "Vegetables Under Glass," a cold frame is called "merely a glass-covered garden." About all it is expected to do is to keep off cold winds and snow, and increase the heat of the sun in spring. A picture of a cold frame is shown at Fig. 270. A hotbed is "a modified cold frame," that is, a cold frame with heat in it. A small hotbed is shown at Fig. 271, while at Fig. 272 is an attractive combination of sash, shutter and a gardener's daughter!

The Most of a Single Potato.

R. B., New Amsterdam, Wis.—How would you cut the Sir Walter Raleigh potato for seed, so as to get the largest amount of seed for next year's planting? Would you use any stable manure, or just plant on good soil?

ANS.—Continued sprouting under glass and planting the sprouts would, probably, give you the largest amount of seed. Otherwise, we would advise you to cut the potato to single eyes and plant them in rich, mellow soil. We would not use any stable manure.

Too Much Grain for the Horse.

U. V. P., Union, N. Y.—My eight-year-old horse is out of condition. I have used several kinds of condition powders, but to no avail. I have fed as high as three pecks of grain a day and he would eat more if I would give it to him. The grain was whole oats six quarts, and soft corn on the ear, four quarts, three times a day, and I do not see any grain pass him whole. His hair does not look well, and his hind legs stock considerably. He has no life, and there is a spot each side of the withers about 10 inches long and two inches wide, that, when I take his blanket off in the morning, is so wet that I can ruo water out of the hair, and that is the only wet spot on him. When I drive him he does not sweat any more there than anywhere else, and the spot isn't any warmer to the touch than the rest of the body. His urine seems to be all right, and he was cleaned recently. He gets hay instead of straw, and his eyes look haggard—not bright.

ANS.—I suspect that the horse is suffering from chronic indigestion, due to overfeeding on grain. There are very few horses that can utilize the quantity of grain you are feeding. Reduce the ration one-third if the horse is working, or one-half if idle or used only for light work. Then give one of the following powers in the feed night and morning: Powdered nux vomica and sulphate of copper, of each four ounces; arsenic 100 grains; mix, and make into 40 powders. I would also advise feeding, at least, one-half pint oil meal or ground flaxseed twice daily. Feed a bran mash two or three times a week at night, and if this do not keep the bowels moving easily, give occasional pint doses of raw linseed oil.

F. L. KILBORNE.

Swelled Ankle on a Mare.

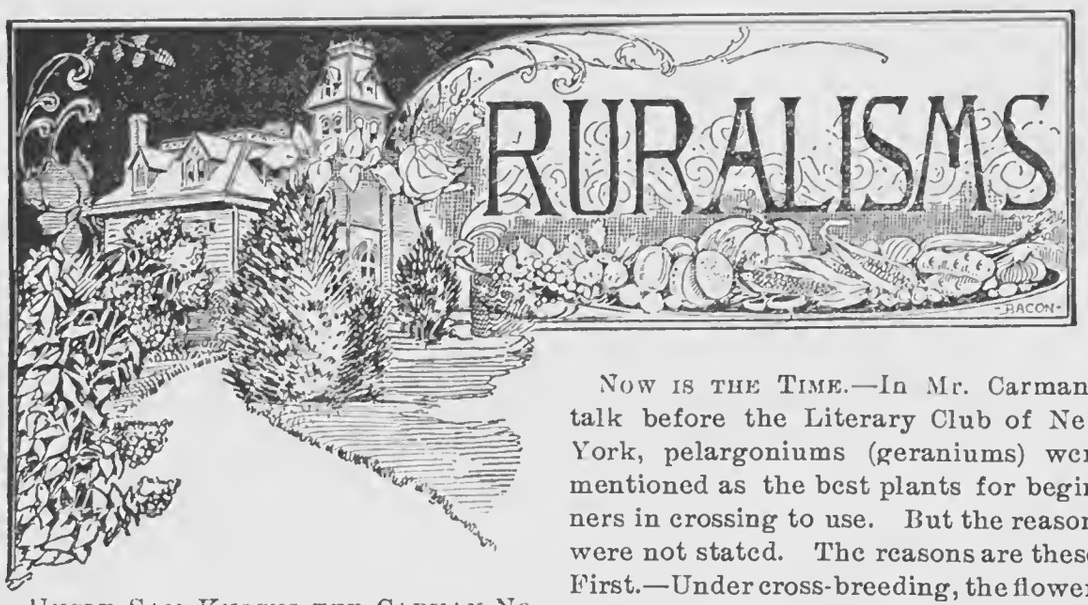
A. W. C., Worcester, N. Y.—I have a fine pair of six-year-old mares; one has been troubled with swelled ankles lately. They are eating six quarts of grain per day: oats, corn and wheat bran. I have been feeding a few apples, and thought, possibly, that might be the cause. I stopped feeding apples, but the ankles swell just the same. The other horse has shown no signs of any swelling whatever. What is the trouble with one that her ankles swell?

ANS.—I suppose that it is the hind ankles only that swell, a condition commonly known by horsemen as "stocking." The trouble may be due to the condition of the blood, or to some chronic disease of the heart, liver or kidneys. Feeding the apples had nothing to do with the stocking. Try the following powders, giving three large tablespoonfuls twice daily in the grain: Ground flaxseed, two pounds; sulphate of soda, one pound; nitrate of potash and chlorate of potash, of each four ounces; powdered nux vomica, two ounces; mix. Keep the bowels moving freely by feeding bran mashes occasionally at night. If there be no improvement in four to six weeks, report fully, referring to this page. F. L. K.

Food for Ducks.

A. B. C., Sherwood, N. Y.—1. How many Black Cayuga ducks can be profitably allowed to run with one drake in the breeding season? 2. Do you consider yearlings, two-year-olds, or older ducks the best for breeders? 3. What would you advise as a food for ducks to induce winter laying?

ANS.—1. Five. 2. Two-year-old ducks are the best for breeding. 3. Corn meal, three parts; wheat bran, three parts; oat feed, two parts; feeding flour, one part; ground meat, one part, mixed with about one-third the bulk of finely-cut clover hay, boiled potatoes, turnips, etc., with a little charcoal and salt added. Mix with hot water or milk. Keep plenty of oyster shells and sharp grit where they can reach them. J. E. STEVENSON.



UNCLE SAM KNOCKS THE CARMAN NO. 1 OUT.—Here is a note from Mr. Guy N. Crawford, of Letcher, S. D. The Uncle Sam yielded heavily at the Rural Grounds the past season, but the tubers were of all shapes, and the quality not of the best. Not so with Mr. Crawford. Here is his note :

I secured 10 pounds of Henderson's new potato, Uncle Sam, last spring, and with me, it comes very near to justifying the strong claims made for it. I cut the seed to one eye and, in some instances, the eye was split; the pieces were planted 1¼ x 3 feet. It is a strong grower with very heavy foliage, and covered the ground completely. From the 10 pounds of seed, I dug 21 bushels of potatoes, fully nine-tenths of which were of marketable size. It outyielded Carman No. 1 over 50 per cent, when planted side by side.....

GET a green tomato, if possible—as green as can be—and put it in a warm, sunny window, not in a dark, damp cellar as is usual. Then watch how it colors. It is very interesting. It colors and ripens more perfectly in this way than will any other fruit whatever.

November 14, we received from Luther Burbank, of Santa Rosa, Cal., two tomatoes. They were Hathaway's Excelsior, which we raised at the Rural Grounds over 20 years ago. Mr. Burbank's tomatoes were grown from seed *saved* in 1876. He says that the seed germinated well, but that 62 per cent of the plants were "blind;" that is, the cotyledons grew, but the true leaves did not. This was, he fancies, on account of weakened vitality from the age of the seeds. The other plants grew and bore as well as plants usually do. The two tomatoes were as smooth as tomatoes can be. There was not a trace of irregularity, and they were as ripe about the stem portion as in any other part, the color being between the dull red of Ignotum and the crimson red of Acme. It is instructive to know that tomato seed 20 years old remains viable. It is interesting to know that, probably, there is not, to-day, a better early tomato than Hathaway's Excelsior.....

ALL GROWN from a little tuber of the R. N.-Y. No. 2, sent the firm some years ago, Brainerd & Beaumont, of Gainesville, N. Y., have shipped 30 car-loads to New York this fall. It is rarely, however, that this variety is sold by retailers under its true name.....

MR. W. H. RITTER, of Mascott, Green County, Mo., has this to say of the behavior of the Carman No. 1 and R. N.-Y. No. 2 in his soil. This is the third season since he received a small specimen (two eyes) of the Carman No. 1. He has now three barrels of the largest potatoes he has ever raised, and the quality is the best of any he has ever raised. He planted them beside the R. N.-Y. No. 2; they are much larger but not so shapely. He finds the one objection to the Carman No. 1 that it has a tender skin. Many of the tubers were scabby, while those of the No. 2 were not.....

MR. GEORGE VAN BUSKIRK, of McGrawville, N. Y., says, that his No. 1 yielded at the rate of 300 bushels per acre, while others beside them did not yield 50 per acre. He says that the No. 1 and R. N.-Y. No. 2 are the leading potatoes in his part of the country. He praises the Carman Rose as a "glorious, sweet beauty".

NOW IS THE TIME.—In Mr. Carman's talk before the Literary Club of New York, pelargoniums (geraniums) were mentioned as the best plants for beginners in crossing to use. But the reasons were not stated. The reasons are these: First.—Under cross-breeding, the flowers seed freely. Second.—The buds may be easily unfolded, and the immature anthers rubbed off without injuring the pistils. Third.—The stigmas of the pistils and the pollen of the anthers are never mature at the same time. The pollen ripens before the stigmas are receptive. Fourth.—The plants, with good care, will thrive in any sunny window and bloom freely. Fifth.—The seeds germinate freely if planted in pots or boxes of rich, mellow soil. The seedlings raised during the winter will bloom the next summer perfect in symmetry, a symmetry rarely seen in plants grown from cuttings.

Now is the time, then, friends, for you to get your plants and begin this interesting work, a work that, beginning with pelargoniums, is not likely to end with them.

Single-flowering kinds would best be selected, and those giving the most contrast, as, *e. g.*, light pink and dark red or maroon.

Comparative Quality of Peaches.

H. E. VAN DEMAN, VIRGINIA.—W. D. Barns, of Orange County, N. Y., in discussing the quality of California peaches on page 786, seems to think that Mr. J. H. Hale and myself should express our opinions on that subject. It is true that I have eaten many peaches from California, but, as I have never been there in peach season to test them in their native orchards, I do not feel competent to express an intelligent opinion. Those which I have seen in the markets, and those which have been sent to me for examination, were all necessarily gathered while yet not fully mature, and, of course, had not their best flavor. Nearly all the California peaches that I have seen were large and highly colored, but they lacked the highest quality of richness and flavor.

If the California peaches should not be fully up to the standard in flavor, it would be nothing to mourn over; for they have so many fruits there in which they do excel, that they could afford to allow the prize on peaches to some other section. I have grown some good peaches myself in several States, and seen and tasted in the orchard, those of nearly every section of the country this side the Rocky Mountains, but none that quite equaled those grown from southern Missouri to Texas. In size, color and flavor combined, they seem to me better as a whole than those from any other section. Georgia peaches are, also, of high quality, but I have never been there in peach time, and will not say but they are equal to those of Texas until I have a chance to test them at home. It takes a soil rich in potash and a sunny clime to bring out the best points in a peach.

Root-Grafting Trees.

W. P. B., LIBERTY SQUARE, PA.—Referring to J. M.'s question, page 753, after having made a special study of the whole-root theory of propagating apple trees, for 20 years, I am confident that the claims that are made for it are not sustained by facts. Since the graft determines the variety, it is more important that it be large and strong, than for the root to be. As the supply of apple seeds is mostly obtained from cider pomace, nurserymen have little opportunity of choosing stocks that are naturally of vigorous growth. Careful nurserymen use first-grade stocks, but the grade or size of these depends more upon how thinly they grew in the seedling rows, or on the fertility of the soil in which they grew, than on natural vigor. If we had the opportunity of procuring stocks that were all strong growers, we might produce more vigorous trees of the slow-growing varieties by using whole roots. But would the roots thus produced meet the requirements of the trees after they were transplanted to the orchard, as well as roots similar to those on which the variety originally grew ?

Roots of varieties differ quite as much as tops. It is in accordance with the laws of Nature to assume that any particular variety will do best on roots adapted to its peculiar growth. My own observations and experiments sustain this conclusion. If this be true, we cannot do better than to grow each variety on its own roots. The longer the scion and the more of it that is placed below the surface of the ground when planted, the more of its own roots will be produced. When a long root or whole root is used, it is difficult to get the joint between the stock and scion far enough below the surface to admit of many roots being developed above the joint.

Our own practice now is to procure first-class stocks of extra grade, when possible, cut these into about three pieces, rejecting the lower piece or point of the root, and grafting the upper pieces to scions about eight inches long, the latter selected from the well-matured part of strong, thrifty shoots. These are set in the ground so that the top bud is just above the surface. When grafts are grown in this way, the stock performs only a secondary part in the production of the tree. It sustains life in the scion until the latter can produce roots of its own; strong-growing varieties like Smokehouse and Fallawater, will then have

(*Continued on next page*).

100

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

the large, wide-spreading roots which are characteristic of these varieties, and which are well calculated to develop their vigorous, spreading tops, while varieties like Caleb and Jefferis will have an abundance of fibrous roots, and be prepared to sustain the numerous buds which are produced on these varieties. When we wish to produce a budded tree to meet the requirements of the trade, we cut a one or two-year grafted tree, according to the variety, back to the ground, and allow one shoot to grow, producing the bright, straight stem of the budded tree on roots calculated to provide for its future needs.

Big Yield of Plants.

J. B., MARLBORO, N. Y.—In the summer, I wrote about a seedling strawberry plant that came up from seed last spring, and said that, if it continued to grow as it had done, it would make 50 plants by frost. The seedling and its runners number just 60, all rooted fast to the ground, and a runner about one inch long, which, I think, will be rooted fast before spring. The plants look like the Sharpless in color and size. Have any of THE RURAL readers ever heard of its equal? Sixty rooted strawberry plants all from one seed in one summer? Another seedling of the same age growing in the same soil, 10 inches from it, has not made a runner, or a sign of one, and is no larger than one of the tip-end plants of the other.

More About McIntosh Red.

C. J. S. H., BERLIN, MASS.—The McIntosh apple, with me, has proved to be first-class. The location of the tree and the kind of soil have a great deal to do with the quality of the fruit. My trees are in a rich, sandy loam on high land. The trees bear a good crop, well-colored, spicy, rich, juicy and not coarse in texture. They sold for the same as my Gravensteins in the Boston market—$2 a barrel. It is a good keeper, free from specks. The season of ripening is October and November, according to the place stored. There are not many good apples in the market at that time of year. I agree with H. E. Van Deman that we should get the best fruits in the hands of the people.

Cow Peas in West Virginia.

S. C., SOUTH SIDE, W. Va.—Last summer, at your suggestion, I sowed a 20-acre field with cow peas—Black, Clay and Wonderful. They all did well. The Black and Clay both ripened a heavy crop of seed, or would had I left them long enough. I cut them while the pods were yet green. The hay is good, and all kinds of stock seem to like it. It made from 1½ to 2 tons per acre, on land that would, probably, have made 30 bushels of corn. The roots were very long, and had many nodules on them, some the largest I ever saw, quite as large as sparrows' eggs. I never before saw stiff clay ground left in as fine condition.

Carman Potato in Canada.

C. J. F., SOUTH LONDON, ONT.—I see by THE R. N.-Y. that reports of Carman No. 3 vary somewhat. In my neighborhood, it has proved a great success. On leaving my farm last spring, for London, I handed my seed potatoes over to my son-in-law; he planted two bushels of No. 3, and dug 50 bushels of first-class potatoes. One of the best of our farmers planted one bag, and he told me that, out of several varieties, No. 3 turned out the best. Both parties claim that they are excellent cookers, and they find no hollow ones. I grew a few in my garden. In comparison with No. 1, I find No. 3 more even in size and shape, but when it comes to decide which is better for the table, I think that No. 1 has a slight advantage. Both are first-class potatoes, and should be largely planted by our farmers. What is now wanted is a really first-class early potato; by early, I mean a potato that will be fit for use, at least, eight or ten days before the Early Ohio. There are many so-called early, but when we come to grow them, we find them maturing all about the same time.

The Carman No. 1 Potato.

T. M. R., FAIRVIEW, PA.—Have I made it pay me to pay $1 a year for THE R. N.-Y.? Three years ago, THE R. N.-Y. sent me a small piece, about one ounce, of the Carman No. 1 potato, which I cut into small bits and planted in the spring of 1894, getting five stalks or hills from the piece. The product from the five hills I cut to one-eye pieces, and planted one eye to the hill last year. What grew from that planting, I cut to one-eye pieces and planted again this year, one eye to a hill. This, the third crop from the one-ounce piece planted in 1894, produced over 200 bushels of potatoes, averaging large and nice, from soil of only medium fertility, without manuring. Is it a success?

Low-Down Wagons.

N. C., WATERLOO, N. J.—I think that I can materially help H. L. R., of Milford, N. J., who is looking for the best kind of low, stout wheels for his farm. I bought or had bent felloes four inches wide, one-half-inch thick; tires one-quarter or three-eighths inch are thick enough. It takes a good smith to put them on right. I then had my old-fashioned, high, narrow-tire wheels cut down to three feet for front wheels, and 3½ for hind ones, and now I have a grand, stout, low-down, handy wagon. THE R. N.-Y. tells of the metal wheels breaking. There is no break to these with their short, stout, wooden spokes and hubs; they will last forever if kept in the dry. What a pleasure to go about with such a wagon, compared with the narrow, cutting tires. If a machine were made on purpose to cut up our roads, it could not beat these. There should be a tax on them to exclude them from all public roads. Most of the hardware stores keep the bent tires.

Putting on Roofing Paper.

J. B., MARLBORO, N. Y.—I have been having quite a job laying a Neponset paper roof. I got it nicely laid but not fastened down, when a wind and rain storm came and blew it up in every direction, twisting some of the strips and crumpling others. I had boards on every strip to hold them down, yet only one strip was torn, and that was only about one inch on one edge. After the storm was over, I wet it as one would wash oil cloth, then rolled each strip up on a piece of three-inch gas pipe to smooth it out again. I got it down in good shape after all, and finished painting it. I run the strips up and down, not across as the manufacturers direct. By laying as they direct, it would be punched full of nail holes at the edge and middle of every strip. As I put it down, there is nothing to hinder water or ice from running off quickly from top to bottom, over a smooth, solid surface. There are no nail holes except under inch strips of pine that cover the lap, and down the middle of the strips of paper, and they should be made tight with paint. I put the edges of the pine strips even with the edges of the paper, then the nails go through both parts of the lap, and the paint can be worked under the edges to make tight joints.

"Milk Fever," so Called.

W. O. E., WHITBY, ONT.—What my cow died of (page 741), is, of course, not a matter of general interest. It is, however, of some importance that a disease, or diseases, of cows, liable to occur soon after calving, and of such great severity as very often to cause death, should not be known by such a misleading name as "milk fever." Whether the cow had, or had not, any increase of temperature, I do not positively know. I believe that she had, but the temperature was not taken, and I cannot, therefore, say. The case did not at all resemble apoplexy in the human subject. The fact, granting it to have been a fact, that there was no increase of temperature, would not quite dispose of all ground of suspicion that the essential cause of the disease entered her system from without through the breach of surface left by the separation of the afterbirth. It is a universally accepted conclusion that tetanus is a disease of microbial origin. The specific microbe that causes it requires some breach of the surface to enable it to obtain access to the blood. Tetanus resembles parturient apoplexy, in that it is a disease without fever, very fatal, and one that selects the nervous system for its special field of destructive operation. Further than this I cannot speak with assurance.

The fact that milk fever attacks only after calving goes a long way to prove that parturition or changes resulting therefrom, are intimately connected with its specific cause. If it were in any distinct sense a disease arising from plethora, we would expect to meet with it under other circumstances. Fat cattle, even, might become victims to it at times. The condition of the mammary gland affords no evidence of its being the seat of the disease. If there remain something to clear up in relation to these diseases of cows, if veterinarians have been laboring under some misconception concerning the pathology of parturient apoplexy, no surprise need be felt on that account. The doctors for a long time, finding no better explanation of the nature, or pathology of what was called phlegmasia dolens, attributed it to metastasis of the mammary secretion, and so it got the common name of milk-leg. It is now known that neither the milk nor the condition of the breasts has anything to do with it. It may very well be that the state of a cow in high condition somehow renders her more liable to attack. There would be nothing in that fact inconsistent with the theory that the disease is of microbial origin. We know that, in all diseases of this kind, the liability to attack is influenced greatly by a variety of circumstances.

The subject is one worthy of more consideration and investigation than it has yet received. That is all that I desire to impress on the minds of readers. Being a physician, I am, on that account, particularly interested in everything that relates to disease. The diseases of the lower animals will often, by the observations and experiments made upon them, their causes, effects, treatment, etc., throw much desired light upon the subject of human disease.

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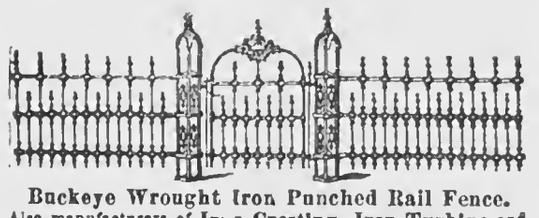
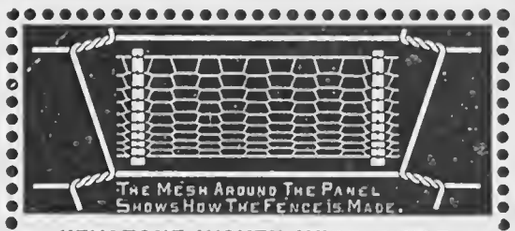
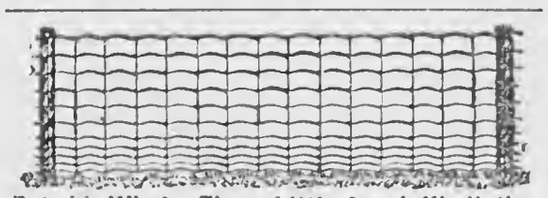


Buckeye Wrought Iron Punched Rail Fence.
Also manufacturers of Iron Cresting, Iron Turbine and Buckeye Wind Engines, Buckeye Force Pumps, Buckeye, Globe and Champion Lawn Mowers. Send for Illustrated Catalogue and Prices to
MAST, FOOS & CO. SPRINGFIELD, O.



KEYSTONE WOVEN WIRE FENCE
Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence.
WRITE FOR CATALOGUE.
KEYSTONE WOVEN WIRE FENCE CO.,
19 Rush St., Peoria, Ill.



Behold, What a Fire a Little Spark Kindleth.
One little runty pig crawled through a rail fence from the highway, meandered up around the barn, sneaked through the gate and introduced Hog Cholera to the fattening herd. The resulting loss would have covered the cost of pig-tight Page fence for that whole farm. Are you protected?
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

INFORMATION Worth It's Weight in GOLD!
For your name and address on a postal card, we will tell you how to make the best wire fence on earth, horse-high, bull-strong and pig-tight, at the actual wholesale cost of wire.
Kitselman Bros. Box B. Ridgeville, Ind.

Tobacco Lands in the South Sumatra, Cuba and old Florida Leaf Cigar Tobacco. Wrappers selling 20 to 40c. Contracts for next year, 25c. The best tobacco region in the world. Virgin-pine forests. Perfect climate, long season, cheap labor, varied products (Sea Island Cotton); cheap living desirable homes; abundant game.
Address ROSELAND PLANTATION, Bainbridge, Ga

A Great Light.
Brilliant and safe for porches, sheds, barns or any outside stationary use is
DIETZ TUBULAR SQUARE LAMP
It has an outside wick regulator. Needs no chimney, never blows out. Made of finest materials and is up to the standard of DIETZ LANTERNS. Made in 3 sizes. If it cannot be had of your dealer we will send to any address, one of the medium size, carriage prepaid, for the regular price, $6.00. Write for free catalogue.
R. E. DIETZ COMPANY, 60 Laight St., New York.
Established 1840.

ALL THE YEAR
we have been urging Asthma and Hay Fever Sufferers to begin the constitutional treatment that brings not only relief, but a Cure that Stays. Hundreds have done so, and here's a letter from one of them:

DEAR DOCTOR HAYES; BREWSTER, N. Y., September 14, 1896.
I am satisfied your treatment has been very helpful and beyond my expectations. The catarrhal symptoms have been much lighter and not of as long duration, and as for Asthma, the effect of the medicines is marvelous. To go to bed and sleep all night is for me, at this season of the year, something I have not been able to do for 30 years. Now I sleep all night, and in the morning I am free from the cough that is so weakening and depressing. When I compare myself with others about here who have Hay Fever, and are not taking your treatment, I am away ahead of them. Perhaps I am too enthusiastic, but when one has had this terrible disease for over 30 years as I have, and had given up all hope of a cure, how can one help being enthused. I have one regret—having known of your treatment so long that I should be so incredulous as not to be willing to try it till this year. Yours truly, BENJ. D. EVERETT.

ASTHMA SUFFERERS
write at once for particulars and escape your winter of distress. Hay Fever sufferers make a note of this and write in the spring, or now. Two thousand other references if you ask for them. Address DR. HAYES, Buffalo, N. Y.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

ELBERT S. CARMAN, Editor-in-Chief.
HERBERT W. COLLINGWOOD, Managing Editor.
JOHN J. DILLON, Business Manager.

SUBSCRIPTIONS.

PRICE, ONE DOLLAR A YEAR.

To foreign countries in the Universal Postal Union, $2.04, equal to 8s. 6d., or 8½ marks, or 10½ francs.

ADVERTISING RATES.

Thirty cents per agate line (14 lines to the inch). Yearly orders of 10 or more lines, and 1,000-line orders, 25 cents per line. Reading Notices, ending with "*Adv.*," 75 cents per count line. ABSOLUTELY ONE PRICE ONLY.
Advertisements inserted only for responsible and honorable houses
We must have copy one week before the date of issue.

Be sure that the name and address of sender, with name of Post-office and State, and what the remittance is for, appear in every letter. Money orders and bank drafts on New York are the safest means of transmitting money.
Address all business communications and make all orders payable to THE RURAL NEW-YORKER,
Corner Chambers and Pearl Streets, New York.

SATURDAY, DECEMBER 12, 1896.

SIR WALTER RALEIGH POTATO.

Small tubers of this excellent potato will be sent to all subscribers who apply for it and send a two-cent stamp. The potatoes will be sent next February.

⊙

WE have often called attention to the feeding value of the bran and "polish" obtained in preparing rice for market. Large quantities of this refuse are produced in Louisiana, and for many years little effort was made to utilize it at home or to find a market for it abroad. Now a new stock food composed of rice bran and waste molasses, so mixed as to be comparatively dry and easily handled, is to be introduced. Such a combination ought to be a good one, and if honestly prepared and advertised at a fair price, it ought to become popular. Turn the wastes to good account. How about that waste nitrogen in the air above your farm? Is Crimson clover saving it for you?

⊙

THE public was shocked last Wednesday to learn that Prof. Lodeman of the Cornell Experiment Station had taken his life. Though a comparatively young man, Prof. Lodeman was one of the most reliable horticulturists in the country. In matters pertaining to spraying and the cultivation of orchards, he took a high rank, and as a teacher and lecturer, he will be pleasantly remembered by hundreds of students and farmers. His death is a distinct loss to American horticulture. THE R. N.-Y. has now on hand a report of his last experiment in fertilizing apple orchards. His sad act was, probably, induced by despondency due to overwork and study, and his fate should be a warning to ambitious young men who seek to cover, in a few short years, what Nature meant should be left to a lifetime.

⊙

MR. VAN WAGENEN'S interesting article on milk, page 826, will be read with interest by many dairymen. We venture to say that lots of men who have fed and milked cows all their lives, do not know just what milk is. The "inside works" of a cow are wonderfully intricate. Think of the marvelous and delicate work required to turn hay or ensilage and grain into the complex mixture we call milk. It is easy to see how skillfully and carefully the cow must be fed and watched in order to keep this machine up to its finest work. You will notice that the fat comes into the milk last of all, and that it is determined a good deal by the cow's nervous condition. That gives you an idea of what happens when the hired man kicks or swears at a nervous cow like a Jersey. Of course, *you* would never dream of swearing or kicking butter right away from your own bread! It is always that hired man who does such work.

⊙

WHEN E. W. Bull tamed the American wild grape and produced the Concord, he did a great service to the American people. We may safely say that he did more for his country than any of those who have made improvements in firearms or other weapons, and while Mr. Bull failed to receive a just share of the money which his patient work brought into circulation, his memory is safe so long as the Concord grape is grown. It is hard for us to realize, in our day, what the Concord meant to American grape growers. Before its advent, fresh grapes of good quality were a luxury—about as much so as are Christmas strawberries at the present time. The story of the Concord grape has been often told and need not be repeated here. It is a singular fact that this first success of Mr. Bull was so great that through all the two score years that have elapsed since its introduction, our most skillful horticulturists have been unable to produce a variety that will actually take its place. Go into the great commercial vineyards and you will be astonished to see how large a proportion of Concords are still grown and sold. Mr. Geo. W. Campbell tells us on page 814, that after 20 years of patient work, involving the testing of thousands of seedlings, he has won the greatest success of his life in producing a variety which possesses "every good point of the Concord without any of its faults or weaknesses"! We understand from that what a high standard was set by Mr. Bull in the first place. Mr. Campbell may well be proud of the fact that he will leave to the world an improved Concord grape.

⊙

THE Ontario Agricultural and Experimental Union is a Canadian association which aims to secure coöperation between the Ontario Agricultural College and the leading farmers of the province. Coöperative experiment work is a leading feature of this Union. In 1886, it secured the interest of 12 farmers who were ready to give a part of their farms for experimenting. This year, there were 2,260 experiments with over 11,000 plots of ground in cultivation. These plots were scattered all over the province, and embraced all sorts of soil. It is easy to see how valuable a fertilizer or variety test will be when one may compare the averages of 500 or more trials in a single season. Similar coöperative work is done in live stock, horticulture, dairying, etc. Each year a meeting is held at the agricultural college for a general review of the season's work. The meeting this year will be held on December 11 and 12. This plan of coöperative work is an excellent one. It brings farmers closer to the college, and widens the scope of every experiment, for an average of 100 experiments is always more reliable than a single one. There ought to be a similar union in every State in this country.

⊙

EVERY boy who uses a pop-gun knows something of the power of compressed air. The air is elastic, like a spring. Push it into a small space, and it exerts a constant and powerful pressure to expand and get back to its usual condition. This force, like the expansive force of steam, can be made to turn a wheel, and, from that, is turned to almost any desired form of labor. In this city, heavy street cars are running every day on the force of compressed air. They carry a tank of air which may be filled at each trip. In France, compressed air is actually taking the place of electricity for street-car motors, and for use in many factories. The air is forced through long tubes or pipes, often miles in length. These immense pop-guns, so to speak, are tapped at intervals, and the force may be applied to almost any work. The air force is cleaner and safer than steam or electricity, and does not require skilled engineers to direct it. There are fewer break-downs, and results are said to be more certain. For all purposes except lighting, this compressed air would seem to be better than electricity for farm neighborhoods. The French have, thus far, done most in the way of developing this new application of power, and some of their results are so promising that we may confidently expect important results from their experiments.

⊙

AGRICULTURAL writers are fond of saying that the manure pile is the farmer's bank, and in many ways, the comparison is a true one. On a large proportion, if not a majority, of American farms, the manure pile and, possibly, a clover sod are the only fertilizing credits to offset the debits of crops taken from the soil. About the only plant food that is actually brought to such farms is the bran or cotton-seed meal that is fed to the stock, and is thus indirectly used to fertilize the soil. No man could prosper who permitted half a dozen people to handle his bank account as they saw fit. No farmer can hope to keep up the fertility of his farm who permits any considerable part of the manure pile to leach or wash away from a cropped field. The problem of saving and applying the manure so as to obtain the greatest value from it is a vital one with most farmers. The notes printed on another page are useful chiefly because they show the practices of good farmers in different parts of the country. Mr. Barns speaks of using kainit on the manure. THE R. N.-Y. has, for years, advocated the plan of "feeding the manure pile." Where manure is to be used on fruit farms, we should always use a peck of kainit and a bushel of ground bone or dissolved rock to each load of manure. Our opinion is that such "feeding" will pay on fruits or vegetables. Mr. Rice calls attention to the fact that the silo has changed the methods of manuring on many dairy farms. The manure is now crowded on the corn fields, and the rotation has been shortened so as to bring the corn fields as close to the barn as possible. In many cases, the outlying fields are seeded to Timothy and fed with fertilizers entirely. The Timothy is sold to buy grain, while the level lands near the barn produce corn and clover—the manure being all used on the clover sod to produce ensilage corn. It is evident that western farmers are paying more attention to the saving of manure than they did 10 years ago, and in spite of the present low price of corn, we believe that it will pay them to study how best to prevent the loss of both solids and liquids. Land cannot be made too rich for a well-cultivated corn crop. There is, however, reason in what Mr. Watson says about sheltering manure when 1,000 feet of lumber represent 100 bushels of corn!

⊙

WHILE the breeder continues to develop his sheep, cattle and swine in the lines most profitable to him, the commercial florist has followed out, quite as closely, the development of his stock to a higher or more fixed type, with a greater risk of reversion to the primitive form. During the past 40 years carnations have been "bred" with extreme care, producing the large, double, symmetrical fragrant flower now seen in commercial greenhouses, yet in a large batch of seedlings, one constantly sees the single or semi-double purplish bloom of southern Europe that Theophrastus called the "Divine Flower" some 2,000 years ago. The present ideal carnation must be clear and distinct in color (any of the purple shades being, as a rule, discarded); it must be very double, with a firm calyx and long, stout stem. The number of the purple and magenta shades among seedlings shows the persistence of the primitive type, since this color is scarcely ever used as a breeder. Striped varieties, charming as they often are, are not in demand in this country, though they hold a recognized place abroad. At the present time we find a wide range of choice in white and pink varieties, but there are few good yellows. There appears to be no perfectly pure yellow, entirely free from flakes or stripes of red, in general cultivation, and it is held by most cultivators that no clear yellow yet produced has sufficient vigor to be of value commercially, while none of the existing yellows flaked with red or pink has yet proven entirely satisfactory to the grower. The ideal yellow carnation is yet to be found.

⊙

BREVITIES.

I had to laugh 'way back in '93,
When big Sam Perkins up an' says to me,
"I'm gonter take a fifty-dollar bill
An' take that World's Fair in an' git my fill
Of good sight-seein' once afore I die."
When he come home, "Well, what'd ye see?" says I.
He kinder scratched his head, "Well, sir!" says he,
"I *started* in that picter gallery
An' run across a picter that some way,
Jest held me stuck—I couldn't git away.
I jest hung 'round it—that was all I see.
No live stock, fruit, grain or machinery,
But jest a picter! Fifty dollars lost!"
An' yet it paid him every cent it cost,
For that air picter growed right to his mind.
An' all through life at every turn he'll find
Its presence like a salve for memory's sore,
An' life is sweeter than it was afore!

WHO has the choice of the chores at your place?

A MAN is known by the company he says "no" to.

THINGS must boil up before you can boil them down.

AN "ear muff" is evidently a failure to "catch a sound."

WHAT'S the matter with the back writer? He's all *write*—no real experience.

THE conscience of the man who gives or takes a bribe is clothed in a cash *smear* dress.

GET a big air space between yourself and the devil. Warm yourself by exercising in good deeds.

THE R. N.-Y. will continue its "campaign of education" for 1897. Tickets of the entire course (52 issues) $1.

MIGHTY few weed seeds in cow manure made from ensilage, clover hay and grain. Most of the weed seeds are in the Timothy. Sell it!

WE advise you to carry a weapon in your hip pocket. Not a pistol or a flask, but a good note book. Use it freely! Pull it on the scrubs!

THE parts of the body where "colds" creep in, are nape of the neck and the lower shin, the wrist and the back—"cold" drops its "pull" when wrist, foot, back are all clothed with wool.

THE scrub bull is half the herd. If he heard half the things said about him at the institute, he would be found dead the following morning. He would thus serve his master's best interests.

THE famous or infamous freeze gave Florida a bad set-back. Old Winter gave her a foul blow below the frost belt. She is coming up again. The Florida orange is the best orange grown.

YEARS ago, we used to recite at school the great story of Bernardo Delearpio. He ordered the King to "put life in this *cold frame!*" The gardener's daughter (page 817) might have carried out the command!

No man could make a living in this age growing such potatoes as Sir Walter Raleigh first took to Ireland! They were scrubs, but they make one end of the line of improvement that reaches to the present Sir Walter Raleigh potato.

THOUSANDS of farmers have, evidently, decided to wait for "dollar wheat." In other words, they wish to hold their wheat until the price in New York reaches $1 a bushel. This figure is likely to be reached if farmers can hold back their grain and not pour it in too freely.

WHAT happens when a man tries to lift 200 pounds when he knows that he can lift only 150? A lame back and "kidney disease." What happens when a man without grinding teeth eats food that requires chewing? Dyspepsia and "stomach trouble." If you can't chew, use softer food! Substitute cooking for chewing!

AMONG THE MARKETMEN.

WHAT I SEE AND HEAR.

THE market for hothouse lambs opens at Christmas with a demand from a very few customers for some choice ones weighing 25 or 30 pounds. These are generally ordered specially for the occasion. The general market does not open until later, when somewhat heavier weights are required. None but an expert should dress these lambs.

‡ ‡ ‡

"ANYTHING new?" I asked in one store, which was pretty well filled with grapes in five-pound baskets. "Yes; at Thanksgiving, when we wanted a lot of choice grapes like these for our trade, the shippers held them back, and now that the market is dull, they have nearly swamped us. Just the way with some of these shippers! Always shipping their goods at the wrong time!"

‡ ‡ ‡

THOSE with poultry to ship, should bear in mind the Christmas and New Year markets. These holidays come on Friday, and supplies for each of the days should be here on Monday, or not later than Tuesday morning early. The directions for preparing and shipping poultry given in THE R. N.-Y. of November 21, will hold good now. Geese and ducks are largely required for Christmas, and fine turkeys. Choice fowls and chicks are in demand to some extent, also. Capons and broilers, although in demand to some extent at all times, meet their heaviest demand after the holidays, and from then until spring.

‡ ‡ ‡

MANY market reports quote "prime Timothy hay." There isn't a bale of such hay that comes into this market in a year, according to the standard used in grading hay. Such a grade must be absolutely pure Timothy, without a spire of anything else, of perfect color and quality. It would likely have to be hand-picked and assorted to conform to these requirements. How many farmers could go into their meadows or mows and get together a bale of such hay without some such process? Considerable quantities of salt hay are sold here. It is used mostly for packing, and is said to be superior to any other packing material for some purposes. It is claimed that it excludes frost better than is done by other materials.

‡ ‡ ‡

THE season for Christmas trees and greens used for decorations is now at hand. Already the Ground pine is coming in. One commission man had a shipment of five tons, and sold four of it to one man. Few of the commission men care to handle this kind of goods. People who make a specialty of florists' supplies do better with these. Many of the evergreen trees come from Maine, whole cargoes coming by water, and others in car-loads. Holly and Mistletoe are imported largely, the best coming from England. But our own country furnishes considerable quantities, Virginia and southward being the source of supply. The extent to which these decorations are used by the city people would surprise many a dweller in the country who might have similar decorations for the gathering, but doesn't go to the trouble. Christmas wouldn't be Christmas, and the plum pudding would lose half its flavor were the Mistletoe and Holly lacking, not to mention the Christmas tree and the other decorations. Many of these greens come already made up into various decorative designs, ropes, etc. It is a pleasing sentiment, and a profitable one to many people.

‡ ‡ ‡

I WAS much interested in watching the unloading of a car-load of dressed beef into one of the big dressed meat warehouses. The car was run alongside. A stout frame-work carrying a single track, extended from the car to the building, and inside the latter the track branched in various directions. Swung on this track on wheels, somewhat like those on the big sliding door of the barn, were a large number of sharp iron hooks, a hook to each wheel. One of these was run up to the car door, a man inside hooked on a quarter of beef, a man on the ground pushed it into the building, where other men run it to where it was to hang till wanted. When it is to be taken out to wagons which distribute it through the city, it is carried in the same way, no lifting being required except to take it from the hook and lay it in the wagon. Whole carcasses of sheep are handled in the same way. When the weather requires it, the cars are refrigerated, and the warehouse is a cold storage house, so that the meat can be brought directly from the great western slaughter-houses, put into cold storage here, kept for a long time, if necessary, and still keep on improving. Meat so kept is more tender, and is considered better by most people, than that freshly killed.

"YOU ought to have seen a box of quail I received this morning," said one of the commission men who handles lots of game. "They were wrapped separately in neat papers, every one packed in evenly and neatly, with here and there a head peeping out of its covering. When I took the cover off, they looked as pretty as a picture, and I sold them right away." "But were they any better than the ordinary receipts, and can you get any higher prices for them so packed?" "The birds were no better than plenty of others I receive not so well packed, and I couldn't sell them for any higher price to jobbers who supply hotels and restaurants; but those who supply the fancy grocers will pay more. I got 25 cents per dozen more on account of the style of packing."

‡ ‡ ‡

I WAS talking with a man who has had 40 years' experience in the commission business, about the condition in which a great deal of produce is sent into market. He gets many small shipments from farmers, some of whom, at least, either do not know how to assort and pack their produce properly, or else do not use the knowledge they possess. He said that, of many of the apples received, if seven barrels were sorted down to four, the shipper would have less freight, cartage and commission to pay, and would get fully as much for the four as now for the seven, and perhaps, more. His father was in business when Horace Greeley began farming at Chappaqua, and sold some of the first produce the great sage ever sent to this market. Neither the editor-farmer nor his help understood the proper method of preparing produce for market, and the result was that some of the first shipments were nearly unsalable, and much of it brought hardly enough to pay expenses. So we see that even an editor who had such a far-reaching influence made mistakes when he got out of his regular line of work.

F. H. V.

SIMMENTHAL AND NORMANDY CATTLE.

PRIZE BUTTER AT THE LIVE STOCK SHOW.

Last week, I mentioned the new breeds of cattle, Simmenthals and Normandys, and their progeny

TYPICAL NORMANDY COW. FIG. 273.

when crossed with Jerseys. The Simmenthals are a Swiss breed, and it is said that they have been bred pure in that country for over 200 years. "They are celebrated for their enormous production of milk and butter on little less than pasture in summer and hay in winter. These animals are the pets of the Swiss farmers, and, under their system of handling, give in a year 9,000 to 12,000 pounds of milk, from which are made 450 to 500 pounds of delicious butter." What's the matter with American dairymen that such a breed of cattle has been in existence for over 200 years, and they haven't discovered it sooner? The cows are said to weigh from 1,800 to 2,500 pounds, and the bulls from 3,000 to 3,500 pounds. Those on exhibition didn't begin to approach this weight, and I should judge from their appearance that they didn't weigh more than half that, though the weight of the three-year-old bull was said to be 2,030 pounds. They remind me much of the Guernseys, both in general appearance and in color, though they differ from them in some points. The color of the breed is said to be fawn and white, the former color predominating. Those shown were mostly a solid fawn color. A heifer of this breed was illustrated in THE R. N.-Y. May 30 last, and a description of the breed as found in Germany, given by Mr. Sarg.

Two calves were shown, about five months old, the product of a cross of the Simmenthal bull upon Jersey cows. By this cross, it is hoped to produce cattle having all the valuable qualities of the Jerseys, but without their weaknesses. The calves were both of the solid fawn color of the Simmenthals. Mr. Havemeyer's experiment will be watched with interest.

Of Normandys or Normans, there was a considerably larger showing; Mr. Havemeyer exhibited as many as of the Simmenthals, and Mr. Chester W. Chapin had an even dozen. The cows of this breed are anything but uniform in color and markings. The prevailing color is dark brindle with white spots. One spectator remarked that they looked like a lot of scrubs. One of the beauties of a breed is uniformity, and this the Normandys have not. But they are big, strong-looking animals, and look as though they might well fill the bill for a general-purpose breed if such a one is desired. These cattle are from France, and their importers tell wondrous tales of their hardiness and vigor. They are especially recommended as being free from any tendency to tuberculosis. This is, probably, because they are never pampered in their native country. They are deep chested, giving evidence of great lung power. They are said never to be housed in stables, their only protection being open sheds. They are a very old breed, it being claimed that they date back 800 or 900 years. They have large udders, prominent milk veins, and their tendency is to turn their feed into milk rather than fat. They seem to be very docile. The yield claimed for them is 7,000 to 8,000 pounds of milk yearly, which will make from 300 to 350 pounds of butter, that commands the highest prices. "It is, moreover, the only butter that will keep sweet for a long period, or bear transportation without being salted." The milk is not so rich in butter fats as that of the Channel Island breeds, but the yield is greater. The meat, both of the beeves and the veals, is said to be superior. The weight is given as, bulls, 2,400 to 3,000 pounds, and cows 1,500 to 1,800. One of Mr. Havemeyer's bulls on exhibition, dropped March 1, 1895, weighed 1,255 pounds. Mr. Chapin had a stand in one corner of the restaurant where samples of Normandy milk were given away—a good way to introduce it. This breed was illustrated and described in THE R. N.-Y. of August 29, 1891, also in April 6, 1895.

Two calves were shown that were the product of a cross of a Normandy bull upon Jersey cows. They were a little over five months old, of a dark brindle color, and had the appearance of being strong, healthy and vigorous. A picture of a typical Normandy cow is shown at Fig. 273.

In the butter exhibit, Ayer & McKinney took first prize, their butter scoring 100. The second went to the East Granby Creamery Company, of Connecticut, with a score of 97. The scoring was done according to the following scale of points:

Flavor	45
Body	25
Color	15
Salt	10
Style	5
Total	100

In quality of stock, the show was a success; in attendance of the public, it was not. This was, probably, largely owing to the shortsighted policy of the management in adhering to the high admission fee in spite of the protests of many of those who plead for a lower admission. It should not exceed 50 cents, and more money would be taken in if only 25 cents were charged. Then, again, some special features should be provided. If the whole process of butter-making could be carried on afternoon and evening, it would be a great drawing card, as well as a means of education in the methods of manufacture. It is useless to try to make the Live Stock Show a society event like the Horse Show, and it must be run on lines that will appeal to the common people if it is to be a success. It is the intention of the management to make the dairy department an extensive and special feature next year. There is a place for this show in New York if run on the right lines. F. H. V.

BUSINESS BITS.

ROSS BROS., of Worcester, Mass., are eastern agents of the Economy tank heater, made by the Economy Mfg. Co., Homer, Mich. Send to either address for description, if interested in heaters.

THE Nordyke & Marmon Co., 270 Day Street, Indianapolis, Ind., send a "Book on Mills," and sample of meal ground by their mills, to those interested in grinding grain. They have 28 different sizes, and have reduced prices this year.

THOSE who have read "Beside the Bonnie Brier Bush," know the matchless power of pathos and humor of which Ian Maclaren is the master. He has engaged to write three new stories for the Youth's Companion. See our combination offer on page 828.

IT is often a convenience to know just where to get dairy supplies of any kind needed. C. E. Buckley, Dover Plains, N. Y., announces a willingness to fill all such orders, large or small. He is the manufacturer of the Buckley Improved Watering Basin, and orders entrusted to him will be sure of careful attention.

MANY farmers like the gas engines for small power, such as churning, separating, and running other farm machinery. One thing about them, they start up business at once, and consume no fuel before or after the machinery starts. Charter Gas Engine Co., Box 26, Sterling, Ill., make one, and will gladly send particulars.

IF you have trees to cut down or logs to saw, better look into the merits of the Folding Sawing Machine. It is claimed that one man can saw more wood with it in one day than two men can cut with another saw or ax. It folds up so that one man can carry it anywhere, and saw down trees as well as cut them up when down. The Folding Sawing Machine Co., 66 South Clinton Street, Chicago, Ill., will send full description.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

FROM DAY TO DAY.

AMONG the useful bits of odd china suitable for gifts are bouillon cups, pretty little two-handled cups, sometimes, but not always, with a lid for covering. With them bouillon spoons are used; they are about the size of dessert spoons, but with a circular bowl. There are so many odd bits of table silver now, which make attractive gifts—lemon forks, cold meat forks, sugar sifters, quaint jelly spoons like little silver shovels, and other knickknacks for which we depend on the ingenuity of the silversmith.

*

A NOVEL newspaper holder is made in the form of a parasol. A large circle, 18 inches in diameter, is cut out in cretonne or flowered silk, with a lining of silesia in contrasting color. The material and lining are basted together, and the edge bound with ribbon. In the exact central point, a hole is cut for the handle of the parasol to pass through, this being bound with ribbon. The handle of a worn-out parasol may be used. Place the point of the stick through the opening and draw up the material, making all the flaps equal. Fasten the flaps to the handle, concealing the fastening by a ribbon bow. Suspend by a ribbon tied at the top in a bow. This parasol may also be used as a shoe-bag.

*

So many of the modern pillows or cushions, which add so much to the appearance of sofa or armchair, are entirely too elaborate for everyday use. Still, some very pretty ones are seen with washable muslin covers. A square cushion of rose-colored silk, with a slip-cover of white dotted swiss, having a pleated ruffle of the same around all four sides, is finished with rosettes of rose baby ribbon at each corner. The thin twine-colored batiste used for summer gowns would be charming for this purpose, over copper, salmon, or pale green silk.

BUYING INEXPENSIVE GIFTS.

FIRST upon the list of recipients let us place, not the home dearest, not the rich friends, but the poor friends; those who fear, sometimes with too much reason, that the Christmas joy may pass them by. The gifts for such need never be costly, for everything is acceptable. But where there is not actual hunger for daily necessities, let it be something especially dainty, something that would otherwise be outside the possibilities. The familiar list of low-priced gifts, handkerchiefs, pin-trays, stick-pins, books, knives, purses, etc., needs no especial notice. Some pretty trifle for evening wear is likely to give most pleasure to the young girl who has few "may-haves." It will save many a heart-ache no less real because generally accounted foolish. The dainty side-combs mounted in sterling silver, or a delicate shell pin for the back knot of shining puffs or braids is sure to be treasured. Perfumery, sometimes in fashion, sometimes out, but always reveled in by many, has come to be one of the things for the light purse. Choice grades of white lilac, heliotrope, and other of the best odors can be bought in New York at "two for a quarter." All except those who have forgotten their youth delight to be thus fragrantly remembered, and children are especially jubilant over bottles of perfume. Exquisite fans can often be bought at half price during winter, and they make very desirable gifts for young girls who may attend parties.

Aluminium is one of the new (and to be cheaper) aids to the buyer seeking inexpensive gifts. Scores of pretty trifles may be had already at prices running from 10 cents each upward. Brilliant hair-pins, thimbles, trinket-cases, bangle stick pins, bracelets and the like, are some of the forms in which it appears.

A standard gift for the housewife is a pair of the so-popular hem-stitched pillow slips. These may be made, the expense fitting any purse and any station, the difference lying in quality of material and elaboration of trimming. The work is simple and rapid, such as an 11-year-old girl may easily do, and it may be equally beautiful on all grades of material. Lace is often added, but it is not necessary. Well-plenished, indeed, must be the linen closet of that woman to whom such a gift is not welcome. These slips can, however, be bought outright, machine worked, at very reasonable rates, and they are certainly pretty, though not having the air of the hand-made. There are always sheets to match, if desired. Linen, with its gloss, makes a more beautiful appearance than cotton; but one very particular woman of my acquaintance has snugly hidden away, a half dozen each of sheets and slips (cotton, too) for the coming Christmas pleasure of another particular woman.

Never out of fashion for the elderly or the invalid, a comfortable head-rest always appeals to such. The saddle-bag shape still holds place, as most convenient. Single rests may now be bought for 10 cents, in silkaline. At such prices, no very busy person can afford to make them. A yard and a half length of cashmere, made a shoulder shawl by the addition of silk fringe across the ends, is a gift not too expensive, and that wears well, indeed. We buy games (now so very cheap) for children; but who remembers that those too ill or too old to spend much leisure in reading may receive more pleasure from a well-selected game than from almost anything else that could be mentioned? "Reversi" is especially interesting to those of every age, besides requiring little skill and less intellectual effort. It *may* be made at home, if one have a model. Notice the adjective "well-selected," which must apply to the recipient as well as to the gift; as some have no liking for games of any sort.

The home people are such a relief to turn toward, as they are sure to be pleased with every small effort. But it is the friend who "has everything" for whose token the most heart-rending appeals for ideas are made. One principle alone, well adhered to, may make these gifts a pleasure instead of the shameful tax which they so often become; select always some very simple thing. Last year, one youngling who is yearly smothered with gifts was about to be crossed from a list because there seemed to be nothing good enough for her. The giver's little remembrances averaged in cost something like 10 cents apiece, and—better judgment and affection prevailing—a little token finally went to this petted one with the rest. It came out afterward that the pretty trifle was one of the most enjoyed of all, it giving more pleasure than other gifts that counted dollars to its pennies of cost.

The one girl of my acquaintance who gets the most pleasure out of Christmas giving, spends but a few pennies for each bit of thoughtful remembrance, but her list embraces nearly all her friends. Plenty of thought goes to her selections, but nothing is too insignificant for her notice. Last year, she lettered two bright baking-powder cans, in heavy gilt, "Special for Brides" with date. Several holes were pierced near the closed end (original bottom), and a very narrow ribbon was added by which to suspend the "indispensable." A humorous little note explaining the uses of this little chopper for warmed potatoes went with each to a bride who counted her silver gifts by scores, but who laughed gaily over the bit of fun, and thankfully used the handy, homely kitchen tool.

Belated gifts, then unexpected, often give the most pleasure of all. Thus, to defer a portion of one's giving until the New Year, or even New Year's week, is often a delight. It is not yet too late to put some fat narcissus bulbs in glass bowls of water for this use. They sometimes come into bloom in three weeks, often in four weeks. Paper White grandiflora and the Chinese Sacred Lily are the sorts to get. These need not cost over three to eight cents apiece.

Such articles as come in cases are favorite selections of those with more money. Less expense and more variety now characterize them than when a brush and comb set was the one choice in this direction. The manicure set in celluloid has been first choice of late. It comes at below $1 or upward, according to fittings.

MYRA V. NORYS.

A TEN-CENT CHRISTMAS.

WE have had some of our jolliest Christmases since we have been too poor to spend very much on them. Perhaps a description of our "10-cent" Christmas would furnish a helpful suggestion to some who are unable to give expensive gifts. There is all the secrecy and mystery, dear to childish hearts, in a cheap Christmas that there is in a dear one, and oftentimes a great deal more fun. Three years ago, about this time, the question came up as to what we could do to fill the yearly tree. There was a family of five grown people and four children, to say nothing of a dozen or more relatives and friends, who would each expect something nice, taking the past for a precedent, and, alas! the family purse would have very little in it after the taxes were paid. At last some one—I think it was myself, only I am too modest to say so—suggested a 10-cent Christmas. This sounded so pleasant and easy that it was eagerly assented to even before fully explained. Each one promised not to buy anything which would cost more than 10 cents, and no one was to feel obliged to buy a present for each one even at that price.

The children were delighted. For once their gifts, bought with such careful consideration out of their little "bank" savings, would be as good as anybody's. And what a relief it was to the older ones! Some of us always make it a point to go just before Christmas each year to the nearest large town, 15 miles away, to see the tempting novelties and to make ourselves rather unhappy trying to buy a good many "somethings nice" with an always too small pocketbook. This time we hastened to a 10-cent store and found really pretty things—glass preserve dishes which looked almost as well as cut glass, and were much more suitable for poor folks; pretty little cream pitchers, toothpick holders, fancy plates, small work baskets, toys and games and pictures for the children, yard remnants of bright ribbon and even handkerchiefs good enough for common use; all handy, useful things, and $2 bought so many!

The tree was a great success. The friends outside of the family who always join with us in these festivities, gladly followed the 10-cent rule, although one of them declared that she was at her wits' end to know what to give to the men of the family until she happened to think of postage stamps. It is safe to say that each man had also a fancy box filled with toothpicks. Each gift was hailed with acclamation. When you are not expecting a diamond ring or a gold watch, a clean whisk broom or a prettily made bow of ribbon is a treasure. When the oldest of the children recited Mary Howitt's

> Now he who knows Old Christmas
> He knows a carle of worth,

I think we all felt more of the old-fashioned spirit of Christmas than ever before.

A. ADA BROWN.

THE borders of hardy plants should be neatly raked free from litter, and a mulch of manure put over the surface, but no digging need be done until spring. In the case of plants that die down to the ground it will be advisable to put a firm stake to mark the place, otherwise the roots may be injured in the early spring digging.

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THE GARDEN

BULBS IN THE HOUSE.

THE Easter lilies, which were potted in the beginning of October, and kept cool and dark that the roots might make a good growth before the tops started freely, are now brought into light and warmth. When potting them, it is wiser not to bring the soil right up to the top of the pot; leave about an inch space, to be filled up now with rich compost. This will encourage the bulb to send out a lot of roots right at the top, greatly to its advantage. See that no greenfly (aphides) infest the leaves. As the rich green leaves expand this little pest finds a place of refuge deep down in the heart, and this is unquestionably the most prolific cause of blighted buds and malformed flowers. The aphis sucks the juices from the yet unformed bud, and the result is often a "blind" shoot, as the florists say; one which can never develop a flower. Tobacco water will be the best preventive.

Such bulbs as tulips, Dutch hyacinths and yellow Von Sion narcissus need not be brought into warmth yet. The whole secret of satisfactory bloom is a sufficiently strong root-growth before the leaves are thrown up. For this reason, the commercial florist keeps his bulbs outside as long as possible. They are planted in shallow boxes (generally called flats) and left outside covered with earth, the thickness of this being increased as the cold grows more intense. If the earth the bulbs are planted in is slightly frozen, no harm is done. It is not safe, however, to leave bulbs in flower pots out in the frost, because the pots are often broken by it. Some of the florists scatter a thin layer of buckwheat husks over the surface of the soil in which the bulbs are planted before the earth covering is put on; this prevents the top layer of earth from sticking to the flats. Roman hyacinths will be the earliest bloomers, preceding the larger Dutch hyacinths. The tulips should not be strongly forced, or they come very short-stemmed and badly shaped. Good forcing tulips are Canary Bird, Chrysolora, Kaizer-Kroon, Yellow Prince, Cottage Maid, LaReine, and Vermilion Brilliant. The dull purplish colors, such as Duchess of Parma, are not pretty, and it is better to omit them from our choice.

Among the narcissus, the Chinese Sacred Lily is the most familiar and easiest managed. It now seems the most popular of its family for indoor culture, in this country at least. The Paper White, much grown by florists for cut flowers, is another good sort for house culture, blooming early. The yellow Von Sions are later, and if they are forced too much, poor flowers (if any be produced at all) are the result. Of late years, serious complaints have been made regarding the Von Sion narcissus, many defective flowers being produced even under the most favorable circumstances, but this is generally regarded as the result of carelessness and haste on the part of the foreign bulb grower, the narcissus bulbs suffering from a shortened ripening and maturing process. E. T. R.

ROBUST DECORATIVE PLANTS.

FOR a roomy hallway or reception room, where the temperature often falls below that of the living rooms, nothing is handsomer than the Norfolk Island pine, Araucaria excelsa. Its beautiful pyramidal form, with flat tiers of dark green fir-like branches, makes it most decorative. Coming from a cool, moist climate, it does not want a dry, hot room, and while unable to endure our cold winter outside, it will stand well in a temperature of 40 to 50 degrees. Symmetrical plants, with from two tiers of branches up, are very popular in the city trade. Most of them are raised in Belgium or Holland, imported while small, and grown on until salable in this country. The Belgian nurserymen grow araucarias in immense quantities, keeping them during the summer in slat-covered houses, instead of under glass. They are sent all over Europe, as well as to America, a great many being sold in France, where they are used largely in vestibules and balconies. The French florist usually ties a ribbon bow (often a brilliant red) on the stem between each tier of branches; not a very happy illustration of French taste.

The Silk Oak, so-called (Grevillea robusta), is an Australian tree which, in its small size, makes an ornamental plant for house or conservatory. It is easily raised from seed, may be planted out all summer, making a pretty effect among large-leaved plants, and then lifted and taken inside in the fall. It has an abundance of finely cut foliage and graceful shape. This Grevillea is used in California as a shade tree, but we need have no fear, in our latitude, of its becoming too large for house and greenhouse decoration.

If we wanted a palm for a very trying situation, where light was often poor and temperature fluctuating, we should choose the old Bourbon Island palm, Latania Borbonica. Its fan-shaped leaves show to good advantage where a rather spreading effect is needed; on the newel post of a stairway, for example. When kept free from dust, it always looks bright and glossy, and continues to put forth leaves under most adverse circumstances.

In the way of ferns, the Boston variety of the sword fern, Nephrolepis exaltata var. Bostoniensis, will give infinite satisfaction. This Boston variety is not so rigid as the type, the lower fronds drooping and pointing outward. On a large plant, the fronds will grow four feet or more in length; if placed on a small stand these arching leaves will droop to the floor. This fern thrives under the same treatment as palms, care being taken to prevent the presence of scale or mealy bugs, which, if neglected, become annoying. Kerosene emulsion and consistent cleanliness prevent both. E. T. R.

WHEN we think of yellow chrysanthemums, it is rather hard to make a decision—the list appears endless. For an early yellow, Marian Henderson has much to recommend it; the color is very rich, and the shape graceful. Miss M. M. Johnson is another good early bloom. The old favorite, Gloriosum, is now falling to the rear; it has a limp stem, and the paucity of foliage towards the flower gives the appearance of a long, bare neck; still it usually appears at all our shows. Major Bonnaffon has been notable among prize-winning yellows ever since it made its first appearance at the World's Fair show in 1893. But one can rarely tell just what the permanent rank of a flower will be, from the sensation it creates on first appearance. When the chrysanthemum Philadelphia made its appearance two or three years ago, it created a wonderful sensation with its size, symmetry, and distinctive shape; but when it appeared another season, growers decided that the uncertain color, yellowish-white, stained with butter color at the tips, was too dingy in effect for a first-class flower, and it has now lost its original standing.

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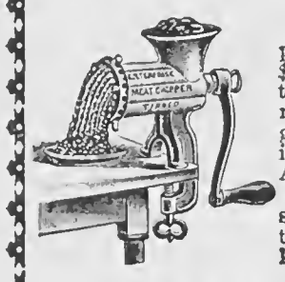

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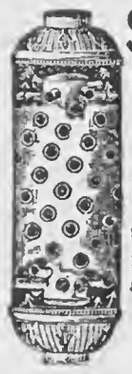

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THAT CHESHIRE PIG

offered as one of the prizes to club raisers January 1, is no little runt. It is a good, big boar pig fit for service. He is seven months old, and weighs 200 pounds. Send to W. E. Mandeville, Brookton, N. Y., for full particulars about him. There are only about three weeks left now in this contest, and no one has yet made any attempt to get any of the prizes. Here they are again: $50 Cash, a Cutter, a Washing Machine, a Land Roller, a Cheshire Pig, a Sewing Machine, and $15, $10 and $5 in cash prizes.

Besides these, the fine Elgin watch goes out every Saturday night to the largest club sent during the week. Last week, it went to W. Pickhardt, New York, for a club of 12. If our people could only see this watch, there would be more effort to get it. There are three more to go out in this contest. Remember that you have an opportunity to get one, and the same names count for the pig or any of the other nine prizes for January 1.

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"HEREDITY."

During the past 10 years, there has been a great change in public ideas respecting the education of women. New colleges for women are starting every year, and even the most conservative universities in the land are opening their doors to the more talkative sex. These young women students are learning the same things that their brothers learn, and a singular thing is that they are playing much the same games. They row and play football, wrestle and box, run and jump—in fact, do everything but play baseball! The champion of the woman runners has a record but one second behind the male champion in a 100-yard race, and but 10 seconds behind in a half-mile run. At jumping and skipping, the women champions are making great progress—but they can't play baseball!

Why is it? It wouldn't do for me to express an opinion on this subject. I will simply ask you to observe the next woman you see trying to throw a stick or stone! I'll guarantee that she won't come within gunshot of the object at which she aims. She throws "overhand", and seems to think that the proper thing is to mount the missile into the air and let it drop *down* on its mark. I can't possibly imagine a woman pitching an out-curve, or getting a ball up to first base in time to put a fast runner out. The simple fact is that, while a woman may catch or stop a ball, she can't *throw* it, and thus she fails as a ball player.

Why can't she throw? is the next question. We will let the instructor at a college gymnasium answer. He says:

> We haven't got the girl among us now who can do much with ball, but we are going to have her. She is hampered now, not so much by her own deficiency as by the lethargy and lack of activity in her mother, grandmother and great-grandmother before her. The next generation will develop a girl who will be as excellent a judge of distance and force and rebound as her brother, and who can move her hands, arms and legs just as dexterously. It is now a mere matter of time; women, for so long, have been accustomed to the straight-jacket of conventionality and prescribed form that it must take a generation or two for them to unbend and get supple.

There you have the whole story—a great lesson in heredity. I don't know that the world is going to be any better off when women are able to throw a baseball, but I, for one, won't object to having my women folks take part in any honest sport that they can find. Of course, some man will say that the women can find exercise enough over the washboard and broom. The reason he says that is because all his ancestors believed that woman was made to do all the inferior labor that men kindly term "housework". Far back in the past, the woman was just a slave, and lots of our men folks to-day, still have that old slave idea, only that it has been polished and cleaned up a little. It's another case of heredity, you see—the men have inherited slow minds, and the women slow muscles! Why, I heard a man last week prove by a whole cart-load of science and several miles of logic, that woman is only a "*partly developed man!*" Call her what you will, she is the best part of human kind, and if the madame and the baby can jump around lively enough to play ball in their spare time, they are welcome to do it!

But now then, what has this to do with THE R. N.-Y.? What a question that is! Why, this great problem of heredity sticks right out! Improvement comes through practice. My great granddaughter will certainly be a ball player if the baby and her children and children's children all *try* hard to throw a ball. At the end of three generations, what an improvement you would find in the muscles of the arm, shoulder and back. Now the point is that, while it may take 100 years to make a good ball player out of a woman, it doesn't necessarily take 100 hours to make a fair subscription agent out of a man! Lots of men try to get their neighbors to subscribe to THE R. N.-Y., and sit right down at the first rebuff. Why, the first time a woman throws a stick at a hen, she is sure to break a window, yet she may live to be the grandmother of a woman who can drive a nail through a two-inch plank at 100 feet distance. In just the same way, these men who say that they cannot get a subscription for THE R. N.-Y. will secure a dozen if they keep on trying. If woman can learn to play ball, surely man can learn to solicit subscriptions. Surely that is true, or we shall have to admit that man is a *partly developed woman!*

There seems to be too much of a tendency on the part of people to sit down and wait for something to come along. Here, now, you stout and rugged man with the best years of your life ahead of you, just read this note from an old friend up among the New England hills. We would not print this personal letter if it did not fit right on to the point we want to make:

> My age is 66 years. I own two small, deserted homesteads of 50 acres of level pine land. My wife died 10 years ago. A son and daughter have distant homes. I have lived entirely alone for 10 years. My time is very fully occupied in improving my home. This fall, I have set 50 quince trees, 50 President Wilder currants, 50 White Imperial currants, and 1,000 Victoria currants. I am perfecting a landscape plan for ornamental planting. There is no end to my work.

Now think of that! Here is an old man on a deserted New England farm, happy and industrious in the thought that he is making that abandoned place bloom and take on new life. One might say that a man of that age should sit down with folded hands and live among the memories of the past! But no! This man will leave the world better and more beautiful. Some might say, "What use for me to work when two years after my death the weeds will choke out all my flowers and fruits?" That is the coward's way of looking at it! Move on! Keep the blood in circulation! Do not leave the world an idle hand, but let men speak of you as one who labored on with a true ideal, and a courage that could not be denied. That's the sort of hereditary influence the world and the nation need. Make a start at something. If nothing better offers, go out and hang on to some one until THE R. N.-Y. has a new subscriber.

CONDENSED CORRESPONDENCE.

CASS COUNTY, IA.—The acreage of potatoes was about 80 per cent of last year—one-fourth early varieties, three-fourths late. Early varieties were not one-fourth of a crop, yielding from nothing to 50 bushels per acre; late potatoes poor, stand about 75 per cent of full yield, some pieces very good; quality generally very good. Nearly one-fourth of the crop remains undug, a total loss; many more rotted in the pits. Not over one-fourth of the crop harvested has been sold, but is stored, waiting for better prices. F. B. V. O.

FULTON COUNTY, N. Y.—Potatoes have been a fair crop this year; some farmers had almost no crop at all, while others had about as good as last year. Many of the farmers in this part of the county have sold their crop, while a few are holding for better prices, although prices have been good, mostly 40 cents at wholesale. W. H. S.

DEKALB COUNTY, ILL.—Farmers here mostly buy their flour, and feel most interested in an advance in the price of corn and oats. Grain is being held to a large extent. The creamery paid about 70 cents for 100 pounds of milk for October, delivered. Some hogs have died of cholera, and some have been sold for fear of the disease. J. S.

POTATOES IN TOLLAND COUNTY, CONN.—The potato crop in the western part of this county was rather irregular. Some fields were very good, others almost a failure; in no case was the crop as large as that of last year, which accounts for the better prices. There has been quite a call for the crop at 50 cents per bushel in small lots, and 40 cents for large orders, which is quite an improvement on 25 cents last year, and no sale for them at that. Many farmers (I think that the majority in this section) have already sold what surplus they have for 50 cents; possibly a few may be holding for higher prices. But the experience of those who held them last year for higher prices and got nothing, makes them ready to sell while the market is lively at 50 cents, although the price will, doubtless, be higher, but there is waste in holding.

OTSEGO COUNTY, N. Y.—Although this is the second day of winter, we have had no sleighing, the ground, for the most part, having been free from snow entirely. The autumn was an excellent one to do fall work, and in consequence, it is up in good shape. The recent rise in the prices of hops greatly encouraged the hop growers, many of whom have profited by it. All in all, I think that it may be fairly said that the prospects hereabouts for better times are far more promising than they were a year ago. F. O. S.

CRIMSON CLOVER AND POTATOES IN WISCONSIN.—I promised THE R. N.-Y. to report on Crimson clover from seed raised by myself this year. A little patch that wintered among pop-corn stalks, bloomed freely, and I saved some seed by pulling

(*Continued on next page.*)

CHILDREN ought to brighten a mother's daily cares and help her to be strong, capable and cheerful. It is'nt right for mothers to feel the burden of life growing heavier and heavier year by year because of child-bearing and child-rearing. That shows something is wrong in the mother's physical condition. There is some unnatural weakness in her delicate organism which disqualifies her for motherhood. When this is wrong everything is wrong. A woman's physical life is wrapped up in the special organs of her sex. When these are restored to health and strength the whole woman becomes healthy and strong. Dr. R. V. Pierce of Buffalo, N. Y., has made a life-study of this problem of restoring health and strength to women. His "Favorite Prescription" is the most successful remedy that has ever been known for women's peculiar ailments. Its sale exceeds the combined sales of all other medicines for women. It cures the most obstinate uterine diseases. It goes directly to the internal organism which is the real seat of all the troubles. It imparts vigor and health where they are most needed; heals ulceration; stops the weakening drains; promotes regularity; restores muscular power to the ligaments, thus correcting displacements of special organs in the only natural way.

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THE RURAL NEW-YORKER, NEW YORK.

CONDENSED CORRESPONDENCE.

(CONTINUED.)

off the heads. I sowed a strip along my berry patch that I use to turn on when cultivating; I have usually planted it to potatoes. The seed came up all right, but did not make a heavy growth owing to a dry fall, but it looks good yet; I am in hopes to winter it all right. Potatoes were a very uneven crop in this section; reported yield from 50 to 300 bushels per acre, average about 100, I should say. A great many are seabby, some fields not dug at all. I had 1¼ acre of American Wonder and Clark's No. 1 not worth digging where potatoes were raised the year before, while American Wonder, Freeman and Rose of Erin, on land that had corn on the year before and was manured with barnyard manure, yielded 300 bushels per acre of clean, nice tubers. The price has been about 15 cents. A few cars were shipped which netted only seven to ten cents. Some are looking for fair prices in the spring, but it is uncertain. Freights are so high that there isn't much left for the grower. C. P. A.

POTATOES IN BERRIEN COUNTY, MICH.—The potato crop of this county is not so large as that of last year, and the larger portion of the crop is still in the farmers' hands, who believe that the market will be enough better next spring to pay for the trouble of burying them. Prices are now about 20 cents to the groerymen, and but few are being shipped out. Quality fine, and the Rural New-Yorker No. 2 is fast getting to the head of the list as a blight-resister, heavy yielder and extra quality, with few reports of hollow-hearts. O. B.

POTATOES IN JASPER COUNTY, IOWA.—I have just read a short item to the effect that there is a potato blockade in Chicago, and the leading railroads have refused to ship any more in till the surplus is somewhat lessened. The trouble seems to be not so much an overproduction, as it is the light demand. Probably the great abundance and cheapness of apples has something to do with this; 23 cents is the top of the market in Chicago. The crop in this county is very light, and that means a good deal, for this is the banner potato county of the State. The season was too wet. Many fields were not dug. Probably 50 bushels per acre would be an average. Our local demand has been supplied at prices running from 10 to 25 cents per bushel. The rest of the crop around here is still in the hands of the growers, for the reason that they cannot find a market at any price. There has not been a car-load shipped from here yet. There is a hopeful feeling about the price later on. E. B. W.

CRIMSON CLOVER IN CHAUTAUQUA COUNTY, N. Y.—I sowed 14 acres of vineyard and corn to Crimson clover last year; owing to the drought it did not start very well, and the hard winter killed most of it, but where it survived, it seeded itself again, and is now a thick mat in many places. Though I did not sow any this year, I have full faith in it as a catch crop. My cow does not take it for first choice, but the hens pick it to the ground in preference to anything else. S. M. W.

COVENTRY, N. Y.—Inclosed is the result of my experiments with new varieties of potatoes. Last spring I bought one pound each of Carman No. 1, which yielded 75 pounds; Rose No. 9, 72; Honeoye Rose, 60; Money Maker, 58; and Peerless Jr. 48. They were planted in the field with the rest of my potatoes, and given the same cultivation. From six rows 14 rods long, I harvested 22 bushels of White Elephants, 18 bushels of sorted potatoes. My seed was received from your free seed distribution. I do not see that they degenerate very fast. The average yield in this section is about 100 bushels per acre. F. E. B.

SOME SAMPLE POTATO NOTES.

I inclose stamp for one of the new potatoes, Sir Walter Raleigh. If it beat Carman No. 1, it is worth its weight in gold. D. G. W.

West Chazy, N. Y.

I send stamp for the Sir Walter Ralelgh potato. If it is as good as the Carman No. 1 and No. 3, it is a *good* one. I have about 75 bushels of the No. 1 in my cellar, the deseendants of the one eye you sent me. A. A. H.

Bellows Falls, Vt.

Kindly send me one of the new potatoes, Sir Walter Raleigh. If you have anything that will beat the R. N.-Y. No. 2, you have something first-rate and a little better, and I want to try it.

Stafford, N. Y. C. P. B.

I send stamp for the new potato, Sir Walter Ralcigh as by your offer of November 14. I have the R. N.-Y. No. 2, large! very large! all very large! A few had black heart. I also have Carman No. 1 and No. 3, all fine, No. 3 the handsomer. I hope that Sir Walter Raleigh will beat them all for beauty; I doubt whether it will be more prolific. P. H.

Bridgewater, Va.

Inclosed find two cents for a Sir Walter Raleigh potato. About two years ago, you sent me a small, shriveled potato, Carman No. 3, I think. I cut it in halves, and rather carelessly planted it in the side of a fence where it received little attention until a vigorous growth of stalks attracted my notice. Curious as to the product, I dug out the tubers before all had matured, yet got about a dozen of as fine potatoes as I had seen for years outside of California. I had four cooked and was so charmed with the general table quality, that I prepared a corner of my place, where I raise no farm crops, for a potato patch. The result astouished myself and some of my neighbors. From under each stalk, I took about six large, shapely potatoes so uniform in size that, in two bushels, there were not, I think, a dozen small potatoes. I am going to grow potatoes enough for my own small family's consumption. Long ve THE RURAL NEW-YORKER'S valuable spirit of generous experiment. M. L. S,

Oella, Md.

MARKETS.

SATURDAY, DECEMBER 5, 1896.

BEANS AND PEAS.

Beans, Marrow, 1896, choice	1 37½	@1 40
Medium, 1896, choice	1 12½	@1 15
Pea, 1896, choice	1 05	@ —
Medium or Pea, common to good	90	@1 00
White Kidney, 1895, choice	1 55	@1 60
Red Kidney, 1895, choice	1 40	@ —
Red Kidney, common to good	1 20	@1 35
Black Turtle soup, 1895	—	@ —
Yellow Eye 1895, choice	1 30	@1 35
Lima, Cal., 1895 (60 lbs)	1 40	@ —
Green peas, Scotch, 1896, bbls., per bushel	87½	@ —
Bags, per bushel	85	@ —

BUTTER—NEW.

Creamery, Western, extras	24	@—
Western, firsts	21½	@23
Western, seconds	19	@20
Western, thirds	15	@17
State, fancy	23	@—
Common to prime	15	@22
State dairy, half-firkin tubs, fancy	19	@20
Firsts	15	@17
Seconds	13	@14
Welsh tubs, fancy	18½	@19½
Welsh tubs, firsts	13	@16
Welsh tubs, seconds	13	@—
Tubs, thirds	11	@12
Western imitation creamery, firsts	14	@15
Seconds	11	@12
Western dairy, firsts	12	@13
Seconds	9	@10
Thirds	8	@ 8½
Factory, fancy	11½	@12
Factory, firsts	9	@11
Factory, seconds	8½	@ 9
Factory, thirds	7	@ 8
Rolls, fresh	10	@14
Old butter	5	@ 8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10⅜	@10½
White, fancy	10⅜	@10½
Choice	9¾	@10
Good to prime	9	@ 9⅛
Common to fair	7	@ 8½
Small, colored, fancy	10¼	@—
Small, white, fancy	10	@—
Small, good to choice	9	@ 9¾
Small, common to fair	7	@ 8½
Light skims, small, colored, choice	8	@ 8¼
Light skims, large, choice	7¾	@ 8
Part skims, good to prime	5½	@ 7
Part skims, common to fair	3½	@ 4¾
Full skims	2½	@ 3

EGGS.

Near-by, new laid, fancy, selected, per doz	27	@ —
State, fresh gathered, average best	24	@ 25
Penn., country marks, average best	25	@ 26
State and Penn., fair to good	22	@ 24
Western, northerly sections, fancy	24	@ —
Western, fair to good	22	@ 23
Western refrigerator, prime, early pkd.	20	@ 22
Western refrigerator, fair to good	16½	@ 17½
Western limed, choice	15	@ 16
Western dirties, per 30-doz case	3 70	@4 50
Western checks, per 30-doz case	3 50	@4 00

FRUITS—DRIED.

Apples, evaporated, 1896, fancy, per lb	4⅛	@ 4¾
Choice, 1896, per lb	3¾	@ 4
Prime, 1896, per lb	3⅜	@ 3⅝
Common, per lb	2½	@ 3
N. C., sundried, 1896, sliced, fancy	—	@—
Southern, sundried, common to choice	2	@ 3
State, sundried, quarters, bbls	—	@—
Western, sundried, quarters, bbls	—	@—
South-West'n, sundried, quarters, bbls.	4	@—
Southern, sundried, quarters, bbls	—	@—
Southern, sundried, coarse cut bags	—	@—
Chopped, 1896, per lb	1⅛	@ 1⅝
Cores and skins, 1896, per lb	1	@ 1¼
Peaches, Sundried, 1896, peoled, per lb	—	@—
Cherries, 1896, per lb	—	@—
Blackberries, 1896, per lb	—	@—
Raspberries, evaporated, 1896, per lb	16	@—
Sundried, per lb	—	@—
Huckleberries, 1896, per lb	6	@ 7
Plums, Southern Damson, 1895, per lb	—	@—

FRUITS—GREEN

Apples, Snow, per bbl	1 25	@2 00
Baldwin, per bbl	75	@1 12
Fall Pippin, per bbl	—	@ —
Greening, per bbl.	75	@1 12
King, per bbl	1 00	@1 50
N. Spy, per bbl	75	@1 25
Pound Sweet, per bbl.	1 00	@1 25
Nearby, open heads and common, per bbl	50	@ 70
Cranberries, Cape Cod, extra large, per bbl.	5 50	@6 50
Fancy, per bbl	3 00	@5 50
Good to prime, per bbl	3 50	@4 50
Defective, per bbl	2 00	@3 00
Per crate	1 25	@1 37
Jersey, per crate	1 40	@1 60
Grapes, West'n N. Y., Niagara, fancy	22	@ 25
West'n N. Y., Niagara, plain	16	@ 20
West'n N. Y., Niagara, inferior	8	@ 10
West'n N. Y., Catawba, per small basket.	8	@ 10
West'n N. Y., Concord, per small basket.	7	@ 8
Wine grapes, black in bulk, per lb.	1¼	@ 1½
Wine grapes, white, in bulk, per lb.	—	@ —
Wine grapes, red, in bulk, per lb.	1½	@ —
Pears, Clairgeau, per bbl.	3 00	@4 00
Duchess, per bbl.	2 50	@3 00
Anjou, per bbl.	2 50	@3 50
Vicar, per bbl.	—	@ —
Swan's Orange, per bbl.	—	@ —
Keiffer, per bbl.	2 50	@3 50
Lawrence, per bbl	2 50	@3 50
Nearby cooking, per bbl	—	@ —
Quinces, choice bright, per bbl	2 25	@2 50
Fair to good, per bbl.	1 50	@2 00
Seconds, per bbl	1 00	@1 25

GAME.

Quail, choice, large, per doz.	1 75	@2 00
Small, per doz	50	@1 00
Woodcock, average, per pair.	75	@1 00
Partridges, nearby, per pair.	90	@1 00
Western, undrawn, prime, per pair	75	@ 80
Western, drawn, prime, per pair.	50	@ 60
Grouse, Western, prime, per pair.	1 25	@1 40
Grouse and partridges, inferior, per pair	25	@ 40
English snipe, choice, per doz	1 75	@2 25
Plover, golden, choice, per doz.	2 00	@2 50
Rabbits, per pair	15	@ 20
Wild ducks, canvas, choice heavy, per pair.	3 00	@3 50
Red heads, per pair.	2 00	@2 25
Mallards, per pair	40	@ 85
Blue wing, teal, per pair	40	@ 50
Teal, green wing, per pair.	25	@ 30
Common, per pair	20	@ 25
Venison, per lb.	17	@ 18
Whole deer, per lb.	10	@ 12

GRAIN.

Wheat	88	@90
Rye	42	@46
Barley feeding	28	@29
Barley malting	37	@42
Buckwheat, silver	35	@39
Buckwheat, Japan	35	@39
Corn	29¼	@29⅜
Oats	22⅞	@23¾

GRASS SEED.

Clover, per 100 lbs	6 50	@ 9 00
Timothy	2 85	@ 3 75

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HONEY.

State, white clover, comb, fancy, per lb	12	@12½
Buckwheat, comb, per lb	8	@ 9
White clover, extracted, per lb	5	@ 5½
Buckwheat, extracted, per lb	4	@ 4½
California, comb, fair to prime, per lb.	—	@—
Extracted, per lb.	6	@ 6½
Southern, in bulk, per gallon	50	@—

HOPS.

N. Y. State, crop of 1896, choice	14	@15
Medium to prime	11	@13
Crop of 1895, choice	7½	@—
Medium to prime	6	@ 7
Crop of 1894, fancy	—	@—
Prime	—	@—
Medium	—	@—
Common	—	@—
Old olds	3	@ 5
Pacific Coast, crop of 1896, choice	14	@14½
Crop of 1896, medium to prime	12	@13
Crop of 1895, choice	7½	@—
Prime	6	@ 7
Medium	5	@—
Crop of 1894, common	—	@—
German, 1895	14	@18
German, 1896	25	@30

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9½	@ —
Fair to good, per lb	8½	@ 9
Com. to med., per lb	6	@ 8
Small, per lb	5	@ 6
Buttermilks	5	@ 6
Grassers	4	@ 5
Pork, country dressed, 10 to 25 lbs., per lb	7	@ 9
40 to 60 lbs., per lb	6	@ 6½
60 to 80 lbs., per lb.	5½	@ 6
80 to 120 lbs, per lb	5¼	@ 5¾
125 lbs and up, per lb	4	@ 5

NUTS.

Peanuts, Va., h. p., fancy, per lb	3¾	@ 4
H. p., extra, per lb	2½	@ 3
Shelled, No. 1, per lb	3¾	@ 4¼
No. 2, per lb	3	@ —
Spanish, shelled, new, No. 1, per lb	5¼	@ 5¾
Pecans, ungraded, per lb	8	@ 10
Chestnuts, northern, per bush of 60 lbs.	—	@ —
Southern, per bushel of 60 lbs	—	@ —
Hickorynuts, new, per bushel of 50 lbs.	1 75	@2 25

POTATOES.

Long Island, in bulk, per bbl	1 25	@1 37
Maine, per sack	1 00	@1 10
State, per 180 lbs	75	@1 00
Jersey, per sack	90	@1 00
Jersey, per bbl	90	@1 12
Sweets, Va., yellow, per bbl	40	@ 75
Jersey, yellow, per d. h. bbl.	1 00	@1 25
Vineland, per bbl.	1 25	@1 75

POULTRY—LIVE.

Spring chickens, per lb	7	@ 8
Fowls, local, per lb	9	@ —
Western, per lb.	9	@ —
Southern, per lb.	8½	@ —
Roosters, old, per lb.	5	@ 5½
Turkeys, mixed, per lb.	8	@ 10
Ducks, local, per pair	70	@ 90
Western, per pair	65	@ 80
Southern, per pair.	50	@ —
Geese, local, per pair.	1 25	@1 75
Western, per pair.	1 00	@1 50
Southern, per pair	1 00	@ —
Pigeons, old, per pair	25	@ —
Young, per pair.	20	@ —

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb.	10	@ —
Young, dry-picked, per lb	10½	@ 11
Young, scalded, per lb.	10	@ —
Young, inferior, per lb	7	@ 8
Dry packed, fancy, per lb.	13	@ 14
Dry packed, Western fancy, per lb.	12	@ 13
Spring chickens, Phil., selected, per lb.	12	@ 13
Philadelphia, poor to good, per lb.	8	@ 11
Western, dry-picked, good to choice.	7½	@ 8
Western, dry-picked, inferior	6	@ 8
Western, scalded, choice, large	8	@ —
Fowls, Western, dry-picked, choice	7	@ 7½
Scalded, choice, per lb.	7	@ 7½
Old cocks, per lb	5	@ —
Spring ducks, Eastern, per lb	—	@ —
Spring ducks, L. I., per lb.	—	@ —
Spring ducks, Penn. and Va., per lb.	—	@ —
Spring ducks, Western, per lb.	10	@ 11
Old ducks, Western, per lb	7	@ 8
Spring geese, Western, per lb	7	@ 8½
Squabs, tame, white, per doz.	2 00	@2 25
Mixed lots, per doz.	1 50	@1 75
Dark and poor, per doz.	1 25	@ —

VEGETABLES.

Cabbage, L. I., per 100	2 00	@3 00
Red, per 100	2 50	@3 50
Carrots, per bbl	60	@ 75
Cauliflower, L. I. and Jersey, per bbl	1 00	@2 50
Celery, fancy, large, per doz.	30	@ 40
Average, prime, per doz.	20	@ 25
Small, per doz.	8	@ 15
Cucumbers, Florida, per crate	75	@1 50
Egg plant, Florida, per ½-bbl box	75	@1 25
Florida, per bbl.	1 50	@2 50
Lettuce, Boston, per doz.	25	@ 50
Local, per bbl.	—	@ —
Norfolk, per ½-bushel basket	75	@1 00
Charleston, per basket	50	@1 00
Florida, per ½-bbl basket	1 00	@2 50
Onions, Eastern white, per bbl.	2 50	@4 50
Eastern red, per bbl.	2 25	@2 50
Eastern yellow, per bbl.	1 75	@2 00
Orange County white, per bag	1 50	@3 50
Orange County yellow, per bag	1 25	@2 00
Orange County, red, per bag	1 50	@2 25
Jersey and Long Island yellow, per bbl.	1 25	@2 00
Jersey and Long Island red, per bbl	1 50	@2 25
Jersey and Long Island white, per bbl.	2 00	@3 50
State and Western yellow, per bbl.	1 50	@1 75
State and Western red, per bbl.	1 25	@1 62
Pumpkins, per 100	8 00	@12 00
Spinach, Norfolk, per bbl	40	@ 50
Baltimore, per bbl.	35	@ 40
Squash, Marrow, per bbl.	1 00	@1 25
Hubbard, per bbl	1 00	@1 25
String beans, Norfolk, per half bbl basket.	—	@ —
Charleston, green, per bushel basket.	—	@ —
Charleston, wax, per bushel basket	—	@ —
Florida, per bushel basket.	—	@ —
Turnips, Jersey and L. I. Russia, per bbl.	50	@ 65
Canada, per bbl.	60	@ 65

MILK AND CREAM.

The total daily supply has been 20,665 cans of milk, 165 cans of condensed milk and 415 cans of cream. The average price paid for the surplus on the platforms has been $1.75 a can of 40 quarts.

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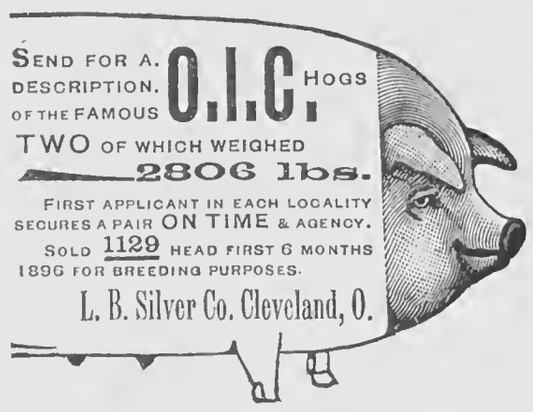

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WHAT IS GOOD MILK?

HOW IS IT MADE?

A Little of Its Chemistry.

PART I.

Milk, as perhaps every one knows, is the nutritive fluid secreted by the females of all mammals for the nourishment of their young. The class mammalia, or mammals, broadly constitute all milk-giving animals, and range from the whale to the smallest bat or mouse. In this country in any economic or commercial sense, we think only of the milk of the cow; but in parts of Europe, the milk of the sheep and goat is quite largely used, while in Asia, the ass and camel must sometimes contribute to the support of the family.

Milk is secreted in special, large glands situated along the front or ventral surface of the body, and known as mammary glands. Their external form and structure vary widely with different species of animals. The udder of the cow is a large, membranous sack, of pinkish, glandular appearance when cut open. It contains the special secretory apparatus, and is more abundantly supplied with blood vessels and nerves. It is quite distinctly divided by a firm septum into right and left halves, and is less markedly divided by a transverse partition into forward and hinder parts, thus making four "quarters." The four teats that spring from these are furnished at the upper part with a "sphincter" muscle, that is, a circular muscle to open or close orifices — acting as does the shirr string of a purse. This sphincter opening communicates with a small milk cistern or reservoir situated just above and having a usual capacity of perhaps one-half pint. From this, several large tubes proceed, which rapidly ramify or divide, these again sub-divide until they become very small and end in little three or five-lobed sacks—the "ultimate follicles". The structure of the tubes of the udder may be compared to that of a much-branched tree, if each twig bore at the end a cluster of hollow bulbs. All these tubes and follicles are lined with a secreting membrane and intimately supplied with blood vessels, and it is here that the formation of milk takes place. From the small capacity of milk cisterns and ducts, it seems pretty certain that the milk is, to some extent, made while the actual process of milking is going on. At least, we know that there is no large "bag" of milk like a bladder. The large size of a distended udder must be, in great measure, due to the congested state of its tissue.

The secretion of milk is not perfectly understood. The serum, by some wonderful alchemy, is taken from the blood and filtered through the lining membrane. The fat, not being in a state of solution, cannot come this way. It seems to be gotten into the milk by the formation of a fat globule within a cell of the lining of the follicles, and the breaking down or absorption of this cell, thus setting free the fat globule within the udder membranes. This formation of fat is the part which is more especially supposed to take place while the milking is going on, and to be dependent, to some extent, upon the mental state of the cow. The sphincter muscle at the upper part of the teat is, to some extent, under the control of the cow, and notably so in some individuals. This explains why some cows refuse to "give down" their milk when excited or annoyed.

In general, milk is a white, opaque liquid, composed of water, fat, nitrogenous substance, milk sugar, and ash. The weight of cows' milk is generally about one-thirtieth more than an equal amount of water. Skim-milk is somewhat heavier than this, while cream containing more than 30 per cent of fat, is lighter than water.

The sugar, nitrogenous matter and ash are dissolved in the water to form the "serum," while the fat is in the form of exceedingly minute drops or globules floating in the serum. Fat or oil in this minute state of sub-division in another liquid, is known as an "emulsion". These drops of fat are always almost inconceivably small, but they vary greatly in size, being found to differ from one another in the same sample of milk and in the general average size in milk obtained from different breeds, or from different individuals of the same breed. When a thin film of milk is examined under a powerful microscope, they appear like small shot of various sizes, crowded thickly together moving slowly across the field. It would take, perhaps, 10,000 of them laid side by side to make a line an inch long. As the most important constituent of milk, they attract the most attention, but we see what a very illusive thing a fat globule is. It is an interesting and suggestive fact, that, while the fat forms from one-quarter to one-third of the total solids of milk, it constitutes, at least, nine-tenths of its commercial value; but it is estimated at only about two-fifths of its value for food. The same is true here that is true so often in agriculture, that the market or commercial value of a product may bear very little relation to its economic value.

The fat of milk is very much like all vegetable and animal oils, except that butter fat contains several other fats in small quantities, and it is these special fats that give butter its characteristic flavor. Butter fat is composed of about 93 per cent of the "fixed" fats, which are palmatine, stearine and olcine, and about eight per cent of the so-called "volatile fats", of which butyric is the most important one. Stearine and palmatine are solid at ordinary temperatures, while oleine is a thin oil. The varying proportion of these three probably cause the different solidity of different samples of butter. While it is to the volatile fats that butter owes its desirable odor and taste, it is these same fats, when partially decomposed, that give it the characteristic flavor of rancid butter.

JARED VAN WAGENEN JR.

HEIFER LOSES HER FIRST CALF.

WHAT IS TO BE DONE FOR HER?

Which is the better treatment of cows that lose their first calves about the time they begin to spring bag—to let them go dry or to try to bring them to milk? Have you ever been successful in bringing such cows to a full mess? If so, how did you do it?

I am unable to answer this question as, during the last 19 years, although we have averaged 30 cows, we have not had to exceed a half dozen cases of abortion, and none of these was a heifer with first calf. Our few cases have not turned out well, and unless the animal be a valuable one, I would dry off and fatten her. It is a sober fact that one might as well knock an ordinary cow in the head as to keep her a year if she gives only one-half her normal product.

New York. JARED VAN WAGENEN JR.

My experience has been that it is better to let a heifer that loses her first calf at the fifth or sixth month of gestation, go dry, for the following reasons: First, the heifer will grow more rapidly and do much better with the next calf if not called upon for milk at this period; second, the milk will not be enough in quantity to pay for the extra food required to get it, or for the hindrance to development that will occur if the heifer be milked. H. HAYWARD.

Pennsylvania Experiment Station.

The profit on dairy cows is small at the best. If they go dry, the most profitable course is to fatten at once and purchase others. It will take several years to make enough profit to pay for the cost of keeping the heifer until the time for dropping the next calf, and there is danger of a recurrence of the event. Should the heifer (or rather, the cow—the former rarely abort in this section), show signs of being a good milker and be a valuable animal, it may pay to try to save her; but a full mess cannot be expected. Such animals are inclined to become fat, and care must be taken in the feeding. Succulent food and a careful working of the udder will aid in producing a flow of milk which will be limited according to the length of time which should have elapsed before a normal birth occurred. I have never had but two cases and those were before I had learned to care for a cow as she should be; therefore, my experience is limited. I should feed ensilage, buckwheat middlings, wheat bran, apples and potatoes. The animal would have to be extra good to pay for the trouble.

New York. C. E CHAPMAN.

"THE WEAKER PARENT."—Alexander Graham Bell, the inventor of the telephone, and one of the cleverest scientists in this country, told me several years ago, that he believed sex to be determined by the weaker parent in the human family; that a robust man married to a delicate woman would generally result in female children and vice versa. Since that time, I have observed the accuracy of his opinion as demonstrated by the children of my acquaintances, and I have often predicted the sex of the coming babies with success, when there was a marked difference in the physical condition of their parents. The cause is apparent. Nature strikes a balance, as in the case of the rams of your New Hampshire correspondent. The parent ram was weak and died, but he left nine rams to take his place.

S. P. O.

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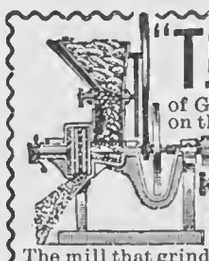
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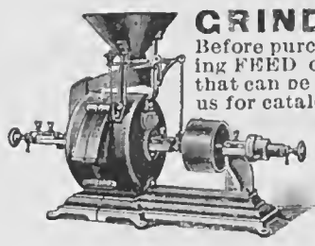
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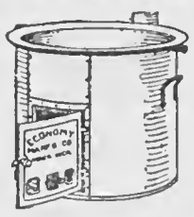
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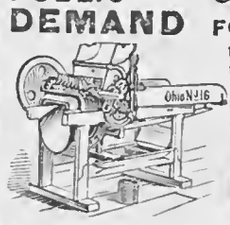
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FEEDING CALVES.

The method of feeding calves by the best stock raisers in this part of the country (and among them is one man who has a fancy herd of Red Polled Angus and who, therefore, aims to have fat, sleek, thrifty calves), is to take the calf away from its mother within 24 hours after birth. Feed it whole milk for one week, and then gradually change to warm skim-milk. If the milk has been set for creaming, care must be taken to skim it before it gets sour; for it would be better for the calf to go 24 hours without food than to be fed, while young, a mess of sour milk.

When the calf is two weeks old, begin to give it whole shelled corn. Give it in a box to which it can have access at any time. Right after drinking its milk, a calf always wants to be sucking or eating something, and if corn be given it at that time, it will soon learn to eat it.

Where there are a number of calves, stanchions should be made for each calf, with a box for corn by each one, then each calf can be fed separately and get its share of the milk, and after drinking its milk, it will go to eating the corn; this will also prevent them from acquiring the habit of sucking each other. Corn is better than meal. They will learn to eat it gradually, and it will not physic them as meal is liable to do. It is, also, better than flaxseed meal, as the fat has been taken out of that, and fat is what is wanted to supply that which has been taken from the milk in skimming. The skim-milk will furnish the muscle-makers and the corn will furnish the fat-formers. Give it all the corn it will eat, with hay or grass and skim-milk, and at six months old, it will be just as large and fat and sleek as though fed on new milk. J. R.

Burr Oak, Iowa.

ANGORA GOATS.

A real fine male Angora is most graceful in his bearing and general appearance. He carries his head high. He will generally get on the highest spot in the pen, so that he can overlook his herd; if he observes anything strange or dangerous, he will give a warning by a keen snort. His horns are gracefully curved and not as heavy as those of the common goat. His back is straight, his legs proportionally short, but very strong and active. When in full length of fleece of 12 months' growth, the wavy, fine, silky hair reaches below his knees, and just as low behind as in front; his breast is well covered with the same long, silky hair. His ears are either very large or very small. I like the large-eared Angoras better, although the small-eared ones often are good shearers. I never saw an Angora ram with average sized ears, that was worth keeping for breeding. Most of the Angoras have a narrow strip of coarser hair on the middle of the back over the backbone, but a really fine Angora male should not show a coarse hair on his body, except on the tail and his beard, and the short, smooth hair on the lower part of his legs. Many of the best Angoras I have, have beautiful bangs of fine wool in their foreheads.

It is quite a beautiful sight to see a bunch of these animals with their graceful bearing and active motions, especially the young kids; the latter can make the most surprisingly active motions in climbing and jumping. It is amusing to watch these pretty little fellows playing. If there is a high stump, pile of rocks, rails, or any high object to climb, they will surely all get on top and jump down, and do it over again and again.

The wool or hair of these animals is used in making fine dress goods; it is generally mixed with fine sheep's wool, to give it luster, softness and durability. We have made many extra fine shawls, socks, etc., out of this hair. Out of the hair of half-breeds, three-quarter-breeds and seven-eighth-breeds we have made over 500 saddle girths which we sold at from 50 cents to $1.25 each, but since my Angoras are all fine shearers, I sell their hair (mohair) at 40 and 45 cents per pound. I always shear in April and in September (twice each year); it is a pretty good flock that will average from three to four pounds per head per year. The meat of these animals is the most healthful and best tasting of any that can be found. I sell a great deal of Angora mutton every year, and everybody who has once tried this kind of meat will surely want it all the time.

Texas. H. T. FUCHS.

FORKFULS OF FACTS.

JERSEY NOTES.—Our herd of 19 grade Jerseys of our own raising, gave, from November 1, 1895, to November 1, 1896, 339 pounds 7 ounces of butter each on an average, reckoning one cow for family use, and two two-year-olds as one full cow. We are tilling one of the abandoned farms we read of. D. A. K.

Vermont.

JERSEYS ARE GREAT PRODUCERS.—I keep Jerseys, purebred and grades, because they are great producers and small consumers. If a 700-pound cow will make 300 pounds of butter per year, why keep a 1,200-pound cow that will make no more? I have a Jersey 16 years old, that, as a seven-year-old, made a record of 16½ pounds in seven days. She will make 300 pounds per year now, and is as hearty and vigorous as any cow in the herd. When fresh, at present prices for feed, she will make butter at a food cost of six cents per pound. J. O. W.

Wolcott, N. Y.

BREEDING FOR SEX.—The reading of the opinions of those that have answered the inquiries about breeding for sex, brings to mind an incident that happened in Mead County, about 30 years ago. It was at that time the custom to have a round-up of all stock in the spring, have the same marked, castrated and spayed by some one that made it a business. At one farm, a young sow was spayed, and only the ovary from one side was taken. In six or seven months, she had five pigs, all males. She had five other litters before she was killed, each time seven pigs, always males. If that plan would always work, the breeding for sex would be accomplished by having the ovary from one side or the other taken from the female.

Fern Creek, Ky. J. G. S.

COWS "SHRINK" IN COLD.—The afternoon of October 10 was rainy, and it seemed quite cold for the time of year. When milking was done in the evening, it was still raining a little, and it seemed too bad to turn the cows out into the wet and cold. But the stable was not fixed just as I wanted to have it before the cows stayed in all night; besides, it seemed too early to begin to stable them, so out they went, with the hope that it would soon quit raining. The result was that every cow shrank in her milk. To find how much the shrinkage was, I have just added the milk yield for the three days ending with October 10 and the next three days. The yield for the first three days, for the 11 cows, was 546¾ pounds; for the next three days, it was 499 pounds, a shrinkage of 8.7 per cent. The 47¾ pounds in three days is not all the loss, for the cows have not yet got back to their old yield, and never will. The spring balance, record sheet and Babcock test were fixed up with the idea of testing the cows, but the record is also useful, as in this case, in noting the effects of feed and care on the cows, and is well worth all it costs for that alone. E. B. WATSON.

Iowa.

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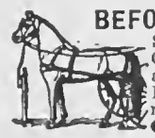

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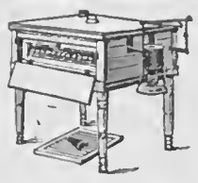

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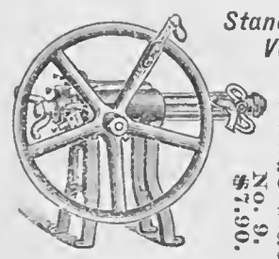

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Humorous.

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Of course you know her fate.
She staid because she wasn't sure
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TEACHER: "What part of speech is 'kiss'?" Entire chorus of girls: "A conjunction."—*Detroit Free Press.*

DOBSON: "It seems to me that garment is too large for the baby." Mrs. D.: "But you must remember that it will shrink from washing." D.: "So does the baby."—*Modes and Fabrics.*

"HUBLY, what in the deuce did you mean by letting that note I indorsed for you go to protest?" "Why, man, there was no other way unless I paid the thing."—*Detroit Free Press.*

"UNCLE SIMON, what is old-fashioned politeness?" "It is a way people used to have of asking a man about his health and then listening until he got through replying."—*Chicago Record.*

MOTHER: "Why did you accept Charlie from among all the young men who have paid you attention?" Daughter: "Because he was the only one that had the good taste to propose."—*Detroit Free Press.*

YABSLEY: "The truest test of a man's friendship is his willingness to lend you money." Mudge: "Oh, 'most anybody will lend money. The real test is when you strike him for a second loan."—*Indianapolis Journal.*

HER MENTAL STRAIN: "Have you been busy lately, Mrs. Plodgett?" "Yes, I've just worn myself out trying to think what all those things were that Mr. Plodgett promised to buy me after the election."—*Chicago Record.*

JOHNNY: "Mr. Lighthead, my sister treats you better than she does me." Mr. Lighthead: "Why do you think so, Johnny?" Johnny: "I heard her tell ma she gives you lots of taffy, but she never gives me any."—*Herald.*

"You can't both ride on a single ticket," said the conductor sharply. "O, I guess we kin," answered Josh, with perfect confidence, as he threw his arm around his blushing companion. "If you'll look at this here document you'll see that me and Marthy's just been made one."—*Detroit Free Press.*

"WHAT time is it, my lad?" asked an American traveler of a small Irish boy, who was driving a couple of cows home from the fields. "About 12 o'clock, sir," replied the boy. "I thought it was more." "It's never any more here," returned the lad, in surprise. "It just begins at 1 again."—*Harper's Round Table.*

THIS is the way the railway man heard the conundrum: "At what time shortly before noon is it three o'clock? At a quarter of twelve, because a quarter of twelve is three." And this is the way he worked it off on his friends: "At what time shortly before noon is it three o'clock? At eleven forty-five, because eleven forty-five is three. It doesn't sound right, either, blame it, but that's the way I heard it."—*Chicago Tribune.*

Again we have the beautiful snow,
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A poet scarce would know it though,
Because, alas, 'tis slush. —*Credit Lost.*

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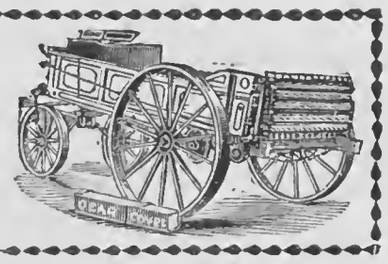

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Will Save Double its Cost IN ONE SEASON.

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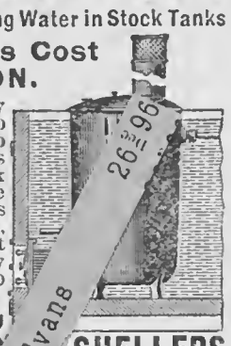

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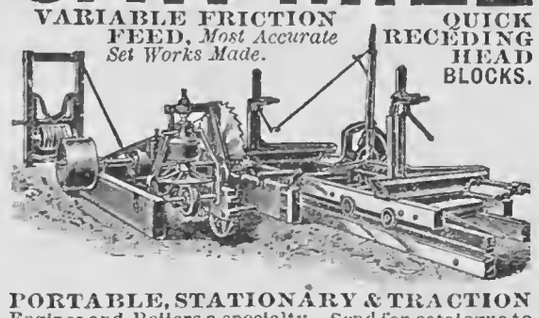

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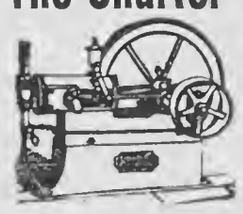

is used for almost every purpose power is applied to; and for FARM, DAIRY, and CREAMERY Work is unequaled. Full particulars by addressing

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

VOL. LV. No. 2447. NEW YORK, DECEMBER 19, 1896. $1.00 PER YEAR.

ALL ABOUT LIMA BEANS.

METHODS OF CULTURE; NEW VARIETIES.

Notes from the Rural Grounds.

1. Which sort does the market prefer—a *fat* bean like Dreer's, or *flat* ones like King of the Garden, Salem Improved, Siebert's Early, or Challenger?
2. What Lima is best in quality?
3. What do you find the most profitable way to grow Limas?
4. How many seeds to the pole?
5. How much manure, how placed?
6. Is fertilizer better than manure?
7. Is it better to use both fertilizer and manure?
8. What kind of manure?
9. Is it well to pinch back the vines after they reach a certain height? What height?
10. What is the yield per acre?
11. How much importance attaches to earliness?
12. When should beans be planted?
13. How deep? Is it important that eyes should be *set down*?
14. Is it a good plan when the vines reach the top of rather short poles to train them from one pole to another instead of pinching back?

Do Not Pinch the Vines Back.

1. The Eastern markets seem to prefer "fat" varieties like Challenger, while at the West, flat sorts seem the most popular. 2. Siebert's Early, Challenger and Kumerle. 3. In rows running north and south, and about five feet apart, with about ten plants to the rod, supported by five to eight poles about eight feet tall, set leaning to the north at an angle of about 35 degrees from the perpendicular, and connected at the top by wool twine. 4. About 40 seeds to the rod. 5. I would plant on soil which was well dressed with stable manure the previous year. If such is not available, I would apply the stable manure in the fall, cultivating it into the surface. I would not use any in the spring. 6. This will depend upon the condition of the soil. 7. Yes, I would use both manure and fertilizer. 8. Well-rotted stable manure, ground bone and wood ashes. 9. No, do not pinch the vines back. 10. So variable, depending upon conditions, that an average would be misleading. 11. It depends upon market and local climate. 12. As soon as the soil is fairly warm and dry; about the same time as field corn. 13. About 1½ to 2 inches below the surface. In heavy, cold and wet soils, it is an advantage to have the bean on edge; whether the eye is down or up is not so important. In light, dry, warm soils, this position is immaterial. 14. Yes; train from one pole to another.

WILL W. TRACY.

Detroit, Mich.

No Difference in Quality.

1. Our local buyers do not seem to discriminate between the fat and the flat Limas. With them, Lima beans are Lima beans, and only their general appearance, size, etc., count. 2. The question of quality seems to me like the discussions about quality in white-shelled and brown-shelled eggs; a good deal of it hinges on imagination, and I will wager that few if any people can tell in the dark, by taste only, whether they are eating an egg that had a white or brown shell, or whether the Lima beans they are eating, are Dreer's, King of the Garden, or any other variety. At any rate, it would take an epicure of the first water to accomplish such a feat. We have always considered the fat (Dreer's) Lima the richest in quality, closely followed by the red and speckled varieties of the large flat Lima; but I am not quite sure how much imagination and prejudice had to do with this preference. For tenderness and sweetness, I would rely much more on timely gathering and good cooking than on selection of variety. Lima beans, to be at their best, should be gathered just before the pods begin to turn yellow, which is, also, the right time to make them most profitable for market, as the individual beans are then of largest size. Next give them into the hands of a good cook, and allow her proper time to cook them tender.

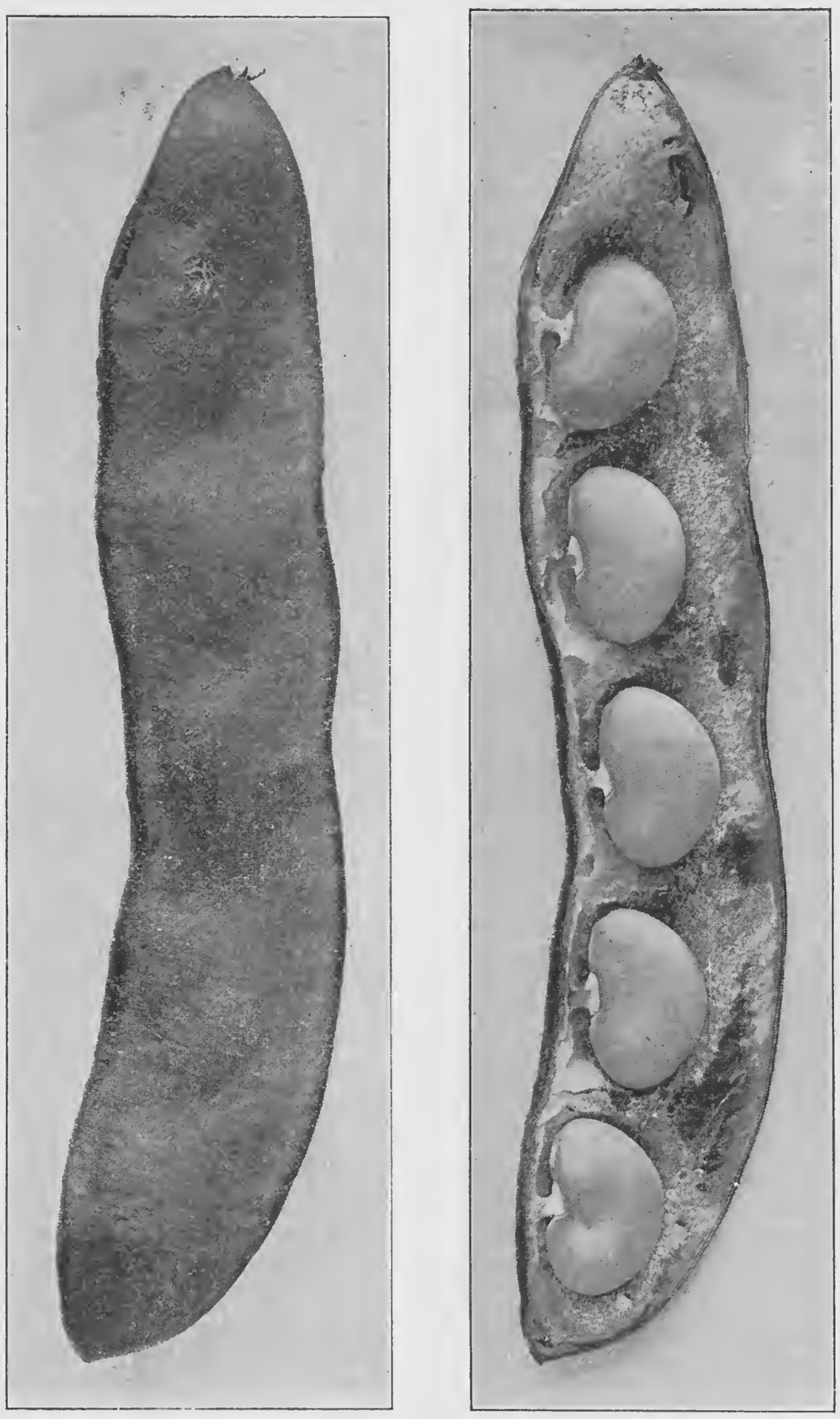
3. Nobody could have been more enthusiastic than myself about the new bush Limas from the very time of their introduction. I have nursed the Kumerle, and Burpee's Big Lima, etc., for years, in the expectation that we had in them the "coming" Limas, as they seemed to give us the easiest and most profitable way to grow Limas for market. Then I had to nurse my hope for some years more, along with this new form of the popular bean, but, alas, and alack! the hope had to be abandoned, and this I shall also do with the large bush Lima. It is lacking in vigor and productiveness, especially the latter, and we can produce Lima beans much easier, and more on less ground, by planting the pole forms, than we can by growing the bush Limas. But of poles we use none, simply because we have none. Besides, the post and wire trellis which I described some years ago, is so easily put up, so ornamental, and so productive of good results, that I would prefer it, even though we had poles. Set end posts firmly, and have them well braced. Any kind of posts or stakes will do for the rest. Stretch a reasonably strong wire five or six feet high, another lighter one six inches from the ground, and wind cheap twine (wool twine or cotton yarn) zigzag fashion around the two wires. If the ground is as rich as it should be for Limas, the whole trellis will be covered in due time with a mass of green, and the pods can be easily gathered from each side of this sheet of foliage.

4. We use plenty of seed, perhaps one to each three inches of row. Some fail to grow; some may be cut down by cut worms, or come in a crippled condition, and unless we have been liberal with the seed, vacant spots will be frequent and a source of reduced yield.

5, 6, 7 and 8. Lima beans, to bring a heavy yield, need very rich soil. On sandy loam in New Jersey, I have grown excellent crops by the free use of commercial fertilizers alone. There I used poultry manure as a change now and then, but in more limited quantity than I would have liked to use. Here, on our heavier loams, nothing will give us the same happy results as good old barnyard or stockyard manure. Our land requires the incorporation of plenty of humus, else it will not give us heavy crops of most vegetables. Sometimes we use top-dressings, rather light, of hen manure, and occasionally of commercial fertilizers (mostly potash and bone). The yard manure is applied at the rate of not less than 60 to 80 tons per acre, and this quantity, even without additional dressings, brings us all the Limas that one could expect from a piece of ground.

9. We never pinch the vines back, and do not find it necessary. On very rich ground, our Limas bear until stopped by frost. On poorer ground, their vitality, apparently, becomes exhausted rather early in the season. The whole crop then comes to maturity long before the first fall frost.

10. I can't say as to yield per acre. 11. We like to have Limas early, and sometimes start plants in plant



FULL POD. INSIDE VIEW.

THE SALEM IMPROVED LIMA BEAN. FIG. 274.

boxes, setting them in the open ground about June 1. For market purposes, it matters little whether the crop comes a few days earlier or later. 12. We plant as soon as the ground seems to be warm enough to make the seed grow, even though this be early in May here. A light frost seldom does any injury to Lima bean plants. Our usual time is from May 15 to 20. Cold, wet weather is what the planter has to fear, as it will cause the seed to rot rather than grow. 13. We just scatter the seed in furrows about two inches deep, and we take no particular pains to have each seed "eye down." I do not believe that this is so important as often claimed; yet more experiments should be made. In one or two earlier trials, with seeds placed in different ways, I could see no difference in the germination. T. GREINER.

Niagara County, N. Y.

Lima Beans near Philadelphia.

1. The large, flat beans sell more readily than the smaller and thicker ones. The larger the bean, the more readily it sells, provided it is not allowed to get old enough to become white in color. 2. Quality depends more on the gathering at the proper stage, say one-half to three-quarters grown; also a good deal on the cooking. The water should be changed once or twice while they are being boiled, in order to get the best flavor. In large beans, we would prefer the large, flat ones, as those of the fat or potato type are likely to be dry and mealy. The Carolina or Sewee type is more delicate than any of the large beans.

3. In our heavy clay soil we prefer poles, as the leafage of the dwarfs is too dense and compact to admit of a free circulation of light and air, so that many blooms fail to set pods, and the latter frequently mildew during a wet spell. In loose, sandy, well-drained soil, the bush varieties are fully as satisfactory as the pole kinds, and are much less trouble to plant and cultivate. 4. We would always plant six or seven seeds to a pole. We aim to plant as early in the spring as possible, and some of the plants are liable to be injured by cold weather or cutworms. Two or three plants are enough to leave when they are well started.

5. If only one application is to be made, we would say two shovelfuls of well-rotted manure, covered with four to six inches of fine soil in which to plant the seed. 6. Fertilizer is not better than manure, but frequently more available. The bean is a heavy feeder, and 1,200 to 1,400 pounds of a complete fertilizer may be used to advantage per acre. This should be drilled in evenly and well mixed with the surface soil some little time before planting, to prevent any danger of burning the young plants during a dry spell. We would not use fertilizer on a loose, sandy soil. 7. We would prefer to use both, plowing down a good coat of long stable manure in the fall, and drilling in 800 pounds of complete fertilizer in the spring when it is plowed again. 8. We use well-rotted manure from the barnyard in the spring, which comes from both horse and cow stables, and which has been turned over several times. When we can get the fall coat turned under early enough, we sow rye on it to turn under in the spring, which helps greatly to keep the soil loose and porous. When we are not able to give this preparation, we depend on putting compost in the hills around the poles, which we get from the chicken houses and dog runs, gathering it daily, storing under cover and sprinkling with land plaster as it accumulates. This is well mixed and broken up before using, and must be covered with a good depth of soil in the hill so that it will not burn the young plants.

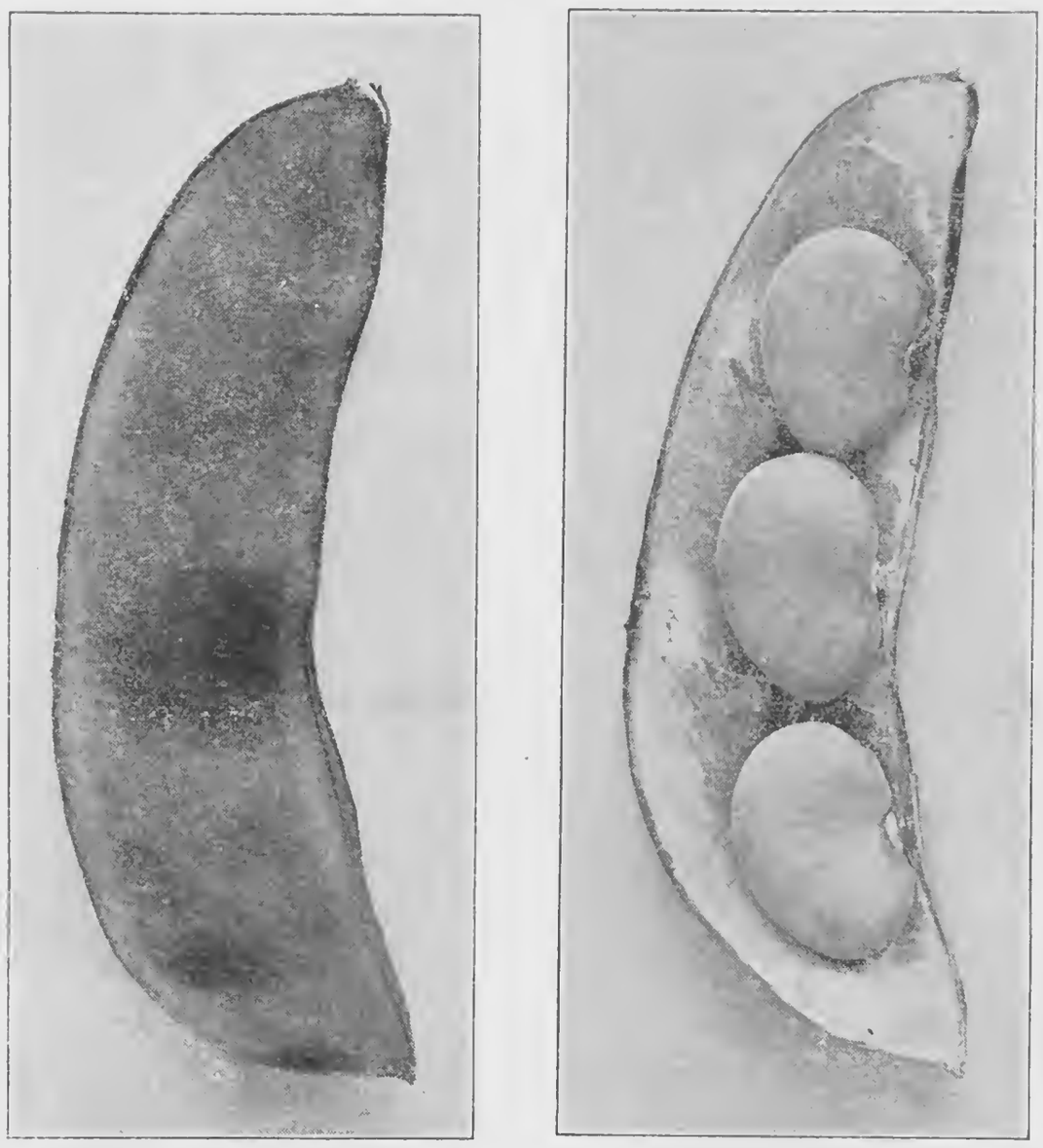
9. We have frequently stopped or pinched back the vines when they reached the tops of the poles, both to encourage earliness and bring on the laterals from around the base of the plant; but we have never got any noticeable results from this practice over those which were left to grow in the natural way. 10. We have no data from which to answer this question, but usually get about two quarts of shelled beans per day from 100 poles in the height of the season. This would be a large yield, and is cut down one-half or three-quarters during a dry season.

11. Very great importance, either for home use or for market. We would always risk having to replant the seed, so as to get them in early. The earliest beans sell for 25 and 30 cents per quart, while in the height of the season they have retailed as low as eight cents, the last two years. Again, in good, rich ground, the early ones are just so much clear gain, as the vines continue to bear until killed by frost in the fall. 12. We plant at the same time as field corn, or when the oak leaves are about half grown.

13. Beans, especially the large, flat ones, come up more quickly and readily if planted on edge with the eye down, as it is then in just the position to grow, the eye starting down and making roots and pushing upwards the cotyledons or first leaves. If the stem has to bend or turn to pull these heavy leaves above the surface, it is very likely to become hardened or even broken, thus becoming stunted and delaying the first quick growth of the plants. Have the soil in as loose and fine condition as possible. Push the beans down edgewise so that the top of the bean will be about one inch under the surface. Then give the surface of the hill a few pats with the palm of the hand in order to settle the soil firmly around the seed. Seed planted carelessly in coarse, porous soil, is likely to rot instead of germinating.

14. Such training would increase the length of bearing vine, but it is a very poor plan to set short poles. Where no poles are to be had which will stand six to seven feet above the surface and bear the weight of vine erect, without bending over, the best way is to set stout posts in a row 20 or more feet apart and six to seven feet in height, bracing the end posts strongly. Then run a telegraph wire along the tops of the posts, and train the vines to strings which are secured to pegs driven into the soil alongside the plants, and tied to the wire above. Many Limas are grown for market in this vicinity, the soil being made very rich and the plants grown more closely in the rows than when grown on poles. The wires are high enough for the teams to pass under in some gardens, and by heavy manuring, the same ground is used for two or three years without removing anything but the vines and strings. E. D. DARLINGTON.

Supt. Trial Grounds, Fordhook Farm, Doylestown, Pa.



FULL POD. INSIDE VIEW.

SIEBERT'S EARLY LIMA BEAN. Fig. 275.

The Fat Beans are Best.

1. A fat bean is preferred because the pod is better filled, and the customer gets better value by buying them. I could not sell the large-podded varieties while the fat ones were to be had. 2. In my opinion, the Large White Lima is best in quality. 3. I grow in hills 3½ x 4 feet apart. 4. I plant eight or nine seeds to a pole; this gives a choice of plants. I let four of the best grow, and pull out the others. The advantage of good plants more than makes up for the wasted seed. 5. If the manure is good and well-rotted, I dig in from one-half to one bushel around the pole, mixing well with the soil. 6. I do not think that fertilizer is better than manure. 7. I always use both. 8. Well-rotted stable manure with a little superphosphate and a pinch of nitrate of soda to each hill. 9. I pinch the laterals and stop the vines when I think that the remaining flowers would not have time to come to maturity for picking. 10. I grow 250 poles. I have picked from them 81 bushels of pods, of the Large White Lima. With the smaller podded varieties, the yield was less, from 70 to 75 bushels. 11. The man who is first in the market gets a third more than the later man, and can get his price until the other fellow comes in. Therefore, the early Lima bean catches the high price, and is very important, indeed. 12. I plant after the cold rain storm, which we usually get about May 10. 13. My soil is light and sandy. I cover about an inch. In heavier soil I would just barely cover the bean; I am very careful to put the eye of the bean down. 14. They may be so trained if the adjoining pole is not already crowded; they can also be pinched back and allowed to hang a little from the top of the short pole.

New Rochelle, N. Y. P. FLANAGAN.

Opinion of Henry A. Dreer.

1. In this market, fat and flat Lima beans are in demand; the former type represented by Dreer's, the latter by King of the Garden. Siebert's Early (flat) promises to be in demand in 1897. 2. Cornell Bulletin, No. 115, rates Dreer's as being of highest quality. 3. On poles, 4½ x 3½ feet, or 4 x 4 feet, or 4 x 3 feet. 4. Five; thin out to three. 5. Run a light furrow on each side of the row; put well-rotted stable manure in the furrow. 6. No; fertilizer is not better. 7. Perhaps so; but nitrogenous fertilizers are not needed. 8. Well-rotted stable manure—horse or cow. 9. Yes; say six feet, to encourage lateral development. 10. Hard to answer; accurate records are not at hand. 11. A great deal, from the standpoint of profit. The market gardeners also need extra good, late beans. 12. In the latitude of Philadelphia, May 1 to 15; earlier than May 10, on light soils; not earlier than May 10, on heavy soils. 13. One inch, with eye down, always. 14. Yes; if time can be spared for the work.

Philadelphia, Pa.

A New Jersey Market Gardener Talks

1. Philadelphia market receives more of the flat beans than Dreer's. Dreer's bring the most money. If they were equally plentiful, I do not know whether this difference would continue. 2. There is not much difference in quality, provided both are equally young. 3. On poles 4 x 3 or 5 x 2½ feet. 4. We plant four to the hill, and transplant to missing places, leaving two to each pole. 5. We strike out the rows deeply, about eight inches, and set up the poles, leaving every fifth row. We go along this row with a cart and put a small shovelful of manure to each pole, and in the vacant row. We then set the poles in the vacant rows, and cover the manure with a plow. 6 and 7. We have never tried it. 8. Well-rotted Philadelphia stable manure. 9. We have never tried it. 10. About 1,500 quarts per acre. 11. The first beans bring 50 cents per quart, rapidly decline to 25 cents, more slowly to 10 cents, finally to 8, and the past season to 5 and even to 3 cents. 12. This depends upon the season. They should be planted as early in May or April as it will do, to escape rotting the seed. When started under sash, they should be planted a month earlier. 13. About one inch. When planting by hand, we set the eyes down; if covering with a hoe, we are not particular about it. 14. We carefully tie up the vines until they get well up the poles, leaving the short ones so that the leaves will catch on the longer poles themselves. With labor high and beans selling at five to eight cents per quart, it will not pay to spend much time either pinching or training them after they get up the poles. CHARLES PARRY.

The Whole Story of the Crop.

Among the most nutritious and, at the same time, most delicious of vegetables, stands the Lima bean, formerly used only in the green state, but now being regularly found in every grocery and country store all the year around. The Lima bean has been greatly improved and modified in recent years, so much so that the gardener who grows for the table directly, or the farmer who grows for the dried seed, is called upon to revise his former selection of varieties and change his methods of culture.

It is probable that the market prefers the large, flat beans like King of the Garden, Salem Improved and Large White Lima to the smaller fat varieties like Dreer's Improved and Challenger, particularly because the former are larger. The general market has not yet learned to discriminate quality in the different

varieties of Limas, enough to create a demand for the fat and superior sorts.

The best Lima bean, in point of quality, is Dreer's Improved, and with it may be named Thorburn's Challenger, which resembles the former in all respects except in having a shorter pod. These beans, when cooked, have the flavor of boiled chestnuts, and are, usually, preferred by persons who have noted the quality. These are beans of the fat type which are generally regarded as of finer quality than the flat beans either among the pole or dwarf Limas. However, Burpee's Dwarf Lima, which is a true Lima of the large, flat type, is often pronounced of the best quality.

I have found it more profitable in this latitude, in which October or even September frosts often catch Limas in full bearing, to grow the dwarfs, which require no labor with poles, mature earlier, and can be planted closer. It seems, however, that the dwarfs are not displacing the pole varieties very rapidly in the extensive growing for dried beans, and the use for poles still exists in the Eastern States. The dry summers of California make it possible to plant the beans after the last rain in May, then to allow the vines to sprawl over the ground in a tangle, because no weeds spring up, and no cultivation is needed after June 1. In the East, the frequent rains necessitate as frequent cultivation, and the pods must be kept off the ground; therefore, poles or a trellis cannot be dispensed with where the tall varieties are grown.

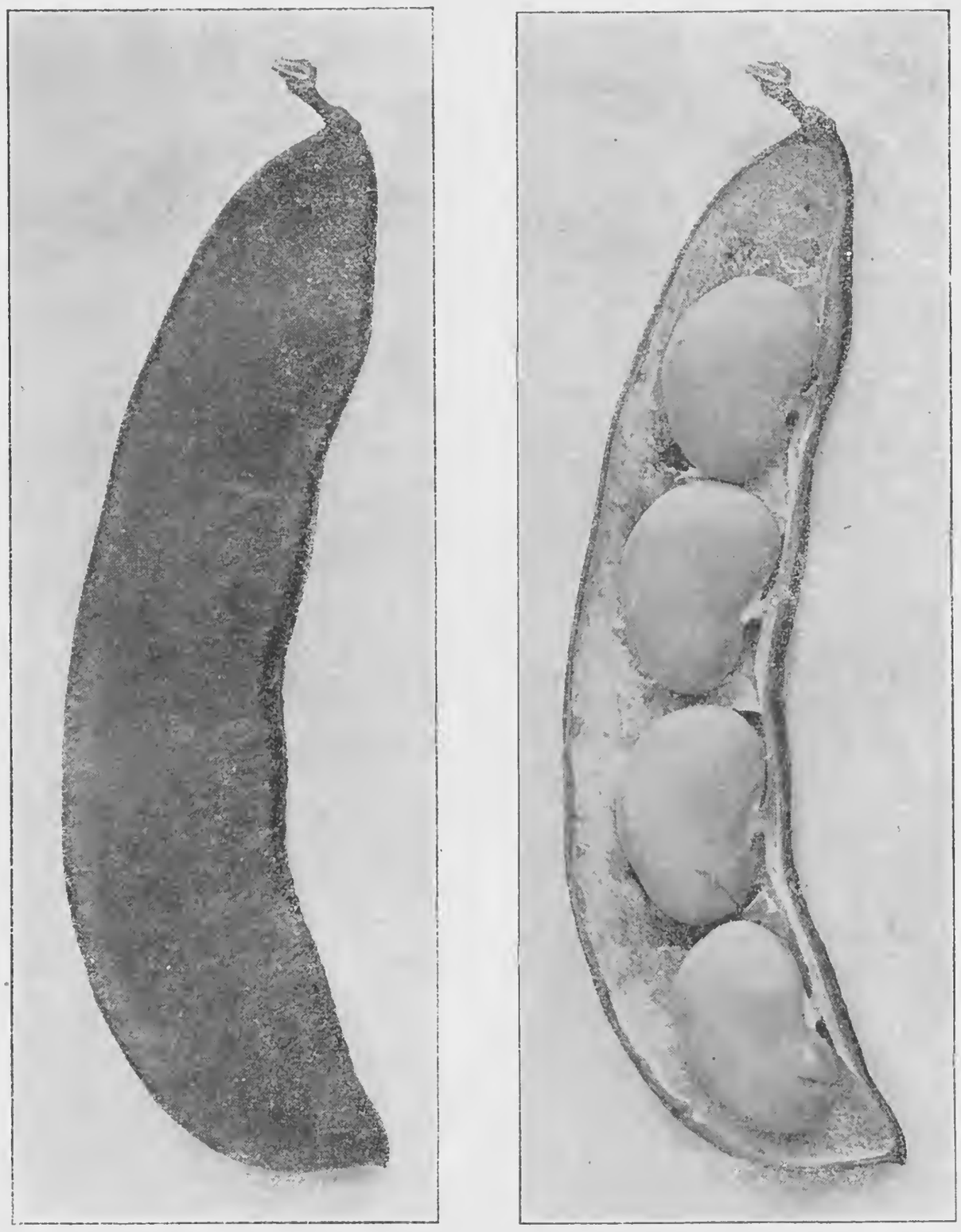
The soil should be warm and friable. A critical time in the growing of Lima beans is during germination. If the soil is a firm clay, and a week of cool weather follow planting, a very small percentage of plants will come through. In a loose soil, the sun's warmth will quickly penetrate to the seed and cause successful germination. I would select, first, a warm exposure; second, a dry soil; and third, a loose soil, to command the best conditions for beans. It might be regarded even as a "poor soil." I saw this past summer a fine field of beans on a hillside in the mountainous peach district of western Maryland, where the peach soil is proverbially poor. These facts about the soil do not imply, however, any futility in fertilizers; on the contrary, the most satisfactory results from the proper use of fertilizers are obtained on such soils. If a field is to be enriched for Lima beans by the use of coarse raw manure, it should be done the year previous to planting, as the immediate use excites a rank growth and retards the maturing of the beans. If the soil is to be fertilized in the year of planting, it should be done with some quickly available material, preferring rather the concentrated fertilizers rich in potash and phosphoric acid instead of nitrogen. Well decomposed manure may be used by thoroughly mixing a strong shovelful in the soil of each hill before planting.

The poles are usually set four feet apart each way, and are from eight to ten feet long. If, however, the poles stand six feet high when in place, they serve as well as longer poles. It is more profitable to be liberal with the beans when planting than to have missing hills and naked poles; therefore, it is best to plant six to eight beans to each pole, and when they have vegetated, leave but three and four plants. No importance need be attached to the old direction to plant the seed with the eye down. Drop good seed and cover according to the condition of the soil; not more than one inch in heavy soil or two inches in the lightest soil.

The best time to plant must be decided by each planter according to his soil and season. While it is necessary to have a long period of growth to mature the best crop, there is always loss instead of gain in planting before the ground is warm enough to germinate the seed properly. It has already been intimated that Lima beans will rot in cold soil. In Pennsylvania and New York, the last week in May is most generally chosen; in New Jersey a week earlier is more frequently chosen. There is a practice of pinching back the ends of the vines when they have reached the top of the poles with the thought that, in consequence, a larger quantity of beans mature; this is very doubtful, and close observers regard the use of the shorter poles as an adequate and, certainly, less expensive substitute for the practice of pinching. Others tie horizontal cross poles to the uprights at a height of five feet, and train the vines over them in preference to pinching. Again, we find a preference for a trellis instead of poles. This consists of strong posts at the ends of each row with good poles in the row, at 15 to 20 feet over which are stretched two wires; a strong one at the height of five feet, and a light one about six inches above ground. A cotton string is stretched from one wire to the other in a zigzag fashion, and the seeds are planted in the row about six inches apart, leaving plants to grow about one foot apart. But the development or selection of any method of training the vine in the air is due to the fancy of the grower very largely, just as in the training of grape vines.

The yield is a variable quantity, depending upon the variety, the adaptability of soil and climate, and the success of the planter in his treatment of the vines. In California, where the annual production in recent years has been about 12,000 tons, and constitutes almost the entire bulk of the business in dried beans, the yield is estimated at 40 bushels per acre. Such an average is considerably below the ordinary good yield, which, in the East, is often given as 150 bushels of green pods, and from 60 to 100 bushels of dried beans per acre. [PROF.] GEO. C. BUTZ.

State College of Pennsylvania.



FULL POD. INSIDE VIEW.

KING OF THE GARDEN LIMA BEAN. FIG. 276.

Varieties at the Rural Grounds.

Our Lima beans were all planted May 6. Only fertilizer (Mapes potato) was used. This was sown broadcast at the rate of 1,000 pounds to the acre. About six beans were planted to each pole, eyes down, and three of the weakest plants destroyed. The poles were stuck 3 x 3 feet apart, and the vines tied to the poles as needed with bits of muslin.

SIEBERT'S EARLY.—Of this much-praised variety, seed was ordered from D. M. Ferry & Co., Detroit, Mich., and from J. J. H. Gregory & Son, Marblehead, Mass. The first "mess" was picked August 8. There were about three large flat beans to the pod, as shown in Fig. 275. The pod is generally well-shaped, and the bean is nearly as large as that of any Lima we have ever raised. The pods often hang in clusters of five or six. This variety is among the earliest. The vines are exceedingly vigorous and continue in bearing until frost.

SALEM IMPROVED LIMA.—This is not so early as Siebert or King of the Garden, but the pods are much larger, sometimes containing as many as six seeds, large and flat like those of Siebert. The pods are often eight inches long, many of them being perfectly straight, others being twisted and curled. It is unquestionably a very prolific variety. The markets near this place prefer small fat pods, and medium-sized, fat beans. The shape of Dreer's, we think, is liked better than others. Flat beans, no matter how large, are not popular. Seeds of this bean (see Fig. 274) were sent to us by W. H. Maule of Philadelphia, Pa.

KING OF THE GARDEN.—The pods of this are more uniformly well-shaped than those of Salem Improved, averaging about five inches in length, containing three to four seeds, which are broad, flat and large. The variety is about one week later than Siebert's. On September 1, we noted that, while the several kinds were all bearing quantities of pods, those of the King of the Garden seemed to fill better than those of the others. Seeds received from W. A. Burpee of Philadelphia, Pa. Fig. 276 shows the pods and beans of average size.

MANURE IN NEW ENGLAND.

The neighborhood custom of handling manure is variable. So far as I am informed, public opinion favors spring application, yet convenience leads many, indeed most, of our farmers to apply a material portion in the fall. In its application, many adhere to the old custom of plowing under from five to seven inches deep. On inquiry, I have found that the majority of our potato growers plow the manure under for this crop. Could all of the conditions be commanded, the farmers would lean towards surface application of manure in the spring, the manure to be harrowed into the ground as deeply as the best modern implements will do it. A few practice winter application, but only to a limited extent. Occasionally a farmer is found who applies on the grass ground in the fall for spring plowing, claiming that a larger crop results from the practice.

Personal experience and experimental inquiry for several years lead to a preference for spring application of manure, and its thorough incorporation with the soil by some form of the Cutaway harrow. Into this conclusion, there have entered some theoretical conclusions, drawn, however, after the scales had taught their lesson. I found in plot work in New Hampshire and Missouri, that the total effect of manure, whether plowed under or applied on top, was about the same, but that the ratio of seed to stem varied by the method of applying, and also varied with the season between the practice of plowing under and applying on top. As a whole, however, manure worked into the surface gave more seed and less straw than when turned under. When the seed is the end in view, the choice of methods is obvious. For hay and grain for the purpose of the hay, the crop is the same so far as personal researches show by either method of application. Whenever the tendency of water is upward, there is a tendency of plant food in a soluble condition in the same direction.

In regard to winter application of manure, I should still prefer surface manuring for the reason that percolation of water in the spring is the order of Nature, and the tendency of manures will, therefore, be downward. The further it has to go, the less the ratio that is likely to go down and out of the soil. Manure applied on the sward will move downwards, too, yet when turned under in the spring, will, to a greater degree, be removed from the surface and nearer the point of percolation. It appears to be more subject to loss from the surface by the moving surface waters as they run off the field into ravines. My system of manuring is governed by business conveniences as well as apparent theoretical advantages.

The type of farming pursued is quite different from that prevailing in this country, and determines the application of manure at times when men and teams are not pressed by other work. Under these conditions, manure has been applied and plowed under in the spring, has been harrowed in in the spring, has been applied to sward ground in the late fall or after the final freeze of the year, and also in December to ground fall plowed. Some has been applied after December snows had fallen. No seed crops are grown upon the farm unless potatoes are so regarded. For this class of crops, I have been unable to discover material gains or losses of crops that can be ascribed to the method of using the manure. There was an apparent difference in favor of the manure applied to plowed ground turned in November, the application occurring in December.

If I could have things on the conditions of your inquiry—"exactly to suit," I would apply in the spring to plowed ground not long before the crop is put in, that spring rains might not leach it and that all of the organic matter might be well and, at an early period, incorporated with the soil before being subject to material losses. I have come to attach considerable importance to the retention of all the organic matter that well can be saved. The results of trials at the Utah Experiment Station were as follows: Manure applied on snow in winter as an average of three years, gave in grain and straw 3,177 pounds; applied in spring and harrowed in, 2,555 pounds; plowed under in the spring six to seven inches deep, 3,866 pounds; applied wholly on top without harrowing in, 2,433 pounds; no manure, 1,155 pounds. The soil was a sandy loam with an open subsoil. The result on this farm differs from my advice in respect to winter application, and reconciles me to the personal practice of winter application in seeming antagonism to sound reason. The atmosphere of Utah is less humid than ours. Although spring rains fall not far behind eastern precipitation, yet percolation of fertility does not occur, so that conditions are not parallel.

New Hampshire. J. W. SANBORN.

ONE HUNDRED CABBAGES TO THE TON.

HOW AN IOWA MAN GROWS AND SELLS.

To grow cabbage successfully, one needs very rich, heavy land, and it is better to rent suitable land of "the other fellow" at $10 per acre, than to grow the crop on your own land, for the effects of a cabbage crop can be seen for two or three years. The ton of cabbage shown at Fig. 277 was taken from an acre of Maule's Surehead and Livingston's Blue Bloom grown on rich bottom land. The ground was virgin prairie until 1891, when it was broken up and produced 100 bushels of corn per acre. In 1892, it grew squashes and celery; in 1893, potatoes, and in 894 and 1895, watermelons.

Although naturally very rich, it received 25 loads of manure in 1894, and was manured again just before plowing in the fall of 1895. It was plowed very deep again in May of this year, then harrowed and planked until fine and smooth. The seed was drilled in rows three feet apart with a Planet Jr. drill, June 1. We aimed to have three or four plants to the foot, and then were sure of a stand. At three weeks old, the plants were thinned to two feet apart. Up to this time, we had tended the rows by hand, and the middles with a Planet Jr. horse hoe. We now used the Z. Breed weeder every three or four days till the leaves reached across the rows. One shallow cultivation with the horse has finished the tending for the season.

Some ripened prematurely in September, and were sold on the market wagon, but the main crop was just ready to sell when the demand for winter cabbage began in the latter part of October. We had contracted to the Western Normal College of this place two tons of our cabbage at one-half cent per pound, and filled the order with 227 heads. One load of 100 heads, averaging over 20 pounds each, was photographed and is the subject of the illustration. It was mentioned in all the local papers, and attracted so much attention that we were soon overrun with orders for "that big cabbage", and in a week from the time we began selling, we were sold out, much of it being sold in the field to farmers from the surrounding country.

This crop has always paid me a fair profit, and some years pays enormously. This year, we sold over 4,000 heads from the acre at an average price of over four cents per head, and by "judicious advertising" and "pushing", disposed of it easily. Many people fail by planting too early, so that much of the crop rots or bursts before selling time, while others fail to sell their crop to advantage. Three other gardeners here who had good crops of cabbage still have much of it unsold, while ours has been all gone for three weeks, and almost every day people are here wanting some of the "big cabbage" they have read of in the local papers. Like Mr. Gale, I believe that the home market is generally the best if one has the right kind of stuff and pushes it properly. HENRY FIELD.

Page County, Iowa.

ONE HUNDRED HEADS OF IOWA CABBAGE WEIGH A TON. FIG. 277.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Utilizing Whole Carcasses for Poultry Food.

Several Subscribers.—We read of poultrymen who work up whole carcasses of horses or other animals for poultry food in bone mills. How can this be done to the best advantage?

A WESTERN HUNTER TALKS.

The Mann mill No. 2 is not large enough to take in a very large animal, but by freezing the meats and bones solid, sawing them into blocks that will go in the mill, one can grind any sized animal. I have cut up beef, deer and horse meats and bones frozen hard by cutting into chunks about 3x6 inches in size. In handling large animals, I hang them up in pieces to freeze. I have fed the food to chickens with good results, also to dogs and foxes with which I have been experimenting to raise for their fur; but I have failed, so far, to have them breed under confinement. I have the Arctic white fox, and expect to turn them loose in the Rocky Mountains at this place. As to the profit, I kept no record, but we always had eggs when our neighbors had none. I am personally a trader, and principally for furs. The subject of raising fur-bearing animals should have more attention.

Montana. C. T. WARNECKE.

WORKING UP HORSES IN COLD WEATHER.

I have only a medium-sized bone cutter, but have ground up the hardest bones in old horses. I can put in a piece of bone as large as my fist, and a lot of smaller pieces around it. One can get mills that will take a large piece. The larger the piece one can get in, the better and easier it will work. I generally kill a horse only in cold weather when it will keep, and grind the meat through a sausage grinder. I have only a small mill and only a small flock of poultry—about 80 fowls, but I have never tested it accurately. The bone mills are a good thing to put green bone into shape for poultry, and it is a great egg food. I believe that to any one having 50 hens, it will pay good interest. G. M. S.

Clinton Hollow, N. Y.

PRACTICE OF AN OHIO MAN.

I have used a No. 2 Mann bone cutter three years, and have facilities for keeping about 100 hens in seven lots. During spring and fall, I have used some bone from markets, which cuts quite readily by hand; have used several old horses during the winter season. They can usually be bought in the country for about what their hides are worth. These are killed and dressed with some care, cut up in pieces that can be handled, and hung in a building or in the limbs of a tree to freeze. I cut these on a block with a heavy ax into as large pieces as will go into the hopper. Nothing can be done with meat when in any quantity on the bones, unless frozen. When the pieces are frozen, I have attached the bone mill to the power of a neighboring grist mill, and while at it, usually cut up one or two carcasses at a time. They will make eight or ten bushels each. I pack the cut meat and bone in crates, and set them where they will be least affected by any thaw. I use this as a food (not a tonic) simply because it is the cheapest food I can buy. I put enough for a feed into a kettle, and thaw it out, or cook it somewhat. This I dry by mixing in some sort of ground feed. I give the hens all they will eat. At night, I feed a little whole grain. I have fed the meat and bone prepared in this way exclusively, with no evil result in health of fowls; but no diet of one article is the thing. The meat could be cooked without cutting, but any meat which one can afford to buy would be too tough, to pay either for cooking or trying to feed afterward. Horse meat has a fishy smell when cooking. I use a kettle with a close cover, from which a two-inch pipe runs directly into the stove pipe. This takes absolutely all odors out of the room. When a boiler house is used, usually there is a chance to cook in it. As to the profit of cut bone, all poultrymen understand that the feed is only one of the conditions upon which success depends.

I think it will pay to cut by hand some bone bought at markets for broilers or laying stock, especially if the eggs are to be used for hatching. I would feed this raw and fresh cut. I think it pays to use meat and bone for a considerable part of the diet, when otherwise healthy old animals can be obtained very cheaply, and when some sort of power is accessible with which to run the machine for cutting in large quantities. Wind mill or horse power is good. It will not pay to try to cut much by hand. A large amount of hand work is required in preparing the carcasses for the machine at best. An unexpected warm spell may necessitate throwing away considerable unless it can be protected from the warmth. If situated so ordinary bone refuse of the markets can be obtained cheaply and plentifully enough, I should much prefer it. He who in addition to this has power at command which he can use day by day has greatly the advantage. Cutting bone by hand is hard and slow work. I have fed ducks as above described with good results. F. E. B.

Trumbull, O.

When and How to Use Lime.

C. H., Two Johns, Caroline County, Md.—I intend to burn 2,000 bushels of oyster shells to make lime to spread on my wheat during the winter. My neighbors say that it will burn up the wheat and be of no use whatever.

ANSWERED BY PROF. H. J. WHEELER.

I have never had any experience in applying freshly burned lime to wheat or grass. European writers refer to the fact that lime in its caustic state is liable to burn vegetation, and I presume that they are correct. Under the circumstances, if the lime were burned immediately, given abundant opportunity to air-slake in small heaps and most thoroughly exposed to the air, it might be safe to apply it in the course of the winter. It might, also, be well to spread it upon the snow when the prospect for its remaining some time is good. In that way the object could be accomplished, I presume, without danger, though, of course, it would be somewhat a matter of experiment. I think that the better plan would have been to burn the lime one year earlier, and harrow it into the soil before the wheat was sown, for in general it may be said that success from the use of lime depends upon a particle of lime coming in contact with every particle of soil, and this is more nearly accomplished by harrowing it in than by any other means. Of course, if spread upon the surface, it becomes slowly soluble and thus finds its way to the particles of soil below. I am aware that certain French or English writers have stated that lime should never be harrowed in, but I think that their statements must refer to excessive applications such as were made frequently in earlier times, and particularly upon clay soils or those where there was difficulty in mixing the lime with the soil by harrowing. At all events, it does not seem to be wise to do as some writers recommend, namely: to spread the lime on the surface and plow it under or, at least, if this be done, only a fractional part should be thus applied and the remainder sown on top and harrowed in after the plowing is done.

The statement that lime is of little or no use the first year does not hold good if applied as outlined above, for we are having excellent results from its use in several places in Rhode Island in connection with beets and clover. At some places where the clover a few weeks ago looked as well without lime as with it, and, perhaps, better, it is now turning yellow and dying, while that upon the limed plots stands as thick and vigorous as seems possible. From our tests in various parts of the State, I have become convinced that lime is the keynote to clover growing with us. By this I do not mean that lime should ever be used alone, but always in connection with potash, phosphoric acid and nitrogen in some form or other,

and with such a system, liming with small applications at frequent intervals on soils where it is needed, it can be resorted to without fear of making "rich fathers and poor sons."

What "Plaster" Does to Ammonia.

T. S., Loveland, O.—I have read that land plaster will fix ammonia and hold it in available form for plant growth. I have been using it with satisfactory results. Has land plaster any other beneficial effects? Does it make potash available if such potash is contained in the soil in inert form? Has air-slaked lime the same beneficial effects on vegetation as land plaster?

ANS.—"Land plaster" is the sulphate of lime, while what we call "lime" is a carbonate. In one case, the lime is combined with sulphur, while in the other, it is combined with carbon or carbonic acid. To illustrate; ordinary cooking soda is a carbonate of soda combined with carbonic acid. Glauber's salt, which many persons have taken as medicine, is sulphate of soda, or soda combined with sulphur. We all know that these combinations of soda differ greatly in character, and in like manner, the sulphate and carbonate of lime differ greatly in their actions. Ammonia in urine and other manures is found chiefly in the form of a carbonate. In this form, it is easily volatilized and passes away as vapor. When plaster is put with it, a change takes place. The sulphur in the plaster unites with the ammonia, while the carbonic acid of the ammonia unites with the lime and forms a carbonate. The sulphate of ammonia is a more stable form than the carbonate. Of course, you will see from this that air-slaked lime, which is a carbonate, will not hold the ammonia, for there is no sulphur in it. In fact, such lime will act to set the ammonia free rather than to secure it as the plaster does. Such lime should never be put in the manure. The best thing to do with it is to harrow it into the soil, where its chief value is to "sweeten" soils that are too sour, to break up heavy clay soils, or to bind together light sands. Plaster has a slight action in the soil to set free potash compounds, but its great value lies in its power to fix and hold the valuable ammonia in stables and manure piles. For this reason, we would always use it *with the manure.*

Value of Tobacco Stems.

J. E. B., Basking Ridge, N. J.—In THE R. N.-Y., page 804, I see that tobacco stems may be purchased for $6 a ton. Where can they be procured at that price?

ANS.—These stems are bought of a local dealer. You cannot buy them in quantity for such a low price. The only way to secure them at such a figure is to make arrangements with some local dealer or manufacturer to take his entire supply. As was said on page 804, as soon as competition begins, the price will rise.

Treatment for Abortion.

J. F. C., North Topeka, Kan.—I have a good Jersey cow which has aborted twice at the fifth month. Can I do anything to prevent it?

ANS.—Allow the cow to run, at least, three months before being again served, and then use a different bull for service. In the meantime, inject the vagina twice a week with a solution of one part corrosive sublimate in 10,000 parts of water. The external organs, tail, and hips should be sponged off with a stronger solution of 1 part to 1,000. If the neck of the womb is open, throw the injection directly into the womb by using about four feet of half-inch rubber tubing, into one end of which a small funnel is fitted, the other end being inserted into the neck of the womb with the aid of the oiled hand. Even after the cow is pregnant, it would be well to continue the treatment, say once a week; but the injection should be made only into the vagina. F. L. K.

Making Carcasses Into Fertilizer.

L. B. B., Waterport, N. Y.—Will you give me a formula for making fertilizer out of old horses? Can I dissolve the bone and flesh together, or would I better boil it all together, then grind the bones? Where can I get a bone mill that would make good meal? Where can I market the hides to the best advantage? Can the bone and flesh be used with ashes and lime in any way to soften the bone so that it could be used without a mill?

ANS.—In the note which follows, Mr. O. W. Mapes tells us what is done with dead horses in a local factory. This is, probably, the simplest way to handle them. A stout tank in which the bones and meat can be well steamed will be needed if one expects to do fair work. You will need a mill of some sort to grind the steamed bones. Any of the manufacturers advertising mills in THE R. N.-Y. will supply you. To make a complete fertilizer, we would mix 300 pounds muriate of potash with 1,700 pounds of the ground bone and meat.

UTILIZING A DEAD HORSE.

Middletown, N. Y., is situated in the great dairy district of Orange County. On the surrounding farms are kept thousands of cattle and horses. The usual mortality among these gives a large number of carcasses to be disposed of every year, and several factories have been established to utilize these carcasses. That of Wm. B. McDowell is, probably, as well equipped as any in this section. Most people are anxious to get a dead animal away from their premises as soon as possible. Mr. McDowell stands ready to remove them upon short notice. A postal card or telegram, which may be sent at his expense (not to exceed 25 cents), starts his truck for the scene of disaster at once, if it occur within a radius of 10 miles of his factory.

On the day of my visit, I met the truck just starting out, and it returned within an hour with the carcass of a horse. It is a low-down affair with a windlass at the forward end with which one man can easily move a dead animal. Arrived at the factory, it is deposited on a platform and forthwith dissected. The first step, of course, is to remove the hide, for which there is always a ready sale. Most of the horse hides are shipped to Europe. The carcass is then cut into large pieces and placed in a steam rendering tank. The pieces I saw would weigh from 20 to 40 pounds each. In this tank, it is steamed for five or six hours under a pressure of about 50 pounds of steam. The grease is now drawn off from the top of the mass and barreled ready for shipment. This goes to soap factories. The remainder is then drawn off into a large open vat, where it is again skimmed for grease. From this vat, it goes into a huge press where all the water is pressed out as nearly as possible. At this factory, the water thus pressed out is allowed to run away to the fields below the factory, Mr. McDowell not finding it profitable to evaporate so much moisture. There must be large quantities of nitrogen in this liquor, as nothing can grow in the land where it is discharged. From the press it goes next to the steam drier, which is something like the reverse of an ice cream freezer. It is surrounded by steam instead of ice, and a set of huge agitators keeps the mass in constant motion, crushing up the meat and the softer parts of the bones until it is perfectly dry.

From the dryer, it is run over screens which separate the coarser pieces of bone from the fine particles, which are mostly lean meat. This lean meat, by the way, is just what I have long wanted for laying hens. I shall surely give it a trial. The coarser particles of bone are then ground in a bone mill and mixed again with the meat, in which form it is sold to fertilizer factories as tankage. It is guaranteed to contain 5.06 per cent of nitrogen and 17.57 per cent of phosphoric acid, of which 15 is available. He has had no analysis made of the fine meat which first comes through the screens as it leaves the drier, but it must be very rich in nitrogen, and, in my opinion, will make a better egg-producing food than dried blood. It can be bought much cheaper.

They average from 10 to 12 carcasses a week at this factory, and in addition, all the bones and fat from the markets of the city of Middletown are collected semi-weekly, and go through the same process. A large green-bone cutter has just been put in, and he is now prepared to supply green cut bone for poultry food.

A "Balanced Ration" With Dry Hay.

A. T. S., Woodford, Me.—What is the best ration of grain to feed with well-cured English hay (no rough fodder), to milch cows to make the most milk? Bran is $14 per ton; corn meal, $15 per ton; cotton-seed meal, $23 per ton; linseed, $21 per ton; gluten, $18 per ton. Most of the rations I see reported in THE R. N.-Y. make use of some kinds of fodder that I don't have this winter, so I would like a ration made up of what I have.

ANS.—In a ration of this kind, the important thing is to use grain foods that have a laxative effect on the system. One great value of ensilage is that it keeps the system open much like pasture grass. Dry hay is constipating, and for this reason, oil meal and bran are excellent to feed with it. While we would use cotton-seed meal with ensilage or when the cows are at pasture, we would not advise its use with dry hay unless the cows had plenty of roots or raw potatoes. In a general way, we would advise a mixture of three parts bran and two parts each linseed and gluten. This mixture, of course, is by *weight* and not by measure. We would feed the cows from 15 to 20 pounds of hay and as much of the grain mixture as seemed to be profitable. One of the best parts of a "balanced ration" is the large per cent of observation which the feeder puts in. Watch the cows and change the amount of the grain as the milk yield changes.

York State Prune and Lincoln Pear.

E. B., Nauvoo, Ill.—Can you give us detailed information regarding the York State prune and the Lincoln Coreless pear? Are they thrifty, hardy, and good bearers? How does the size and quality of their fruit compare with others of their kind and season? Are they profitable fruits to plant?

ANS.—The York State prune is something that I have heard of only in an indefinite way, but never seen. One of the best posted plum men in New York or anywhere else told me that he believed it to be "a fake." The Lincoln Coreless pear originated in Lincoln County, Tenn. The old tree during its life of more than 60 years, was healthy and productive. The young trees are vigorous, and little subject to blight, but there has not been time since the introduction of the variety to prove their productivenes. The fruit that I have tasted was poor in quality, but it was large, and seemed to keep well into the winter.

H. E. VAN DEMAN.

Sterile Flowers on Melons.

G. W. L., Waterloo, Ia.—Two years ago, a friend gave me a pie melon. I planted some of the seeds in May of both 1895 and 1896. The vines grew thriftily both years, but though I examined them carefully several times, I did not find any indication of a pistillate flower.

ANS.—The staminate flowers in all sorts of cucurbitaceæ are always in excess of the pistillate flowers, the proportion, however, varying from year to year. Peculiar conditions, of which we know nothing, may have induced our friend's melons to bear only sterile flowers.

Trimming a Five-Year-Old Peach Orchard.

A. A. F., Somerville, N. J.—I have a small peach orchard, five years old; it has made a good growth this year, and is in a flourishing condition. How, and when shall I prune it? Should I cut back the new growth, and how much? I have owned the farm only one year, but the neighbors say that it has never been pruned. They advise me to cut off some of the lower branches, and not touch the new wood at all.

ANS.—To prune a five-year-old orchard which had never been trimmed or pruned in any way, there is but one method which is correct and will give satisfaction. This is not to cut back the young growth, but to trim the tree out and thin it, beginning in the center to do so. The best way is to take all the smaller twigs off, leaving the nicest and best looking branches which look as though they would fruit best. Do not cut off the bottom limbs, but leave the tree as equally balanced as possible, with as low a head as you can, and still leave it in good shape. Do not cut back the young growth unless it is an extra long growth, which runs off sidewise or interferes with other limbs or other trees. The main thing is to keep the tree nice shaped, not too high, not too thick in the middle, and thin all poor, light little twigs which could not hold up good fruit. We wish to get a tree that will hold its fruit, and that will have plenty of fruit on it, on those limbs which are better to bring it out, and would have a good show to get the sun and be well colored and flavored. Do not cut back the young growth, but cut out the old spurs and old limbs.

JOS. H. BLACK, SON & CO.

Corn Fodder, Bran and Carrots.

C. H. W., Charlotte, N. Y.—In what proportions should I feed fodder corn, wheat bran and carrots to obtain the best results in milk? I wish to use all the carrots it will be safe and advantageous to feed. If a "balanced ration" cannot be got out of these, what would be the best addition to make?

ANS.—It will be better to add some food like cotton-seed meal or linseed meal to the list. Average specimens of these foods will analyze about as follows:

	POUNDS IN 100.		
	Muscle-makers.	Fat-formers.	Pure fat.
Fodder corn.....	4.5	35	1.6
Wheat bran.....	15.4	54	4.0
Carrots.....	1.1	7.6	0.4

The so-called "standard" ration for a cow weighing 1,000 pounds, is a daily feed of materials containing 2½ pounds of muscle-makers, 12½ pounds of fat-formers, and two-fifths of a pound of pure fat. If you could make the cow eat 50 pounds of dry corn fodder, she would secure this amount of food, but most of it would be indigestible, and in a week or so she would be so constipated that her usefulness as a milker would be about gone. It would take over 200 pounds of carrots to provide this food, supposing that you could make her eat so much. Twenty pounds of bran would furnish it, but this would not give the cow enough bulky food, and it would also be too expensive. Each of these foods would be fed alone at a loss because, in order to get enough muscle-makers, you would be obliged to feed too much of the fat-formers and fat, and this would be wasted. The objects of "balancing" the ration are to mix the foods so that the proportions will be right, and to utilize the cheap carrots and fodder. A mixture of 20 pounds of corn fodder, 6 pounds of bran, and 15 pounds of carrots, will give fair results, especially if you can cut and steam the fodder. You will obtain better results, however, if you will feed 20 pounds of fodder, 4 pounds of bran, 1½ pound of cotton-seed meal or linseed meal, and 15 pounds of carrots.

Rye Hay; Millet in Potatoes.

J. F. G., Seybertsville, Pa.—We have taken the fodder from five acres of corn land, and have sowed the land to rye. Would it be better to make hay of the rye by cutting before it matures, or let it stand for grain? We shall be rather short of roughage. On page 740, I read about sowing millet at the last working of potatoes. About what time would those potatoes have to be planted and worked the last time, and when could the crop of millet be cut? It strikes me that it would be rather long to keep potatoes in the ground.

ANS.—It will, probably, pay you best to cut the rye early and cure it for hay. You will find it poor stuff, however, and not very well relished by stock. Rye makes the poorest hay of any of the small grains. The experiment with millet in potatoes was tried in Kansas—see page 665. The weather and seasons are such in that country that the potatoes were planted early in April, with the last cultivation early in June, at which time the millet was sown. This plan might not work in Pennsylvania, though we have, in New Jersey, grown large crops of fodder corn between the rows of potatoes.

Alcohol for Regulating Incubators.

H. E. Moss, Mo.—In The R. N.-Y. of November 7, J. W. M., of Quincy, Ill., undertakes to answer my article in which I condemn some makes of incubators as worthless, and especially those in which the heat is supposed to be controlled by regulators whose action is based on the expansion of alcohol or mercury, or both. I reaffirm my previous statement, and can furnish abundant evidence to substantiate it, both from a thorough practical test of them, and from a scientific standpoint.

J. W. M. says that he has been interested in artificial incubation for 14 years; that is no evidence that my statement is incorrect or his correct. Does J. W. M. know that the boiling point (and, therefore, the incubating temperature or point) of any liquid varies with the atmospheric pressure? Does he not know that the regulator in question is in itself a syphon barometer made doubly sensitive by the alcohol above the mercury in the bulb, but variable and inaccurate as a barometer on account of the vapor of alcohol which collects in the upper extremity of it? Does he know that the atmospheric pressure varies from 27 to 31 inches? Does he know that, at a barometric pressure of 26.529 inches, water boils at 216 degrees F., and at 31.120 inches, it boils at 214 degrees F., and that *all* liquids are similarly affected?

Does he not know that regulators, based on this prineiple were tried years ago and discarded as worthless, and that a prominent maker in Iowa recently adopted the same regulator, but quickly discovered its faults and discarded it because he is honestly trying to make a machine that will hatch?

The facts are that J. W. M. is a manufacturer of incubators. On January 1, last, he adopted this regulator, and I believe I am safe in saying that I have set more eggs and run more hatches in his own machines equipped with this regulator, than he has. I do not hesitate, after a thorough, careful and intelligent trial, to pronounce it worthless. It varies with every change in the atmospheric pressure, as it must, it being a barometer itself. For example, on August 25 last, after two weeks of steady hot weather, a thunder shower arose about 6 P. M.; during this storm, the temperature fell 25 degrees, and the barometer fell from 30 at 8 A. M., to 29.84 at 6 P. M. During the day, I noticed the heat rising on the thermometers of the one machine I had running at the time, and it kept me busy adjusting the regulator and lowering the flame. When I left it for the night, the damper was slightly open, and the thermometers averaged about 103½ F. The next morning, I found the temperature on the tray as shown by the five thermometers, to range from 106 to 110 F., which, of course, ruined the hatch. Furthermore, of all the hatches I run in these machines, not a single one could be run with any approximation to a uniform temperature on all the thermometers on the tray; neither could the temperature be held steady on any one of them without a constant watching and shifting of the weight to compensate for the changes in atmospheric pressure and outer thermal changes. The latitude of movement of the weight was fully one inch during the hatch.

Experts can operate incubators with success without regulators; they are skillful enough to regulate by the lamp alone. This method is preferable to a worthless regulator, even in the hands of a novice. J. W. M. should be aware of these facts, and if he had studied his regulator and its action during 1896, since he adopted it, as carefully as I have, he would. As J. W. M. advances in knowledge, he will discard this theoretically beautiful device, and will, when he becomes fully posted, learn that aluminium and steel combined in a thermostatic bar, make the most sensitive and accurate as well as practical device that can be made for this purpose; the best makers are adopting them.

If I have not made this sufficiently plain, I shall be glad to furnish tabulated records of numerous hatches showing all the variations of the regulator and the adjustment necessary to compensate for barometric pressure, as well as variations of temperature on different parts of the egg tray and other details in full as to hatches. As he says that three-fourths of the incubators he sells go to farmers, I am willing to sit up nights as I have often done watching these regulators in compiling this record of their operation, if it will assist one farmer in selecting an incubator worthy of the name.

Killing Poultry Vermin.

M. W. D., Augusta, Me.—I think that putting oil or tar or anything else on roosts to get rid of hen lice or red mites, is all wrong. It only drives them to other parts of the house, where it is impossible to get at them. I tried that for two or three years to my sorrow. Now, instead of trying to drive them off from the roosts, I make them as pleasant as possible for the lice, though I have to tack a strip of cloth on the under side of the roosts to induce them to stop there. Then about once in two or three weeks, I treat them to a bath of water as hot as I can get it. That kills lice, mites and everything else that's on the roosts. The roosts should be made so that they can be taken down and carried out-doors and turned bottom side up to turn on the hot water.

"Old-Fashioned" Prize Butter.

J. G. M., Poolville, N. Y.—I wish to congratulate Mrs. R. A. Bloomfield, of Illinois, on her courage in holding up to view the methods of that woman who made prize butter salted three ounces to the pound, and then washed the salt out again. She might also have called attention to the fact of the "cream churned from milk set in open pans for four days," for, if set in a dry place, the cream would be very much like leather in four days, and if in a damp place, I should expect to find it near molding.

While I think that just as good (and, perhaps, better) butter may be made without a separator, and that there is a great deal of unnecessary talk about modern butter making, still I think it no more of a sin for men to "make a great talk, and even swell into their coats and vests with great pride" over their modern ideas, than it is for a woman to make herself ridiculous just for the sake of being "old-fashioned."

Defending the Dorsets.

E. M. G., Verona, Md.—In referring to Dorsets on page 804, you are mistaken about the Dorset Courier being out of existence, although there is some talk of discontinuing next year, if breeders don't give it more support; I think that it will still be issued. You certainly give some Dorset importers a severe rap, but I agree with Mr. Latta, page 799, and yourselves, that all trickery and misrepresentation should be exposed, and the breeders that employ these means should suffer.

Although a young Dorset breeder, I am well pleased with this breed, and having seen November lambs, I am sure that Mr. Latta's way of keeping his flock must be wrong, provided he wishes extra early lambs. My seven years' experience with sheep shows that Dorsets beat both Cotswolds and Oxford Downs, in having strong coming lambs, and as for milking qualities, are far ahead of other breeds. Although I dare say that there are dishonest breeders, yet for my own part, I would be pleased to show how my customers are pleased with my stock. As I am in it for a business, all purchasers have the option of returning stock, if not satisfied, at my expense.

Improving Varieties of Cotton.

R. J. Redding, Georgia Ex. Station.—In regard to efforts making to improve the varieties of cotton in the South, very many farmers have engaged in the work of improvement, mostly by careful selection and cultivation. I think that I may truly say that even more attention has been and is now being given to improving cotton than to Indian corn, wheat, oats, or any other southern-grown crop. The number of varieties in cultivation throughout the South must number over 50, and their number is added to every year. This station has been engaged in the work of cross fertilizing, with the view to developing greater length and fineness of fiber, while at the same time maintaining productiveness. This work has been conducted for six years past, but as yet with no very decisive practical results. In this work, we have always been confronted with the fact that there is a close relation between the productiveness (yield per acre) of a variety and the fineness of the staple (fiber). In other words, we find, so far, that the quality of the fiber varies in inverse proportion to the yield—the longer and finer the staple, the smaller the yield. This is universally observed by all who have had any experience.

In the conduct of the cross-fertilizing experiments, we have relied mainly on the Sea Island species as the source of the qualities of length and fineness of staple, and some one of the more productive varieties of Upland or Short staple, for productiveness. One of the first observable results of such crosses is the very diverse and unstable character of the offspring. For instance, we sometimes get a dozen plants, each the product of seeds from the same boll (capsule), with scarcely a point of resemblance to each other, but a noticeably stronger tendency towards the Sea Island type. We have published no bulletin of results as yet, simply because we have not yet attained satisfactory practical results.

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FARMERS' CLUB DISCUSSION.

(CONTINUED.)

Some Kansas Notes.

J. E. H., EMPORIA, KAN. — The call for metal wheels leads me to say that if one has an old wagon, he can have it cut down. The low wagon is very common here, and after one is familiar with the good it does, would not be without one. In buying a new wagon, I got the middle size—the hind wheels being the height of the front ones of the standard high-wheel wagon. I use it for all purposes. I have a hay frame that sets on the bed, and cost less than $1. I can haul one-half a ton very easily. Also, the bed being a few inches above the hind wheels, I haul fodder, posts, wood, etc., and do it with ease and pleasure not known to the high-wagon man. I have often said that I would not take a new high-wheel wagon as a gift, and use no other.

As for potatoes, my Carman No. 1, planted beside R. N.-Y. No. 2, were so poor, that I shall plant no more of them. The Early Ohio (Northern-grown), were somewhat better than the R. N.-Y. No. 2, though the latter averaged well.

For a dozen years, I have planted corn between the hills when the potatoes were in bloom, and got a good crop of both. I use the hand planter or jabber, the hills being about three feet apart. This year, in every fourth row and 10 feet apart, I omitted the hill of corn, and planted pumpkin seeds. The result was three good crops, either one paying a good rent or profit. I, however, left a few rows that were 18 inches in the hill, without corn or pumpkins. The yield was no greater than that with the corn and pumpkins. The ground was timber land, and no fertilizer has ever been used. I have six pear trees that keep their leaves until freezing begins. I do not know their name.

The Manure Question.

E. C. GILLETT, YATES COUNTY, N. Y. —In this vicinity, nearly every farmer has a large amount of straw which is used in profusion as bedding for all kinds of stock. Horse and cow manure is usually thrown into the barnyard, and left until midwinter or toward spring. Most of us endeavor to get it spread on our ground for corn while the soil is frozen. Many farmers feed sheep, keeping them confined in large basement barns most of the time, with small yards for feeding and exercise; they are kept well bedded with straw, and the pens cleaned once or twice during the winter. My practice with only two or three cows, is to give each one a box-stall eight feet square, use plenty of straw, and allow the manure to accumulate till it is two feet deep. The cows have perfect freedom, no stanchions or chains, and they keep as clean as can be desired.

The system I have outlined seems to give good satisfaction, although the manure from sheep, when drawn to the field, seems to be three-quarters straw, and that from the barnyard is sometimes, apparently, half and half, straw and water, often reminding me of what Prof. Roberts once said about "irrigating with a manure fork." But it keeps up the fertility of our fields, and gives us better results than any commercial fertilizers we can buy. If I could have things arranged exactly to suit me, I would do just as I do now, with the addition of concrete floors in the stables to save liquids, and a covered yard to throw the horse and cow manure in to prevent leaching.

Potatoes for Fuel.

E. C. A., ABERDEEN, S. D.—Referring to the picture of the straw-burning stove on page 800, I would like to say that flax straw seems to be the favorite fuel here, but these stoves will burn almost anything. Potatoes were tried as fuel last winter by some parties in this county, and with good results. After a good fire has been started in an ordinary heater a bucket of potatoes is thrown on, and the amount of heat that will be created is surprising. This winter, a friend has tried them both in the shop and at the house, and at the latter place, is using them more or less right along. Our local paper stated last winter that some experiments had been carried on at the Grand Forks, S. D., gas works with potatoes for fuel, and that they valued them at $3.50 per ton compared with wood at $5 per cord.

R. N.-Y.—Last winter, the newspapers reported that farmers in western New York were burning potatoes by mixing them with coal in the stoves or heaters. We were not able to verify these reports. Prof. E. F. Ladd of the North Dakota Experiment Station sends us the following statement:

"The superintendent of the Grand Forks gas works informs me that they have never used potatoes for fuel or otherwise. With the amount of water contained in potatoes, there certainly could be no economy in burning them as fuel, for a large share of their energy would be required to evaporate the water contained in them. The use of straw is quite general for fuel purposes in some parts of the Dakotas, stoves being especially constructed for burning it. Straw is used also, to a considerable extent, as fuel for thrashing engines, and is generally found satisfactory when the boiler is arranged for its use. As the straw has no value, at present, in this country, its cost is comparatively little, while wood and coal are more expensive."

Pacific Coast Apples.

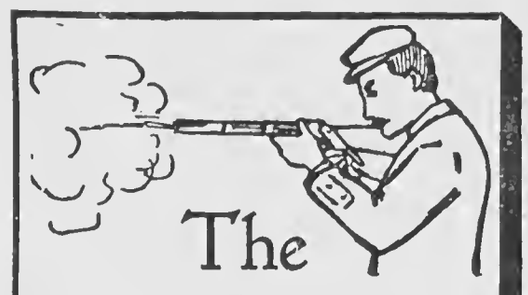
A. F. W., LATAH, WASH.—Prof. W. T. French tells the truth when he says that the conditions vary in different localities throughout Oregon and Washington. I live in eastern Washington, in what is known as the Palouse country. This is a very good fruit country, especially for apples and pears; the Northern Spy apple ripens from March to April, looks as it does in the East, and as near as I can tell, has the same flavor. Apples in this country bear at about three years from planting. I picked two bushels from a tree planted five years ago this fall.

Strange Antics of Carman.

E. T., NEW BERLIN, N. Y.—The piece of Carman No. 1 potato sent me multiplied, and now furnishes us with a potato of unusually fine cooking qualities; but it has behaved strangely. The first two seasons, the vines remained green till frost killed them, and made heavy yields, while Burbank, American Wonder and others right beside them blighted. This year, the vines were the first to die, which was early in August, and the tubers were small. They possess remarkable vitality. With eight pounds of seed, I planted a row 40 rods long, with pieces from 18 to 20 inches apart in the row. They were cut to one eye, and many eyes were split into two or three parts; not more than two hills were wanting, and these may have been torn out with the smoothing harrow or weeder.

That Strawberry Barrel.

S. H. W., WESTON, MASS.—After reading what D. H., Rochelle, Ill., said (page 754), about the strawberry barrels with 100 holes in them, but no strawberry plants growing in them, and what the men who had the barrels had to pay for the 100 plants, I felt about as the other fellow did who had gathered with others at the village store when one of them asked whether they knew that John Smith's barn was burned the night before. As none of them knew about it, he told them that Smith's hired man saw an owl on top of the barn, so he ran for his gun and shot at him and set the barn on fire and burned 100 tons of hay, 50 cows, 4 horses, sheep, hogs, etc. As they sat there, one fellow said, "Well! Did he kill the owl?" I would like to know whether the men got their 100 strawberry plants to put into the holes, and did so, but they died, or whether he would give us that have planted strawberry plants in barrels to understand that all we will get from our labor will be the 100 holes.



The Gun Goes Off

instantly when you pull the trigger. So sickness may come on suddenly. But it takes time to load the gun, and it takes time to get ready for those explosions called diseases. Coughs, colds, any "attack," whatever the subject be, often means preceding weakness and poor blood.

Are you getting thin? Is your appetite poor? Are you losing that snap, energy and vigor that make "clear-headedness?" Do one thing: build up your whole system with SCOTT'S EMULSION of Cod-liver Oil. It is the essence of nourishment. It does not nauseate, does not trouble the stomach. And it replaces all that disease robs you of.

A book telling more about it sent free. Ask for it.

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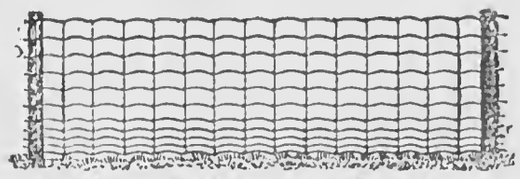

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With favorable weather, wise management and a good market, the specialty farmer sometimes makes a grand showing. However, mixed husbandry is safer, and in the long run will usually give best results. Where a variety of domestic animals are kept, Page fence will be found not only a luxury, but almost a necessity. See catalogue.

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A LOOK THROUGH SOUTH MISSOURI FREE

The Kansas City, Fort Scott & Memphis R. R. Co. has issued a magnificent book of 60 or more photo-engraved views of varied scenery in South Missouri. From these views an accurate knowledge can be obtained as to the productions and general topography of that highly favored section that IS NOW ATTRACTING THE ATTENTION OF HOMESEEKERS AND INVESTORS THE COUNTRY OVER. The title of the book is "Snap Shots in South Missouri." It will be mailed free. Address

J. E. LOCKWOOD, Kansas City, Mo.

Very Desirable Farm for Sale.

Situated in southeast Nebraska, immediately on the west bank of the Missouri River, 24 miles from Kansas-Nebraska State line, the best fruit-growing country known, and where crops never have failed. Ten thousand apple, pear, cherry, plum, peach and apricot trees, and 1,000 grape vines now growing on this farm, in orchard and vineyard. For particulars write

ROBT. W. FURNAS, Brownville, Nebraska.

Do You Want a Watch?

WHEN the prices of Watches were reduced during the panic of 1893 and the following year, we thought that surely they would go up again promptly. But we find that we are still able to buy them at panic prices, and some grades even cheaper than ever before. We urge no one to buy these watches of us. We simply know that retailers are obliged to make good profits on watches, no matter where they are located, and we are simply buying these, as we want them, at wholesale prices, and add enough to cover cost of correspondence and postage, so that our readers, who want watches of any grade, can get them at practically wholesale prices. Every watch is guaranteed to us, and we, in turn, guarantee them to purchasers. We will return the money in any case of dissatisfaction. We, however, sell these watches only to subscribers.

All Around Reduction in Waltham and Elgin Watches.

Offer No. 200.

Elgin or Waltham Watch—Men's Size, $4.50.

No. 200 is a handsome Elgin or Waltham Watch, men's size. The works contain seven jewels, compensation balance, safety pinion, stem winding and setting apparatus, and all the greatest improvements. The case is open face only, and is made of a composite that wears just like silver. The case is made by the Keystone Watch Case Company and guaranteed in every respect. The case is made on the thin model plan. Price, $4.50.

Offer No. 201.

Elgin or Waltham Watch—Men's Size, $10.

No. 201 is a gold filled open face case, dust proof; guaranteed to wear like solid gold for 15 years. The movement is seven jewels, stem wind and set, and contains all the latest improvements. Sent delivery guaranteed by registered mail for $10. Hunting case, $3 extra.

Offer No 202.

Waltham Watch—Men's Size, $13.50.

The American Watch Company, at Waltham, has made a reduction in the price of its 15-jewel movements. We take the first opportunity to give our readers the advantage of the new price list, and offer the following-described bargains.

No. 202 is an open face, 15-jewel in settings, compensation balance, patent Breguet hair-spring, hardened and tempered in form. White porcelain dial, stem wind and pendant, set in a gold-filled, engraved or engine-turned pattern case. Warranted to wear like solid gold for 15 years. We will send this watch to any address, delivery guaranteed, for the sum of only $13.50.

Offer No. 209.

Ladies' Gold Filled Waltham or Elgin Watch, $13.50

No. 209 is a Ladies' Gold-filled Engraved Watch, guaranteed by the manufacturer to wear 15 years. The works contain seven jewels, exposed paliets, safety pinion and all improvements. Price, delivery guaranteed, $13.50.

"Crescent Street."

Waltham Watch—Men's Size. Pride of the Waltham Factory.

The best full-sized Waltham watch is called "Crescent Street." This watch is made from the very finest materials, each part being selected by expert workmen. Every wheel is perfect, every jewel is a precious stone, every pinion is polished to the highest degree. In fact, this watch is, as the Waltham Company guarantees, "perfect in construction and finish." The Company also says in its catalogue that this is "the finest full-plate movement in the world." The full plate is a recent improvement in watchmaking. It is a metal cap, covering all the mechanism, excepting the balance, thus saving many bills for cleaning. These celebrated works are full jeweled with red ruby jewels in solid gold settings. They contain compensation expansion balance, safety pinion, stem winding and setting apparatus, patent Breguet hair-spring, hardened and tempered in form, patent regulator and double sunk dial, made expressly for this watch. The dial is genuine.

No. 203. Crescent Street, Solid 14k., 40 dwt. (Hunting case only) $52.90

No. 204. Crescent Street. Gold filled, 20-year Hunting or Open Face case 37.00

No. 205. Crescent Street. Gold filled, 15-year. Hunting or Open Face case 33.25

No. 206. Crescent Street, 2-ounce Coin Silver. Hunting or Open Face case 27.85

No. 207. Crescent Street, Solid Nickel Silver, Open Face dust-proof case 25.00

Offer No. 208.

Ladies' Solid Gold Waltham or Elgin Watch, $20.

The works are manufactured at Waltham or Elgin. They are made of the finest materials, carefully selected. The jewels are all cut and polished in Europe, where secret processes are handed down from generation to generation. The dial is made of the finest porcelain and the hands of blue tempered steel. The case is solid 14k. United States Assay, handsomely engraved. We will send this watch, delivery guaranteed, for $20.

THE RURAL NEW-YORKER, NEW YORK.

The Rural New-Yorker.

THE BUSINESS FARMERS' PAPER.

A National Weekly Journal for Country and Suburban Homes.

Established 1850.

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SATURDAY, DECEMBER 19, 1896.

OWING to the severe drought in Australia, there has been a great decrease in the number of sheep. It is said that there was a loss of over 9,000,000 sheep in one year. In Great Britain, too, there was a loss of more than 1,000,000 sheep. The chances are that, during the next few years, England will need to import increased quantities of mutton and wool, while Australia will not be able to send as much as formerly of either of these articles. That will make an increased demand for American sheep products, and there is a fair chance that prices will naturally rise.

⊙

WEIGH and watch! That is the pith of Mr. Manchester's advice about cow feeding (page 843). The scales will pick out the robber cows. The cows that fail to fill the pail are not all robbers. Some of them do not get enough to eat. If you do not feed the fire under the boiler, you cannot hope to make the engine work. If you do not fill the cow's stomach, you cannot expect her to fill the pail. Do your own feeding! See where the grain goes to and which cows get it. It will also pay you to strip after the milkers now and then. The scales will tell you what the cows are doing. If they fall behind, it may be due to a fault in the food or a lack of massage upon the teats. Weigh and watch!

⊙

THERE may be 50 large animals that die in your neighborhood each year. Most of them are buried or carried to the swamp to be eaten by dogs. These animals are worth, at least, $8 each as fertilizer to provide nitrogen and phosphoric acid, and at least, $10 more for soap grease and poultry or hog food. Here we have nearly $1,000 "thrown to the dogs". It might be saved and added to if some one would start a factory like the one described by Mr. Mapes on page 833. What stronger "muscle-makers" can the hens hope for than the stout sinews that have carried the faithful old horse for years along the road? Possibly those dead animals may be made to put life into your financial condition.

⊙

THE average per cent of butter fat found in the butter made during the 90-day test at the World's Fair, was 82.4. That is the chemist's statement, and it represents the food value of the butter. The average of 35 analyses of oleomargarine shows 82.7 per cent of fat and 1.3 per cent of muscle-makers. From the standpoint of the chemist's analysis alone, therefore, the "oleo" is the stronger food. Yet we do not buy butter by its chemical analysis alone, for the question of the *quality* of the fat enters into the bargain. This simple illustration indicates how it may be possible for one fertilizer to analyze higher than another, yet be actually worth less money for certain crops. A manufacturer may put up a mixture of kainit, dissolved rock and raw Redonda phosphate with some cheap form of organic nitrogen, and the chemist may find a high per cent of the three leading elements. Another dealer may mix bone, dissolved bone-black, blood, nitrate of soda, muriate of potash, etc., so that the chemist finds a little less of nitrogen, potash and phosphoric acid than in the other. Yet, any one who knows what a good fertilizer is, would select the bone mixture. To make a more practical illustration, let us take the analyses of corn bread and of cakes:

	Muscle-makers.	Fat-formers.	Pure fat.
Corn bread	8.5	47.3	2.7
Cake	7.0	63.4	8.1

If we were to go by the analysis alone, we can see that the cake is worth but little more as an actual food, while we know that it will sell for five times as much. There is more egg in it and more sugar. In other words, it is bought for its quality. Buying fertilizers by the analysis alone is dangerous business. The English recognized this when they passed a law compelling fertilizer manufacturers not only to print the analysis on the tags, but also the form from which the plant food was derived. Our experiment stations try to aid buyers by printing in their bulletins the proportions of the various forms of nitrogen and the quality of the potash. THE R. N.-Y. will try in coming issues to show how to make use of this information.

⊙

WHEN reading of the profusion of flowers the year 'round on the Pacific coast, one must remember that really choice roses for the San Francisco trade are all grown under glass, and the same is true of carnations. Half an acre of outdoor roses, presenting to the eye a gorgeous picture, may not contain a dozen perfect blooms that would pass muster with critical buyers. San Francisco is a good market for high-class flowers, especially American Beauty roses, and there is a rapidly increasing greenhouse area devoted to them. In former years, large quantities of roses were shipped to the coast, during the winter, from St. Paul or Denver. Similar conditions exist at New Orleans; during the winter, the choicest roses entering that market are shipped from Chicago. One of the greatest drawbacks to the San Francisco grower is the high price of coal; in spite of the mild climate, a certain amount of fire heat is required, and parsimony in this direction is always followed by mildewed roses.

⊙

DURING the past year, there has been a large increase in the exports of American breadstuffs. The most remarkable feature of this is the fact that 80 per cent of the increase is found at southern ports like Baltimore, Norfolk, New Orleans and Galveston. New York is actually losing some of its export trade in grain. The reason for this is evident when we examine a map of the United States. By utilizing the available waterways, and building direct railroads, the Southern ports are brought nearer the great grain fields of the West. It seems probable that the grain and provision exports from New Orleans are bound to increase, since through that port must go all the vast commerce of the Mississippi and its tributaries. The haul from the western grain States to Baltimore, Norfolk and Newport News is shorter than that to New York, and it is economy for exporters to reach the ocean with the least expense for freight. We cannot see why this southern export trade is not bound to increase in volume, and, in many ways, it is an excellent thing for the country.

⊙

THERE is a report that one of the largest butter dealers in New York City has notified creameries that he does not care to buy butter made with the improved butter cultures. He says that these cultures, while undoubtedly improving the flavor of the butter, injure its keeping quality—or, at least, that butter made in this way will not keep as long as that in which the cultures were not used. This dealer is, evidently, mistaken. Experiments have been made both in this country and in Europe with these cultures or "starters," and it is safe to say that, in every recorded case, they have produced butter of superior keeping quality. In fact, some buttermakers use the cultures because they are convinced that the butter made with them keeps better. The flavor of an onion is very distinct from that of a rose, and no one need be told that it is impossible to make rose water by distilling onions. The good and bad flavors in butter are just about as distinct as those of rose and onion. They have been separated so carefully that a dairyman may put into his cream a culture or "starter" that will develop the finest flavor with absolute accuracy. This has been abundantly proved, and it will be a pity if, by wrong statements about its effect on the keeping quality of butter, dairymen are led to give up experiments with it.

⊙

THERE has been a good deal of talk among farmers and at agricultural meetings about a change in the constitution that will provide for the election of United States Senators by the direct vote of the people. We believe that this is a desirable thing, but not any more so than a change in the methods of nominating county and local officers. The nominations are usually made by so-called "conventions" which are usually controlled by a few shrewd politicians who are able to have their personal or political friends sent as delegates. Our observation is that the average sheriff or county clerk is selected, not because of his business qualifications, but because of his service to his party in securing votes. Just so long as the convention system of nominating prevails, loyalty to party will be considered the chief test in selecting candidates. In these hard times, a farmer *may* be willing to pay full wages to a lazy or incompetent hired man, just because he belongs to his political party, but we doubt it. We also doubt whether he is glad to pay increased taxes in order that some political worker may have a "soft job." The remedy lies in abolishing the convention and nominating candidates at a primary election at which all the members of the party may vote. We are glad to see that Governor-elect Pingree, of Michigan, advocates this change.

⊙

WE print considerable information about Lima beans this week. Some of our readers may not grow this excellent vegetable. They will, at least, be interested to know that, with a single exception, viz., dried peas, the Lima bean gives a higher per cent of muscle-makers than any other cultivated vegetable. These beans are grown on high poles, and the vines make an enormous growth. Thus the yield per acre is four or five times the average yield of low beans or peas. Taking average crops of Limas, peas, corn, peanuts and potatoes, the following table shows the great possibilities of the Lima bean plant as a food producer:

PRODUCT OF AN ACRE IN POUNDS.

	Muscle-makers.	Fat-formers	Pure fat.
Lima beans	572	2,415	65
Peas	289	738	13
Corn	204	1,867	119
Peanuts	346	326	518
Potatoes	216	1,839	12

The fact is that there is no cultivated plant in America that will produce, in one season, more actual food per acre than the Lima bean. The peanut comes next to it, but the great value of the Lima lies in the fact that it contains a high per cent of the expensive muscle-makers. Some day dairymen will learn how to grow Limas in the ensilage corn. The vines will utilize the stalks for a pole, and all will be cut together into the silo to make a "balanced ration". As a matter of actual food value, a quart of green, shelled Lima beans contains more actual nourishment than a pound of steak, a pound of fresh mutton or a pound of salt mackerel. A pound of dried Limas contains more food than a pound of cheese or a pound of flour or a pound of ham. No wonder those who "know how" grow Lima beans. In our own garden, we always allow 10 poles for each member of the family—large and small.

⊙

BREVITIES.

"I wish you'd give the baby right away!"
Said little Johnnie, "She's so cross and bad
She doesn't do a thing but cry all day,
And make up faces. Oh! it makes me sad
To think that Santa Claus on Christmas eve
Might hear her cry so loud and think it's me,
And just turn 'round and go and never leave
A single present for my little tree.
I've tried so hard to mind you, mamma! Oh!
If Santa Claus should hear the baby cry
Just as she does sometimes, and never know
It wasn't me, I don't think I could try
Much longer; so let's let the baby go!"
Ah, little Johnnie, do not have a fear
That good old Santa Claus will never know
How hard you try—keep on, for he can hear
The faintest call—and larger Johnnies, too,
Who fear that honest labor has been lost,
Rise through each trouble but to learn anew
That self-denial earns more than its cost!

NO man can flourish on flourishes.

MAKE your note book a know it book.

THE hide-bound horse wears a *sealed* skin coat.

THE surplus rooster makes his owner a *rue* ster.

NOT all roses—the family life that is full of *rows*.

STRIFE will shorten life! Don't commit suicide with your tongue.

NOW, then, turn in and *s* mother the bad things you have fathered.

YOU can't raise a home market without cultivation and advertising.

AFFLICTED with parsimony! The family in which no one but *Pa* is permitted to *see money!*

"NATURAL PLANT FOOD" is a fraud. Will its manufacturers stop selling it or quarter the price?

"GAMBLING in stock!" Feeding good food to a cow and then "guessing" that she pays for her board.

ONE feeding law for dairy cows may thus be tersely stated: the animal should never be made fat or constipated.

TAKE notes on the scrub cow's yield and let them go to protest against the plan of turning her daughters into cows.

THE record of your dairy herd scaled up to ounce and pound, will find you tacking up this sign, "*No Robber Cows Around!*"

DON'T forget that vaseline or sweet oil on the hen's comb or wattles will often prevent freezing or take the sting out when frozen.

THE Georgia Station, in its strawberry bulletin, gives an excellent symposium from southern berry growers. This is an excellent plan.

MR. C. J. NORTON of Kansas says that the only time for killing weeds is on a clear day with high barometer. At other times, about all you do is to transplant the weeds.

SEE how printer's ink helped Mr. Field, page 832, sell his cabbage crop? First he got something good, and then he let people talk about it. Your local paper would do the same. Try it!

THE Army worm hates the sunshine and would rather stay in dark, damp places. Some dairymen seem to think that their little calves have the same habits as Army worms. That is, if we may judge by the places in which the calves are kept! What else should we judge by?

COUNTERFEITING of fractional silver is largely carried on. The counterfeits contain more actual silver than the true coins, and cannot be detected except by weighing and assaying! One hundred "bogus" quarters, when melted up, may actually be worth more than 100 "true" coins.

AMONG THE MARKETMEN.

WHAT I SEE AND HEAR.

CALIFORNIA is increasing her lemon output, but the larger part of her crop is marketed in the cities of the West. This market is supplied largely with Mediterranean fruit, and this, especially when there is a surplus, is also shipped inland, where it comes into competition with the California product. Still, the Californians are progressive, and are constantly looking for new markets, hence are likely to find a market for all they produce.

‡ ‡ ‡

WHILE the supply of apples is excessive, the quality of too many of them is extremely poor. Were one-half of those sent in, sorted out and fed to the hogs or thrown away, it would reduce the apparent surplus, and put fully as much money into the growers' pockets. There is no surplus of fancy table fruit, but there is a glut of common stuff. At holiday time comes the demand for the best fruits, and they should be sent then. It is surprising how far-reaching is the influence of a holiday.

‡ ‡ ‡

WE have received several inquiries about dealers in, and exporters of, evaporated apples. In regard to their sale in London, Otto G. Mayer & Co. say that, singular as it may appear, there is quite a demand for them in London this season, in spite of the fact that there are so many green apples. They are used there by tart makers, who find it more convenient to use the evaporated apples than to peel and core for themselves. They sell for about 5 cents per pound. This firm has exported some evaporated apples this year, and say that they netted more than those from the same parties sold in this country. The cost of exporting is not much over one-half cent per pound.

‡ ‡ ‡

MANY growers, especially of fruits and garden truck, are often at a loss to know how best to dispose of the culls and inferior grades. This becomes more serious when, through stress of weather or the attacks of insects, the crop nearly all grades low. It is poor policy to ship such goods with first-class stuff. The idea seems to be to make the good sell the poor. This is a great mistake. If possible, it would be better not to put this stuff on the market at all. Better feed it to the pigs. But this course seems not to be practicable with most farmers. Then it should be sold for just what it is. If the shipper has a certain brand with which he marks his best goods, he should not put it on anything inferior. Let such stuff go for what it is, and what it will bring.

‡ ‡ ‡

IN the foreign markets, apples are sold at auction. A barrel is taken at random from each lot, and dumped in the center of the circle of buyers. Another barrel is opened and left alongside. The lot is sold to the highest bidder from these samples. The barrel that was dumped is not sold with the rest, but separately, and, generally, at a lower price. The other barrel goes with the lot. Thus it will be seen that it is an advantage to send large lots. For instance, of a lot of 100 barrels of the same kind, one barrel, or 1-100 of the whole would be taken as a sample, and sold at a low price. Of a lot of 10 barrels, one barrel or 1-10 of the whole would be taken for a sample. This would be something of an item in the long run. There are other reasons why large and uniform lots sell to better advantage. F. H. V.

THE EXPERIMENT STATIONS.

THE BULLETINS BOILED DOWN.

SPINACH.—BULLETIN 41, RHODE ISLAND EX. STATION.—Spinach is extensively grown by Rhode Island market gardeners, and it is a rapidly-marketed crop; we are told that it may yield from 500 to 1,000 bushels per acre within eight weeks' time after the seed is planted. The price per bushel often equals that of potatoes, though much of it is sold for less. It is grown either as a spring or fall crop, and is also wintered out-of-doors, though, as this bulletin states it is not perfectly hardy, and there is always some risk in so handling it.

The whole value of spinach lies in the formation of thick, succulent leaves. Spindling growth, a frequent complaint with unskillful cultivators, is the result of insufficient nourishment. The improved forms of spinach are accustomed to growing on a very rich soil, and a soil of even moderate fertility will cause them to spindle up prematurely. By beginning to cut the spinach early, and thinning out the plants so that they do not crowd in the row, the season of cutting from a single sowing may be prolonged for several weeks.

During the hot weather, the true spinach does not flourish, but its place may be taken by the New Zealand spinach (Tetragonia expansa), which is in fine condition from July to October. The seeds of this plant germinate slowly, and the young plants are somewhat delicate, but when well established, it grows freely. The growth of the young plants may be hastened by sowing the seeds under glass in February or early in March, transferring them later to the open ground. This plant is much branched and spreading, often making a growth three or four feet across. The leaves are not severely injured by the Leaf Miner, which is very troublesome to the ordinary spinach.

The Mountain spinach or Garden orache (Atriplex hortensis) did not make a favorable impression; the flavor, when cooked, is unlike ordinary spinach, and not very agreeable; the plant is quite as subject as true spinach to the attacks of the Leaf Miner. This insect (the maggot of a small fly) seriously injures the crop during warm weather, though it does not interfere with its growth in spring and fall; hence the value of New Zealand spinach, which does not suffer from the insect, and which flourishes in warm weather only. A cold weather trouble is mildew, and, so far, no cure has been found for it. There are, however, some indications that the germs of the mildew are carried into the field upon the seeds, and it is possible that the seeds could be disinfected before planting.

There are four distinct types of true spinach in cultivation in this country, the Norfolk, the Round-Leaved, the Thick-Leaved, and the Prickly Seeded. The first named goes to seed too early. The Thick-Leaved is highly productive, a rapid grower, of large size, and is very extensively grown.

THE SAN JOSE SCALE IN DELAWARE.—BULLETIN 33, DELAWARE EX. STATION.—Delaware being so largely a fruit-growing State, there is reason for alarm in the increase of the most pernicious scale insect known to orchardists. During the last year, the number of trees in Delaware infested by the San José scale has increased from about 50 to 1,000 or more. This increase is due to a number of causes; the rapid increase of the insect; the indifference of some fruit growers to it; the inefficiency of some washes used as remedies; the impossibility of determining every affected tree in an orchard, and the absence of laws enforcing methods of eradication. The insect is to be feared because it attacks deciduous fruit trees, small fruits, and some shade trees. It is easily overlooked, and difficult to exterminate by ordinary spraying materials. It not only injures the fruit, but eventually kills the tree. This scale is protected by a hard scale or armor; it is a sucking insect, stationary after once beginning to feed. Where badly attacked, the affected trees should be cut and burned. A solution of 2½ pounds of whale oil soap in a gallon of water, applied warm, is efficient in killing the scale, the efficiency depending entirely on each insect's receiving a covering of the solution. If the insects are found on a few trees in an orchard, it will be necessary to spray the entire orchard. The scale cannot be reached after the foliage appears, and the solution given would be injurious to foliage and tender wood, so must only be applied while the trees are dormant. The first treatment can be made just after December 1, and a second application must be given just before the buds swell. It is absolutely necessary that every limb be covered with the fine spray. Spray the trees on all sides. Let the spray pass up through the branches and fall back on them until the liquid begins to drip. The opinion is strongly expressed in this bulletin that legislative action to enforce insecticidal work, and to prevent the introduction of infested stock from other States, is urgently needed.

STRAWBERRIES IN GEORGIA.—BULLETIN 32, GEORGIA EX. STATION.—The strawberry grows well on any land adapted to kitchen gardening or trucking. The next best is "any soil that will make good corn," except bottom land. In Georgia, "second bottoms", or a level, well-drained, deep loam, rather sandy, is preferred. Too much sand, however, is as objectionable as too much clay. A southern exposure produces earlier berries; a northern exposure prolongs the bearing season, and, if a clay loam, produces a heavier crop. The ground should be well broken, harrowed and pulverized with a drag. Rolling compacts too much in middle Georgia, and is not advised. Land planted the previous year with cow peas is excellent; clover sod is not advisable, as it is often infested with the Strawberry White Grub and other insects.

Poor land will not grow strawberries; the plant requires a complete fertilizer, rich in both nitrogen and potash. Nothing is better than stable manure, though it is open to the objection of conveying weed seeds, and is, also, said to contain the White Grub. A good plan is to distribute stable manure all over the plot, and then supplement this with a high-grade commercial fertilizer, containing about four per cent of nitrogen, eight per cent of phosphoric acid and eight per cent of potash, this being applied at the rate of 800 to 1,600 pounds per acre. One-half of the amount should be applied broadcast at the time of the second harrowing, before planting, and the remainder interculturally during the first season. Early the second season, an application of 80 to 100 pounds per acre of nitrate of soda, divided into two or three doses, would prove very beneficial. The biennial system of rotaton—that is, cultivation for one crop only—is advised for the interior of the State; for the coast, the annual system—that is, no summer cultivation, but renewed each year—is found to be the better.

Transplanting should be done in late summer or early fall on the coast; in early November in the interior of the State, followed by resetting in February or March, where necessary. The best distance for matted rows is 48 x 18 inches, with runners "spotted" at seven or eight-inch intervals to form a row 18 inches wide, with a space of 20 inches clear for cultivation. Distance for hill or stool culture, from 36x18 to 36 x 24 inches. No cultivation is necessary after fruiting in the annual rotation method, except the removal of large weeds, but in biennial rotation, cultivation must be continuous through the first season. Mulching is advised previous to fruiting, the most economical material being pine straw. This is turned under with the plants when the plot is destroyed. Irrigation is not found satisfactory in Georgia.

Numerous insect enemies are noted, the worst being the White Grub and the Crown borer. The most effective remedy is rotation; never put strawberries on the same ground oftener than once in three years, and never run a plot longer than one season. For leaf blight, or rust, spray with Bordeaux Mixture.

The best varieties for succession for home use or local market are Hoffman, Lady Thompson, Sharpless, Beder Wood, Gandy, Belle, Greenville, Brandywine, Marshall, Haverland, Princess, Parker Earle and Bubach No. 5. The best varieties for succession for shipping are Hoffman, Lady Thompson, Beder Wood, Haverland, Parker Earle and Bubach No. 5.

WHILE commercial floriculture has been carried on in this country for nearly a century, it is only within the past 25 years that it has assumed large proportions. The census of 1891 gives a total of 4,659 florists' establishments; a trade compilation of 1896 gives the present number as 6,943. This is exclusive of seedsmen and nurserymen. The greenhouses in the United States, in 1891, covered a space of 891 acres, and the past five years have seen a marked increase in this. At the time of the last census, there were 312 greenhouse establishments owned and managed by women, and 1,958 women were employed in the trade. The number of men employed was 16,847. During 1891, the amount received for cut flowers was over $14,000,000, or about $2,000,000 more than was received for plants. The largest total values of plant sales were, respectively, in New York, Pennsylvania, and California; the largest total values in cut flower sales were in New York, Illinois, and Pennsylvania. The greatest number of accessions to the trade, in late years, have been in the class of small retail growers in country towns and villages. The business is becoming rather overcrowded in the immediate neighborhood of large cities, and the culture of high-class blooms for city trade is passing entirely into the hands of specialists.

BUSINESS BITS.

EVERY person who has a hen, wants poultry supplies of some kind some time. Excelsior Wire and Poultry Supply Co., 28 Vesey Street, New York, will send a catalogue of supplies to any one applying for it. They have a very full supply of standard goods.

ARE you sawing wood by hand or chopping it with an ax? No matter whether you are or not, perhaps you want a circular saw, large or small, for some purpose. If so, just write Minard Harder, Cobleskill, N. Y., and say so. He will send matter to interest you.

THE Electric Wheel Company, Quincy, Ill., are making a metal wheel which has the wide, broad-faced tire. They are made of any height desired and to fit any wagon. It is claimed that the spokes cannot become loose, and that they will last indefinitely. The above firm will reply to any detailed inquiries about them.

THE Profit farm boiler, made by D. R. Sperry & Co., Batavia, Ill., has the advantage of having a self-dumping caldron. When the food is cooked or the water hot, it can be turned out into another vessel to cool, or use without dipping. This is quite an advantage. Send to the firm for particulars if interested. They also make dairy and laundry stoves and hog scalders.

WE notice that The Great American Tea Company, P. O. Box 289, New York, are making a special offer to R. N.-Y. readers in their advertisement on last page, for teas and coffees. It is probably made at this season as a sort of introduction to those who have not yet patronized them. This is probably the largest retail tea and coffee house in the country, and when they promise anything in the way of a bargain, it is quite sure to be a bargain. We buy all our teas of this house, going somewhat out of our way to do so, simply because we get better goods than elsewhere in the city for the same money.

THE objections to dishorning have, for the most part, passed into history. Instead of being regarded as cruel, it is now known to be a humane practice. It not only protects the weak animal from the strong one, but also makes the strong one less boisterous and fretful and, consequently, increases its capacity for making a profit for its owner. In the case of bulls, it is a protection, also, to the human beings around them. Of course, dishorning can be made cruel, by lack of skill on the part of the person who does it, or want of proper tools. For detailed instructions as to how to do it, as well as for the proper tools with which to do it, write A. E. Brosius, Cochranville, Pa.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

FROM DAY TO DAY.

PERHAPS "favor is deceitful and beauty vain," but that is no reason why we should permit "envy, hatred and malice, and all uncharitableness" to write their characters upon our middle-aged faces. Why not prepare for an attractive maturity while yet in the freshness and bloom of early youth? When we are young, our appearance may govern our thoughts; later, our thoughts govern appearance. Just remember that when knitted brow and nagging word come too easily.

*

A PRETTY pattern for a child's nainsook apron is a straight slip, without separate yoke or bodice. It is cut square at the top, front and back gathered straight across. Across the top of the gathers, extending to straps over the shoulders, are bands of swiss insertion, with spaces wide enough for one-inch ribbon to slip through. The shoulder straps button at the top, and the ribbon drawn through the insertion band ties in a bow at each shoulder. There is a broad frill of embroidery in each armhole. Such an apron looks very smart over a plain frock.

*

THE children's table manners are only a mortification when they are allowed to cultivate "company" manners. The very best manners in the world are none too good for the home circle. When we see the mother move coffee-pot and milk-jug to an inaccessible corner because "Baby *will* drag things off the table," we can't help thinking that the right thing would be to remove the baby instead of the table service. Apart from the annoyance caused by this insubordination, it is a constant danger; one can't keep everything out of the way. Another mistake is allowing a child anything on the table. We can't always cut down the regimen to milk for babes, and much trouble is saved by letting them understand that some adult viands are not for the youthful palate. The proper use of knife, fork and spoon, and all the minor niceties of eating, one would expect to be acquired without trouble; but the habits one sees every day in a city restaurant cause doubt on this point. The sight of a pretty girl holding an entire slice of bread on the palm of her hand, while she butters it with the motions of a mason finishing a course of bricks, makes one wonder what the untrammeled manners of her home circle might be, especially when she is seen to dispose of her bread-and-butter afterwards by devouring the unbroken slice in large, circular bites.

WINTER GOWNS AND ACCESSORIES.

THIS winter sees one desirable change in our skirts; the voluminous width is gradually disappearing. Six and eight-yard skirts are modestly subsiding, and 4½ to 5 yards are now ample. The terrible hair cloths and similar materials of torture are now gone, and excessive stiffness is no longer seen. For a really good dress, the best lining is black moreen, of a quality costing, in New York, from 24 to 30 cents a yard. It takes seven yards to line a skirt. With this, no stiffening is used at the bottom, it being merely finished off with the velveteen binding. We are told that a mohair or silk braid one inch wide is going to supplant the velveteen, but the latter is still in general use. These skirts have seven gores, one in front, two on either side, and two in the back. The top of the back breadths is either pleated or gathered. A little trimming is often used on the skirt, either plain bands, small ruffles, or braiding. When the latter is used, it is often continued up the seams, with a very becoming effect on a stout figure. There is, also, a tendency toward double skirts, the two being of equal length, the upper one plain, the under trimmed with ruffles. This seems a move towards the threatened draped skirt.

Waists are still very much trimmed, as an offset, perhaps, for the smaller sleeves. For the small sleeve has passed out of the realm of conjecture, and is now an accomplished fact. As a rule, the sleeves are tight all the way up, with a little trimming at the top. Sometimes this takes the form of a cape or ruffled cap, sometimes a puff. A very pretty style is a straight sleeve slashed at the top on either side, with puffs extending through the slashings; butterfly-wing drapings are also pretty. The sleeve is very long, often extending nearly to the knuckles; as a rule, this style is flaring, cut into a point at the back and front with a frilling of chiffon or mousseline de soie inside. Frills of rich lace once more form a fashionable finish for sleeves. The collar is usually much trimmed. In a favorite style, the high stock has four tabs or battlements extending out, two on either side, and a bow in the back; a full ruche is then put inside, extending around the back and sides, but not the front. Sometimes the flaring battlements extend all 'round both back and sides, but such trimming is usually cut away from the front.

A favorite style of waist trimming is the bolero jacket, either in the same or a contrasting material. Braid is, of course, the prevailing trimming, and where the bolero is of the same material, this makes a nice finish. The ripple basque is still worn, also long Louis XV. coats; but the favorite style extends barely below the waist line, and is often finished in front with a broad girdle.

Green really seems the prevailing color, and is seen in dress goods, hats and jackets of every shade, the mixture of green and blue being much favored in millinery. Bright red, however, has become a fashionable color for cloth walking gowns, but this is only permissible in the woman with an extensive wardrobe. One of the smartest of the winter brides decided on red as her wedding color, the bridesmaids all wearing red silk and velvet gowns, and large, black picture hats. The floral decorations were red carnations.

CONTENTMENT IN THE COUNTRY.

WE frequently hear parents in the country regretting that their boys go so often to town to spend the afternoon or, especially, the evening, forming unfit acquaintances, perhaps learning to use tobacco, drink, and gamble; or that their daughters go to dances and kindred places where the company they find is not such as is desired. Scolding and nagging at them about such things do no good, but sometimes harm, as they cause unpleasant feelings, calculated to make the young dissatisfied with home, and increase their desire to get away. Youth loves companionship and entertainment, and must have it. If it is not provided at home, they seek it elsewhere as naturally as water seeks a level. The remedy, then, to keep our youth at home and contented, is to provide something better. They keep improper company or frequent questionable places only as a last resort to satisfy the natural longing for society and entertainment. But substitute something better and these other places or companions will soon be forgotten. A bright light with pleasant evenings at home; suitable reading and, occasionally, a little invited company, will do more to keep our boys and girls contented with country life, and willing to stay at home, than all the sermons on duty ever preached.

I know of no better way of fighting this discontent than by organizing a club or social circle where all may meet once a week, and where, tactfully guided by maturer minds, they may gradually be led to the study and discussion of interesting and important themes. It will offer companionship and entertainment, at the same time contributing to the natural, though sometimes, unrecognized desire for mental growth and improvement. It will give them something to think about and plan for all the week, and an occupied mind is a contented mind.

In conducting such clubs, the social element must not be omitted, but a regular time given to music, conversation and pleasant games. The entire meeting should be conducted in an informal manner, more like a social than a stiff "meeting," so that all will feel free to take part in the talk on whatever theme has been previously selected. No officers are necessary, excepting a leader to open the subject and see that timid ones are called out and given a chance to express themselves, who should be appointed a week or two in advance, at the same time that the subject is decided upon. Care must be taken to select subjects of general importance in which one is actually interested; also simple enough to be intelligently handled. When once weighty subjects that puzzle the minds of our most learned professors, doctors, statesmen or divines are chosen, just so soon will the interest begin to wane, and if they be continued, the life of the society is doomed. Better select such subjects as township, county, State and national officers and their duties; school and road laws; what constitutes a happy home; one's idea of a successful man or woman; advantages of country life; disadvantages of other life; bright side of farming; the other side of business life. One of the best themes to be discussed is, why one wants to leave the farm, for, oftentimes, we are dissatisfied because we see only the bright side of some other calling, and know nothing of its hardships and disadvantages. Contrasting these with only the hard side of farm life, we conclude that it is more disagreeable; but nine times out of ten, experience teaches that, as a rule, country life is the most satisfactory if all our opportunities are cultivated.

MRS. C. S. EVERTS.

RURAL RECIPES.

STEWED ox-tails form a very appetizing and nutritious dish. Have two tails cut into pieces two inches long, and wipe with a damp cloth. Put a tablespoonful of butter into a hot spider. Peel and chop one onion, one carrot, half a small turnip. When the butter is melted and at the boiling point, stir in the vegetables. When they begin to brown, put the pieces of ox-tail into the spider; turn them repeatedly until slightly brown, then remove them and the vegetables to a stew pan. Add two tablespoonfuls of flour to the butter, then mix in one pint of boiling water. Pour this gravy over the meat, seasoning with pepper, salt and a bay leaf. Keep the stew bubbling slowly (never boiling hard), for two hours. It may require the addition of a little more hot water, if it evaporate. Beef stew, made in this way, is also excellent. Hurried cooking always means a tasteless stew, whereas the cheaper portions of meat, flavored with nicety and cooked long and slowly, are both palatable and nutritious.

A GOOD dessert for this plenteous apple year is brown Betty. Butter an earthen pudding dish; put in the bottom a layer of bread crumbs, sprinkled with sugar, a pinch of ground cinnamon, and dotted with small pieces of butter. Put over this a one-inch layer of apples, peeled and sliced; season the apple, like the crumbs, with the sugar, spice and butter. Continue this until the dish is full, the top layer being of crumbs, with the sugar, spice and butter on top. Pour over it just enough water to moisten the mass. We have used milk for this purpose, but prefer the flavor when water only is used. Put in a steady oven, and bake for one hour, at first with a cover over the dish, this being removed in time thoroughly to brown the top.

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THE GARDEN

WINTER PROTECTION OF SHRUBS.

MANY of our choice evergreen shrubs, such as variegated box and euonymus, yew, and some of the choice retinosporas, suffer much in appearance when unprotected, the foliage being badly "burned," and thus disfigured. In many cases, they are sufficiently protected when merely sheltered from the sweep of the wind. The ground should first be heavily mulched; this must always be done. Then slip over the shrub a headless and bottomless barrel, driving a stake on either side to hold it in the place. If more convenient, boxes from which top and bottom have been removed, may be placed, one on top of the other, until the desired height is reached, then braced with stakes. In the case of a more tender subject, dry leaves may be placed inside the lower box or boxes, making a deeper mulch, and the bottom left in the uppermost box, which, when turned over, completely incloses the plant. Young trees, whose hardiness is suspected, can often be well protected by slipping over two barrels, one on top of the other, these being held firmly in place by stakes.

Where a shrubbery bed is exposed, it is often necessary to put up a windbreak at the north and west sides. Along the coast, where tall reeds are plentiful, these are often built into a sort of fence, held in place by stakes and braces. Evergreen branches, where readily obtained, built up into a fence, are excellent, and not nearly as unsightly as boards. The tops of pampas grass and similar material may also be used. The idea is, not to protect the shrubs from the temperature itself, other than by mulching, but to preserve them from the cutting sweep of the wind. Many shrubs which are really thoroughly hardy suffer in appearance every winter, merely because this protection is not afforded. E. T. R.

PRUNING ROSES IN CALIFORNIA.

ROSE culture outdoors presents, in California, a number of differences from methods employed in eastern climates. Philip G. Sehluch, of Fresno, writing to the Interior, says that the strong growth made by roses there renders strong pruning a necessity. As soon as the first flowers are fully open, they should be cut off, never allowed to fade. This advice is as necessary in our climate as on the Pacific coast. All growth coming forth from underneath the surface, and coming from below the bud on budded roses, must be kept down. The latter are easily pinched off while they are young, but with others the soil must be taken away and the sprouts taken off clean from the trunk. With roses on their own roots, all growth beneath the old branches is also to be kept down, except such growth as is necessary to replace the old growth afterward. Every six weeks, at least, during the summer, all branches which have done flowering should be cut back to the next well-developed bud or new sprouts. All growth which will never produce flowers, and which is easily recognized by its pointed top, or top without sign of further growth, should be cut off, if possible, without injuring the main trunk or marring the general outline of the bush.

This advice is exclusively for bush and not for running roses. It also applies to standards, whether budded or on their own root. All running roses should be freed from all faded flowers before their second growth is too far advanced, in order to get a good second display of flowers. At the same time, all outward growth and all branches not growing in the desired direction, should be brought in proper position and tied. If they are not required to fill any space, they must be cut back to not more than three or four buds. Such running roses as Banksia, Cherokee, Greville, Prairie Queen and all similar ones should be freed from their faded flowers and kept free from suckers and all extraneous growth during the year.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best —*Adv.*

THE SWEET DAPHNE.

ONE of the prettiest greenhouse shrubs is the Chinese fragrant daphne (Daphne odora). It has stout, rather leathery, laurel-like leaves, and produces a bunch of exquisitely fragrant flowers, flesh white shading to pink on the outside, at the tip of each branch. It is often seen in greenhouses, but very rarely as a house plant, though satisfactory and easily managed. Even a tiny plant with but one bunch of leaves will produce a head of flowers in that bunch.

In October, the daphne may be placed in a good light position in the house, where it will speedily begin to show buds. The flowering season will, probably, extend over about six weeks. If, for any reason, the owner wish to retard the bloom, the plant may be placed in the cellar for a time, and there kept a little on the dry side. When the blooming period is past, probably about February, the plant may be rested by placing in the cellar until the end of April. It is then taken outside, at first in some sheltered place, as a porch, and later put in the open garden. It will be ready to bring in again, invigorated by summer growth, before sharp frost sets in. It is a long-lived plant, growing slowly but steadily, and, in the course of time, makes a fine specimen for a tub or large pot. It is free from disease, and subject to few insect enemies. Apart from the delightfully fragrant flowers, the broad evergreen leaves are handsome, and the plant deserves to be better known in the house garden. It is not by any means a novelty, having been in cultivation for half a century. E. T. R.

GENERAL NOTES.

SUCCULENT plants, such as cacti, houseleeks, aloes and agaves, will now be resting, and they should receive very little water. Poor drainage or water standing at the root is disastrous, and should be avoided.

OLD stock fuchsia plants, which have been rested for two months past, should now be encouraged to make a good growth, for the purpose of taking off slips or cuttings. The young plants, as soon as rooted, will grow rapidly, but they should not be allowed to get too tall before the top is pinched off, to encourage a branching habit.

THE early azaleas, such as the white variety Deutsche Perle and the rose-red Mme. Vander Cruyssen will be seen in flower in January, the former blooming as early as Christmas. Syringing the foliage will keep red spider and thrips at bay, these insects being liable to attack azaleas in a dry, hot place. In watering, give the earth a good soaking when it is dry, not a series of frequent small doses.

THE lawn should now be raked free from all leaves, sticks and litter, and its winter top-dressing applied before it is snowed under for the rest of the season. There is no reason for putting on a violently ill-smelling mulch. A well-rotted stable compost will have but little odor, and that little disappears after a storm. In some of our well-kept parks and cemeteries, the only fertilizer used on the lawn is a commercial lawn dressing in place of stable manure. This does away with the risk of troublesome weeds, which are often introduced in barnyard manure.

A GOLDEN-LEAVED myrtle (Myrtus communis aurea) is a new ornamental shrub. It must not be confounded with the trailing plant commonly used in cemeteries, known by this name; the latter is a vinca or periwinkle, Vinca minor. A larger leaved variety, Vinca major, is much used by florists in filling baskets and veranda boxes; there is a handsome variegated form, as well as the plain green. The true myrtle is not common in America, though one often sees a little plant of it in a German's window garden. In many parts of Europe, myrtle is indispensable for a bridal wreath, and it is customary to plant a sprig from the wreath, which afterwards forms the most cherished plant in the window garden.

THE tender hydrangeas which have been resting, may now be started up ready for spring blooming. When in active growth, the pots will be the better for a top-dressing. These hydrangeas need plenty of food and water. If they are ever allowed to flag from excessive dryness, they receive a check from which they do not readily recover. Every now and then we are asked how we may fix the color, either pink or blue, of this Hydrangea Otaksa. The truth is, we don't know, and no gardener knows authoritatively. Sometimes it seems as though a certain course of treatment settled the delicate blue so much admired in these plants, and then, when everything is fixed to our satisfaction, the ungrateful plants will perversely produce pink flowers. It is the general opinion that the blue tint is produced by the preponderance of either iron or alum in the soil, and, sometimes, the use of iron filings in the water used appears to have a marked effect, but still this is uncertain.

THROAT TROUBLES. To allay the irritation that induces coughing, use "*Brown's Bronchial Troches*" will give effective relief.—*Adv.*

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THE RURAL NEW-YORKER SEWING MACHINE.

We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

ABOUT THOSE PRIZES.

It has always been the custom of THE RURAL NEW-YORKER to take its readers into full confidence as to the policy and management of the paper. When the paper is most successful, our subscribers rejoice with us, as we are then able to make their favorite paper still more helpful to them. When times are dull, as they will occasionally be, we speak of it with equal frankness, double our energies, and invite our friends to join us in an extra effort to revive flagging interest.

During this season up to December 1, we had a dull subscription season. Few subscriptions were expiring, hence few renewals, and our agents and club-raisers who formerly sent in fairly large clubs at that season, did very little this year. The prizes went to winners with hands down, and it did look dull for a subscription season, for sure. From week to week, we repeated practically the same story, and our friends and readers were in full confidence with us. The result has been most gratifying. Since December 1, we have had one of the best subscription seasons that THE RURAL NEW-YORKER has ever enjoyed, and the returns have been steadily and daily increasing. This, however, has not been due to big work done by any one person, but to the individual work done by old friends and subscribers, who send one, two or three new names, rarely more than five, with their own renewals.

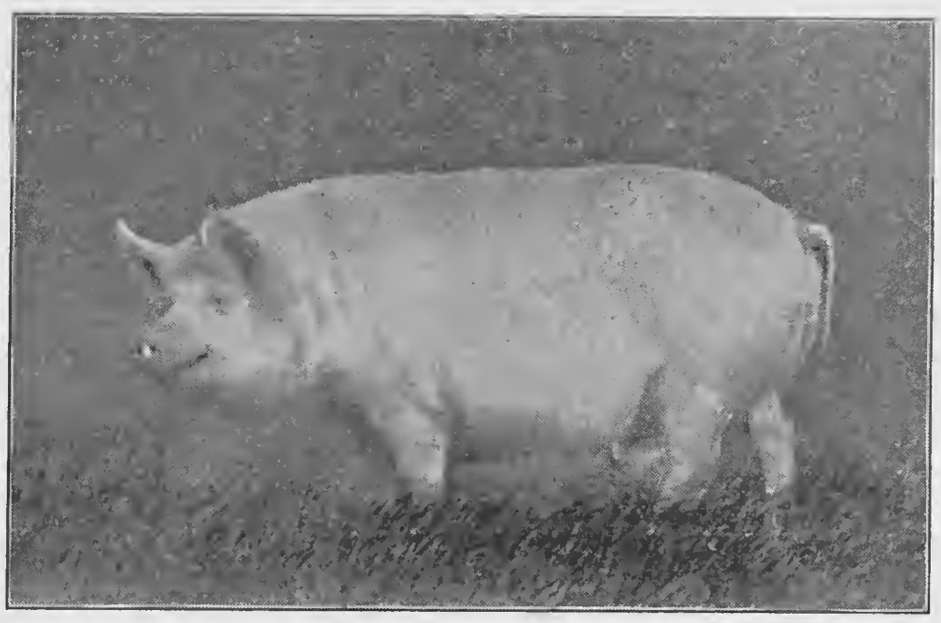
As far as the real agent's work goes, it remains about the same. The watch this week goes for a small list of names, and the largest club for the nine premiums January 1, comes from a club raiser who has no idea of working for a premium. He simply sends in the renewals of his club as usual, without a thought of the premiums. He would be very much surprised to get one. Hence, no agent who has an eye on the prizes need hesitate to begin now. Two or three days of good work would put any lively club raiser in the lead for the $50 premium.

Now you have the situation frankly and plainly just as it is! Do you want one of those nine premiums? Isn't that $50 one worth making a two weeks' effort for, when you are sure of other ample rewards anyway? Thanks to the individual friends who are making the season's campaign such a success! Thanks in advance to those kindly friends who always remember us with a Christmas present in the way of a new subscription for a neighbor. Success to the man who starts out determined to have that $50! THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

"THE MOTHER'S SIDE."

Last week we had a few remarks about a Cheshire pig that is offered as one of the premiums to be delivered on January 1 to one of the successful agents. This week, instead of giving a picture of this pig, we give one of his mother. This



A CHESHIRE SOW. THE MOTHER OF A PREMIUM.

is a likeness of a good Cheshire sow. There she stands, evidently proud of the fact that she has lived to become the mother of a R. N.-Y. premium. It is not necessary for us to discuss the merits of the Cheshire breed of swine. The man who wants white-haired pork will find the Cheshires well suited to his taste. They are "hustlers." Put them in an orchard, and how they will root up the grubs and worms! The snout of a Cheshire is better than a chilled plow for turning up a tough sod. As for worms in fruit—why they will catch the dropping fruit before it reaches the ground, and one crunch of the jaws makes an end of the worm for all time. They are so good-natured that they actually laugh out loud instead of squealing the way some pigs do. The proportion of lean meat or muscle in the Cheshire is very large—in fact this premium is going to broadcast profit and pork all over the neighborhood into which he goes.

It may be asked why we print a picture of this pig's *mother*. We always did believe that the maternal influence in any pedigree is of the greatest importance. No animal, brute or human, can ever amount to anything unless it has a good and strong mother. Breeders of live stock have been so anxious to sell male animals that they invented the old saying that "the male is half the herd." That is true, but it is also true that the female represents the more important half, but some farmers have lost sight of that and conclude that any old scrub cow, mare, sheep, or pig will do to breed from, so long as they have a "thoroughbred" male at the head of the herd. The head may be all right, but if the tail is all wrong something is sure to suffer.

Who in the world takes any interest in the *fathers* of such men as Napoleon, Washington, Lincoln, Garfield, Grant or Webster? The *mothers* of such men live long in history, and justly so, because the people almost by instinct recognize the fact that the maternal side of the pedigree is usually responsible for the best work or for the weaknesses of the descendant. About all we know about Washington's father is the famous dialogue about the cherry tree—and that reflects more credit upon the son. On the other hand, an association has been formed for the purpose of erecting a monument to Washington's mother. To take another side of so-called human greatness we may state that John L. Sullivan's *father* was a small inoffensive man with not much fight in him—certainly not enough to start his big son on the road to respectability. Sullivan inherited his great strength and undoubted courage from his mother's side. So you will find it all through life—the maternal influence is the most important thing to consider in breeding for improvement. Why, the new Sir Walter Raleigh potato is a case in point. This potato is a worthy son of THE R. N.-Y. No. 2. Its mother emigrated to Belgium, but it is now a true American, and anyone who looks at its picture—printed last week—will see that it carries many of the marks of its good old mother. If a young man could be induced to view such things with a cool head it would be well for him to consider the mother and grandmother of his sweetheart. The chances are that 20 and 40 years hence this fair young girl will grow into much the same appearance and temper of the older women, though the treatment she receives through life will have much to do with it. In fact there are three great influences that have to do with the rearing of a strong and successful animal.

1. Pedigree: What the animal inherits from ancestors.
2. Food: What the animal is made of.
3. Environment: Habits and care, outside influences that surround the animal!

From this you will see that the *father's* influence is a small part of the result. Who cares what variety was the *father* of the Sir Walter Raleigh potato? Let it stay in Belgium, unknown and forgotten. It is enough for us to know that Sir Walter's *mother* was the standard old R. N.-Y. No. 2, and if we give her best son good food and care we shall have a satisfactory crop.

And now it only remains for us to say that THE R. N.-Y. for 1897 will be the child of former years. We don't care to discuss the paternal side of the past. The paper as it stands is the mother of future volumes. We shall use the best mental food we can get hold of, and wrap the whole thing up in a spirit of good nature and earnest effort. This we think will insure a successful new volume, and if you will go and tell your friends and neighbors about it you will do us a good turn. See what the Kansas man says:

Stamp inclosed for Sir Walter Raleigh. I hope it may prove valuable. Aside from these gifts THE R. N.-Y. is easily head and shoulders above every other paper of its class. F. E. H.
Miami County, Kan.

Now we wouldn't like to say that, and yet you can't expect us to take valuable space in which to deny it! We have said that THE R. N.-Y. is the mother. Now let's hear a word from the father side. Here is one who lives in Indiana:

I have distributed many copies of THE R. N.-Y., which you have sent at my request, but have sent in but one subscription. I am not a solicitor. I would certainly starve if I could make a living no other way. I am not built that way. About our town is a very successful and progressive farmers' club, of which I am not a member, but have attended on invitation some of their meetings At one time the subject for discussion was farm papers or periodicals for a farmer, and a leading member held up a copy of THE R. N.-Y. and said, "There is my ideal of the farmer's paper," and I murmured, "Them are my sentiments too," so I am willing to help THE R. N.-Y., as I know it will help my fellowman, and if you think it may be profitable, you may send me about 50 copies, which I will have distributed at our institute, and what may be left I will distribute at a public sale.

Of course, we don't want any friend to starve, but we would like to have a few good words distributed with these sample copies. In some places THE R. N.-Y. seems to be a perfect flower, because it produces readers without help. In other places, it needs the pollen of a good word or kind indorsement from some well-known farmer. Those who drop the word in are *fathers*—half the herd. Now is the time!

CONDENSED CORRESPONDENCE.

WASHINGTON COUNTY, N. Y.—The greater portion of the potato crop from this section of Washington County, has gone to market. J. W. R.

CUYAHOGA COUNTY, O.—The Rural New-Yorker No. 2 is wet and soggy unless raised on high clay ground, and if the Sir Walter Raleigh potato is dry and mealy it is just what we want; at least, we can give it a trial. G. W. B.

CAYUGA COUNTY, N. Y.—The Rural New-Yorker No. 2 has done well with us; if the new potato is better it must be extra. I have tried all that has been sent out and of all I like the flavor of the Beauty of Hebron best; it is not so heavy a yielder, but is good every time. J. F. D.

POLK COUNTY, IOWA.—I grew four acres of the Rural New-Yorker No. 2 this year, and have been growing them ever since I first got them with THE RURAL NEW-YORKER years ago. But this year there is a change in shape; as probably two-thirds or more are elongated or more like the shape of the Late Rose. But the crop was good, and as I sold early, I got 25 cents per bushel for them. Have still got on hand 200 bushels. I have been growing the Carman No. 1 for the last three years. Although it is always of high quality as an eating potato, it does not yield so well, and the potatoes do not grow as close together in the hill as other varieties I raise. My main crop of potatoes is Potentate and Rural New-Yorker No. 2. There are lots of potatoes being held for better prices and market, as they sold from 12½ to 20 cents this fall. J. B.

ERIE COUNTY, N. Y.—We erected two tub silos 12x24 out of seasoned pine, and have a building inclosing them covered with sheathing, tarred felt, shingled over all with cedar shingles. Is that warm enough? Can you call to mind a better arrangement for 21 cows, 19 winter milkers? We have only about 21 acres of tillable soil, remainder 70 acres of sidehill pasture and timber lot. We raised about 400 bushels of potatoes Great Divide and Carman No. 3. We had a large collection of varieties, but No. 3 is our choice for everyday eating. They were raised on heavy soil, too.

We also raised about 2,000 quarts of strawberries, a new industry in this section, especially good berries such as Jessie, Timbrell, and Warfield. The last named yielded far better than any other. Brandywine and Parker Earle were almost a failure this year. We picked strawberries seven consecutive months, commencing in May and ending November 1. How is that? We haven't dared to look for more. The Warfield was the best late yielder, with Jessie next. We sold $140 worth of strawberries, at an average of over eight cents per quart, from one-half acre.

We ship our milk to Buffalo, and receive 7, 9 and 10½ cents per gallon on cars here, and have made in six consecutive months commencing June 1, $462.24 worth of milk, but only had 12 cows part of the time, and summer prices, while now we are making over $100 worth per month from 18 cows. We feed bran, oil meal and some gluten for milk, with ensilage. W. W. C.

It is hard to tell sometimes whether the shopper or the saleswoman feels the effect of shopping the most. Even the pleasant part of it involves standing, waiting, weariness for both of them and more or less hurry and neglect of regular meals and regular habits. This leads to dyspepsia or constipation or both; they are two links in the chain of indigestion; another link is biliousness; headache is another; then follows backache, drowsiness, dizziness, an irritable temper and the "blues," all links of one chain binding down your energies and making life a burden. The way to throw off the whole trouble at once is to put the bowels and stomach into condition again. Dr. Pierce's Pleasant Pellets do this quicker, more comfortably and more naturally than any other remedy in the world. They actually cure constipation so it stays cured; you don't become a slave to their use; they strengthen the intestines to do their own work, tone the stomach and gently stimulate the liver. They are mild but sure, like Nature itself. Don't let any druggist give you a griping pill. Insist on having Dr. Pierce's Pleasant Pellets.

The People's Common Sense Medical Adviser gives more plain useful information about the human-body and all the ailments to which it is subject than any other single book in the English language. It is really a medical encyclopedia in one volume, a large heavy book of 1008 pages, with over 300 illustrations. The outlay of money, time and effort in producing this great book was paid for by the sale of the first edition of 680,000 copies at $1.50 each; and the profit has been used in publishing the present edition of half-a-million copies to be sent absolutely without price to all who will remit the small charge of 21 cents in one-cent stamps to pay the cost of mailing *only*. Address, with stamps, World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

Our Clubbing List.

The Thrice-a-Week World.

Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1.65, both one full year. Send now and get both papers free for the rest of this year.

Farm Poultry.

There is no poultry paper published anywhere which takes the place of FARM POULTRY. It stands alone as the best up-to-date, practical guide to profitable poultry raising. Edited by men who practice what they preach, and teach facts, not theories, about how to make money with a few hens. Published semi-monthly; price, $1 per year. We can send it and THE RURAL NEW-YORKER, both one year, for $1.75.

HOW TO TEACH AGRICULTURE.

Twelve years ago, the regents of the University of Wisconsin, realizing that farmers would not send their sons to take the four years' course, directed that a short, practical course of agricultural instruction be offered to young farmers in winter time. Accordingly, a 12-weeks' term was planned, and that winter we had 19 young men with us. Though we had good teachers, our facilities for instruction were quite limited, and in many respects we were traveling an unknown road, for at that time not a great deal was really known about practical agricultural education. Our facilities gradually increased, and five years later we divided the course into the farmers' course and one for creamery and cheese factory operators, or a factory dairy course, farm dairy instruction continuing as before to be a feature of the farmers' course. The dairy course proper continues, as originally planned, during 12 weeks, but the farmers' course of instruction, still known as the short course, now covers two terms of 14 weeks each, beginning December 1. We have followed the original plan of strengthening and lengthening the course as circumstances warranted, and even now with the lengthened period our instruction is much crowded because of the large number of teachers employed and the increased apparatus and facilities available. We now have three buildings besides those at the farm exclusively devoted to agriculture, and the short course will this winter require 16 instructors and helpers.

To those who may be surprised at the large number of instructors used, let me say that instruction in practical agriculture is the most expensive of all educational lines. Of course, as many pupils can sit in a room and listen to a lecture on agriculture as in any other branch, but experience soon taught us that the lecture system could not be followed to any great extent in giving agricultural instruction. Lectures for a day or two to farmers from the institute platform or at other farmers' gatherings, are all right, but it is worse than folly to bring young farmers together for several months' instruction, and expect to have them sit and listen day after day to nothing but lectures. What these young men want, and must have, is a course of instruction which enables them to use their eyes and often their hands as well as their minds, for farming is a handicraft to quite a measure.

Take the great line of animal husbandry, for example. Four instructors are required in this one branch. Lectures are given, of course, upon the origin of the breeds and their characteristics; also upon the feeds they require, as well as diseases and treatment thereof. To stop here or to use only pictures and illustrations additional, would be to fall far short of the needs of our pupils; they must study the living animals. The minute we come to a study of the animal, a marked change in requirements of instruction is observed. Experience shows that the only practical way to teach the points of the animal, is for the instructor to have grouped about the object not more than a dozen or fifteen pupils, and he must hold the attention of these in a way not possible in lecture work. It will not do for the pupil to stand more than a few feet from the animal. Division of the class into small sections necessitates more teachers. Then there must be many animals presented for study, for much is learned by comparison, and nothing but the living creatures will illustrate the differences. Farm animals call for daily feed and care; then, too, after a few years they pass away, necessitating other representatives. All this means expense, heavy expense, not only for teachers, but for objects of illustration.

Take another line of instruction. Our first year short course students devote a couple of hours each day to the study of plant life. So far as the lectures are concerned, one person can give instruction to a whole class, but as soon as the class passes to the laboratory and begins work with seed germinators, microscopes, etc., studying the living plants themselves, three instructors are required. In grafting and budding, a still greater division of the class is required, for without close supervision, clumsy work is seen and little progress made. To give some idea of the success we have attained in the lines just named, let me say that fair managers have come to appreciate our instruction in stock judging, and during the fall of 1896, we were called on to furnish live stock judges from among our students for 36 Wisconsin fairs, while some acted as judges in other States. The work in root grafting is so well done that we are able to sell the students' work with root grafts to nurserymen, who have found by experience thet they can get good nursery stock from material turned out at the horticultural department.

I have gone over only two lines of instruction, but they are illustrative of what occurs everywhere in this work. It is very difficult to get educators in other lines to see and appreciate these facts, and legislators are slow likewise in learning that the necessities of an agricultural college are many and the expenses really very heavy. If one wishes to choose the line of education least expensive, let him take the languages or mathematics, for here a few books, a comfortable room, a blackboard and a few maps, with a good teacher, are about all that are required. To teach agriculture the wrong way needs only about the same equipment. To teach it rightly means a farm with fields and numerous tools, means barns filled with representatives of the best breeds of live stock, means greenhouses filled with growing plants, means laboratories with varied and expensive equipment, and above all teachers that combine not only knowledge concerning agricultural matters, but wisdom in relation to these great subjects, and, moreover, a goodly number of them in proportion to pupils taught. To-day, agricultural education is struggling for recognition, and losing more than can be measured, because not only legislators and the heads of institutions, but even instructors themselves fail to appreciate the cost of equipment for extended and proper instruction. People have not yet come to understand that properly to teach a young farmer concerning his business, we must have a combination of teachers and material the most expensive of any line of educational effort.

W. A. HENRY.

Dean College of Agriculture, Madison, Wis.

INDIANA HORTICULTURISTS.

The 36th annual meeting of this society was held at Indianapolis, December 1, 2 and 3. With an annual appropriation from the State of $1,000, they show up a good, healthy financial condition, having several hundred dollars of surplus funds in their treasury, after paying current expenses and publishing a handsome annual report. About $200 are spent each year to import speakers, or, rather, practical and successful horticulturists and experimenters, who are strictly up to date in their several specialties. This year, there were present from abroad, Mr. S. D. Willard, of Geneva, N. Y.; Prof. Van Deman, of Virginia, and Prof. Green, of the Ohio Experiment Station. Good talent from abroad always enlarges the attendance at such meetings, and the many practical hints dropped by home workers by this means, have a broader field in which to take root and spread.

I gleaned many important facts from the papers read at this meeting, and the discussions that followed. Among other things, I learned that the southern part of the State is well adapted to fruit growing, and this industry is being developed rapidly. In the counties bordering along the Ohio River, the soil and climate are peculiarly and specially adapted to apple culture, and large areas are being planted to this fruit. Upon the tops of the river knolls, peaches are profitable, and very large orchards are being cultivated. Upon the flat, thin lands, small fruits are being cultivated, and have proved to be much more profitable than grain crops. Much more attention is being paid to fertilizing orchards and the thinning of fruits, than has heretofore been the custom. I learned that the most successful orchardists used from 600 to 1,000 pounds of fertilizer annually on their orchard lands, whether it was a fruit year or not. Some small fruit growers use two tons of fertilizer on strawberries. In using this amount, several applications of the fertilizer are made during the season. Indiana horticulturists have learned that it pays only to produce the very best, and no labor or means are spared to give fruits the very best cultivation and fertilization possible.

I was pleased to see that the advantages of cooperation were being appreciated in the organization at this meeting of a fruit growers' union. This union is to take in the whole State, and the aim is to obtain the very best market for all kinds of fruits in their season, and secure the most reasonable rates of transportation possible. This union was formed as a State branch of the American Fruit Growers' Union, which has for its officers and managers leading fruit growers from different parts of the whole country. As matters were managed in the past, the grower had no means of ascertaining where his best market was for his products, and in many instances, was at the mercy of the commission man. Those who go into this union will be regularly advised when they can find the best sale for their surplus, and shipments can then be made direct to such points, saving considerably in freights as well as securing the best price. If growers continue to manage this union as they have started out, and do not allow it to drift into the hands of schemers, there is no doubt that it will be a benefit to all who give it their support and encouragement. Everybody else is combining for mutual interests, and why not the fruit grower? I learned from one of the managers of the American Union that they had just succeeded in getting the rate on apples from Chicago or New York to Kansas City lowered from 27 to 20 cents, in order to enable New York growers to reach cold storage houses and await future advances. Wherever there is concert of action among fruit growers and shippers, they can get anything reasonable they ask for from the railroads of the country.

W. W. S.

MARKETS.

SATURDAY, DECEMBER 12, 1896.

BUTTER—NEW.

Creamery, Western, extras	24½	@	—
Western, firsts	22	@	23½
Western, seconds	19	@	21
Western, thirds	15	@	17
State, fancy	23	@	23½
Common to prime	15	@	22
State dairy, half-firkin tubs, fancy	20	@	—
Firsts	16	@	18
Seconds	13	@	14
Welsh tubs, fancy	18½	@	19½
Welsh tubs, firsts	13	@	17
Welsh tubs, seconds	13	@	—
Tubs, thirds	11	@	12
Western imitation creamery, firsts	14	@	16
Seconds	11	@	12
Western dairy, firsts	12	@	13
Seconds	9	@	10
Thirds	8	@	8½
Factory, fancy	11½	@	12
Factory, firsts	9	@	11
Factory, seconds	8½	@	9
Factory, thirds	7	@	8
Rolls, fresh	10	@	15
Old butter	5	@	8

CHEESE—NEW.

State full cream, large, Sept., colored, fancy	10¼	@	10½
White, fancy	10¼	@	10½
Choice	9¾	@	10
Good to prime	9	@	9¾
State full cream, common to fair	7	@	8½
Small, colored, fancy	10¼	@	—
Small, white, fancy	10	@	10¼
Small, good to choice	9	@	9¾
Small, common to fair	7	@	8½
Light skims, small, colored, choice	8	@	8½
Light skims, large, choice	7¾	@	8
Part skims, good to prime	5½	@	7
Part skims, common to fair	3½	@	4¾
Full skims	2½	@	3

EGGS.

Near-by, new laid, fancy, selected, per doz	24	@	—
State, fresh gathered, average best	21	@	22
Penn., country marks, average best	22	@	23
State and Penn., fair to good	20	@	21
Western, northerly sections, fancy	21	@	—
Western, fair to good	20	@	20½
Western refrigerator, prime, early pkd.	17	@	17½
Western refrigerator, fair to good	16	@	17
Western limed, choice	15	@	16
Western dirties, per 30-doz case	3 70	@	4 20
Western checks, per 30-doz case	3 50	@	3 70

FRUITS—GREEN

Apples, Baldwin, per bbl	1 00	@	1 25
Fall Pippin, per bbl		—@	—
Greening, per bbl	1 25	@	—
King, per bbl	1 00	@	1 62
N. Spy, per bbl	75	@	1 25
Pound Sweet, per bbl	1 00	@	1 25
Lady Apples, per keg	1 50	@	2 00
Nearby, open heads and common, per bbl	50	@	70
Cranberries, Cape Cod, extra large, per bbl	5 50	@	6 50
Fancy, per bbl	5 00	@	5 50
Good to prime, per bbl	3 50	@	4 50
Defective, per bbl	2 00	@	3 00
Per crate	1 25	@	1 37
Jersey, per crate	1 25	@	1 60
Grapes, West'n N.Y., Catawba, per small bkt.	8	@	11
West'n N. Y., Concord, per small basket.	7½	@	9
Wine grapes, black in bulk, per lb	1¼	@	1¾
Wine grapes, white, in bulk, per lb		—@	—
Wine grapes, red, in bulk, per lb	1½	@	2
Pears, Clairgeau, per bbl	3 00	@	4 00
Duchess, per bbl	2 00	@	3 00
Anjou, per bbl	2 50	@	3 75
Vicar, per bbl		—@	—
Swan's Orange, per bbl		—@	—
Keiffer, per bbl	2 50	@	3 50
Lawrence, per bbl	2 50	@	3 50
Nearby cooking, per bbl		—@	—
Oranges, Florida, per box	2 50	@	4 00

GAME.

Quail, choice, large, per doz	1 50	@	1 75
Small, per doz	50	@	1 00
Woodcock, average, per pair	75	@	1 00
Partridges, nearby, per pair	90	@	1 00
Western, undrawn, prime, per pair	75	@	80
Western, drawn, prime, per pair	50	@	60
Grouse, Western, prime, per pair	1 25	@	1 40
Grouse and partridges, inferior, per pair	25	@	40
English snipe, choice, per doz	1 75	@	2 25
Plover, golden, choice, per doz	2 00	@	2 50
Rabbits, per pair	18	@	22
Wild ducks, canvas, choice heavy, per pair	3 00	@	3 50
Red heads, per pair	2 00	@	2 25
Mallards, per pair	40	@	85
Blue wing, teal, per pair	40	@	50
Teal, green wing, per pair	25	@	30
Common, per pair	20	@	25
Venison, per lb	17	@	18
Whole deer, per lb	10	@	12

GRASS SEED.

Clover, per 100 lbs	6 50	@	9 00
Timothy	2 85	@	3 75

HAY AND STRAW.

Hay, No. 1 new Timothy, per 100 lbs	75	@	—
No. 2	70	@	—
No. 3	60	@	65
Shipping	55	@	60
Clover, mixed	62½	@	65
Clover	50	@	60
Salt	45	@	50
Straw, No. 1, long rye	90	@	95
No. 2	80	@	85
Short rye	60	@	70
Tangled rye	50	@	60
Oat	35	@	40
Wheat	—	@	—

MEATS—DRESSED.

Veals, country dressed, prime, per lb	8	@	8½
Fair to good, per lb	7	@	7½
Com. to med., per lb	5½	@	6½
Small, per lb	4	@	5
Buttermilks	5	@	6
Grassers	4	@	5
Pork, country dressed, 10 to 25 lbs., per lb	7	@	9
40 to 60 lbs., per lb	6	@	—
60 to 80 lbs., per lb	5½	@	6
80 to 120 lbs, per lb	5	@	5½
125 lbs and up, per lb	3¾	@	4¾

NUTS.

Peanuts, Va., h. p., fancy, per lb	3¾	@	4
H. p., extra, per lb	2½	@	3
Shelled, No. 1, per lb	3¾	@	4¼
No. 2, per lb	3	@	—
Spanish, shelled, new, No. 1, per lb	5¼	@	5¾
Pecans, ungraded, per lb	8	@	10
Chestnuts, northern, per bush of 60 lbs.	—	@	—
Southern, per bushel of 60 lbs	—	@	—
Hickorynuts, new, per bushel of 50 lbs.	1 75	@	2 25

POTATOES.

Long Island, in bulk, per bbl	1 25	@	1 37
Maine, per sack	1 00	@	1 10
State, per 180 lbs	75	@	1 00
Jersey, per sack	90	@	1 00
Jersey, per bbl	90	@	1 12
Sweets, Va., yellow, per bbl	1 00	@	1 25
Jersey, yellow, per d. h. bbl.	1 25	@	1 50
Vineland, per bbl.	1 50	@	2 00

POULTRY—LIVE.

Spring chickens, per lb	6	@	7
Fowls, local, per lb	8	@	9
Western, per lb.	8	@	9
Southern, per lb	7	@	7½
Roosters, old, per lb	4½	@	5
Turkeys, mixed, per lb	8	@	9
Ducks, local, per pair	70	@	90
Western, per pair	65	@	80
Southern, per pair	50	@	55
Geese, local, per pair	1 25	@	1 75
Western, per pair	1 00	@	1 50
Southern, per pair	1 00	@	—
Pigeons, old, per pair	20	@	25
Young, per pair	15	@	—

DRESSED POULTRY.

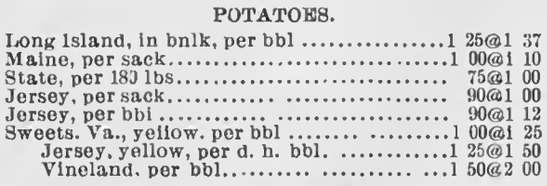
Turkeys, old, mixed weights, per lb	10	@	—
Young, dry-picked, per lb	10½	@	11
Young, scalded, per lb	10	@	—
Young, inferior, per lb	7	@	10
Dry packed, fancy, per lb	13	@	14
Dry packed, Western fancy, per lb	12	@	13
Spring chickens, Phil., selected, per lb	12	@	13
Philadelphia, poor to good, per lb	9	@	11
Western, dry-picked, good to choice	8	@	8½
Western, dry-picked, inferior	6	@	8
Western, scalded, choice, large	8	@	8½
Fowls, Western, dry-picked, choice	7½	@	8
Scalded, choice, per lb	7	@	7½
Old cocks, per lb	5	@	—
Spring ducks, Eastern, per lb	—	@	—
Spring ducks, L. I., per lb	—	@	—
Spring ducks, Penn. and Va., per lb	—	@	—
Spring ducks, Western, per lb	10	@	11
Geese, Maryland, per lb	10	@	11
Old ducks, Western, per lb	7	@	8
Spring geese, Western, per lb	9	@	10
Squabs, tame, white, per doz	2 00	@	2 25
Mixed lots, per doz	1 50	@	1 75
Dark and poor, per doz	1 25	@	—

VEGETABLES.

Cabbage, L. I., per 100	2 00	@	3 00
Red, per 100	2 50	@	3 50
Red, per bbl	55	@	65
Carrots, per bbl	60	@	75
Cauliflower, L. I. and Jersey, per bbl	1 00	@	2 50
Fancy, per bbl	3 00	@	3 50
Celery, fancy, large, per doz	40	@	50
Average, prime, per doz	20	@	30
Small, per doz	8	@	15
Local, per doz flat bunches	50	@	75
Cucumbers, Florida, per crate	50	@	1 25
Egg plant, Florida, per ½-bbl box	50	@	1 00
Florida, per bbl	1 00	@	2 00
Lettuce, Boston, per doz	20	@	35
Local, per bbl		—@	—
Norfolk, per bbl basket	50	@	1 00
Charleston, per basket		—@	—
Florida, per ½-bbl basket	1 00	@	2 00
New Orleans, per bbl	4 00	@	5 00
Onions, Eastern white, per bbl	3 00	@	5 00
Eastern red, per bbl	2 25	@	2 50
Eastern yellow, per bbl	1 75	@	2 00
Orange County white, per bag	2 00	@	4 00
Orange County yellow, per bag	1 25	@	1 75
Orange County, red, per bag	1 25	@	2 25
Jersey and Long Island yellow, per bbl	1 25	@	2 00
Jersey and Long Island red, per bbl	1 50	@	2 25
Jersey and Long Island white, per bbl	2 00	@	4 00
State and Western yellow, per bbl	1 75	@	2 00
State and Western red, per bbl		—@	—
Pumpkins, per 100	8 00	@	12 00
Spinach, Norfolk, per bbl	25	@	40
Baltimore, per bbl		—@	—
Squash, Marrow, per bbl	1 00	@	1 25
Hubbard, per bbl	1 00	@	—
String beans, Norfolk, per half bbl basket		—@	—
Charleston, green, per bushel basket		—@	—
Charleston, wax, per bushel basket		—@	—
Florida, per bushel basket	1 25	@	2 00
Florida, freight, per crate	50	@	1 50
Turnips, Jersey and L. I. Russia, per bbl	50	@	60
Canada, per bbl	60	@	65

MILK AND CREAM.

The total daily supply has been 21,200 cans of milk, 170 cans of condensed milk and 391 cans of cream. The average price paid for the surplus on the platforms has been $1.45 a can of 40 quarts.



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WHAT IS GOOD MILK?

HOW IS IT MADE?

A Little of Its Chemistry.

PART II.

For its food value and for cheese purposes, the nitrogenous part of milk is of much interest. The three most important nitrogenous constituents of milk are casein, albumen and fibrin. Of the exact chemical formula of these, we know nothing. They are quite similar in composition to the vegetable albuminoids containing always nitrogen, carbon, hydrogen and oxygen, together with a small quantity of sulphur. The nitrogen forms about one-sixth part by weight. Of these three elements, the casein is by far the largest in amount and of the greatest economic importance, containing, as it does, at least four-fifths of all the nitrogenous matter, and being the part preserved in cheesemaking. While casein, probably, varies from the other two substances but very slightly in composition, its properties are different in a marked degree. Casein in fresh milk is in a state of imperfect solution, although, for all practical purposes, the solution may be called complete. Under very prolonged whirling in a separator, a portion of it, or, at least, of some albuminoid, separates and clings to the outside of the bowl in a solid mass.

Casein is not coagulated by heat, but is by rennet, by weak acids, by the juice of some plants, and by various bacterial products. The addition of a very small portion of rennet causes it to become a semi-solid mass, the rapidity with which this takes place being dependent upon temperature, presence of free acid and presence of soluble salts of lime. The fact that casein is coagulated by rennet is a very strange and a very useful property. It is not a change of composition, but only what, for lack of more exact knowledge, we call a re-arrangement of the molecules. Evidently the rennet acts only by its presence and not by forming any combination with the casein.

Albumen forms about .75 of one per cent of the milk. It is soluble in water, and is almost, if not quite, identical with the animal albumen of which the white of an egg is our best and most common example. It is distinguished from casein by the fact that it is not affected by rennet or acids, but is coagulated by heat at about 157 degrees. In cheesemaking, it passes off in the whey in solution. Its feeding value is high, and it constitutes the principal source of nitrogen in whey. As a rule, it increases in relative amount as the cow advances in lactation, while the colostrum contains several per cent of it, so that it will coagulate into jelly when heated. Quite recently, at the Wisconsin Station, efforts have been made to incorporate it into the cheese. While a larger yield of cheese was obtained, the flavor and curing qualities were bad. It is to be hoped that this may be remedied, and, at least, it affords an interesting field for experiment.

Fibrin is an albuminoid body of which we know very little. Its amount is small, and its only importance is its influence upon the separation of the cream. After the milk is drawn, it assumes a form which may, to quite an extent, prevent the rise of the fat globules. This condition is commonly supposed to be hastened by warmth, agitation or stirring, and exposure to rough surfaces. Hence the lesson is where cold settings are used, to strain the milk while yet warm into bright, clean cans, and cool as quickly as possible.

Sugar of milk or lactose constitutes, generally, about five per cent of milk, and is more constant in amount than either fat or casein. Chemically, it differs but little from cane sugar and glucose. Physically, it differs from cane sugar in being very much less sweet, in having less tendency to form large crystals, in being much less soluble in water, and in various chemical tests. It readily forms lactic acid as in the ordinary souring of milk, and with yeast, forms carbonic acid gas and alcohol. As a source of easily digested carbohydrates in the feeding ration, its value is of the highest. There is a demand for the pure article in a commercial way as a "filler" for medical preparations, and in some of the prepared children's and invalids' foods. In both butter and cheesemaking, it is important that it be eliminated from the finished product as far as possible, and thus a really valuable food product is lost, except as far as the refuse is used for feeding animals.

The ash of milk in healthy cows is very constant in quantity, forming about seven-tenths of one per cent. It is important as supplying the bone material for the young and growing animal, and as constituting a loss of a considerable amount of phosphoric acid and a small amount of potash when sold from the farm. It is mostly composed of the phosphates and some other salts of lime, potash and soda, with other compounds in very small quantities. Right here it may be noted that the man who makes butter has a decided advantage over the man who sells his milk, so far as the maintenance of the fertility of his farm goes. The New York Experiment Station, in 1893, estimated the nitrogen, phosphoric acid and potash in a ton of milk to be worth $2.28 at trade values, no inconsiderable item in the course of a year.

Another constituent of milk is lactochrome, which is of some interest, but very little real importance in these days of butter color which is a perfect substitute for the natural June yellow. Lactochrome is an animal coloring matter which occurs in the oily secretions of the cow, whether about the udder or elsewhere. The amount varies between wide limits, with breed, individuals of the same breed, and with feed. Undoubtedly the Channel Island breeds, especially the Guernseys, give the highest colored milk as a rule. The Devons are also noted in this respect. The color of the escutcheon and the inside skin of the ears, thighs and elbow are directly an indication of the color of the milk given. It is a popular error that high-colored milk is necessarily associated with a large per cent of fat, although this is very generally true. Of course, every one knows that the coloring matter is more abundant when the cows are on green food than when they are on dry. It varies also with the kind of grain fed. In summer, some individuals will produce butter too yellow for some markets. Milk also contains other animal products, but they are too small in quantity and, above all, too little understood to be noted here.

JARED VAN WAGENEN JR.

THE HAMPSHIRE DOWN SHEEP BREEDERS.

WHAT WAS SAID IN THEIR MEETING.

During the Live Stock Show, the Hampshire Down Breeders' Association held a meeting in the interest of their breed. The sheep of this breed are found largely in Michigan, Wisconsin, Iowa, Pennsylvania and Virginia. Their breeders say that they prefer them because they will thrive better under ordinary farm conditions than other breeds Probably other breeders will claim the same for their favorites, but this breed certainly seems to be gaining in popularity. They held their own well in this show. The association decided to offer first and second prizes of $25 and $15 at all State fairs where there is a Hampshire class, for pens of four lambs, male and female, bred by the exhibitor in the State where shown, and registered in the Hampshire Down Flock Record. This is to encourage home breeders. It was said that by far the larger part of the prize-winning sheep are imported simply for this purpose, and are never used for breeders; in fact, that they are utterly useless for that purpose, even though any one desired so to use them. Mr. James Wood, president of the association, said that, in England, breeding these show animals is a regular business. As soon after the lamb is dropped as it will take extra feed, it is given the milk from another ewe, the ewe being held for that purpose. Mr. Wood says that it is surprising how soon the lamb learns this; that after being fed once or twice in this way, it will rush up immediately on seeing a sheep caught, ready for another free lunch. As soon as it will eat grain, it is fed all it can be tempted to eat of different grains, mixed grains, feed with sugar sprinkled on, and every effort made to induce it to consume the largest quantity possible. The result is, in case of weakness, a breakdown, and the loss of the animal; or, if it stand the heavy feeding, it becomes a mountain of fat, but totally unfit for breeding, and often unable to propagate its species. The latter condition is, probably, Nature's protest against such unnatural methods. Yet these are the animals that are admitted into this country free of duty for the purpose of breeding up and improving our live stock! These are the animals, too, that are said to take more than two-thirds of the premiums at our fairs.

The exhibition sheep at these shows are all clipped—that is, they are sheared enough to take off all the loose ends and tags, and make them look smooth and even. This might appear, at first glance, to be all right; but the custom is abused. Mr. Wood said that a sheep in the hands of an expert, is like marble in the hands of a sculptor; he has his ideal, and by means of the shears, makes the shape of the sheep conform to that ideal. That is, to the eye, he is a sheep of just the proper form. But only wool is visible to the eye, and the judge to do his work well, must go down into that wool with his hands, and learn whether, underneath, there is a perfect sheep, or whether he is lacking in one or more of those points that go to make up a desirable mutton or breeding animal. A sheep is the only quadruped that is susceptible of such a transformation.

F. H V.

A BIG BITE.—A writer in the Iowa Homestead tells the following story:

On our farms we often illustrate the homely phrase, "Biting off more than we can chew," by laying out more work for the season than time will permit us to do without increasing the force. In making calculations, allowances should always be made for bad weather. One instance of biting off more than one wanted to chew occurs to me. I heard of a farmer who sold a steer for $20, the price being paid him in a single bill. Having no pocketbook with him, he tucked it in his tobacco pouch. Later on, wanting a chew of tobacco, and forgetting that he had placed the bill in the pouch, he took what seemed to him a separate bit of tobacco and, putting it in his mouth, chewed it for a considerable time without getting any comfort out of it. Happening to think of the bill, he exclaimed, "Well, I'll be durned; a whole steer at one chaw."

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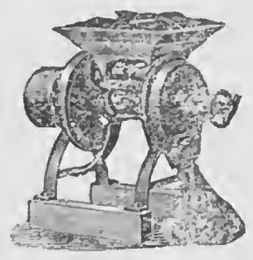

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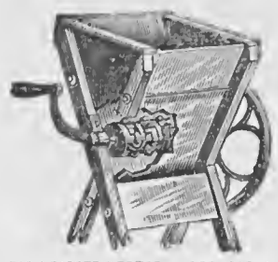

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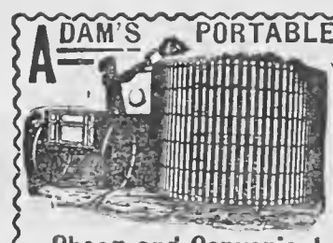

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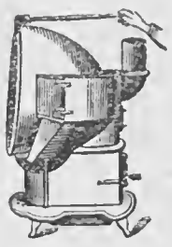

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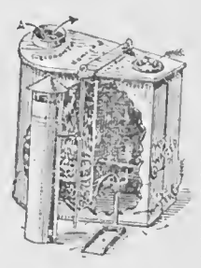

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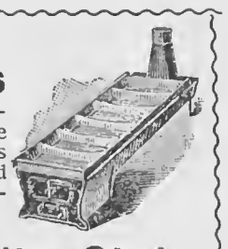

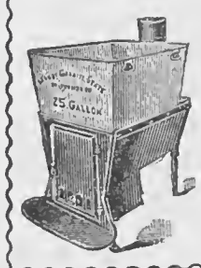

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BALANCING THE RATION.

WHAT GRAIN WITH ENSILAGE?

I am not satisfied with present results from my cows; I am milking elght In all stages of lactation. They yield 63 quarts per day, which is sold at retail In the city. Their present ration Is 45 pounds of corn ensilage (30 pounds per bushel), three pounds of hay, three pounds of malt sprouts, three pounds of bran, two pounds of linseed meal. I would feed cotton-seed meal, but cannot get any at present. I can purchase malt sprouts at $15 per ton, middlings at $13, corn meal at $17, bran at $13, linseed at $22, gluten meal, oat feed and most feeds which might be required. I have corn ensilage, fodder corn, oat hay, cut when the grain was in the milk, and mixed hay. I would like a ration with 30 pounds of ensilage for common cows in full milk, and also for Holsteins weighing 1,000 pounds or more. Also a ration for those who have been milking six months or more. What do you consider a proper day's ration for cows that are dry, to support and prepare them for the milking period?

Trumbull, Conn. A. L.

Not Enough to Eat.

If A. L.'s cows are of good size, I hardly think that they are getting sufficient food to do their best. I should prefer 30 pounds of ensilage, two pounds of bran, two pounds of gluten meal, and one pound of cotton-sced meal, twice a day, with four or five pounds of good hay at noon. If short of ensilage, or wishing to use but 30 pounds per day, I should feed oat hay with a little more grain in the morning, otherwise the same ration; for heavier cows, the same ration proportionately. This ought to push the milk, and I believe that it will. For cows that have been milking six months or more, I should feed less of the gluten meal and more bran with a little linseed meal. The tendency at this time is to put on fat, and the bran and cotton-seed will force the milk. Deliver us from the fat milch cow!

We believe that it pays to feed the dry cow well. She is getting ready for an eight or 12-months hustle, and she needs to be in good condition for it. She can't be if fed, and poorly at that, on bog hay and a little bran. I would suggest 30 pounds of ensilage, 12 pounds of hay, three pounds of bran and one pound of gluten meal per day. I would advise A. L. to weigh each cow's milk daily. This may be quickly done with a double pointed spring scale. Then, by varying the amount of ration in periods of not less than one week, he can ascertain somewhere near what each cow can do. We advise every farmer to do his own feeding. Trust your hired man or men everywhere, but if you want to save money and to know your own herd, do your own feeding. We have lost not less than $100 in one winter by allowing a man to do the feeding of the bay alone.

This is the time of the year for the cow to come in to get the most out of her, that is, soon after winter rations begin. She will do well until spring, and when pasturage comes, will pick up and do almost as well as a new milch cow. We must have them fresh at all times of the year, but get more out of the cows coming in now and during the next two months. H. G. MANCHESTER.

Connecticut.

Throw Malt Sprouts Out.

A. L.'s present ration is rather a wide one, being about one to seven. My own experience is that, while it is wise to conform to the standard ration of one to five, other conditions enter in. If the stable is not particularly warm, or if the cows are thin in flesh, there must be a large amount of heat and fat material in the food. Or if the cow is long in lactation, and pregnant, she needs more of the bone and blood material for the support of the calf she is carrying. Except these points are considered, one may feed a "standard" ration, yet be very far from obtaining best results.

Another very important point is, that the chemists' analysis of food, and that of the old cow, may widely differ. This I believe to be the case with A. L.'s malt sprouts. I have fed many tons of them; but for milk production, I have never been able to get anywhere near the chemists' value out of them. If he will substitute three pounds of gluten feed for the malt sprouts, in his present ration, he will then have one more nearly balanced, or about 1 to 5¾, and will get milk in greater quantity than even the chemical change in the food would indicate. I should like to have him make this change first, and report results.

I have compounded a ration from the foods of which he speaks, with 30 pounds of ensilage as a basis, as follows: 30 pounds of ensilage, 3 pounds of mixed hay, 5 pounds of oat hay, 3 pounds of gluten feed, 3 pounds of bran and 2 pounds of linseed meal. This will stand about 1 to 5 4-5. For the ordinary cows in full milk this should be sufficient. The 1,000-pound Holsteins, if they are giving a large flow, may have these in this proportion, with the grain increased. If they respond to an increase, or if there seem to be an insufficient amount of coarse feed, let him add more ensilage, or some of the fodder corn.

For the cows that have been milking six months, feed the same proportionate ration, but less of the grain. I always feed my cows as individuals, increasing or decreasing the amount of food to meet the demands of the animal. For the dry cows, if it were my case, and I had not an abundance of ensilage, I would feed them what they would eat, night and morning, of the fodder corn, mixed hay and oat hay in combination; with from two to four quarts of bran at noon, with a handful of linseed meal added. EDWARD VAN ALSTYNE.

A Ration Figured Out.

The ration which A. L. is feeding, although well balanced, is not heavy enough for cows weighing from 800 to 1,000 pounds. The organic matter is especially low, and the protein, fat and carbohydrates all fall considerably below the standard. The following ration is suggested for his common cows in full flow of milk:

Ration—pounds.	Organic matter.	Digestible nutriment.			Nutritive ratio.
		Protein.	Fat.	Carbohydrates	
30 corn ensilage	5.76	.24	.18	3.36	.....
5 corn fodder	4.30	.20	.06	2.69	.....
5 oat hay	4.10	.21	.07	2.14	.....
3 malt sprouts	2.52	.56	.04	1.31	.....
4 wheat middlings	3.38	.49	.12	1.80	.....
2 linseed meal	1.70	.57	.14	.65	.....
1 Chicago gluten	.91	.26	.08	.45	.....
Totals	22.67	2.53	.69	12.40	1:5.6

If the 1,000-pound Holsteins require more than the ration given above, it may be increased to suit their needs. For the cows that have been milking six months or more, one-half the grain in the above ration may be dropped. For the dry cows, the ensilage may be reduced to 20 pounds. This, with a liberal supply of hay and four pounds of bran per day, will be all they need.

New Jersey Ex. Station. C. B. LANE.

Use Scales First of All.

What A. L. should do is to get a scale for weighing his milk, hang it up in the stable, weigh the milk of each cow and note it down at each milking. Then let him vary his feeds, making such changes as others advise, or as he learns from reading up the subject. Let him watch the weights of milk, and his cows will quickly tell him whether he is feeding them better or not. No one can tell as well as the cows themselves whether they are being fed right or not. And he will very likely find that one ration is best for some cows, and another best for others. Possibly he will find that some of his cows are not paying, and cannot be made to pay, for their board. If he were making butter, it would be best to use the Babcock test as well as the scales. For dry cows, I should feed six pounds of bran with the ensilage and hay.

Vermont. J. W. NEWTON.

A Pennsylvania Ration.

I should recommend feeding 30 pounds of ensilage, three to four of hay, and eight pounds of Buffalo gluten feed and wheat bran mixed, four-sevenths Buffalo gluten feed and three-sevenths wheat bran. Buffalo gluten feed is very rich in crude protein, which is a milk and butter producer. Cows when giving a full flow of milk, should have all the food they will digest and assimilate. This food should contain, as nearly as possible, the nutritive of grass in a good pasture. This is the cow's natural food, and it is quite difficult to fix anything better for her. Cows that are dry can have no better food than clover hay and ensilage to prepare them for the milking period. AUSTIN LEONARD.

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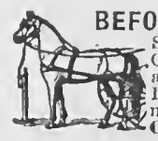

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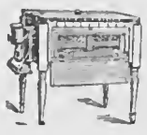

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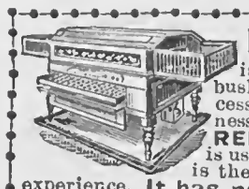

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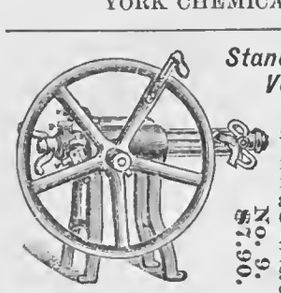

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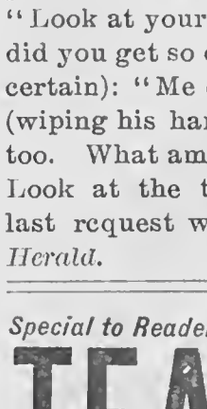

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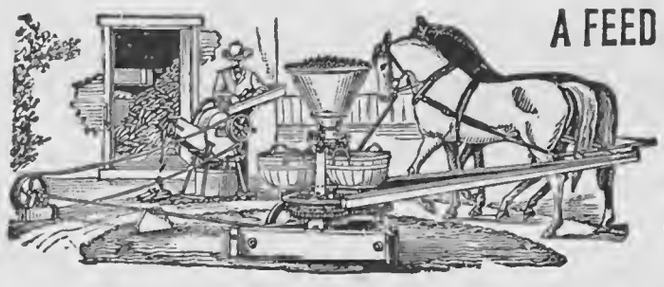

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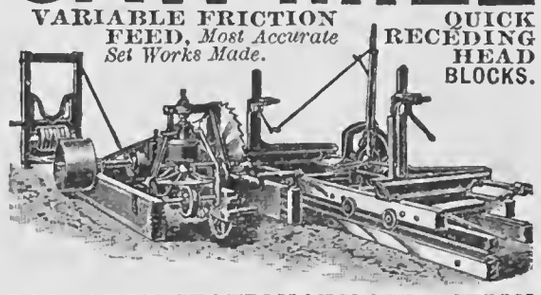

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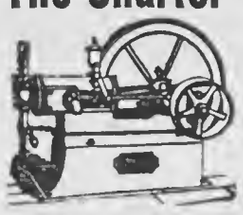

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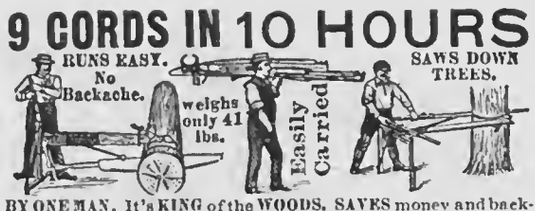

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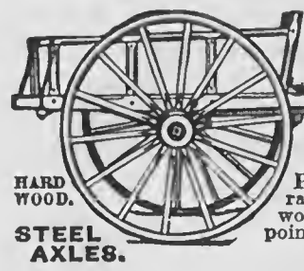

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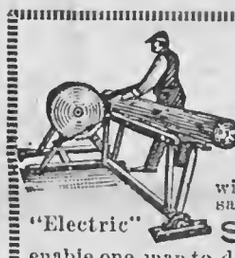

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THE RURAL NEW-YORKER

A JOURNAL FOR THE SUBURBAN AND COUNTRY HOME

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THE GENEVA EXPERIMENT STATION.

A NEW LEASE OF LIFE.

Some Plans for Future Work.

[EDITORIAL CORRESPONDENCE.]

The New York State Experiment Station, at Geneva, N. Y., has, probably, the best "plant" of any similar institution in the country. Situated in the heart of a magnificent fruit country, and within easy reach of the great farms of western New York, where stock, grain and potato farmers abound, the Geneva Station ought to become a power in New York State agriculture. We believe that Geneva is now entering upon a new era of prosperity and value. Director W. H. Jordan comes from a successful directorship of the Maine Station, and is maturing plans for work in his new field. On a recent visit to the Station, I had an opportunity of talking with him about some of these plans, and I am sure that THE R. N.-Y. readers will be interested to know something about the scientific work that is contemplated at Geneva.

"*I want to get down to fundamentals*," said Prof. Jordan. "I want to go to the core of things. I would prefer to take a few important topics, and put our whole force at work upon them, rather than to scatter our efforts over a wide field, and not reach definite conclusions."

That is, evidently, to be the purpose of the scientific work done at Geneva. For example, there is, probably, less actually known about the chemical changes that take place in the curing of cheese than of any other ordinary operations of the dairy. Butter-making has been reduced almost to an exact science, but cheesemakers are liable to lose hundreds of dollars every season because they do not yet understand how to control the temperature, moisture, etc., of the curing room so as to give exactly the right conditions. This is one of the things that Prof. Jordan will take up. His plan is to arrange a dairy building, containing a cheese room in which hundreds of exact experiments may be conducted so that the complete process of cheese curing may be carefully studied. There was a time when the chemistry of cream-ripening was but little understood. Scientific men studied and experimented until they were able to suggest simple rules which enabled dairymen to control this ripening with certainty. Prof. Jordan will endeavor to learn how to suggest similar rules to govern the curing of cheese. It is easy to see how this will benefit the cheese makers and cheese consumers of the country.

Those who have studied the science of feeding cattle, know that there is a difference of opinion among authorities regarding several important points. For example, we are told that a "balanced ration" must contain both "fat-formers" and pure fat or oil. It does not appear to be definitely known whether a cow has the ability to change the "fat-formers" into true butter fat—or, at least, to what extent she can do so. To test this question, Prof. Jordan intends to feed a cow on food from which all the pure fat has been taken. This will give her only the muscle-makers and fat-formers, and it will, indeed, be an interesting thing to see what the cow is able to do with such food. The results will be watched with great interest by all cattle feeders who attempt to feed by scientific rules, because we may find that, in some situations where oily or fat foods are expensive, we may be able to make up cheaper rations without them.

Another thing that is not well understood is why certain foods affect the consistency of butter fat as they do. It is pretty well understood that too much old-process linseed meal will make a soft, salvy butter. It is equally well understood that foods like corn meal or cotton-seed meal will make a firm, hard butter. Why and how is this? Does the different sort of oil or fat affect the size, shape or character of the butter globule, or what makes the difference? Any one may see that it would be an advantage to know more about these things. The only way for us to learn is to have some patient scientist dig out the facts by repeated experiments, and put them into soluble language that we may all understand. At the Maine Station, Prof. Jordan conducted a very valuable experiment with steers to see how the fat that is stored up in the body is changed or modified by changes in the food. These questions of fat and feeding will be carried on with the greatest care, and during the experiments, THE R. N.-Y. hopes to visit the station and tell just what is being done.

While at the Maine Station, Prof. Jordan undertook to show the feeding capacity of different plants by testing their ability to utilize the different forms of phosphoric acid. We had an account of this experiment on page 685. It was shown that such plants as clover, buckwheat and turnips can make use of the crude and raw phosphates, while potatoes and other crops must have the more soluble forms. Prof. Jordan will continue this experiment at Geneva with other crops than those used in Maine. There appears to be almost as much difference between the "feeding powers" of clover and buckwheat on the one hand, and potatoes or tomatoes on the other, as there is between goats and Jersey calves. The chances are that these experiments will show us how to use the cheap and crude phosphates, so as to permit certain crops to dissolve them for the use of others.

This will give an idea of the work contemplated at

A FAMILY AFFAIR ON A SMALL FLORIDA ORANGE FARM. FIG. 278. SEE PAGE 848.

Geneva. There will be equally careful work in every department. There are over 3,100 varieties of large and small fruits on the farm. Some critics complain that variety testing is cheap work which the experiment stations should leave for others. Yet it is evident that there must be some place in the country where fruit-growers can study the habits of new varieties by the side of the standard sorts. This vast array of varieties will prove useful in other ways. If one is to conduct experiments in grafting, pruning, spraying or cultivating, an orchard containing 50 varieties is better than one with only one or two, for it will not do to say that the habits and requirements of a Baldwin tree are the same as those of all other varieties. The fact that Geneva has such a wide range of varieties in the trial grounds is a double advantage, for it will enable the experimenters to show not only differences in yield and appearance, but also differences as the result of fertilizing or treatment. Orchard experiments have been made to determine the best mulching or green manure crop. Peas and buckwheat have given excellent results.

In the greenhouse, Prof. Beach has under way some very interesting experiments with tomatoes and lettuce. Among other things, it is proposed to test home-raised tomato seed from selected fruit compared with purchased seed. All sorts of soil combinations, from almost pure sifted coal ashes to rich garden loam and manure, will be tried. Hundreds of potted strawberries are being grown with different combinations of chemicals, and Dr. Van Slyke will make many analyses in the hope of learning something about the effect of different fertilizers on the quality of berry.

In fact, there is an evident desire on the part of all connected with the station to serve the farmers of New York State. Prof. Jordan will try to make a feature of the bulletins. His ambition is to make them accurate, forcible and so clear and simple that farmers can readily understand them. Of course, if the station is to succeed, it must receive the hearty support and coöperation of the farmers of the State. An experiment station, must be, in one sense, a coöperative affair. It needs advice and suggestion from farmers, or otherwise the director cannot tell how he can best serve them. THE R. N.-Y. urges the farmers of New York State to make use of their experiment station. It is entering upon a new career of usefulness. It needs *you*—your questions, your suggestions and your influence if it is to accomplish the greatest amount of good. The Geneva Station is well worthy of support, and we shall follow its work with great interest.

H. W. C.

OATS AND PEAS FOR SUMMER ENSILAGE.

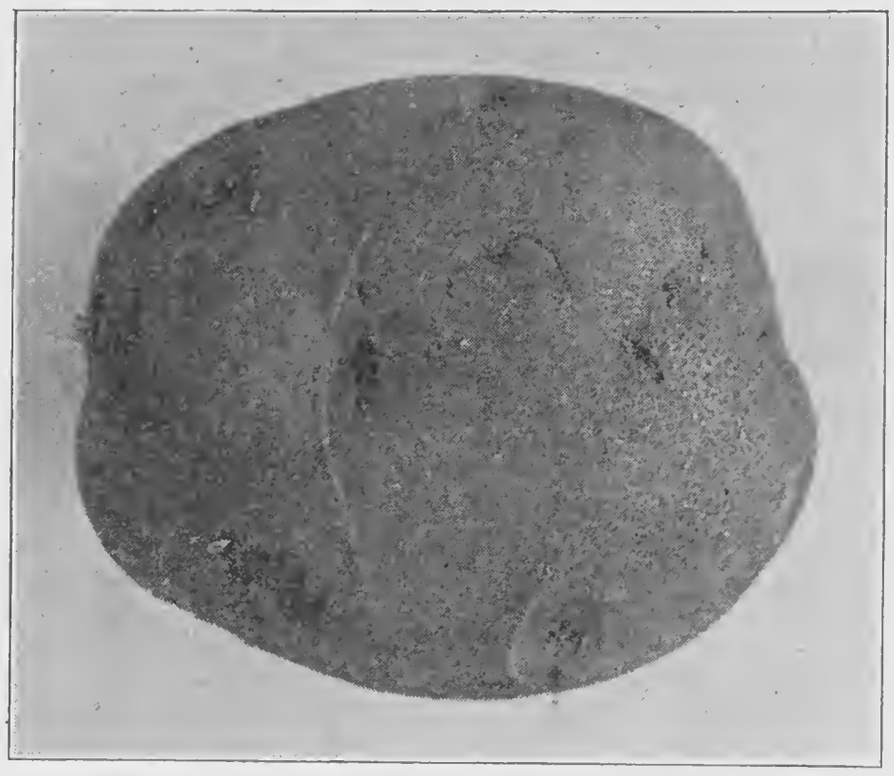
AN EXPERIMENT IN NEW ENGLAND.

I am asked by a R. N.-Y. reader in the State of Washington to give fuller particulars regarding our use of oats and peas for summer ensilage. Until a few years ago, little was heard of soiling except in a theoretical way, but the depletion of pasture fertility and the tendency towards snugger business methods among dairymen have greatly increased the practice of soiling.

We have hardly come to an understanding of a suitable rotation of soiling crops and the methods of handling them, before the summer silo offers itself as a rival to the soiling system. This new method obviates some of the objections to soiling. It is cheaper to handle a whole crop at once than in fragments every day in all weathers. The handling of the crop is concentrated and, therefore, cheapened. The ground is promptly cleared for the next crop. If spring-grown crops can be matured and harvested into the empty and idle corn silo in time to meet the midsummer drought, we are saving expense in several directions. Under our conditions here, I believe that this can be done. We may make some failures in learning how, but I think that enough can be saved as we go along to pay the traveling expenses of the experiment.

The oat and pea crop here is prepared for and sown in the same manner as oats are alone. About 1½ bushel of each per acre is sown. As far as the stage for cutting is concerned, I understand that there is but one right stage for cutting any crop for the silo, and that is at the point when growth from the soil is stopped and the seed begins hardening with the nutriment in stalk and leaves. Having fixed the point, we must average up all the possibilities, and harvest as near to the right time as possible. In oats and peas, I look for the time when the oats are going out of the milk, and the peas are pretty well podded, although the matter is more often decided by the lodging of the crop. When considerable of the crop goes down, the sooner it is cut the better.

Our silo is 15 feet square and 20 deep. In winter, we feed 22 or 23 cattle from the top of it, and in cool weather, this does well enough. But in summer, we feed some half dozen less, and with the hot weather, one-half the above surface would be plenty large enough. For a summer silo, I would say, therefore, get as much depth as possible, and not more than six or seven square feet per animal of top surface. If a silo is air-tight and frost-proof it will exclude warm air as well as cold, and the only point of attack and of resistance will be from the top.



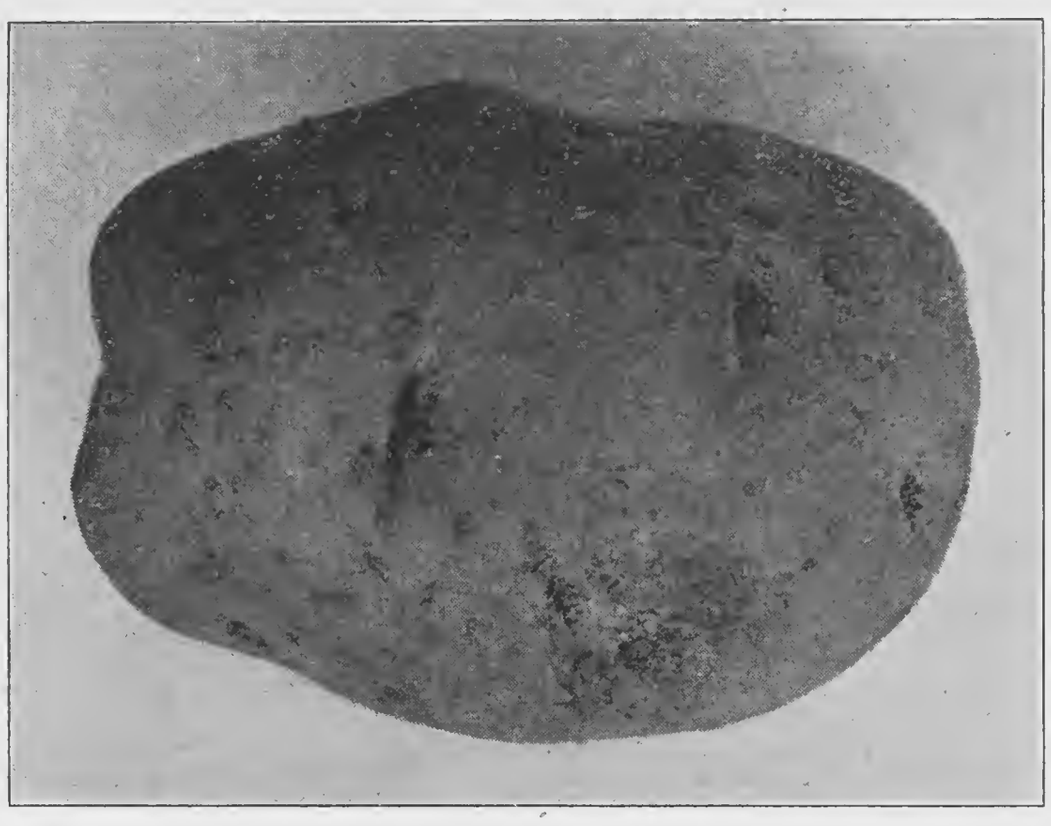
WORLD BEATER POTATO. FIG. 279.

We have put in oat and pea ensilage whole as it was cut in the field, and cut into 1½-inch lengths. In either case, the ensilage was as palatable as the best corn ensilage. We lost considerable on the outside from dry mold because we had not sufficient pressure to pack it tightly. If there is a preponderance of oats in the crop, it should go into the silo very wet, as the hollow straw carries so much air. If peas predominate, not so much exterior moisture is necessary. Generally speaking, the crop should be carted as fast as cut.

If we feed immediately while filling, in about a week, we are feeding ensilage although the changing process will go on for some time longer. We have put oats and peas into our empty corn silo four or five times, and while there is yet much to learn, I believe that the practice will, before many years, have as firm a hold as the corn silo. This year, our oats and peas turned out largely oats at cutting time, the peas, although coming up well, seemed to disappear. We were afraid that the crop was too strawy to trust in the silo and, therefore, cured what was not fed immediately, and put it in the hay mow. The drying process soon reduced the green feeding value, so that we were obliged to look elsewhere for succulent milk-making food, and the time occupied in curing the slow-drying peas was so long that we could not clear the land till July 17, thereby losing two valuable July weeks for the following crop. The oat and pea hay is good fodder now, of course, but mice have damaged it much in the mow.

E. C. BIRGE.

Connecticut.



KING OF THE EARLIES POTATO. FIG. 280.

NEXT SEASON'S CROP OF ARMY WORMS.

WILL IT BE A FAILURE?

Will the Army worms come again next year? This is the question uppermost in the minds of many farmers who suffered severely from the ravages of this insect the past summer. Of course, no one can answer the question definitely. Many of our insect foes come one year in very destructive numbers, but it often happens that the next season we see or hear very little about them. The prevalence of insect life may be likened to a pendulum that swings irregularly in response to some of Nature's other forces; in the case of insects, we count among these forces the parasitic and predaceous enemies among their own kind, and the variation in the supply of food especially suited to their development. Like many another of Nature's laws, man has, as yet, been unable to formulate these variations so that we can predict with any degree of certainty whether a certain insect will appear in injurious numbers at any time, even though it may have appeared in very destructive numbers only the year before. This is especially true of the Army worm. No one can predict when we will or will not have an Army-worm year. The record of the destructive appearance of Army worms in this country goes back to 1743, and since then, and since 1817, the insect has been injurious somewhere nearly every year. But (and here is an important historical fact) rarely has it ravaged the same locality during two years in succession. Thus, from the historical record of this pest, we might justly conclude that 1897 will not be an Army-worm year. I feel quite sure that we shall see or hear very little about Army worms next year in the localities where it was numerous this year.

Aside from the historical data just given, there are other reasons for this prophecy. At least three broods of the worms occurred in New York and adjoining States this year. In some localities in New Jersey, the first brood in May and June was the destructive one; in most localities in New York and the other States, the most destruction was wrought by the second or July brood of worms; but in some localities in New York, nothing was seen of the worms until September, when the third brood was quite injurious. I was much interested in the appearance of this September brood of worms in our State, for I had said in July (R. N.-Y. for July 25): "Judging from the many worms which we have seen, Nature will see to it that the next brood of worms which might naturally be expected later in the season, will not appear, for a majority of the larger worms bear on their backs the eggs of an enemy—a parasitic fly."

Fig. 281 well represents this little friend, to which many farmers owe the exemption of their fall crops from the attacks of a third brood of hungry Army worms; this little Tachina did valiant service in July in many sections of the country. Careful inquiry revealed the fact that, in every case, so far as I can learn, where the worms appeared in injurious numbers in September, they had not been injurious in the same locality at any time before during the year; so that my prophecy regarding the work of the little fly was not nullified by the appearance of another brood of worms in September in these few localities. The history of the insect further shows that, while the second (July) brood of worms is, usually, the most numerous and destructive one, it may be the first or third brood in some localities; but rarely, if ever, have there been two injurious broods of the worms in the same locality the same year. Therefore, the fact that the third brood of worms were practically unnoticed in many localities, shows that the little fly took care of most of the July or second brood; and as many of the worms we received in September (the third brood) also bore the telltale eggs of this little foe, I believe that the Army worm will be a scarce article of diet for the birds in 1897 in those localities where it was injurious this year. I think that farmers whose crops suffered this year need not lose any brain matter worrying

over the possibility of an Army-worm year in 1897; the history of the insect and the evident work of its little enemy this year support such a belief.

How the insect will pass the winter in New York State, I do not yet know. A few moths are now, November 5, emerging in our cages, having developed from worms of the third brood found in September. Whether these moths will hibernate or will lay eggs this fall, remains to be seen. If eggs are laid, probably the insect will hibernate in the half-grown, caterpillar condition, as it usually does. Should the worms appear in injurious numbers in any locality next year, I would be glad to hear about it.

M. V. SLINGERLAND.

NOTES FROM THE FLORISTS.

THE BUTTERCUP OXALIS is one of the best winter-blooming plants for window or greenhouse. It will give a profusion of yellow flowers for months, and is very easily managed.

ROSE, YELLOW RAMBLER.—We have, among the new roses, two "Yellow Ramblers" now on the market, Alister Stella Gray and Aglaia, the first named English, the second of German origin. Both are highly recommended; they have not yet had extensive trial in this country.

SWAINSONA GALEGIFOLIA ALBA is a very pretty leguminous plant, which has come into use largely within a few years. It has pure white, pea-shaped flowers, borne in long, graceful spikes, and abundantly produced. The flowers, when cut, are largely used in decorating, and the plant is also attractive for pot use. The florists usually grow it planted out in a bed, but unrestricted root-room in a rich soil tends to produce too much foliage, with a deficiency of flower.

SOUVENIR DU PRESIDENT CARNOT is a new rose, not yet introduced to commerce, which is exciting much interest in the flower trade. It was exhibited for the first time at one of the autumn shows. The color is soft pink, deeper at the center, bud long, with gracefully curving petals. It is a Hybrid Tea, originating with a French grower, who sold his entire stock to American dealers. It is expected to be of especial value as a cut flower. No less than four American growers have been carefully nursing plants of it, each one being under the impression that he had purchased the entire stock.

CYCLAMENS are now showing good bloom, and will be in fine condition for some months. These plants are grown in great quantity for the New York market, Christmas sales being especially large; in fact, the cyclamen is now regarded as the best winter blooming plant handled by the trade. Colors are selected carefully, washy magenta pinks and similar undecided tints being discarded, and the large-flowered type (Cyclamen persicum giganteum) is alone in demand. Some very deep crimsons are favorably received, also pure white and flesh pink. The character of the foliage also aids in determining the value of the plant, some possessing the silvery marking more strongly defined than others.

TOBACCO STEMS have been mentioned lately in THE R. N.-Y. as a valuable fertilizer. It is unlikely, however, that they may be purchased at the low rates mentioned, except in localities where there is no florists' demand for them. These stems are a staple article with dealers in florists' supplies, who charge from 75 cents to $1.25 per bale of 100 pounds, or from $15 to $20 per ton. Either burned in a fumigating pan, laid on the heating pipes, or scattered over the greenhouse benches, this form of tobacco waste is a valuable insecticide. It is also largely used in the manufacture of tobacco extract, now taking the place of the crude stems in greenhouse use. The extract is vaporized in the greenhouse, producing fumes strong enough to destroy insects, with less risk of plant injury than in the case of old-style fumigation.

SELLING WILD FERNS.—One of the local industries of the Berkshire hills in Massachusetts is fern gathering for the florist trade. Some of the hardy evergreen wood ferns are very plentiful in this district, and they are used in enormous quantities as a backing for funeral designs and baskets, or as an accompaniment for loose flowers. They are gathered in the autumn, and stored away in flat tiers in large barns built for the purpose. One Massachusetts dealer alone handles them by the million, shipping all over the country, the heaviest trade being during the winter. Another large source of supply is Wisconsin. Last year, an unusually early snowfall prevented the gathering in Wisconsin, and high prices resulted, until the eastern crop was reinforced by stock from the South. The usual wholesale price is from 75 cents to $1.25 a thousand, but this has been doubled in times of scarcity.

E. T. R.

CASH, CREDIT AND DEBTS.

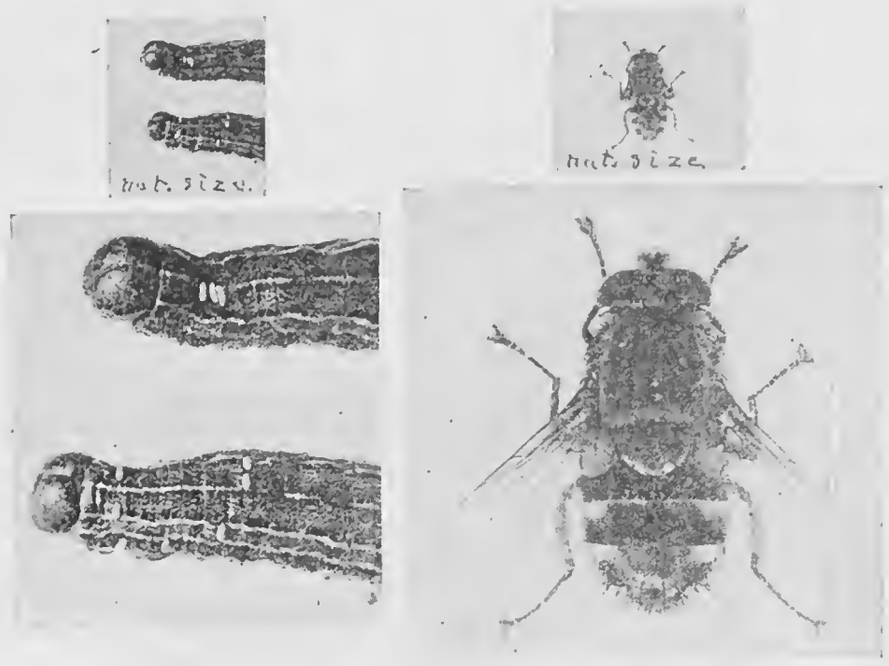
It is a curious fact that in times of great depression, when prices run low and money is difficult to obtain, hundreds of men quickly give up the struggle, and let their debts "go to grass," without the least hesitation or concern. They tell their creditors they will pay up when they get the money to do it with, yet at the same time they do not worry about the matter, put forth any extra efforts, or economize in any particular. I was in a grocery store a few days ago, when a farmer came in and ordered, "50 cents' worth of brown sugar, 50 cents' worth of coffee, a quarter's worth of tea, a package of soda, and 25 cents' worth of soap." After putting them up, the groceryman said: "I'd like to have a little money, X., I'm running pretty close and need it badly." "Haint got a cent, now," replied the farmer airily, "and I can't afford to sell corn at 14 cents. You'll have to wait till prices get a little better!" "But," urged the groceryman, "there will be a man here this afternoon with a lot of bills, and I'll have to pay them or go to the wall. Can't you let me have part—say, $25, right now?" "Couldn't do it to save my soul! Haven't a cent for you. Tell the man he'll have to wait like the rest of us!" He went out with his parcels, got into his wagon and drove off, apparently as happy as a lark.

"His account," said the groceryman to me, "is considerably over $100. It has been climbing up about eight months. What's a fellow to do with such men?" "Lay on your profit, Macduff!" I replied. "Oh, I haven't forgotten *that*; but I want some money, *now!*"

"WE are ordering a lot of groceries from the city," said I to a neighbor, who seems to have a hard struggle to get along in the world, "Wouldn't you like to join us? We buy these things in full packages, and get them at about the same price the grocers here pay for them. If you desire to put in a small order with us, you can do so, and your freight bill will not be over 10 cents." I then showed him the price list. "Well, well," said he, as he read the items, "a person can get these goods for about a third less than they cost at the stores here. My wife was saying last night that we are needing several of these things, and I would like to give you an order if I had the money by me. I suppose they won't give any time on these goods, will they? Well, I'm short just now. Let me know when you order again, and if I have the money by me, I'll get in with you."

We "let him know" four times, and each time he was a little short of cash, but hoped he'd be able to join us the next time. His account at the store in town is steadily growing larger, while his ability to pay it is as steadily diminishing.

FRED GRUNDY.



ENEMIES OF THE ARMY WORM. FIG. 281.

AMOUNT OF WHEAT TO SOW PER ACRE.

When THE R. N.-Y. sent out its trial specimens of the wheat and rye hybrids a few years since, I began a series of experiments in thin seeding which I have continued up to the present whenever I had any wheat to sow. At that time, I received six small packets of as many different varieties of wheat, each packet containing about a teaspoonful, or about two ounces in all. This I pricked in, a kernel in a place, about eight inches apart each way, leaving a space of two feet between the different varieties. Planted in this way, it occupied about seven square rods of ground. It was not cultivated or treated any different from the ordinary wheat crop in any respect, except the sowing. The sparrows and yellow birds destroyed fully one-third of the crop, and I harvested 45¼ pounds of cleaned wheat. The birds and I together got, at least, a bushel from two ounces of seed planted on seven rods of ground. An acre at the same rate would have required three pounds of seed, and would have yielded 23 bushels.

That fall, I sowed of the same varieties of wheat one-half bushel on 1½ acre. It was put in with a Planet Jr. hand drill, in drills 10 inches apart, and distributed very unevenly, for the drill would not do its work well, often leaving a dozen kernels in a place, or skipping a foot or two without leaving any. That wheat yielded 24 bushels per acre, which was a larger yield than any one else in the vicinity had that year.

In 1894, I sowed five pounds of Rural No. 6 wheat on one-fourth of an acre broadcast. The ground was very dry when it was sown in the fall, and the terrible drought of 1895 followed, ruining most of the wheat in this vicinity, yet I got three bushels, or at the rate of 12 bushels per acre. I didn't hear of any one getting over 10 bushels per acre in this vicinity that year.

In the fall of 1895, I sowed 2½ acres with Rural No. 6 wheat, broadcast at the rate of one bushel per acre, and three-quarters of an acre with Rudy wheat at the same rate drilled in with an ordinary drill. From the 2½ acres, I got 56 bushels of wheat, and from the three-quarter acre I got 20 bushels. It was a bad year for wheat; the hot spring, Hessian fly and rust damaged the wheat half or more, and spoiled some fields entirely. I have not heard of any one else in the neighborhood who got more than two-thirds as much per acre as I did, or who sowed as little seed. The rule here is to sow from 1¼ to 2 bushels per acre.

In the light of these experiments, if I could sow wheat as I would like to do, and be sure that every kernel would grow, I would not sow to exceed a peck to the acre. I should sow it a single kernel in a place, and at distances of four to eight inches apart each way, varying somewhat with the variety of the wheat. This will require from two to ten pounds of seed per acre, depending on how near it is planted and the size of the kernels. As at present sown, the greater part of the seed is wasted. Some of it is damaged in thrashing so it will not grow, and some of it is dropped so close together that each kernel has no chance to stool out or produce more than a single head. There is no greater mechanical difficulty in making a machine that will plant one kernel of wheat in a place and at any required distance, than there is in making one to plant corn. If we could get just as good crops from one-tenth the seed, we could afford to thrash our seed wheat with a flail, if necessary, to avoid cracking and spoiling so much of it as the machine now does.

F. HODGMAN.

Kalamazoo County, Mich.

WHAT THEY SAY.

A FARM RECORD.—Herewith I send a copy of a page from my "Farm Record"; a sort of diary and time book combined, by the use of which I am enabled to keep close account of all work, when, where and by whom done. By it, I have the time of each person employed, where employed, and upon what work, thus making it very easy to settle any dispute which might arise when paying off. It is, also, of much value in getting at the cost of producing a crop, or of doing a piece of work, as by referring back to the last year's work, the desired facts may be found. In the same way, it is often useful in letting out jobs, planning new work, etc.

FARM RECORD JUNE 15, 1895.

		F. G. T.	E. LaF.	Team.	Schat.	G. S.	R. S.	L. LaF.
Mon. 17..	Warm and dry. Picked berries, 33 crates (8 on No. 2)	..	..	..	..	..	..	..
Tues. 18.	Warm and dry. Hoed strawberries on hill	5	10	.	10	..	..	10
Wed. 19..	Warm and dry. Picked berries, 35 crates (7 on No. 2)	..	..	..	..	..	..	..
	Applied 200 pounds. Comp. Veg on melons and hoed same	..	..	..	10	..	..	..
Thurs. 20	Warm and dry. Hoed tomatoes	2	2	..	2	..	..	2
	Thinned potatoes, large field	1			3	..	..	3
	Gang plowed and harrowed cabbage field No. 3	..	6	6	..	..	..	..
	Finished hoeing melons	..	..	..	5	..	..	5
Friday 21	Heavy rain, night. Setting cabbage on No. 3 (L)	5	7	..	7	..	7	7
Sat. 22...	Warm. Finished setting cabbage on No. 3 (9,000)	..	..	..	2	1	..	..
	Sprayed potatoes (1 lb. Paris-green to 50 gallons water with lime)	..	..		5	..	..	..
	Delivering berries, hauling crates, etc.	..	..	..	3	..	..	..
	Picked berries, 34 crates (6 on No. 2)	..	..	..	..	..	..	..
		13	25	6	47	1	7	27

Now, a few words explanatory regarding the method of keeping this book: Each evening, when done work, I jot down the labor of the day, giving a line to each thing done, then put the time taken by each person (and horse or team) to perform the work in the columns below their respective names or initials; at the end of the week, the columns are footed, which gives the time of each person. I feel sure that any

one trying this method will be well satisfied with the results obtained. F. G. TICE.

Oswego County, N. Y.

APPLES ON DWARF STOCK.—At Fig. 282, is an engraving of a photograph of a Paradise dwarf apple tree planted in the fall of 1894. The photograph was taken July 6, 1896. The variety is Yellow Transparent. The height of the tree is 5 feet 8 inches, the stem at the bottom is two inches in diameter. There were 27 apples on the tree, which were pretty sour. We have four of these trees; every one bore and is loaded with buds for next season. We think that dwarf apples are a success, and shall plant more next spring.

Wisconsin. JOHN GRAPE.

A FLORIDA FAMILY AFFAIR.—The picture on our first page shows a scene often witnessed on some of the small Florida orange groves before the great freeze. Here we have the whole family at work. The younger man is sorting oranges. His sorter is like the potato sorters we have often described. It is an inclined plane made of wooden grates with the slats arranged so as to give large and small spaces. As the oranges roll down the different sizes fall through the different holes and are thus sorted or sized. The man throws the poor fruit aside as he picks them over. The young woman is wrapping and packing the fruit, while the old gentleman nails up the boxes. The freeze destroyed the prospects of many Florida people who had started with strong hope and courage to mend their fortunes and health in that sunny land. Now the trees are growing again, and within a few years the Florida orange will again reach the market. Probably, however, the new industry will mean larger operations, and it is not very likely that such scenes as we have pictured will be numerous in the future.

SOME WIFE MILKING MACHINES.—I have just returned from a visit, and while gone from home, I saw and heard some very interesting things. One thing was where a man came into the house and remarked to his wife, "Well, I've turned your cow in." "Oh, dear!" was her answer, "I've just put the biscuits in the oven." She reflected a moment, then told him to watch the fire, and take the biscuits out when they were done; she then took her milk pail and started for the milk shed. The man crammed the stove full of wood, sauntered into the parlor, and chatted with the young lady boarder, entirely forgetting that there was anything in the oven, and when the milkmaid came in, she found her biscuits nicely burned. I wondered why he could not have done the milking, and let her bake her own bread, but I found that "he couldn't." "Couldn't," indeed! Great strong man that he was. I thought *wouldn't* was the proper word. Another man who "couldn't" milk accompanied his wife to the cowyard, and stood leaning against the gate with his hands in his pockets, while she did the milking. She has rheumatism in her hands, too, and I wondered how it was that any man who pretended to love his wife could find it in his heart to put off a hard task like that on her, while he selfishly took his ease. N. J.

Oregon.

The Farmers' Club.

[Every query must be accompanied by the name and address of the writer to insure attention. Before asking a question please see whether it is not answered in our advertising columns. Ask only a few questions at one time. Put questions on a separate piece of paper.]

Houses for Forcing Lettuce.

R. C. S., Riverside, Pa.—I intend building two greenhouses for growing lettuce, carnations and tomatoes; the idea is to grow two crops of lettuce and then grow tomatoes, so as to have them, at least, one month before they come outside. The houses will be 108 feet long. What width should they be, and should I join them? We read of the lettuce houses near Boston. Could you give us an outline of one? I am growing lettuce and a few carnations on a small scale, have been at the business for four years, and have met with reasonable success. I have more trouble with lettuce this fall than at any time previous; it is very much spotted on the bed. About one-half of the plants are good, and the others become spotted on the under leaves, and these spots finally develop into a rot or mildew.

ANS.—Narrow lean-to or even span lettuce houses are still in use, but newer erections are, usually, of greater width. The large lettuce house near Boston, to which R. C. S. refers, is 50x400 feet; another large erection is 33x370 feet, three-quarter span; height at ridge, 15 feet; south wall, 3½ feet; north wall, 12 feet.

R. C. S. speaks of building two houses for lettuce, carnations and tomatoes. We infer that he means one house for lettuce and tomatoes, and one for carnations. The carnations would occupy the space from October to June, but from February on, he could grow tomatoes with them, as there would be sun enough to render the slight shading by the tomatoes harmless. This combination is often seen in the "carnation belt" of Chester County, Pa. The usual style is a three-quarter span house about 20 feet wide, though there is one big carnation house at or near Kennett Square, Pa., 50 feet wide. A visit to that neighborhood would suggest many ideas of value to R. C. S. We do not recommend joining the two houses. The long slope (if three-quarter span) will be to the south, and the lettuce house should have glass doors in the wall at that side, in addition to the ventilators at the ridge, that there may be a free circulation of air over the beds when needed. The carnation house, if joined to this, would be shaded by it, and we can't afford to shade carnations, any more than roses, during the dark days of winter.

The lettuce trouble is, evidently, mildew, usually the result of a too high temperature and a damp, stagnant atmosphere; it is especially likely to appear during dull weather. The temperature should be kept at 35 to 40 degrees during the night, rising to 60 or 70 degrees in the day, with sun heat. See that there is free ventilation whenever the weather permits. Do not allow water to lie on the leaves or bench. A system of sub-irrigation, either with tiles laid in the bed, or flower pots, sunken to the rim, is resorted to as a preventive of mildew. Sulphur fumigation is recommended as a cure, but it must be handled carefully, or injury to the lettuce results. The use of unchanged soil in the same beds, season after season, is regarded as a prolific source of mildew.

The Best Soil for Onions.

S., Vermont.—On which soil can I grow onions the cheapest per bushel, and on which will the quality be the best—a heavy soil with a stony clay subsoil 12 to 18 inches below the surface, or a light, sandy soil?

ANS.—It has been my experience that the largest crops could be grown on moist, heavy soil, but that the onions raised on light soil would be harder, of better quality and keep better. Tops grow ranker and more luxuriant on heavy ground, thus crowding out weeds in the latter part of the season, so that the cheapest bushel could, probably, be grown on such

A SOUR APPLE ON PARADISE STOCK. FIG. 282.

soil. Contrary to the general rule regarding rotation of crops, the onion does better by continual cropping on the same ground with an occasional rest, taking care that smut does not get in, seeding down or changing the crop at its first appearance. S. does not state the color he desires to raise; if white, sandy light soil should have the preference, as they are harder and clean up much whiter, which is a necessary feature in securing the first price. Yellow onions seem to do better on new ground than the other colors, giving a smaller percentage of straight ones, while the red give us the best yields. JOSEPH ADAMS.

Connecticut.

The Annual Growth of Roots.

A. H. R., Denver, Col.—Here in Colorado our blackberry and raspberry canes must be protected in winter from the drying winds and constant changes from freezing and thawing. This is done by carefully bending over and laying down the canes as closely as possible, and then plowing and shoveling on to them all the earth from between the rows to a depth of eight or ten inches, leaving the field in successive ridges from 18 to 24 inches high. In this process there is a great destruction of small roots, especially in raspberries. The entire space between the rows is always filled with the fibrous roots, which are torn out in great numbers with every shovelful of earth removed. In the early spring, these ridges are leveled down, the canes raised and the ground restored to its natural level, and the canes, seemingly none the worse for this barbarous destruction of their roots, go on producing leaves and fruit in rich abundance. Yet when, in the following fall, the covering is repeated, the earth between the rows is found to be filled as before with millions of these small roots. Must it be concluded that the canes renew those destroyed roots early in the season with which to produce their crop of berries, or is it supposed that the roots remaining undisturbed are sufficient? To what extent, if any, do trees and plants re-grow their fibrous roots each season, as they do their leaves?

ANS.—Of course the roots of the fruiting canes of blackberries, raspberries, etc., die every fall, since they have no longer anything to support them. The roots of the canes which grow the current season to fruit next are those, therefore, which support the plant, though the old roots may yet have a part possession of the soil, not as yet having rotted. The roots of all trees are constantly growing during the growing season, the true feeders being of but annual duration. The season that this annual growth ceases, the plant perishes. It is now thought that in transplanting trees, it is not necessary to preserve the fibrous roots. It is the roots of several years of age that need to be preserved in transplanting, since it is from these that the fibrous roots grow, and from these again that the root hairs grow from near their tips, which supply food to the plant. These are of annual production, the same as the leaves.

Club Root and Cabbage Seed.

W. G., Wayne, Mich.—Last spring, I sowed four rows of cabbage seed for transplanting. Afterwards, I received some Government seeds including Flat Dutch cabbage seed, which I sowed in a row next to that already sowed. It all grew well, but at transplanting time, all the plants of the Government seed had club root, while the other plants were entirely free, clearly showing, to my mind, at least, that club root goes with the seed. I have never been troubled with club root on cabbage on this land.

ANS.—There is scarcely one chance in a million that the fungus-like organism which causes the club root of cabbage could have been introduced on the seeds sown by W. G. The spores or seeds of the disease will remain alive in the soil year after year, and will even retain their vitality after having passed through the digestive system of cattle; thus manure from stock fed on infested cabbage may infect cabbage plants around which it is used. Another important consideration is the fact that the disease thrives on the roots of several mustard-like weeds, and is, doubtless, often perpetuated in a garden in this way. While the facts, as presented by W. G., indicate that the disease was introduced with the seeds, yet it is scarcely probable that is the true explanation. The facts in regard to the nature of the disease render it highly improbable, and, in fact, almost impossible, that it might be transmitted on or in the seed in any way. M. V. SLINGERLAND.

Healing Wounds on Pruned Trees.

G. E. H., Sussex County, N. J.—I have found it necessary to cut quite a number of branches from my apple trees, so as to cultivate under them. They are about 12 years old, and some branches have a diameter of two inches. Will you ask the advice of horticulturists and fruit growers, through THE R. N.-Y., as to which is the best to apply to the wounds, grafting wax or white lead in oil; or is there something better than either? I wish to do them up right, but am in doubt as to the best way.

I like grafting wax for application to any branches cut off, using: Four parts of resin to one part of beeswax and one part of mutton tallow. This formula will require warming to apply, but will not be inclined to melt and run in hot weather provided well worked or pulled before being used. I prefer mutton tallow to beef tallow, as it is inclined to be harder. S. D. WILLARD.

New York.

For healing such tree wounds there is nothing better than good grafting wax applied as soon as the limb is removed. Spread the wax on smoothly, pressing it hard so as to make it adhere firmly, and look at it occasionally to see that it does not peel up, in which case press it back into position. Another very good material is gum shellac, such as painters use for covering knots before applying the paint; this, applied with a brush, covers the wound very nicely, and adheres firmly. It should be gone over again next season. On so young trees the wounds would begin to heal the first year, and in two or three years would nearly cover the wood. I would say, keep white lead paint off the wounds. EDWIN HOYT.

Connecticut.

I should prefer to apply to the wounds a grafting wax formed by melting together 1½ part beef tallow, two parts beeswax and four parts of resin. I would apply as soon as the branches are cut off and be careful to press it closely to the surface of the wood. I think this will be better than a paint of white lead and oil, since the latter does not prevent the cracking of the wood. My experience with grafting wax is, that when carefully applied, it remains on the tree three or four years, which is longer than white lead paint is serviceable. E. S. GOFF.

Wisconsin Experiment Station.

What About the Longfield Apple?

J. W., Oakwood, Ill.—Four years ago, I started a young orchard of 200 trees. I bought my stock of a leading Ohio nurseryman, who, at that time, recommended the Longfield apple very highly, but in his last annual catalogue, he has dropped it from his list. I set 20 trees of that variety, and I find that about the middle of the summer, from one-fourth to one-half of the leaves blight and dry up, hanging on the tree all winter. Last spring, some of my trees set fruit which grew nicely, and was free from insects until in July, when the leaves blighted and the fruit rotted, hanging on the tree after they were all wilted and rotten. The location is high timber land. The trees continue to grow and look well otherwise. Is it the nature of that variety, or is it from some other cause? If it is the nature of the variety, and the nurseryman deceived me, I want to dig them up and reset with a better variety. Will you tell us something about the Gano apple?

ANS.—The Longfield apple is one of the Russian varieties, and is thought to be valuable for the extreme North, because of the hardiness of the tree. The fruit is small to medium, of a yellowish-green

color, sometimes blushed on the sunny side, and of tolerable quality. In the extreme North, it is an early winter variety, but in the main apple-growing sections, it ripens in the fall. In Vermilion County, Ill., I would think it out of place. The bad habit of Longfield, in being very subject to blight, is a serious objection to it, and J. W. is not alone in finding this fault. It is not likely that the Ohio nurseryman had any wrong intent when he propagated and sold the Longfield, because he was, doubtless, led to believe it a valuable variety for the section covered by his trade; but, like many others, he has learned his mistake, and dropped it. It would be well for J. W. to top-graft his Longfield trees to York Imperial or some other standard winter variety. Or, he may dig up and replant with somcthing better. It is well to try to save the growth by regrafting.

The Gano apple is much like Ben Davis in season, quality and productiveness, but it is a little smaller and more highly colored. It is a close rival to the Ben Davis, and is being extensively planted by such progressive market apple growers as Wellhouse of Kansas, and Evans, Goodman & Co. of the Olden Fruit Farm in Missouri. H. E. VAN DEMAN.

The Growth of Apple Trees.

J. R., Derby, Winnipeg.—A nurseryman offers me apple trees that he says were taken up last spring and replanted, and cut back to the ground. They have made a growth of three to four feet this season. It seems to me that the second digging up of these trees (of course all the new roots will be cut off by the tree digger), will put them back so that they will never make strong and long-lived trees. What is your opinion?

ANS.—We do not believe that apple trees, or any other trees, transplanted last spring, will make a growth of three or four feet the first season after transplanting. We should like to know the age of the tree when transplanted.

Three "Balanced Rations"; Short of Roughage.

H. B. W., Smithboro, N. Y.—Will you kindly give us a ration for our dairy of winter cows? The largest possible flow of milk is desired, but we want to keep the cows in exeellent condition and bear in mind the value of the manure. Our roughage is mixed hay and corn fodder. The ears have not been removed, but the hail damaged our corn so badly that there are very few ears. We are short of roughage and wish to feed as much grain as possible. Please give us two rations, one of hay and grain, and one of corn fodder and grain. Our present prices for grain are as follows: Bran, $10.75; middlings, $2.25; Buffalo gluten, $11.50; oil meal, $18.75; corn meal, $13.75; cotton-seed meal, $20; buckwheat middlings, $11.50. I wish to feed only twice a day and want to mix the grain and fodder together. The cows have a warm stable and good care. How would it do to mix fine salt in when the grain ration is being mixed ready for use, and how much? Our bin holds about three tons, and we usually do our mixing on rainy days. We use our horse manure to bed cows, and thus mix it in with the cow manure, and draw out nearly every day. What would you think about mixing the hen manure in, scattering it in the trench behind the cows? We use plaster freely.

ANSWERED BY L. A. CLINTON.

If you have corn fodder well cured and good mixed hay, you will secure better results to feed some of each than to use either one exclusively in feeding. Cows will do better on a variety of foods than upon one alone. If you have a fodder cutter, cut the corn up in pieces from one to two inches in length, and mix your grain with it. If the corn fodder be moistened slightly at time of mixing, it will render it more palatable. Do not mix salt in with the grain to feed at each ration, but about twice each week give your animals all the salt they care for. The plan of mixing the horse and cow manure is a most excellent one, and gives good results. The mixing of the hen manure in the trench behind the cows would not be a good plan. Better take it directly to the field and spread where it is needed. The use of plaster around stables is a good practice. Two rations are suggested, either of which may be used when the larger part of the coarse food is corn fodder. One ration is given to be used with mixed hay:

RATION NO. 1—CORN FODDER.

	Digestible nutrients.		
	Protein.	Carbohydrates.	Fat.
15 lbs. corn fodder	.45	6.00	.139
10 lbs mixed hay	.355	4.30	.098
5 lbs. wheat bran	.586	2.233	.129
2 lbs. oil meal	.580	.661	.090
2 lbs. cotton-seed meal	.715	.445	.233
Totals	2.686	13.639	.689

Nutritive ratio, 5:7.

RATION NO. 2—CORN FODDER.

	Digestible nutrients.		
	Protein.	Carbohydrates.	Fat.
15 lbs. corn fodder	.45	6.00	.139
5 lbs. mixed hay	.177	2.15	.049
4 lbs. gluten meal	.932	2.036	.154
4 lbs. corn meal	.290	2.536	.131
2 pounds cotton-seed meal	.715	.445	.233
Totals	2.564	13.167	.706

Nutritive ratio, 5:8.

MIXED HAY RATION.

	Digestible nutrients.		
	Protein.	Carbohydrates.	Fat.
15 lbs. mixed hay	.531	6.45	.147
10 lbs corn fodder	.30	4.00	.092
4 lbs. wheat bran	.448	1.786	.103
2 lbs. oil meal	.580	.661	.090
3 lbs. buckwheat middlings	.708	.879	.156
1 pound cotton-seed meal	.357	.222	.116
Totals	2.924	13.998	.704

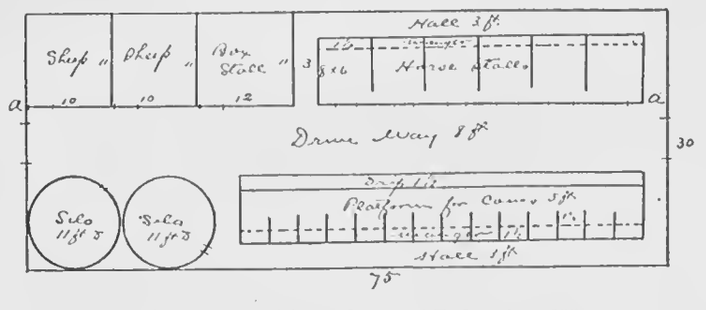
Nutritive ratio, 5:3.

If it is desired to mix the grain in large quantities, combine it in the proportion given above, and then for a daily ration feed the proceeds of the mixture, in two feeds of five pounds each.

Using Clay on Light Soils.

C. T., British Columbia.—Will you kindly let me know if "Primer Science", as published some time ago in your paper, can be had in book or pamphlet form? If not, are you likely to republish these articles? What do you think of land having the following analysis: Silica, 26.75; alumina, 56.60; phosphates, 6.61. This analysis came out in court over a damage suit, a railroad company claiming damages against land owners for irrigating their land, causing it to slide. The chemist said that this material would absorb 53.6 of water. Would it pay to put this clay on black loam soil, having to pay $5 per ton freight? The black soil in question dries out greatly during growing season.

ANS.—The "Primer Science" articles have not been published in book form. We expect to cover the same ground in a new series of articles in 1897. We cannot tell much about the value of this soil by such an analysis. We assume that you want to use the clay on the black soil so as to make the latter hold water better, as well as to fertilize it. Only clays that possess properties which cause the lumps to break up readily would be useful for mixing with the black soil. This clay might absorb a large amount of water in its present place and yet be of little service when spread thinly over another field. In England, very high-priced light soils are sometimes covered with clay, but in such cases the clay is dug from the subsoil or taken from nearby fields. Even in England we doubt whether farmers would pay $5 per ton freight, besides the cost of digging, hauling and spreading. For these reasons we do not believe it will pay you to try to use this clay.



PLAN FOR BASEMENT BARN. FIG. 283.

Estimating Weight of Ensilage.

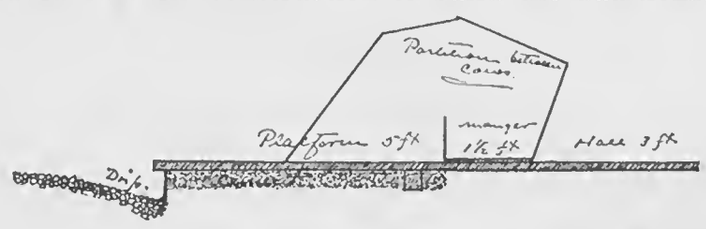
W. A. B., Farmer, N. Y.—How am I to estimate the contents of my silo? Since filling, it has settled about five feet. Am I to estimate according to the height when filled, or after it has settled?

ANS.—We would estimate the height of the ensilage after it has fully settled, and allow 40 pounds to the cubic foot.

A Plan for a Basement Barn.

E. W. Jr., Pearline, Mich.—I am getting ready to build a basement under my barn; it is to be 70x30 feet—the barn is now 30x40, and has a floor or driveway across it that is 13 feet wide (of course 30 feet long), and will put on the extra 30 feet in the spring, after the wall is laid. I expect to put a driveway also through this, the same as in the old part. I wish to know how best to divide up the basement so as to hold five or six horses, a few sheep (eight or ten), and the rest to be used by cattle for fattening purposes; my aim is to have fat cattle every spring to turn off and to use the manure on my fruit. As I wish to haul most of the manure out as fast as made on fruit, etc., the basement ought to be made so that I can drive in with my wagon and drive out loaded. How would you stand the cattle—head to head or headed towards the walls on each side, and leave passage in middle for wagon? I want also to put in a silo large enough to feed all the cattle I can get in the barn. Where would it be best to place it? Where could I put a box stall?

ANS.—The common mistake made by many farmers in building basements is in making them too low, and in putting them entirely beneath the ground. Have your basement wall high enough so that you can secure good light and ventilation. If your old barn is low, raise it before building your basement. Make your addition to the barn 35 instead of 30 feet, making the size of your basement 30x75 feet. This will enable the construction of two circular silos 11 feet each in diameter. These two circular tub silos can be put up cheaper than a rectangular silo, the ensilage will keep better in them and enough will be saved in their construction to build the additional



COW STALLS WITH WOODEN PARTITION. FIG. 284.

five feet to the barn. These silos may be made so that one shall open into the other, and in this way facilitate the getting of the ensilage to the hall in front of cows. (For details in the construction of the tub silo see THE R. N.-Y. of September 5, page 593). The plan, see Fig. 283, provides for 15 cows. These face toward the wall, leaving a driveway the entire length of the basement. Stalls are provided for six horses, a box stall 11x12 feet, and two sheep pens 10x11 feet each. The horse and sheep part of the basement should be shut off entirely from the cows' apartment. Make the partition, *a a*, solid, and run to the ceiling. It is never a good plan to keep horses in the same room with cattle.

Cement floors may be laid in the halls and driveway, but stock should stand on a plank floor. The addition of tar will not benefit the cement. The cross section showing construction of cows' stable, Fig. 284, is a simple and efficient method, and can be put in by any carpenter. L. A. CLINTON.

Tin in New Orleans Molasses.

J. W. J., Allen, Md.—I have seen it in print that 95 per cent of all the molasses on the market contains either the oxide or sulphate of zinc in injurious quantities. Said to be used to clarify the molasses.

ANS.—It is a very common custom in this country to bleach centrifugal molasses made in Louisiana by means of chloride of tin. I do not know that zinc salts are used in very large quantities for this purpose. I imagine that your correspondent has read an article in which zinc has been substituted for tin. The sugar in the centrifugal is also very generally washed with a solution of chloride of tin, and the tin thus enters the molasses directly. I think it is quite true that nearly all Louisiana molasses contains tin, but in very small quantities. I do not think it is true, however, that the molasses of commerce generally, or even to a large extent contains zinc.

Chemist U. S. Dept. of Agriculture. H. W. WILEY.

"Stone" and "Air-slaked" Lime.

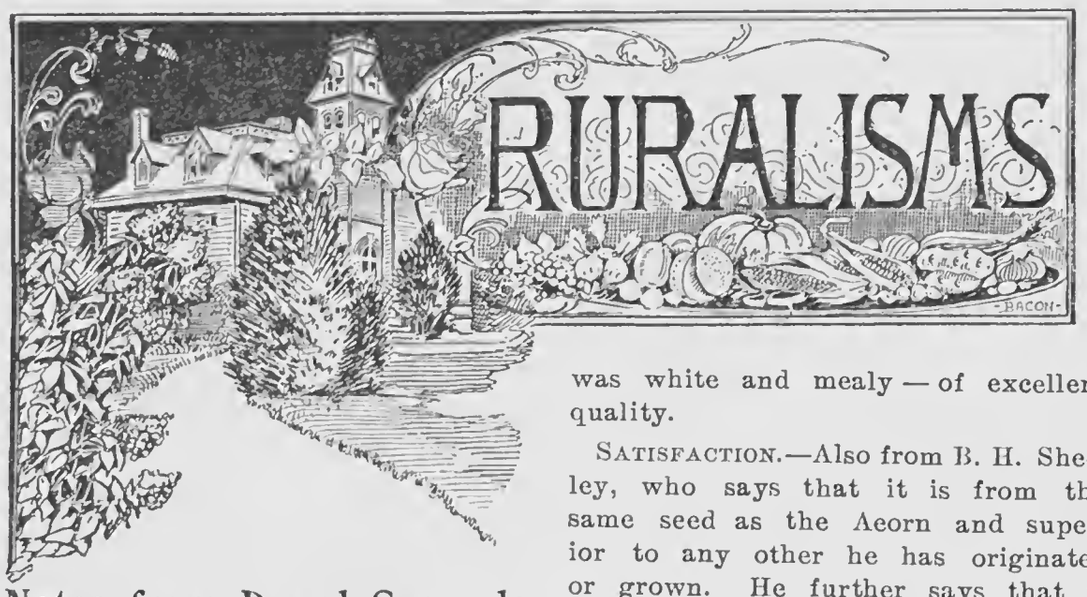
C. D. L., North Raynham, Mass.—Prof. Roberts recommends, on page 751, for application to "sour" land, 20 to 40 bushels of stone lime, and "be sure that it is not air-slaked," while Prof. Phelps would apply only 500 or 600 pounds of air-slaked lime. Can it be that the time of application, the air-slaked lime to be applied in the fall and the stone lime in the spring, accounts for the difference? What is the relative value of stone or unslaked lime and air-slaked lime for fertilizing purposes?

ANS.—The application of from 20 to 40 bushels of caustic or stone lime would not only correct acidity, but be beneficial in many other ways, while 500 to 600 pounds of air-slaked lime would most likely correct sourness, but would have little effect in improving the physical condition of the soil, or in preventing it from becoming sour in the near future. If 500 to 600 pounds of air-slaked or mild lime suffices to correct acidity, a less amount of caustic lime would accomplish the same purposes. Carbonate of lime (CaC_3) when subjected for a considerable time to a high temperature, loses carbonic acid and becomes lime or stone lime (CaO) and is sold in central New York at 75 pounds, air-slaked lime at 50 pounds per bushel. The latter is frequently sold at one-half the regular rates, and is expensive at the reduced price. A ton of lime stone, when burned, weighs between 1,100 and 1,200 pounds. If left exposed to the air for some time, it takes up moisture and carbonic acid from the atmosphere, and the fresh-burned lime increases in weight. A ton of air-slaked or mild lime contains about three-fourths as much lime as does a ton of fresh lime. I. P. ROBERTS.

What Can Be Done with Wire Worms?

A. G., Weedville, Pa.—I have a piece of land, part of it sandy and part clay upland, which is infested with a small, brownish worm, called here Wire worm. When planting to potatoes, this worm bores them full of small holes, almost destroying them. As I wish to plant the piece to potatoes next season, how can I get rid of them? I had it in corn this year, manured last spring.

ANS.—Wherever Wire worms occur so numerously as seriously to injure crops, they are among the most difficult of all our insect foes to control. They live in the soil several years as Wire worms, finally changing to what almost every school boy knows as "snapping bugs" or "click beetles." Extensive experiments for three years here at the Cornell Insectary, revealed the fact that none of the old, oft-repeated, supposed remedies, as salt, summer fallow, buckwheat, coating of the seed in different preparations, etc., was effective. And no method that we could devise reached the insect in the Wire-worm stage. We know of no application that can be made on or in soil that will kill the worms without at the same time destroying all vegetation and rendering the land unfit for use for some time afterward. Thus A. G. cannot hope to rid his soil of the pest before planting another crop. Our observations on the life histories of Wire worms revealed one quite vulnerable point. We found that the change to a snapping beetle took place in July and August, in little earthen cells a few inches beneath the surface; but the beetles did not emerge from these cells until the following spring. The pupæ and newly-formed beetles were very tender, and soon died if their little cells were crushed in any way. These facts led us to recommend that farmers plow and thoroughly pulverize the infested soil in the fall thus breaking up these cells and destroying the tender pupæ and beetles. Farmers who practice a short rotation of crops, keeping the soil well stirred in the fall, claim that they are not troubled with these pests. I thus believe that A. G.'s only hope in ridding his soil of Wire worms, lies in a system of short rotation of crops practiced for a series of years; he cannot hope to rid the soil of the worms in one season's work. Keep the soil stirred, as they do not enjoy being disturbed constantly. M. V. SLINGERLAND.



Notes from Rural Grounds.

POTATO TRIALS FOR 1896.

The past season was an exceptionally favorable one for the growth and maturity of potatoes. There was no check by drought, no rot by too much rain. As has been already stated, we used flowers of sulphur in the hope of getting more positive evidence as to whether it does or does not prevent rot. As there was no rot in any of the plots, we are no nearer the solution of the question than we have been, a question we have tried to solve for 10 years. For the benefit of our later subscribers—we have told the story many times—our method of cultivation is known as that of the Rural Trench System. In the garden the trenches are dug a foot wide and about six inches deep. A portion of the soil (two inches perhaps) is raked back; the pieces, having from two to three eyes or more, are placed upon this soil one foot apart, varying one way or the other as the variety is more or less rank in its growth. If the tubers are inclined to grow too large, the pieces should be placed closer together. We make the trenches three feet apart in our trials, no matter what the variety may be. Two inches of soil are raked upon the seed pieces in the trenches and at the rate of 1,000 pounds of a high-grade potato fertilizer is strewn upon this soil. We began 17 years ago with the Mapes potato fertilizer, and we have used that fertilizer since in order to make the conditions as nearly the same as possible. Shallow cultivation is given as often as needed in order to destroy the weeds and to keep the soil in a mellow, receptive condition. We have always used Paris-green, diluted with plaster, using about two pounds of pure Paris-green to a barrel of plaster. Of late years, we have used a Leggett gun for distributing the mixture.

Fungiroid, as our readers have been told several times, is a dry Bordeaux Mixture. Our choicest seedling potatoes are raised in our garden, where the flea-beetle is far more destructive than in the field. For the past two or three seasons, we have used the Fungiroid powder upon these vines. During these few seasons, the flea-beetle has done comparatively little injury. In the field, also, the vines which were sprayed with Fungiroid and Paris-green were much less infested than those vines which were sprayed with plaster and Paris-green. Further trials are necessary to determine whether the dry Bordeaux (Fungiroid) is more effective in preventing blight than the liquid Bordeaux.

ACORN.—Sent by B. H. Sheeley, Grahamsville, N. Y.—This, it is claimed, is a seedling produced two years ago from Early Sunrise crossed with Brownell's Winner. The originator says that it is a little later than Sunrise, and he thinks that the tubers will average as large as those of Carman No. 3. June 29, vines of medium vigor. July 29, vines dying. Dug August 18. Three pieces yielded 15 tubers of fair marketable size, 12 small, weighing all together four pounds. They were of fairly good shape, oblong, eyes medium, buff skin. This yield would be at the rate of 322.67 bushels to the acre. Eaten October 4. The flesh was white and mealy — of excellent quality.

SATISFACTION.—Also from B. H. Sheeley, who says that it is from the same seed as the Acorn and superior to any other he has originated or grown. He further says that it matures with Carman No. 1 and that, last year, six hills yielded 28 pounds, while six hills of the Carman No. 1 yielded but 18 pounds. With us, the vines grew no larger than those of the earliest kinds, being of medium vigor and bearing white flowers. The vines were dead August 14. Dug August 18; three pieces yielded 20 tubers of medium size, 14 small, weighing 6¼ pounds. This would be at the rate of 504.16 bushels per acre. Size oblong, eyes medium, buff skin. Eaten October 5. Mealy, white flesh of fair quality.

WIDE AWAKE.—Also from Mr. Sheeley, who says that the tubers sent to us were three years from the seed of Burpee's Extra Early. He says that "it is late. It out-yielded both Carman No. 3 and Columbus. It seems to be absolutely drought-proof." June 29, vines of medium vigor, upright habit, purplish stems, white flowers. Vines dying. Dug September 7. Three pieces yielded six medium and 15 small tubers, weighing 2¼ pounds. This would be at the rate of 181.50 bushels per acre. Skin pinkish, variable shape.

SALZER'S QUALITY.—From John A. Salzer, La Crosse, Wis.—June 29, vines of extra vigor, no bloom. August 14, vines dead. Dug August 18. Three pieces yielded 24 medium, 16 small tubers, weighing 6¾ pounds. This would be at the rate of 544.50 bushels per acre. Variable in shape, eyes rather deep. Eaten September 30. Flesh darkish in parts, mealy on the surface. From this one trial, we would not consider this of first quality.

SALZER'S EARLIEST.—June 29, spreading habit, medium vigor; no flowers. July 6, vines mostly yellow, more so than any other variety in the collection. Three pieces yielded 24 medium-sized tubers and 16 small, weighing 5¾ pounds. This would be at the rate of 465 75 bushels per acre. Red skin, round form.

CHAMPION OF THE WORLD.—Also from the Salzer Co.—June 29, vines of extra vigor, somewhat spreading habit, white flowers. August 14, vines dying. Three pieces yielded 19 medium and 9 small tubers (a number badly eaten by grubs or mice), weighing 5¾ pounds. This would be at the rate of 423.50 bushels to the acre. Eaten September 27. Yellowish-white flesh, mealy and of very good quality.

SIX WEEKS.—Also from the Salzer Co.—June 29, vines of medium vigor, no bloom. July 6, turning yellow. July 29, dead. Three pieces yielded 14 large, 5 small tubers, weighing four pounds. This would be at the rate of 322 66 bushels per acre. The skin is the color of Early Rose; shape, roundish oblong. A smooth, handsome potato. Eaten August 1. Flesh white, mealy, flaky and dry—first quality.

KING OF THE EARLIES.—Also from the Salzer Co.—June 29, vines of medium vigor, spreading; no flowers. July 6, vines turning yellow. July 28, vines dead. Dug July 30. Three pieces yielded 21 large and eight small tubers, weighing 6½ pounds. The color is that of Early Rose; the shape is that of Beauty of Hebron. Eyes medium in prominence and number. Eaten August 1. Flesh mealy, white and excellent. Fig. 280, from nature, shows the characteristic shape.

WORLD BEATER.—Also from the Salzer Co.—June 29, dark green foliage of medium vigor, upright habit, purplish stems, purple flowers. (Have any of our friends noted whether light-green stems and foliage ever bear purple flowers?) The vines and flowers resemble R. N.-Y. No. 2. August 14, vines dying. Dug September 7. Three pieces yielded 16 marketable, 17 small tubers, weighing 5½ pounds, which is at the rate of 443.66 bushels to the acre. Buff skin, oval, flattened shape, few eyes. Eaten September 29. Mealy, white flesh, fair quality. Many hollow hearts, even among the smaller sized potatoes. Fig. 279 shows the typical shape.

(*Continued next week.*)

Short-Lived Potato Wanted.

S., BRADFORD, O.—I have been a potato grower for many years, and am very well pleased with the R. N.-Y. No. 2, of which I have about 25 bushels from one bushel of seed. Also the Carman No. 3, of which I have 11½ pounds from the seven eyes you sent me last spring. All are good, smooth, salable potatoes and good eaters besides; but they take too long to grow to suit me. There are too many kinds of bugs, and too many hot spells, like the one we had last summer. We want a potato that will ripen and make a crop very quickly; that is all that has made the Early Ohio so popular in this country.

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ments are expensive. It is no experiment to take the medicine which thousands indorse as the best—which cures when others fail, namely

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Only One "King" Apple.

M. M., ENGLEWOOD, N. J.—G. F. T., page 817, asks "How many King apples are there?" I will say that there is but one "King" apple that deserves the kingly name, at least, and that is the Tompkins County King. My father, J. M. Mattison, being the disseminator of that apple, a short history of that valuable fruit may be interesting. During my last visit to Tompkins County, N. Y., the original tree was still alive, over 75 years old. It was planted by Cyrus H. Howe, of Jacksonville. The first known tree, however (supposed to be a seedling), was found growing in Hunterdon County, N. J. The tree was very old at the time and nearly dead. An old nurseryman by the name of Jacobs, secured a few of the grafts, and they were grafted in the orchard at Jacksonville. All the grafts died except one. The next spring, Mr. Jacobs returned to Hunterdon County to secure more grafts, but the old tree was entirely dead. From this only remaining tree in Tompkins County, scions were secured and grafted throughout Tompkins and Cayuga Counties. A few years later, 1848 to 1855, my father then in the nursery business, began to grow trees of it extensively, and called Charles Downing's attention to it. While he did not give it the credit it deserved, it was nevertheless brought to the attention of the fruit-growing public. During the fiftys and sixtys, my father sent thousands of scions to the nurseries throughout the United States, sending one year over 100,000, in those days considered a large amount, at one cent each. Among the horticulturists of those days, who pinned their faith to it, were J. J. Thomas, Marshall P. Wilder, Col. Frost, and how true has proved their estimate, will be seen by going into the markets of our big cities, and trying to find an apple in November or December that looks better and eats better.

Legislate Against the English Sparrow.

C C. S., PASSAIC, N. J.—The English sparrow is of no earthly use. The habits of the birds are to make nests in any part of the dwellings they can reach, and leave their filth to be cleaned up. They attack our garden in the spring, and destroy the best of our fruit in large quantities, leaving the worms and insects untouched. Would it not be a good plan for the legislature to pass a law giving a royalty for the capture of the birds? Such a plan would soon remove them from us. By using your influence, this could soon be brought about. Let the ball start rolling, and keep it up.

R. N.-Y.—In theory, such legislation is good, but in practice, it does not seem to work so well. We hope to give soon the experience of farmers in other States where such legislation has been attempted.

More Colorado Second-Crop Strawberries.

N. L. L., FRUITA, COL.—So much has been written about second-crop strawberries that I feel like telling my experience with strawberries in the lower Grand Valley, between the town of Grand Junction and the Utah line, altitude 4,500 feet. We have here, every year, more or less second-crop berries, but in the season of 1895, we had them in sufficient quantities for marketing; nearly every grower here marketed some. I picked and marketed 12 crates of good berries between September 1 and November 15. Owing to the pressure of other work, I picked them only once a week; had the picking been attended to regularly, I would have had twice as many. When the frost came, there were still many green berries and blossoms on the vines.

The largest part of my berries are Wilsons, and they bore only a few berries. I have also the Jessie, Enhance and Parker Earle, but they are almost worthless with me. I have about one-half acre of Capt. Jack and Warfield No. 2, alternated, and there I got the berries. Now for the reason for such an unusual yield of second-crop berries. During the picking season of the main crop, we had more rainy and cold weather than we generally have, so we had a very heavy crop of berries, the picking lasted six weeks, and the fields became very weedy. After the last picking, we let the field get very dry so we could mow the tops and weeds with the mower. After we had raked off the mowings, we cut down the rows to the proper width with a plow, then harrowed and cultivated. By this time, the plants were very dry, and at almost perfect rest, and when we turned water on again, the plants, probably thought that they had passed through a light winter, and started right up.

Every one familiar with orchid growing knows that to let a plant get dry to almost within an inch of its life, is the surest way to make it bloom. The growers around here are not anxious for second-crop berries; they come at a time when we are busy with peaches and early apples, and, generally, the berries are so scattered that it is a tedious job to pick them. Every fruit has its season, and only a limited quantity can be sold at any other time at a profit. The Maiden's Blush and Oldenburg apples and the Bartlett pear always produce a second crop of fruit in this climate. I have now in the cellar about a bushel of second-crop Idaho pears, the size of Winter Nelis.

That Home Market; What Are You Going to Do About It?

J. W. NEWTON, VERMONT.—You are fretting and scolding about having to send your stuff off to the city; have you looked sharp after the home market? Just as like as not, there are a dozen families within easy driving distance of you who would be very glad to pay you a good, big price for strictly fresh eggs delivered every three or four days. Couldn't do that? Why not? Of course, you could not put in eggs from nests found in corners and of uncertain ages. You could not gather up eggs, and dump them into a pan, let them lie a week or two in hot weather, and then deliver them as fresh eggs. If people pay for fresh eggs, they want them delivered within three or four days after they are laid, and before they lose their delicate flavor. The strictly fresh egg is really a luxury, and your customers may not be able to pay you the city price for such stock. But if you will take pains to deliver really and truly fresh eggs in stated quantities and at stated times, you will be pretty sure to get a paying price.

Then, as soon as people want them, arrange with the same or other families to deliver your chickens, so many on such days. Then you can ask, and most likely get, the best prices, provided you have fine chickens, and get them into such shape for your customers as they like. It is no use to expect to sell poor stock, or poorly-dressed stock for a good price. You may do it once or twice, but it will simply spoil your trade. Whatever you sell, let it be of the best quality, unless you sell it for poor quality at a low price. But it is not best, usually, to sell poor things. It will hurt your reputation. If you have anything below standard (and a high standard, too) put it to some other use than selling to private customers. You want to build up a reputation for always selling the best, or, if that is too high, we will say, a good quality of produce. When people find out that anything bought of you is good, all right, No. 1, first-class, or of the best grade, it will be a great help to you in selling, and will be worth very many dollars to you. That is what you are farming for, to get money to use. Make it a fixed rule for all your household always to live up to strictly, that whatever goes to your market shall be good, and that all weights and measures shall be correct.

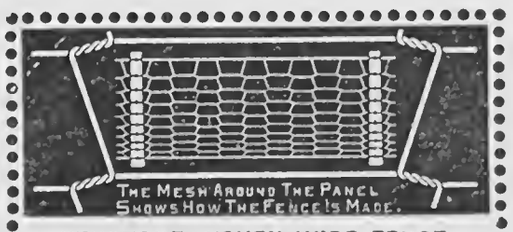
Then, on the other hand, look out for people who buy things and never pay for them. Do a cash business. Don't spend time bothering with over-particular possible customers. You will find that it takes time to go from house to house and peddle or deliver produce and one must learn to economize his time. You see that, while the home market idea is a grand one for hundreds of farmers and their families, it is necessary to count the cost before any one goes into it. It is not a path that is all roses, but is one that leads to good profits for those who rightly enter upon it.

Early Lambs Again.

L. A. CLINTON, TOMPKINS COUNTY, N Y.—I see that Mr. W. W. Latta takes exception to a former article of mine on early lamb raising, in that I did not state the express and commission charges. The express is such an individual matter, depending upon location, that every lamb raiser can figure out for himself the cost of placing his products on the market. The cost of shipping lambs from this point, Ithaca, N. Y., to New York City, is 80 cents per 100 pounds. The fees charged by the commission merchant are five per cent on the selling price. To make the items more complete in my former article, page 750:

Deeember 21—two lambs at $9		$18.00
December 21—one lamb at $6		6.00
		$24.00
Express	$0.70	
Commission fees	1.20	
	$1.90	$1.90
Net		$22.10
February 28—four lambs at $7		$28.00
February 28—one lamb at $6.50		6.50
		$34.50
Express	$1.20	
Fees	1.73	
	$2.93	2.93
Net		$31.57

I would not convey the impression that all could succeed in the raising of hothouse lambs. If this were so, then the feature of profit would disappear entirely. It is only the one who has the requisite skill, the comfortable quarters in which to house his sheep, the shipping facilities; in other words, the conditions must be just right in order that success may be assured. I would not recommend the purchasing of high-priced purebred stock. Grade Dorsets and purebred Dorset males give, ordinarily, just as good results. From experience. I still maintain the statement made in the former article that "early lamb raising is a paying business to him who has the necessary knowledge and skill."



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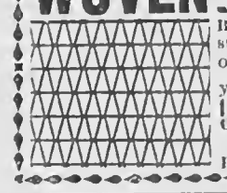

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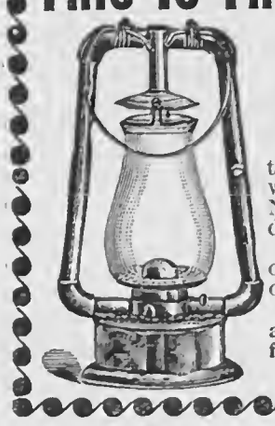

that for seventeen years, through storm and darkness, lighted the way of B. W. Burnham, a retail milkman of Saratoga Springs, N. Y., on his nightly rounds without a single expense of repair during that time, except for new globes, being in constant use.

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DEAR DOCTOR HAYES; BREWSTER, N. Y., September 14, 1896.

I am satisfied your treatment has been very helpful and beyond my expectations. The catarrhal symptoms have been much lighter and not of as long duration, and as for Asthma, the effect of the medicines is **marvelous.** To go to bed and sleep all night is for me, at this season of the year, something I have not been able to do for 30 years. Now I sleep all night, and in the morning I am free from the cough that is so weakening and depressing. When I compare myself with others about here who have Hay Fever, and are not taking your treatment, I am away ahead of them. Perhaps I am too enthusiastic, but when one has had this terrible disease for over 30 years as I have, and had given up all hope of a cure, how can one help being enthused. I have one regret—having known of your treatment so long that I should be so incredulous as not to be willing to try it till this year.

Yours truly, BENJ. D. EVERETT.

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write at once for particulars and escape your winter of distress. Hay Fever sufferers make a note of this and write in the spring, or **now.** Two thousand other references if you ask for them. Address
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SATURDAY, DECEMBER 26, 1896.

M. M. SAYS truly, on page 851, that there is but one "King" apple worthy the name. But, like many other good things, it suffers from counterfeits. In a New Jersey grocery, not long since, the writer saw some Ben Davis apples, placarded Kings, at a good round price per basket. The public need educating. They need to be so well informed that such impositions will be impossible.

⊙

MR. HOOVER of Colorado tells us on page 851, how to keep Jack Frost away from the late strawberries by placing light, portable frames over the best plants. This is as legitimate as placing frames over a few rows of asparagus in the spring to force this vegetable for the early market. Gardeners are constantly thinking out such plans. They are obliged to in order to keep up with the times.

⊙

EVEN an innocent-looking plant may be engaged in the liquor business; the East Indian Pitcher plant (Nepenthes) is an example. Each leaf terminates in a pendent, lidded pitcher, containing a sweetish fluid, very attractive to insects. After drinking, the fly becomes intoxicated, and falls into the liquid, to be absorbed by its host. As the Nepenthes grows on limestone rocks, the insects are, probably, entrapped to form a balanced ration. The "muscle-makers" in a fly surely ought to make rapid growth. Saloon plants are like human rumsellers. They both live by absorbing the substance of their victims.

⊙

THE United States House of Representatives has passed a bill authorizing citizens to print private mailing cards of the same size, quality and weight as the present postal card. These cards are to be carried as lawful mails whenever they bear a one-cent stamp. The object of this, evidently, is to enable business men to print an attractive advertisement on these cards and have Uncle Sam do the distributing for them. Thus it is that, year after year, improvements are made in the mail service for the benefit of those who do business in town and city. Why not give the country people better service? Extend the free delivery system to the country wherever it is practical. Next week we expect to show how it has been started in Michigan.

⊙

WHEN a florist wishes to force a hardy June rose, he ripens the wood by withholding water, prunes severely, and allows the plant to feel the frost. On being taken into the greenhouse, the deluded rose imagines that winter is over, and immediately starts up in business. About the middle of November, we took up some Parker Earle strawberry plants with the transplanter, set them in rich soil, and put them in a dark cellar. They were kept without water until the leaves died down; then they were brought into the light and well watered. They are now growing just as plants do in spring after the mulch is removed. Next spring, as an experiment, we shall mow off a number of plants when they come into bloom, shade them and keep off the water until late in July, and then irrigate and use a soluble fertilizer. We are after a good second crop.

⊙

MR. VAN WAGENEN has recently given us an interesting account of the simple chemistry of milk. We are now to follow this with some studies of the cow's udder by Prof. C. S. Plumb of the Indiana Experiment Station. Prof. Plumb has recorded one feature of his work in a very valuable bulletin, and, beginning with next week, THE R. N.-Y. will present a synopsis of his conclusions. The stomach of a cow may be compared to the engine in a factory, while the udder is like the intricate machine which, with the engine to give it power, turns crude material into a finely finished product. Skilled inventors turn much of their energy to the improvement of the machine, and we think that Prof. Plumb's conclusions will show that we must take the cow's udder into consideration in breeding for improved stock.

⊙

THE scientific men have proved beyond all reasonable doubt that it is possible to feed pigs so that the pork will contain a large proportion of lean meat. By the judicious use of foods containing muscle-making material, the lard can be made muscular, so to speak. Certain breeds of hogs are, doubtless, more likely to give this lean pork than others, but the improved feeding is chiefly responsible for it. This feeding will usually cost more, for, as a rule, the muscle-making foods are more expensive. A practical farmer may well ask, "Will it pay me to try to produce the leaner pork? Who will pay me more for it?" For home use, the lean pork will surely be appreciated, but what buyer will pay an increased price for it? Probably private customers might be obtained who would willingly pay more, but how about the man who sells live hogs on the regular market? Will lean pork pay? That is a question we would like to have answered by practical men.

⊙

THE fruit-growing interests of the Hudson River Valley are of immense importance. We have, at the eastern side of the State of New York, large areas almost ideal so far as soil and location are concerned, for the growing of grapes, peaches, apples and small fruits. The Hudson River affords rapid and cheap communication with the greatest market on the continent. Surely this section affords an admirable field for an organization among horticulturists. We would like to have Hudson River fruit growers consider the following letter carefully:

Why could not the fruit growers along the Hudson River form an organization on the plan of the Western New York Horticultural Society, and meet annually for the discussion of horticultural subjects? I think that many fruit growers would be glad to see such an organization, and willing to help organize it. I would like to see this matter placed before our prominent fruit growers, and see what they think of the idea. An organization for such a purpose could, undoubtedly, get speakers from our experiment stations, and, undoubtedly, every true horticulturist will see the need of such an association and help its organization as much as possible. B. D. VAN BUREN.

Columbia County, N. Y.

Our friend has not begun to state the advantages that may be expected from such an organization. THE R. N.-Y. heartily indorses the suggestion, and will do all in its power to help in the matter. Let us hear from fruit growers at once, and endeavor to hold the first meeting this winter.

⊙

THE R. N.-Y. believes in printer's ink. It is the nitrogen of trade, because it stimulates desire on the part of the consumer, and shows him where to go and satisfy that desire. Farmers should not leave this valuable business aid to the townspeople. An advertisement in the local paper, a neat circular or card will always help trade. There is another use for printer's ink that is important. It is well brought out in the following letter:

WHAT IS YOUR NAME?

Why should not every farmer have his name and address plainly printed on letterheads and envelopes? It would not cost more than $2 or $3 a year, and would be a great convenience to his correspondents, and an indication of good business methods on his part. The need of it is apparent to any one who has even a small correspondence. It is surprising the number of people there are in the world who can write everything moderately plain except their own names and that of the town in which they live. I have had more than the usual amount of trouble from this cause in the past few months, and many letters have not been answered simply because I either could not make out the writer's name, and so did not know whom to address, or else I could not determine where to send the letter. As an example, I have on my desk while writing this letter, two letters from different men, both of whose signatures are absolutely illegible. I have submitted these signatures to a number of good business men, and no one has been able to decipher them. How can one answer such letters? It is a common thing for writers to leave off their State, but the post mark usually solves this difficulty. Sometimes not. A letter was recently received from Bridgeville, no State, and no post mark on the envelope. The postal guide gives nine towns of this name in the United States. Where would you send an answer? Printed letterheads cost very little more than plain paper. When they are used, there can be no question about the name and address, and besides this, their use gives the impression that the farmer using them is more enterprising than his neighbors—a good impression to make. H. M. COTTRELL.

Ellerslie Farm.

That is an excellent reform to start with the new year. We often have such letters and, sometimes, it is impossible to answer them until the correspondent writes a second time complaining that he has not been well treated. Some of our readers use the cheap rubber stamps for printing name and address on the letter and, in this way, avoid these troubles. We are sure that it will prove a good investment for any farmer to have his name and address printed on his letter paper. Get a good name for your farm and print that also. This is a business reform that ought to be pushed.

⊙

A FRIEND in Connecticut sends us this letter, which is a fair sample of a number that are received during the year:

The manager of a "labor bureau", in New York City, advertised that he would furnish farm help. I saw the advertisement in a number of papers, and, I think, THE R. N.-Y. among them. I wrote to the man asking whether he could send me two German farm laborers. I wanted green help, but used to farming in Germany. He replied to send him the railroad fare, $5.10, and $2, his fee, and he would send two farm laborers at once, Germans. I sent the money, and after 10 days wrote and inclosed a stamped envelope for reply, but got none. I wrote again—no reply. I went to a lawyer who wrote and got no reply, but in two days, a German came along, who said that the man had sent him; but I was not to deduct the railroad fare, and the man was a professional painter, knew nothing about farming, except that he said he had once milked a cow. This man went back to New York, as he was of no use to me. The "manager" says that he sent another man, but he has not come. I think that such frauds on farmers ought to be exposed.

Certainly they ought to be exposed. There are lots of them. The trouble is that this particular fraud never advertised in THE R. N.-Y. at all. Our friend saw the advertisement in some other paper, and, in studying over the matter, as people do who answer such cards, got things a little mixed. Sometimes a rogue obtains a little false credit in just this way. People have come to realize that THE R. N.-Y. edits its advertising columns as well as its reading matter. Many a rogue would pay considerable money to have his advertisement appear just once in this paper. It would give him credit with readers and publishers everywhere to have it known that THE R. N.-Y. enabled him to talk to its readers. Don't trust to memory in such matters, and thus let the rogues clip off a piece of THE R. N.-Y.'s reputation.

⊙

BREVITIES.

We will close up our year with a talk about *bread*,
The great staff of life, as has truly been said.
Chop off the first letter and, surely, our bread
Is just like THE RURAL—it's kneaded and *read!*
You see by the statement upon the next page,
The "New Journalism" is now all the rage.
The up-to-date farmer drops *r* and is led
To work—as the Englishman says—with 'is *'ead!*
But now drop the *e* and, of course, you are glad
To see that the bread is reduced to an *ad.*
That means advertisement—so let people know
THE RURAL'S alive, and then add—help it grow.
And now let us stop, for the *d* all alone
Might represent words of a dubious tone!
But, no! Who's afraid? Let us say without fear,
Here's h-a-n-*d* for the incoming year!

LAZINESS needs no nurse.

PUSH hope along—it's a good thing.

GET an interest in fundamental principles.

PROF. BEGIN gets more votes than Gen. Finish.

THINK of half-cent pork in Louisiana—page 859.

Too heavy a lift is the bacterium of a terrible back.

GO—bury your prejudices. Turn them into fertilizer!

A FINE course. That is what the best agricultural colleges are giving.

A MILL DUE—the miller's toll. Cure it by grinding your grain at home.

IT may be that "you take the dust" because your wheels are thick with rust.

L. A. CLINTON replies to the critics of his late article on early lambs—page 851.

A CAR-LOAD of New York State Jersey cows and heifers recently sold in Iowa at an average of $35 each.

THE world came near losing the famous "King" apple—see page 851. A single graft saved it for posterity.

DOES Nature water from above? Well, most of the water falls to the earth, but rises to the plants when they drink it.

THE R. N.-Y. is having a dose of *sub* irrigation. That is, the subscriptions are flowing in upon us like water. Keep it up!

FRED GRUNDY, page 847, should go on and tell the farmers where to get the cash for their trading. How can you cut loose from credit?

SOME farmers are in prison. When the roads are good, they are too busy to get away from home. When they have leisure, the roads are too bad for travel.

AT the bicycle race in this city, one wheelman covered 1,900 miles in six days. What helped him most? A level, hard track No speed without a good road.

CONSUMPTIVE patients often wrap in warm furs and sit out in the frosty air. Pure air is healing. Don't treat a consumptive cow that way. Her own fur is not warm enough for zero weather.

ARE you fond of vanilla? Be grateful to the moth that fertilizes the vanilla orchid. Without its work Central America could supply no vanilla. Thank the moth that flavors your cake and pudding.

HERE'S a rule of buttermaking that is good for any day—it will suit in any time or clime or land. From the time the cream is started till it's worked and packed away. You should never touch the butter with your hand.

A MILK man grows a patch of fine celery. Every now and then he cleans up a nice bunch of it and leaves it by the side of his customer's milk can as a present or premium! That is business. It doesn't hurt him, but it makes trade.

SENATOR MORGAN has proposed an amendment to the immigration laws of the United States to the effect that no person shall be admitted to citizenship who "cannot read correctly the Ten Commandments and the Constitution of the United States printed in the English language." We would like to further amend this by adding the words "and obey them."

Plans and Hopes for 1897

"THE NEW JOURNALISM"

has made itself felt among agricultural papers in a striking manner. THE RURAL NEW-YORKER is 48 years old. You could not hope to teach new tricks to a dog of that age, but there is a difference between dogs and agricultural papers. THE R. N.-Y. is learning "new tricks" all the time.

Forty years ago, THE R. N.-Y. was chiefly a story paper. At that time, there were but few good literary papers in the land. The soil was newer and naturally stronger. There was not the fierce competition of the present day. The millions of foreigners had not rushed across the sea to take the cheap Western land and grow food upon it, with which to compete with native Americans. Experiment Stations were unheard of. "Agricultural science" was locked inside the skulls of a few learned men. There was no great demand for it. Farmers demanded, in their farm paper, stories, poems and simple records of every day events. THE R. N.-Y. of that date was alive to the needs of the hour, and gave its readers what they demanded. It was progressive—a good example of *the new journalism* of that day.

After Two Score of Years,

THE R. N.-Y. finds a new situation. The old paper could not live to-day. This is an age of specialties. Papers and magazines, cheap and excellent, now make a specialty of stories, poetry, news, religion and philosophy. A new class of farmers has been formed, and every course at an agricultural college and every farmers' institute or convention serves to increase this class. A new farm paper is demanded, for farming has become a science. Competition is fierce. The land is poorer and needs more careful tillage and fertilizing. There is a demand for a clear and fair discussion of the fundamental principles that underlie the science of agriculture. THE R. N.-Y. has decided to make this its special field. This is one part of *the new journalism*. We leave society news, politics, literature and philosophy to others, and confine ourselves to a discussion of the problems that underlie the varied life of the farm and garden.

"A Farmers' Institute at Your Own Fireside!"

That is what *the new journalism* attempts to give you. If we were to adopt a coat of arms for THE R. N.-Y. we would take this

YOU ASK!

?

WE ANSWER!

The best evidence of the awakening of a child's mind is its inclination to ask questions. Men are but children of a larger growth, and the best evidence of progress that a man can give, is the fact that he begins to ask questions, and thus admits that there are some things he does not know.

THE R. N.-Y. has been peculiarly fortunate in the past in its ability to draw out questions from its readers. In some operation in field, house or stable, a farmer runs against a problem that he cannot solve with the information within his own reach. He has never been called upon to face just that situation before. His neighbors can only guess at it, and his books give him scarcely a hint. The problem follows him about, and haunts his waking hours until, at last, he comes to THE R. N.-Y. for help to broaden the view from his farm.

He Knows Where to Come.

Why should he come to THE R. N.-Y. for assistance? Why should he have confidence in its answers or suggestions? Let us consider a few facts. We are located in the greatest market on the western continent, within half an hour's ride of the great centers of trade, where prices are made and where a nation's crops are sold, and within a short walk of the most complete libraries on this side of the water. We have the personal acquaintance of every agricultural scientist of note in the land. We will guarantee to reach a practical expert in any ordinary branch of soil culture. From the time the seed is put into the soil until it goes back to the soil again as some form of fertility, a thousand changes and modifications take place. The culture of the soil in which its roots develop, the food it eats, the way it grows, the insects that injure or benefit it, the animals that utilize it as food—at every point along the line, a question stands out as a puzzle to some ripening mind that will not be satisfied with anything short of the truth. We confidently claim that THE R. N.-Y., by reason of its location, its reputation and acquaintance, its own experience in experimenting and the production of new varieties, and its wide, personal observation, is as well able to secure authentic information as any agricultural paper in the land.

Judge the Future By the Past.

This we are very willing to do. During the past year, we have broadened the view from hundreds of farms. Never before did an index cover such a wide range of topics. During 1896, we printed in all 860 pages of matter. There were 284 illustrations. By actual count, we have printed answers to 1,481 direct questions, and have answered nearly as many more by mail. Of these questions, 158 were so important that we made them targets for symposiums. In other words, we sent copies of these to from five to fifty of the best posted men in the country and in Europe. The answers were boiled down and grouped together. By actual count, 1,310 different men and women have helped us prepare these answers. The fact is, that every line that has appeared in THE R. N.-Y. has been written in reply to a question either directly asked or anticipated.

With this record behind us, we do not hesitate to say that we expect to do better next year. We have learned a number of "new tricks" of late. We have formed new acquaintances, made new investigations and studies, gained in experience, and discovered new fields for work. We shall make use of all these things in our work for 1897, striving harder than ever to be true to the principles of *the new journalism*. Our great ambition is to *broaden the agricultural view from your farm* by giving you a chance to confer with those who have had more experience, or who have been able to give more study to the problems of agriculture than you have. Naturally, the "know-it-all" man cannot expect much help from such service. Do not subscribe to THE R. N.-Y. expecting us to discuss politics or to print stories and news gossip, for you will be disappointed if you expect it. The one thing we promise above all others is that we will help you in your search for the true principles that lie at the base of agricultural science and practice. That is our special field, and we shall cultivate and fertilize it as we have never done before.

A Few New Features.

Pursuing the same general plan as last year, we expect to introduce a few improvements.

PRIMER SCIENCE.—This popular department will be continued. We expect to take the reader into the chemist's laboratory and show him how foods and fertilizers are picked apart, and what the different parts represent.

GOOD GRASS.—The articles describing Mr. George M. Clark's grass crop created a wide interest. Hundreds of people have attempted the new method of culture. We shall have comparative notes from many of them. We have, also, been studying the remarkable grass experiments of Mr. J. B. Olcott, of Connecticut.

FERTILITY FROM TILLAGE.—A series of articles showing to what extent a proper working of the soil may be expected to take the place of manure or fertilizer. In this connection, we shall discuss the real service performed by humus or vegetable matter.

THE BREEDS OF LIVE STOCK.—More attention will be paid to live stock than ever before. Special attention will be paid to the characteristics of breeds and the principles of breeding.

PLANT LIFE.—A series of interesting notes on the life and growth of plants, showing how they feed and grow.

SYMPOSIUMS.—As in former years, this will be one of the strongest features of the paper. We expect to send your question to the wisest and most practical people in the land, when it is of a character to demand a general discussion.

THE EXPERIMENT STATIONS.—During the year, we expect to discuss the leading bulletins as they appear. We shall try to give real *studies* of these bulletins, not mere "reports". We also expect to visit most of the stations, and thus give personal reports of the work they are doing. We shall also interview dozens of farmers in various parts of the country who, by concentrating their energies upon some one branch of soil culture, have made their farms practical experiment stations.

With this statement of its objects and desires, THE R. N.-Y. confidently opens the season of 1897.

AMONG THE MARKETMEN.

WHAT I SAW AND HEARD IN THE PHILADELPHIA MARKET

Although not containing so large a population as New York, Philadelphia is a large city, and requires an immense amount of produce to supply the needs of its inhabitants. The two markets are similar in many ways, and dissimilar in others. Both are distributing points for a large extent of territory, New York supplying much the larger area. The latter city has, also, a larger foreign trade, its exports and imports covering the entire globe. It has also a much more cosmopolitan population, and its markets require a wider range of products, though Philadelphia is becoming more cosmopolitan. As a general thing, prices range much the same in the two markets, and the leading commercial paper of New York is taken as a guide in Philadelphia. Often, too, there is an interchange of commodities between the two cities, when there is a shortage or a surplus in either.

Philadelphia has its wholesale markets or commission districts, the same as New York. Probably the most extensive is the Dock Street Market, and here is the fish market corresponding to our Fulton Market. Around this market for many blocks extend the stores of the commission merchants. They receive shipments and sell on commission the same as the New York merchants, but they tell me that they usually charge 10 per cent for selling, while the charge in New York for most goods is five per cent. They should secure higher prices to earn this higher commission. The charges on apples are uniform, so much per barrel, whether the price be high or low. The Philadelphia commission men do not start business so early in the morning, as those in New York; in fact, there isn't the push and hustle that we find among the business men of the metropolis, though, as the old song has it, "they get there just the same."

An enumeration of the products on sale would cover pretty much those of the whole country. Immense quantities of sweet potatoes are on every hand; these come largely from south Jersey, and growers and dealers complain of the low price they are now forced to accept. The reason for this seems to be that they are grown much farther north than formerly, hence the demand from the north is lessened. Then, too there was a large crop this year. Both red and yellow are grown, the latter being in larger quantity. On the farmers' market, prime sweets were selling for 20 cents per half-bushel basket, and seemed to be going very slowly at that. All kinds of vegetables were in large supply and, as a general thing, prices ruled low.

There was a large supply, in fact a glut, of New York State apples. Dealers were exerting themselves more to sell these than any other produce. Baldwins and Greenings were freely offered at 90 cents to $1 per barrel, Kings and Northern Spys a little higher. Most of them were undersized, and many showed signs of careless sorting and packing.

I saw few grapes in market, while, at the same time there was a large supply in the New York market. This would seem to indicate that it would have been wise to examine other markets rather than to ship so many to New York. This sort of distribution—too much in one place and not enough in another—shows the need of a central bureau of information among growers and shippers to collect and disseminate news about the supply and demand of different products.

The farmers' market on South Second Street, is simply a part of a street which is set aside for the farmers, where they can come and sell their products direct from their wagons. They pay a nominal license fee of 50 cents a year. I found, in talking with those on the market, that they were unanimous in the opinion that trade isn't what it used to be. One said that it is because their products are so cheap; that people buy more when prices are high. These farmers sell to retailers or consumers, anybody who wishes to buy. They bring all sorts of produce, drive their wagons to the curb, put their horses in the stable, and wait for customers. Housekeepers wishing to buy direct from the farmers, here have their opportunity. In another article, I shall speak more of the retail market.

F. H. V.

BUSINESS BITS.

WE are in receipt of a notice from the De Laval Separator Co., from their general office, 74 Cortlandt Street, New York, to the effect that their Western offices, stores and shops at Elgin, Ill., have been removed to Chicago, Ill., better to accommodate their customers and facilitate the increased production to meet constantly increasing demands. The Western office is at 43 West Randolph Street. The company urges that all parts of the machine be kept in perfect repair, in order to maintain the best results, and promises prompt attention to repairs or inquiries for essential parts. They will send lists of parts on application, and recommend that the lists be kept on hand for immediate use when needed.

HOUSEWIVES who have long bent over a bowl and with a knife, hacked and chopped till their muscles ached and the meat was minced, will really rejoice in the Enterprise new meat chopper. It is valuable in the preparation of sausage, mince meat, hash, hamburg steak for dyspepties, chicken and lobster for salads, suet, tripe, codfish, clams, cocoanuts, meat for beef tea, scrap meat for poultry, corn for fritters, etc. They are also makers of another useful device—the Enterprise raisin and grape seeder. "The Enterprise Housekeeper", containing 200 recipes, besides valuable information for the housewife, will be mailed for two two-cent postage stamps to all who apply to the Enterprise Mfg Co., of Philadelphia, Pa.

WE are frequently asked by readers about those houses which give country people "profitable employment at home," and we get more such inquiries just now than usually, because one or two such houses are advertising in most of the country papers. In fact, one of them got into THE R. N.-Y. for one or two insertions through an oversight, but it was promptly thrown out, and the yearly order for it canceled. These companies or bureaus send a partial sample list of persons classified as having certain diseases, with prices attached, which are very alluring. You are, however, required to send about $3, a little less, usually, for blanks, rules and stationery. This you get at a cost to the company of a few cents, but the rules are such that you cannot make out an acceptable list, and you have heard the last of your "bureau." After looking up these "companies" several times, we are satisfied that the scheme is one simply to get your first remittance, and that there is no possible chance of your ever getting your money back, to say nothing about getting paid for your time.

Women make the Homes

WOMAN AND THE HOME

Homes make the Nation

FROM DAY TO DAY.

A WRITER in Harper's Bazar tells of the effect produced by example, rather than precept. When a young girl she was constantly chidden for her harsh, unmodulated voice, but the troubled self-consciousness induced by frequent reproofs increased the fault. Finally she visited some cousins, noted among friends for the sweetness of their voices. While with them her own hard, rough tones were unconsciously modulated, and a great change was noticeable. Naturally enough the relative who had so often chidden her gave her own admonitions the credit for the change. Isn't it often the case, that we expect precept alone to work a change, without reckoning on the force of example?

*

SOME very wise and good people we know urge us to keep purely imaginative books out of the children's library. They think it corrupting to a child's intelligence to give him fairy books and verse, which may destroy his taste for really instructive, solid reading. We used to think it a perverted taste which made a child crave candies. We now know that a certain amount of sugar, wisely administered, is a necessity for the building up of the childish body; just the same as a certain supply of poetry and imagination is needed for the building up of the little brain. How much they lose, in the way of pleasure and content, who have no imaginative faculty! "I don't like to play with Hazel," observed one small girl of another, "she doesn't know how to pretend anything." And the same imagination that made the one little girl enjoy drinking imaginary tea out of make-believe china cups, in company with sociable guests who were, in reality, but corn-cobs wrapped in calico, would make her a happy woman in pinched and sordid surroundings.

*

A SUBSCRIBER to the American Kitchen Magazine tells how she decorated a very showy Christmas cake. She says: "It was a rich fruit cake, baked in a round loaf, and measured 10 inches in diameter. The top and sides were covered with a plain icing and then decorated with the usual fancy scrolls, points and other markings. In the center was a miniature Christmas tree about eight inches high, with a lovely white dove of frosting on the top. Loops of fluted frosting fine as yarn were caught from bough to bough in imitation of popped corn, and miniature Christmas gifts were hung here and there on the tree. Half-inch cornucopias, tiny dolls cunningly dressed in colored frosting, small packages tied with pink twine and suitably addressed, little silver confections, tiny strings of gilt bands looped among the branches, stars of tinsel, and on every twig a tiny candle of frosting tipped with scarlet for the flame. It was greatly admired, and very easily done after the inspiration seized me."

*

SPINACH is often rather an unsatisfactory vegetable, often being sent to table with a disagreeable grittiness which is simply the result of imperfect washing. An English book on vegetable cooking tells us to wash it by swinging it around in two or three waters, always lifting the floating spinach from the bowl, instead of draining the water off it. To cook it, cram it into a pot containing a small quantity of boiling water with a liberal allowance of salt. Keep it on a good fire, and occasionally press it down with a wooden spoon. When cooked, turn it out in a colander to drain, press it, and chop with a generous quantity of pepper, salt and butter. If cooked in too much water it loses both color and flavor, and it must never be overcooked.

PRESSING WOOLEN CLOTH.

WHEN woolen cloth is to be pressed but not washed, it is sometimes a question of how best to give it the dampness that will enable the hot iron to remove folds and wrinkles. Good results are to be had by wringing a sheet out of warm water, spreading it on a large table, arranging upon it the pieces to be pressed, and then folding or rolling all into a bundle; after lying thus for several hours, the cloth is evenly damp but not wet, and all creases and folds softened to the best possible condition for the ironing. The pressing, rather than ironing, must be done slowly with irons not too hot or too cool, moving them just fast enough to prevent one from printing its outline on the goods. Hot enough to raise a steam, but not hot enough to scorch wool, is right for the irons. Lady's cloth treated thus loses every crease and the too clinging softness lent it by wear. Thinner goods are handled the same way with equal success. Where much similar work comes up in the course of the year, it is not a bad plan to keep a worn sheet for this use, merely hanging it on the clothes line after using, and folding when dry, to tuck away in its corner of the sewing room cupboard. The process is, of course, that followed by all tailors, and called "sponging," except that no pressing follows the dampening of new cloth, it being merely spread smooth and left to dry. Most sewers probably know perfectly well that no "full cloth" beavers, diagonals or lady's cloth should be made up till "sponged," but now and then one does not know or neglects it, and spots, almost as bad as grease spots, appear later whenever a drop of water falls on the garment. It *is* possible to sponge a made-up coat or skirt, but the cloth will surely shrink, and the linings will then present fresh problems. With a dry quilt spread on the floor of an unused room, two sheets and some pieces of old cotton, and another dry quilt to spread over all, a lady's cloth skirt was sponged so that every rain mark disappeared, but the lining had to be ripped free at the bottom and the garment resigned to one shorter of stature.

P. T. PRIMROSE.

HYGIENE BOILED DOWN.

IF we spent half the time and money in keeping well, that most of us do in getting well, we should be happier and live longer. One way not to keep well, is to eat what pleases the palate, even when one knows the stomach will not digest it, and a headache or, worse yet, for the family at least, dyspepsia for a week will result. To produce cramp, indigestion, etc., the following is recommended: A hearty meal well washed down with ice water, followed immediately by a bath—either a plunge or shower.

It is quite unnecessary to sit long in a draught of air to secure a cold; a very few minutes will suffice. If the experimenter be heated or fatigued, it will furnish a case of pneumonia that will give employment to the doctor and, perhaps, the undertaker. Don't sit in a crowded room two or three hours with overcoat and furs, then ride three or four miles with no extra wrappings.

A clear conscience and a smiling countenance are of more value than much quinine.

Cold, damp feet are productive of many ills.

Pure air, pure water and wholesome food constitute a better cholera mixture than many drugs.

Regulate the clothing to suit the weather. It requires some time, but one may make many changes while his neighbor is petting his rheumatic limb.

Aged people, children and those not in robust health, should be specially protected by warm clothing in damp, chilly weather.

A flannel bandage pinned firmly, but smoothly, about the abdomen, is recommended by physicians in bowel troubles, both for children and adults.

If you must use water that you suspect to be impure boil it; true, it does not relish, neither do pills, if they are sugar-coated.

Work, work hard if necessary, but not hurriedly except in case of fire, and take time to rest before eating; eat slowly and masticate thoroughly.

Do not make a practice of kissing everybody's baby, and if you are sick or drink whisky, or smoke and chew tobacco, don't even kiss your own.

A barrel of lime and a whitewash brush do not cost as much as one visit of the doctor. Keep the nose on picket duty; when that signals distress advance the lime and copperas brigade.

Dry soil is Nature's absorbent and disinfectant. Make a liberal use of it around outhouses and pig pens.

Isolation and a judicious use of a solution of copperas, 1 to 1½ pound to the gallon of water, supplemented by pure air, will do as much to suppress diphtheria and scarlet fever as a whole board of health.

D. B. B.

HOW TO TREAT THE KITCHEN FLOOR

THERE is no doubt that linoleum is a thing of great comfort for the housewife as a floor covering in the kitchen; but it is quite expensive to get the best, and to buy the poorer grades, I have found a waste of money. After several experiments with cheap linoleum and rag carpets, which are quite unsatisfactory as an all-over floor covering, I tried a better and cheaper way of adorning my kitchen floor, which is almost as good as linoleum. Any housewife who desires it can save herself a good deal of labor by trying my plan. It isn't painting; I have tried that, also, but would not recommend it. Besides being quite hard work, if you do it yourself, it is difficult to get just the right shade; one is likely to get it too light or too dark.

If you have a good, smooth floor, buy a quart of linseed oil and five cents' worth of burnt umber; it may be bought in any hardware store. Then mix in a pint of the oil, a tablespoonful of the burnt umber, or a little less, if a lighter shade is preferred. With a paint brush or a good, thick, woolen rag rolled up firmly, go at the floor, which has previously been scrubbed clean and dried. Dip in the mixture and apply, rubbing it in well. It may take from two to three hours to do it, but when done, it is dry and ready to be walked on at once. Wiped over with a wet cloth every day, or two or three times a week, it keeps as nice as linoleum, and I think that it is easier to clean. It will last, with constant wear, for two years. S. V.

TO THE NEWLY MARRIED.—Letters to the newly married should be addressed to both, says Harper's Bazar. There is much that might be said. First of all, that neither take the devotion of the other for granted, making no effort to cultivate or retain what each felt to be a due. To lay stress on what is due to one, to claim in affection anything as a right, is the idlest of mistakes. It kills out the spirit, though the letter of the thing demanded may be won. There is nothing one should kill quicker in marriage than the first tendency in either one to discuss the peculiarities of the other before a third person. Nothing is more fatal, and nothing is more vulgar. No one can ever take a greater liberty with the other. These personalities are never funny, though they are often made to do service as family jokes brought out for the entertainment of the stranger. Were I to write a letter to the newly married, I should like to beg that nagging be prohibited, and teasing secrets; that mutual concessions be indulged; that every disappointment in the other be regarded as an opportunity for helping that other, and not as an excuse for alienation; and I should beg that the one who had a trouble, share it with the other, so that neither go about with evidences of worry while declaring that nothing is the matter. "Oh, nothing!" in answer to a loving inquiry from husband or wife sensitive to disturbed conditions in one loved, is often the first wedge which ultimately drives both apart

Rosa Bonheur

Tells the Story of Her Life

How she struggled with art: her first picture: her painting of "The Horse Fair": her methods of work, and how she lives in her chateau in the forest of Fontainebleau. It is an interesting story in the Christmas Ladies' Home Journal.

One Dollar for One Year

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

THE GARDEN

MIGNONETTE IN WINTER.

AN important winter crop to the florist is mignonette, and though his mode of culture may be somewhat modified by the amateur, this favorite flower may be freely grown by one with a window garden only. The greatest defect in house culture of the mignonette is excessive heat, for this plant loves a cool temperature, as may be noted by its stunted growth in hot weather.

For winter culture, mignonette is sown about the middle of August in seed pans or trays. When it has made two or three leaves (besides the cotyledons), it is pricked out and transplanted into the bench or bed in its permanent home. This is a cool house, and a deep bed, such as is used for violets, is always preferred to a shallow bench. The young plants are put in rows about eight inches apart, and, perhaps, about four inches apart in the rows, but they are afterwards thinned out. They are planted more thickly at first in case of loss from insects or accident. From the time the mignonette is transplanted until frost, precautions are taken to avoid the attacks of grasshoppers and caterpillars, both of these being very fond of the succulent mignonette. As prevention is better than cure, the ventilators are all covered with mosquito netting; this keeps out both grasshoppers and the small white butterfly, parent of the green caterpillar. The grasshopper is a most voraeious feeder and has a habit of nipping off the most promising shoots, but the caterpillars are likely to get a good start unobserved, and will soon ruin a fine bed. If they once get in, hand-picking and a dusting of white hellebore powder must be resorted to, but they should never be allowed to get in.

The temperature of the mignonette house is about the same as for violets, falling as low as 40 degrees at night, with abundant ventilation. As the flower spikes appear, the strongest central stem is selected, and the others carefully pinched off, leaving but one flowering shoot to each stalk. This might seem an unnecessary proceeding, in the case of an inexpensive flower, but the best market of the great cities demands a thick heavy spike, with a stem 12 to 18 inches. Some of the Machet varieties of mignonette are grown, but several of the specialists have their own particular strain of seed, produced by constant selection. It must be admitted, however, that, as a rule, these colossal varieties of mignonette are not as fragrant as the little, old-fashioned garden form.

Sown about the middle of August, thinned out to give abundant space, and kept in a light, airy place, the mignonette will give winter bouquets to the window gardener. It is not likely to do well in the always too warm living room, but space might be found in a cool bedroom or sewing room, where the temperature is about 40 degrees at night, and 50 to 60 degrees in the day. The same locality will be desirable for violets, primroses, and parsley. E. T. R.

PLANTS FOR A COOL ROOM.

WINDOW plants suffer far more from an overheated room, varied by occasional draughts of cold air, than from a temperature evenly cool. Still, the house plants are usually selected more in accordance with their owner's taste than with suitability to their location, and we see many unhappy house gardens in consequence.

A cool, light room makes a good reserve garden in which to grow and bloom plants to be brought afterwards into a more conspicuous place. We should not seek to bring on the callas here, for though they grow fairly in a cool place, they are tropical plants, and luxuriate in heat and moisture. Coleus, which is an indifferent house plant at best, loses its gay coloring in a cool room, and heliotrope simply stands still and longs for its Peruvian home. Some carnations, however, will do fairly well if light be abundant. For this purpose, stocky, stout-growing varieties should be chosen. Minnie Cook, a very pretty striped carmine and white, does well; so does Little Gem, creamy white edged and marked pink. These are both compact growers, making shapely pot plants; very tall, straggly growers are not recommended for this purpose. Lizzie McGowan is, perhaps, the best white; William Scott a good pink. It should be easy enough to keep aphis or greenfly off the carnations; if they appear use tobacco water. A midwinter top-dressing of loam enriched with bone dust will encourage them. Carnation growing, as practiced by the experts, is a very serious undertaking, and the high-grade flowers we see in the city stores are produced with infinite care. If we want the large, long-stemmed flowers, even in the window garden, we must disbud; that is, we must retain one flower only to the stem, the other buds being gently rubbed out as soon as they show.

Several varieties of primrose will do well in a cool room. The pretty little yellow English flower, the primrose of the poets, will bloom about February. The Obconica primrose (Primula obeonica), may be brought on here and transferred, if desired, when its profusion of pale mauve flowers is in full glory. It is a most useful and attractive plant for greenhouse or window, easily grown and sure to bloom, but it has one very bad fault. Contact with it, in many cases, produces a most irritating eruption, similar to that caused by Poison ivy. Every one does not suffer in this way, but after seeing some very bad cases of poisoning from it, we think its effect should be ascertained before growing it freely.

Violets, pansies, English daisies and mignonette are four charming plants for the cool room. Some very fine large double English daisies may be obtained, pure white, pink-tipped and crimson, and though our hot sun makes them most unhappy in the summer, they are admirable in a cool place during winter and spring. The same may be said of pansies, which should have been sown last August. E. T. R

GENERAL NOTES.

THE outdoor roses should now be all snug for winter. Where their hardiness is doubtful, lay them down, covering with sod, as before recommended. If they are in a locality where they should bear the winter satisfactorily, mulch the surface of the bed with short, well rotted manure.

MEALY bug is quite often seen on such plants as coleus and the like, when indoors. This is easily removed by hard syringing, but if it seem persistent, kerosene emulsion should be resorted to. This is made by adding one pint of kerosene to two quarts of milk, and beating together until thoroughly mixed. Dilute with two gallons of water before using.

THE callas which were repotted and started in September, should be making a strong growth now. and may need a little encouragement. Room should have been left for a top-dressing, about one inch in depth, consisting of a compost liberally enriched with well-rotted cow manure. Later on a weekly portion of liquid manure will be advisable.

MOTHERS.—Be sure to use "Mrs. Winslow's Soothing Syrup" for your children while Teething. It is the Best —*Adv.*

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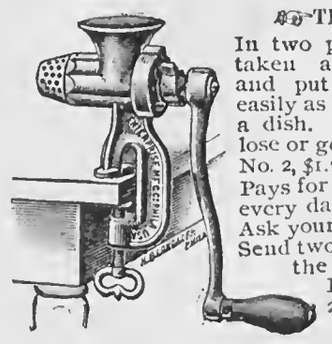

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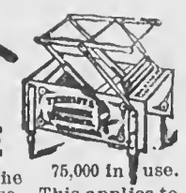

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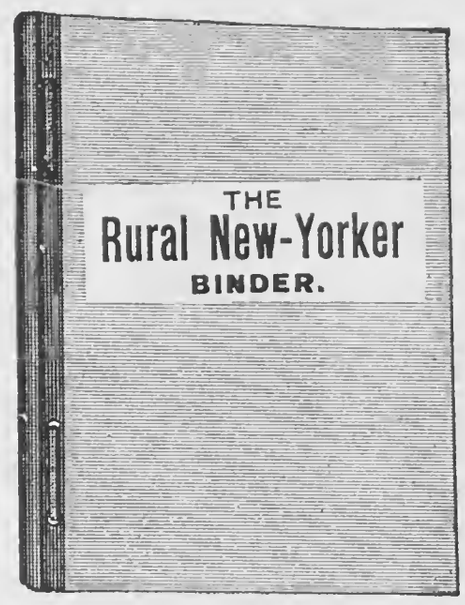

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We believe that there is no better machine made than this. There are now, at least, a half dozen of them in homes connected with THE RURAL NEW-YORKER, and we believe that no better machine is made, at any price. We have contracted with a large manufacturer to supply our readers with these machines, freight paid, at a very low price. We add enough to cover the cost of correspondence, etc., and give subscribers the benefit of the special price. It must be remembered that it usually costs more to sell a machine than to make it, and that is why local agents charge $40 to $60 for machines no better than this one. They must get pay for their time, and also for the time of their horses and wagons. We simply save you the cost of selling, and give you the benefit of wholesale prices. Every machine is warranted for 10 years, is sent on 20 days' trial, and, if not satisfactory, we will return the money, and pay freight both ways. It is a staple machine, and new parts can be secured at any time. A complete set of attachments and instruction book accompany each machine. Price, delivered east of the Rocky Mountains, $19.50; with one year's subscription to THE R. N.-Y., $20; or we will send it, freight paid, and a club of 20 yearly subscriptions, for $25.

THE RURAL NEW-YORKER, NEW YORK.

Last Word About Those Premiums.

When this issue reaches its readers, there will be about a week left for those nine premiums that go out January 1 to the nine largest clubs received during the month of December, yet there will be time enough left for any one to go to work and win one of the premiums, and a lively hustler could come in for the $50 premium. The conditions have changed little since last week. The watch this week goes to Mr. F. E. Van Eps of New York, for a club of about the same size that sent it to Mr. Moore of New York State last week. As far as we are able to see, there is but one agent who has really been working for the premiums, as he is the only one who has sent in at different times, and his club is not large enough yet to discourage any one from competing for the $50. The time is short now, however, and if you want one of the premiums, you will need to get to work at once. There is no better time in the year to do it.

THE RURAL NEW-YORKER, NEW YORK.

AS WE GO TO PRESS.

We have very little to say under this heading this week. We have had our say already on page 853, and if you will look back there, you will see what we expect to do next year. We have now only to say that this is the last issue of THE R. N.-Y. for 1896. We now saw off another stick and put it with 47 others that have gone before.

When a man gets on the shady side of 40, the ending of the year is a pretty serious event in his life. Yet when you come to think of it, a man of mature years ought to look forward with a more hopeful spirit than the young and untried workman. The young man has only the front sight to look through for an aim, while the old man has been getting the hind sight into shape. Experience, trouble and observation should have made the older man a better marksman, so that his work will come closer to the bull's eye of 1897.

The past year has added a little to the effectiveness of THE R. N.-Y.'s hindsight. We have a high mark and haven't always hit it, perhaps. Some of our shot have gone into the ground without touching the scrubs at all. We have better powder and a better aim for next year, and we expect to move up to a little closer range. We promise only to do our best and to make that best a little better than the best of last year.

The year closes pleasantly in many ways for us. We have a whole cart-load of things to be thankful for. At one time trade was a little dull, but we worked harder and said nothing. Now the tide is coming our way. Since we have been in business, we have never had the first three weeks in December yield so many subscriptions as this December has done. Our friends have rallied as they never did before, and we take this occasion to thank them for their loyal support. The best of it is that our letters indicate a more hopeful feeling among farmers generally. It is not that there has been any large increase of actual cash among them, but many of them seem to *feel* that things are now bound to improve slowly but surely. You may be sure that we hope most sincerely that they are right in this belief.

We lay down the pen for 1896 to wish one and all

A HAPPY NEW YEAR!

Some of you, for one reason or another, may not see fit to continue with us for 1897. We would like to have you stay in the family, but in any event, we wish you well. Good luck to you wherever you go, and if, after your wandering, you desire to come back, remember that the door is always open.

To Jan. 1, 1898, $1.00.

You must have a neighbor who wants THE R. N.-Y. Now is the time to interest him. Send us his dollar, and he will get the paper to January 1, 1898, and you may have a choice of these books:

First Lessons in Agriculture,
American Grape Training,
The Business Hen,
The Nursery Book,
The New Potato Culture.

HORSE SHOE FARM NOTES.

A DRIVE THROUGH DELAWARE.

Some men—notably Prof. Sanborn—are advocating the idea of taking up a large tract of eastern land and pursuing the plan of *extensive-intensive* agriculture. Plenty of plant food scientifically applied, constant cultivation and special crops are to be relied upon to give remunerative returns. While here and there one may succeed, I believe the masses will fall. At the present price of products there is an exceedingly small margin of profit, and any little drawback or failure, or even exceeding success, brings loss. The cost of labor is so great in comparison with receipts, that many are reducing their products. The only profit now obtainable by the masses is from crops grown by themselves. I believe that the greatest prosperity is found in those sections where the farms are smaller and the crops are diversified.

In many sections of Delaware the farms are large, and have passed into the hands of people who reside in the towns. In one ride of nine miles, I was told that there was not one farm occupied by its owner. The farms show the usual run-down condition found where there is no personal attention given, and the renter does not expect to stay. Here and there are found men who have, in the better times of the past, accumulated a competence, but they claim that at the present time, intensive plans give no profit. A man must be young, in fine physical condition, an agricultural student, a reader of the farm papers, energetic and a good salesman, to make enough to secure a fair salary. Five hundred dollars worth of labor requires car-loads of produce to pay the bill.

At Camden, I had the pleasure of visiting Mr. E. H. Bancroft, known to many readers by reason of his Crimson clover. He has a magnificent location, the soil is easily worked, vegetation shows a remarkable growth, labor is cheaper than in our State, but nearly one-half of the receipts are absorbed by the railroads. It is the same in all sections. Mr. Bancroft has 12 acres of asparagus, several acres of strawberries and acres of clover. When he has to cut over the whole 12 acres of asparagus, pick the acres of strawberries and the clover is ready to go into the silo, all the same day, he has to hustle. One not accustomed to the hurry, would give up in despair.

A stranger is surprised at the entire absence of meadows. This farm is a vast garden, and the soil is of a sandy nature, with enough clay to make it hold fertility. It is easily worked, and the weeds are not so hard to kill as in New York; if they were, so large an area could not be devoted to fruit. We could not afford the labor. Very few dairies are found, and yet this section offers the best opportunity for successful dairying of any I was ever in. Crimson clover sowed in the fall will give an immense yield, which can be put in the silo in May. This land gives an enormous yield of corn or cow peas. These crops come off in time for sowing to clover and winter oats. The oats are sown thin, and serve to hold up the clover. No expensive pasture lands are needed, no cost for fences, no extreme cold weather, and the best food in the world in abundance at the least cost. The manner of caring for the corn on most farms is expensive. Men go through and cut off the stalk just above the ear; this is tied up when dry, and stacked. Later, they go through and husk the corn from the standing stalk. These stubs are cut off and piled in great piles, where they lie until hauled into the barnyard to be trampled upon by the stock. Sometimes the stubs are left to go down, and no crop is put on until wheat is sown the next fall. It must be an expensive process, and, with 56 pounds of shelled corn worth only 20 cents, and no use made of the fodder, there is no profit.

The only trouble with Crimson clover is a failure to get a catch on account of dry weather. It will start in a very dry soil and then die. Where sown in September, it has made a fine stand, this season earlier sowing being a failure. There is no doubt in the minds of the people here as to its value. The soil is darker, moister, and the mechanical condition improved—advantages not usually spoken of. The warehouses are filled with foreign seed, and the people here think we northern men are unsuccessful because we buy it. It is thought that it is not as vigorous and more liable to winterkill. There should be some way to protect the buyer.

Mr. Rosa, at Milford, showed me plum trees that had grown such long branches in one season that they broke down. His 3,000 bushels of sweet potatoes, which were the largest and finest colored I ever saw, grown on 10 acres, and his 17 acres of strawberries, which frequently yield 300 bushels per day, were all from land enriched by clover. These potatoes were all in one bin, and I was surprised to see no rotten ones. If I buy a barrel, they will rot badly. Mr. Rosa said, "We handle them as carefully as we would peaches. No man can throw them into a basket when picking up. We empty them on to the pile ourselves, and keep the temperature even, about 60 degrees. You should keep them in a dry, warm place with an even temperature, and do not handle." In most cases in the North, they are put into cold, damp cellars, and a large per cent rot.

The growing of peaches is a lottery, and, to some extent, demorallzing. Intelligent men say that Delaware would be better off if a peach tree had never been planted. Once in a series of years, there will be a crop that will give an immense profit, sometimes paying for the land. The failures are forgotten, the price of land is raised too high, money is borrowed to live on and when a crop is obtained, it has all been absorbed in advance. Enough is wasted, because it seems small, to aid much. A good deal of the time there is no work to do which brings in any money. Debts are incurred, to be paid for with peaches which fail to come, or like last season's, are so poor in quality that they are harvested at a loss. In sections where immense profits are occasionally obtained, the people become adverse to growing crops that give regular profits, and the general prosperity, social conditions and happiness decline. I see no encouragement for either individual or national success in great agricultural undertakings.

At the Felton Institute, I was taken to the home of John Heyd. He is one of the few who have dairy, silo and success. He is successful with strawberries, and finds Tennessee Prolific one of the best to use for a fertilizer, is a strong, vigorous grower, sending out many plants, and gives a fine yield. It resembles the Crescent, but the fruit is larger. Most of the perfect-blossomed varieties are poor yielders, and I shall try this. Bubach is the favorite. He remarked, "We made as much clear profit when we grew only what our regular help and family could care for as now, when we have so much work."

Mr. Rosa has 17 acres, and sold 54,000 quarts. Had they been Greenville, there would have been double that. Several acres set with plants purchased for Bubach, proved to be worthless varieties, and yielded practically nothing. The seller should be made liable by law for such mistakes. The two-horse planter works to perfection in this soil, which is loose and without a single stone. The Lady Thompson has many friends, and does best on the heaviest soils. Further north, only the Bubach finds favor, even the Parker Earle being condemned. The Miller red raspberry is being extensively planted, and is said to be earlier, better colored, and firmer than Cuthbert. If it is, it's good.

The manner of trimming trees is very different

(*Continued on next page.*)

Who doesn't know that horrid nightmare when the feet refuse to move, and you drag yourself along by main force, with some sort of terror chasing after you? It is something the same way with the waking nightmare of "biliousness." It seems to paralyze your energies, weigh you down like lead; and drag you back with an unshakeable clutch. You can't get away from the misery that pursues you. You feel dull and languid and low-spirited; your appetite is poor, your stomach is out of order, your sleep is disturbed, you are irritable and "cranky." There's no real lively enjoyment of life. What you need is Dr. Pierce's Golden Medical Discovery to tone up your liver and help it in working the impurities out of your blood. The liver has a large share of this purifying work to do and sometimes it gets over-loaded so the impurities back up on to the other organs of the body: the kidneys or skin or lungs, and take root, then it's a harder matter to clear them out. Wherever they settle they are all blood diseases just the same, and the "Discovery," will cure any blood disease that was ever named, scrofula, eczema, catarrh, ulcers, swellings, severe coughs and even consumption. But the cure is a harder job when the trouble has gone as far as that. The right way is to go at these impurities before they take root, while they are still floating in the blood and over-loading the liver. Drive them out early. You can do it surely every time, with the "Golden Medical Discovery."

Dr. Pierce's Common Sense Medical Adviser is the greatest family doctor book ever published. It explains human physiology and the laws of life and health in plain yet scientific language. It has had a tremendous sale; 680,000 copies at $1.50 each bound in cloth. The present free edition is the same in all respects except that it is bound in strong manilla paper covers. A copy will be absolutely given away to anyone who sends 21 one-cent stamps to pay cost of mailing *only*, to World's Dispensary Medical Association, No. 663 Main Street, Buffalo, N. Y.

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Gives plenty of reading for the long winter evenings. Besides all the important news of the world, it gives an excellent series of stories by great American and English authors—probably the greatest amount of real good fiction ever offered by a newspaper. A brilliant page of fun and illustrated articles in every issue. Three papers—six pages each—every week, 156 papers a year for $1. We will send it in combination with THE R. N.-Y., for $1.65, both one full year. Send now and get both papers free for the rest of this year.

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No other daily paper ever made so great a success in so short a time as the Journal. It gives all the news, and is one of the brightest and ablest papers of the Metropolis. It is Democratic in politics, and an able expounder of free silver. We can send it and THE R. N.-Y., both one year, for $3.50.

The Atlanta Constitution.

This is the great national weekly of the South. It has, probably, done more for the South than any other paper has ever done for any part of the Union, and, naturally enough, the people in the South believe in it and go by it. But besides its devotion to the interests of the South, it gives all the news of all the world every week, and is a great family paper. It abounds in stories, fiction, romance, wit and humor, fun and puzzles. It is Democratic in politics, and a great exponent of Democratic principles. It gives 12 pages—84 columns—of reading matter every week, and all for only $1 a year. We are able to send it and THE R. N.-Y., both one year, for $1.75.

Strawberry Culturist.

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American Gardening, New York

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There is no poultry paper published anywhere which takes the place of FARM POULTRY. It stands alone as the best up-to-date, practical guide to profitable poultry raising. Edited by men who practice what they preach, and teach facts, not theories, about how to make money with a few hens. Published semi-monthly; price, $1 per year. We can send it and THE RURAL NEW-YORKER, both one year, for $1.75.

Horse Shoe Farm Notes.—Continued.

from further north. The young tree is cut off, not over two feet from the ground, and the branches, instead of growing out straight, are branching outward and upward. Pears and plums are severely pruned while young, and are low, bushy, and the fruit is easily reached. I have often been told that plum and pear trees should not be trimmed much, or the top shaped, but it seems to be all right here. The raspberries and blackberries are cut back in spring so much that it would seem as though there would be no crop, and being in hills, the ground is left exposed to the sun. In answer to the question, "Why do you trim so close," the growers answered, "To make the fruit ripen earlier." Cultivation as early as possible, and no mulching, aid also. The scramble is to see who can get the fruit into market first. Here, as everywhere else, only those who are up to date are succeeding. C. E. CHAPMAN.

THE NEW YORK DAIRYMEN

held their 20th annual convention at Delhi, December 8 to 10. It was said to have been one of the most successful meetings held since their organization. The attendance was not large, but a good degree of interest was manifested. It was presided over by the vice-president, Dr. L. L. Van Slyke of the Geneva Station, in the absence of the president. The address of the president, A. C. Thompson, was read by the vice-president. In it he referred to the low prices of dairy products for the past year, and ascribed them to underconsumption rather than to overproduction, on account of the decreased ability to purchase, of the laboring classes. He emphasized the need of giving more time and thought to reducing the cost of producing dairy products. The products of the dairy in the past 20 years, have increased more than fourfold, and now amount to not less than $650,000,000 annually. He advocated Government aid for the education of the dairyman, as this is what other countries are doing.

Prof. H. E. Alvord, chief of the dairy division of the United States Department of Agriculture, spoke of the difficulties and competition encountered by the dairyman. The dairy belt has been largely extended, especially into the South and West. The quality of the western products, especially of the Pacific coast, is good. The cost of production in these localities is low. Notwithstanding all this, prices held up on butter, cheese and milk better than those of any other farm products.

Prof. H. H. Wing, of Cornell University, referred to the better future of the dairyman because of better education. Twenty years ago, there was little machinery; now there are separators and all modern implements. Current dairy literature is better than that for any other line of business. Still, he believes that the best instruction could not be given that way, and he advised all young men to attend the institutes and dairy schools.

Geo. T. Powell, the treasurer, sent a paper on The Future of Our Dairy Interests. He urged the necessity of reorganization, readjustment, and more education and study along the entire line of business. The production of butter per capita has been largely increased, while the purchasing power of the people has been decreased. The production throughout the year should be equalized. The product should be as evenly distributed as possible. Much stored butter is badly injured, and the loss generally falls upon the producer. Winter dairying would help to change these conditions, give the consumers better quality, and thus stimulate increased consumption. More dairymen should visit the markets and see their products sold. The future of New York dairying has in it some serious problems. Competition from the new dairy regions of the country has not yet come in its fullest strength. Western railroad officials are attending the dairy meetings, to study the development of the industry, which shows that the great western product will be put on our markets at the least possible cost. New York dairymen must study the cost of production. The finest quality will lead in the future. The small, second-class creameries must go. The low-producing cows must be eliminated. Foreign markets for our surplus are an important factor. With an agricultural college within our own State; with a dairy building, equipment and instructors second to none in our own or any other country; with good soil, abundance of pure water, transportation facilities and markets at our own door, such as possessed by no other State or country in the world, there is no good reason why our dairy interests ought not to be counted among our leading and greatest industries, our dairymen be highly prosperous, and in addition our position in foreign markets as strong and prominent as rightfully should be commanded by the Empire State.

Mr. Jared Van Wagenen Jr., made an address upon The Primary Laws of Breeding, which elicited considerable discussion.

Mr. H. E. Cook made a report on Our Cheese Industry. He attributes the small consumption of cheese in this country to the fact that Americans do not want a hard, salt cheese, such as the British trade demands, but they want a soft, mild, rich cheese of small size; and he advised makers to look into the wants of home consumers more closely. He thought the conditions unusually favorable for the manufacture of cheese in this State, but the industry had suffered from the filled-cheese fraud and was still suffering from skim-cheese.

There were a number of other interesting papers and addresses, and much discussion which should prove helpful. The following officers were elected: President, L. L. VanSlyke, Geneva; vice-president, Frank E. Shaw, Dunkirk; secretary, B. D. Gilbert, Clayville; treasurer, Geo. T. Powell, Ghent.

"BROWN'S BRONCHIAL TROCHES" are unequaled for clearing the voice. Public speakers and singers the world over use them."—*Adv.*

MARKETS.

SATURDAY, DECEMBER 19, 1896.

BUTTER—NEW.

Creamery, Western, extras	21	@21½
Western, firsts	19	@20
Western, seconds	17	@18
Western, thirds	14	@15
State, fancy	20	@—
Common to prime	14	@19
State dairy, half-firkin tubs, fancy	18½	@19
Firsts	15	@16
Seconds	13	@14
Welsh tubs, fancy	18	@—
Welsh tubs, firsts	13	@16
Welsh tubs, seconds	13	@—
Tubs, thirds	11	@12
Western imitation creamery, firsts	14	@15
Seconds	11	@12
Western dairy, firsts	12	@13
Seconds	9	@10
Thirds	8	@ 8½
Factory, fancy	11½	@12
Factory, firsts	9	@11
Factory, seconds	8½	@ 9
Factory, thirds	7	@ 8
Rolls, fresh	10	@15
Old butter	5	@ 8

EGGS.

Near-by, new laid, fancy, selected, per doz	24	@	—
State, fresh gathered, average best	23	@	—
Penn., country marks, average best	23	@	—
State and Penn., fair to good	21	@	22
Western, northerly sections, fancy	21	@	22
Western, fair to good	20	@	21
Western refrigerator, prime, early pkd.	17	@	—
Western refrigerator, fair to good	15	@	15½
Western limed, choice	15	@	—
Western dirties, per 30-doz case	3 50	@4	00
Western checks, per 30-doz case	3 00	@3	50

FRUITS—GREEN

Apples, Baldwin, per bbl	1 00	@1	12
Fall Pippin, per bbl		—@	—
Greening, per bbl	1 00	@1	12
King, per bbl	1 00	@1	75
N. Spy, per bbl	75	@1	12
Pound Sweet, per bbl	1 00	@1	25
Lady Apples, per keg	1 50	@2	25
Nearby, open heads and common, per bbl	50	@	70
Cranberries, Cape Cod, extra large, per bbl.	5 00	@6	00
Fancy, per bbl	4 50	@5	00
Good to prime, per bbl	3 00	@4	00
Defective, per bbl	2 00	@3	00
Per crate	1 25	@1	37
Jersey, per crate	1 10	@1	50
Jersey, per bbl	4 00	@4	75
Grapes, West'n N.Y., Catawba, per small bkt.	8	@	11
West'n N. Y., Concord, per small basket.	7	@	8
Wine grapes, black in bulk, per lb	1¼	@	1¾
Wine grapes, white, in bulk, per lb		—@	—
Wine grapes, red, in bulk, per lb	1½	@	2
Pears, Clairgeau, per bbl	3 00	@4	00
Duchess, per bbl	2 00	@3	00
Anjou, per bbl	2 50	@3	75
Vicar, per bbl		—@	—
Swan's Orange, per bbl		—@	—
Keiffer, per bbl	2 50	@3	50
Lawrence, per bbl	2 50	@3	50
Nearby cooking, per bbl		—@	—
Oranges, Florida, per box	2 50	@4	00
Tangerines, Fla., per box	10 00	@12	00
Mandarins, Fla., per box	5 00	@ 7	00

GAME.

Quail, choice, large, per doz	1 60	@1	80
Small, per doz	50	@1	25
Woodcock, average, per pair	75	@1	00
Partridges, nearby, per pair	90	@1	00
Western, undrawn, prime, per pair	75	@	80
Western, drawn, prime, per pair	50	@	60
Prairie chickens, per pair	1 35	@1	40
Grouse, Western, prime, per pair	1 25	@1	40
Grouse and partridges, inferior, per pair	25	@	40
English snipe, choice, per doz	1 75	@2	25
Plover, golden, choice, per doz	2 00	@2	50
Rabbits, per pair	18	@	20
Wild ducks, canvas, choice heavy, per pair.	3 00	@3	50
Red heads, per pair	2 00	@2	25
Mallards, per pair	40	@	85
Blue wing, teal, per pair	40	@	50
Teal, green wing, per pair	25	@	30
Common, per pair	20	@	25
Venison, per lb	17	@	18
Whole deer, per lb	10	@	12

GRAIN.

Wheat	86⅜@87⅛
Rye	41 @43
Barley feeding	27½@28
Barley malting	36 @42
Buckwheat, silver	35 @38
Buckwheat, Japan	35 @38
Corn	28 @28⅝
Oats	21½@21⅝

GRASS SEED.

Clover, per 100 lbs	6 50	@ 9	00
Timothy	2 85	@ 3	75

HOPS.

N. Y. State, crop of 1896, choice	13	@—
Medium to prime	11	@12
Crop of 1895, choice	7½	@—
Medium to prime	5½	@ 6½
Crop of 1894, fancy	—	@—
Prime	—	@—
Medium	—	@—
Common	—	@—
Old olds	2	@ 4½
Pacific Coast, crop of 1896, choice	13	@—
Crop of 1896, medium to prime	11	@12
Crop of 1895, choice	7	@ 7½
Prime	6	@ 7
Medium	5	@—
Crop of 1894, common	—	@—
German, 1895	—	@—
German, 1896	23	@33

MEATS—DRESSED.

Veals, country dressed, prime, per lb	9	@	9½
Fair to good, per lb	8	@	8½
Com. to med., per lb	6	@	7½
Small, per lb	4½	@	5½
Buttermilks	5½	@	6½
Grassers	4½	@	5½
Pork, country dressed, 10 to 25 lbs., per lb	7	@	9
40 to 60 lbs., per lb	6	@	—
60 to 80 lbs., per lb	5½	@	6
80 to 120 lbs., per lb	5	@	5½
125 lbs and up, per lb	4	@	4¼

POULTRY—LIVE.

Spring chickens, per lb	5½	@	6
Fowls, local, per lb	8½	@	9
Western, per lb	7	@	9
Southern, per lb	7	@	7⅞
Roosters, old, per lb	5½	@	6
Turkeys, mixed, per lb	8	@	9
Ducks, local, per pair	70	@	90
Western, per pair	65	@	80
Southern, per pair	50	@	55
Geese, local, per pair	1 25	@1	75
Western, per pair	1 12	@1	50
Southern, per pair	1 00	@	—
Pigeons, old, per pair	20	@	—
Young, per pair	15	@	—

DRESSED POULTRY.

Turkeys, old, mixed weights, per lb	10	@	—
Young, dry-picked, per lb	10½	@	12
Young, scalded, per lb	10	@	—
Young, inferior, per lb	7	@	10
Dry packed, fancy, per lb	13	@	14
Dry packed, Western fancy, per lb	12	@	13
Spring chickens, Phil., selected, per lb	12	@	13
Philadelphia, poor to good, per lb	9	@	11
State & Penn., good to prime, per lb.	7	@	8
Jersey, prime, per lb	8½	@	9½
Western, dry-picked, good to choice.	7½	@	—
Western, dry-picked, inferior	6	@	8
Western, scalded, choice, large	7	@	7½
Fowls, Western, dry-picked, choice	7½	@	8
State & Penn., good to prime, per lb.	7	@	8
Old cocks, per lb	5	@	—
Spring ducks, Eastern, per lb	—	@	—
Spring ducks, L. I., per lb	—	@	—
Spring ducks, Penn. and Va., per lb	—	@	—
Spring ducks, Western, fancy, per lb	12	@	13
Geese, Maryland, per lb	10	@	11
Old ducks, Western, per lb	7	@	8
Spring geese, Western, per lb	9	@	10
Squabs, tame, white, per doz	2 00	@2	25
Mixed lots, per doz	1 50	@1	75
Dark and poor, per doz	1 25	@	—

HONEY.

State, white clover, comb, fancy, per lb	12	@12½	
Buckwheat, comb, per lb	8	@ 9	
White clover, extracted, per lb	5	@ 5½	
Buckwheat, extracted, per lb	4	@ 4½	
California, comb, fair to prime, per lb	—	@—	
Extracted, per lb	6	@ 6½	
Southern, in bulk, per gallon	.50	@—	

VEGETABLES.

Cabbage, L. I., per 100	2 00	@3	50
Red, per 100	2 50	@4	00
Red, per bbl	55	@	65
Carrots, per bbl	60	@	75
Cauliflower, poor to prime, per bbl	50	@3	00
Fancy, per bbl		—@	—
Celery, fancy, large, per doz	30	@	50
Average, prime, per doz	20	@	25
Small, per doz	8	@	15
Local, per doz flat bunches	50	@	75
Cucumbers, Florida, per crate	1 00	@2	00
Egg plant, Florida, per ½-bbl box	1 00	@1	50
Florida, per bbl	2 00	@3	00
Lettuce, Boston, per doz	20	@	50
Local, per bbl		—@	—
Norfolk, per bbl basket		—@	—
Charleston, per basket		—@	—
Florida, per ½-bbl basket	1 00	@2	25
New Orleans, per bbl		—@	—
Onions, Eastern white, per bbl	3 00	@5	50
Eastern red, per bbl	2 50	@2	75
Eastern yellow, per bbl	1 75	@2	25
Orange County white, per bag	2 00	@4	50
Orange County yellow, per bag	1 25	@2	00
Orange County, red, per bag	1 25	@2	50
Jersey and Long Island yellow, per bbl		—@	—
Jersey and Long Island red, per bbl		—@	—
Jersey and Long Island white, per bbl		—@	—
State and Western yellow, per bbl	2 00	@2	25
State and Western red, per bbl		—@	—
Pumpkins, per 100	8 00	@14	00
Spinach, Norfolk, per bbl		—@	—
Baltimore, per bbl		—@	—
Squash, Marrow, per bbl	1 00	@1	25
Hubbard, per bbl	1 00	@	—
Florida, per crate	50	@1	00
String beans, Norfolk, per half bbl basket		—@	—
Charleston, green, per bushel basket		—@	—
Charleston, wax, per bushel basket		—@	—
Florida, per bushel basket	1 50	@2	25
Florida, freight, per crate	1 00	@2	00
Turnips, Jersey and L. I. Russia, per bbl	50	@	60
Canada, per bbl	60	@	65

MILK AND CREAM.

The total daily supply has been 20,644 cans of milk, 167 cans of condensed milk and 420 cans of cream. The average price paid for the surplus on the platforms has been $1.50 a can of 40 quarts.

ABORTION (SLINKING) IN COWS.

Prof. Henry E. Alvord, one of the best known agriculturists in America (when director of the Maryland Agricultural Experiment Station), in a letter tells how he treated this disease.

AGRICULTURAL COLLEGE P. O., MD., December 26, 1890.

Dear Sirs: The following statement of facts is sent you for what it is worth. There was certainly an epidemic of abortion in the herd of dairy cows here under my charge. We used your Kow Kure, and we have apparently got rid of the abortion. My previous experience with this trouble has been such that I don't feel able to say the powders stopped it, but the facts here strongly favor that assumption.

During the years 1888 and 1889 there were ten (10) abortions here on the Agricultural College Farm, and but three (3) calves were dropped on time and lived.

In January, 1890, at the suggestion of Mr. A. I. Hayward, we obtained some of your Kow-Kure, and began using it as a preventive of abortion. During this year we have had eight (8) live calves, and good ones, and but one case of abortion. This one case was late in the season, and a heifer; this animal had refused to eat her grain when the powders were mixed in it, and thinking the disease had disappeared, we made no special effort to get her to take the medicine. We have a purebred Ayrshire that aborted (first calf) in 1888, and again in 1889; she is now carrying her calf well, and is within a few days of her right period of calving.

Very respectfully yours,
HENRY E. ALVORD.

Seven years of careful trial have proven this article to be a success. Thousands of dairymen pronounce it the best cow medicine made. It goes to the seat of the trouble, the blood, as well as acting directly upon the womb.

Kow-Kure is a medicine and not a food and for cows only. It was formerly called "Jersey Tonic Powder."

It cures abortion, barrenness and retained afterbirth. It makes rich blood and increases the flow of milk. Send two-cent stamp for our little book, "The Cow."

Kow-Kure comes in three-pound cans and sells for $1 per can. There is enough medicine in one can to treat one cow from five to eight weeks. One can is often worth $25 to a dairyman. If your merchant does not keep it send to DAIRY MEDICINE CO., Lyndonville, Vt.—*Adv.*

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THE RURAL NEW-YORKER, NEW YORK.

TICKS AND SOUTHERN CATTLE FEVER.

I would like to say a few words with reference to some theories regarding southern cattle fever and ticks, advanced by R. J. Redding, on page 795. If the cattle tick is the carrier of the germ that causes the disease, and cattle brought from the North after March 1, and exposed to ticks, are liable to contract the fever and die, why did not the cattle purchased by the government in Maryland, and sent to this county for experimentation, die of the disease? These cattle were given in charge of Dr. Cooper Curtice to ascertain the true relation, if there be any, between the tick and Splenetic fever. I think it safe to say that Dr. Curtice knows more about ticks and their distribution than any other man in America, and he not only exposed 15 of those cattle, old and young, to infested pastures, but placed a great many of the genuine (Boophilus bovis) on them.

When the director of the Georgia Experiment Station comes to conclusions backed by a scientific expert, it may seem presumptuous of a farmer to take exception to them, but with quite an experience with cattle in the South, and always within the cattle tick area, I am forced to differ with Mr. Redding in some of his conclusions. It is only in recent years that thorough scientific study of Texas fever has been attempted, and though pursued with diligence by veterinarians of the bureau, they frankly admit that their knowledge of it is, so far, very incomplete. Mr. Redding takes the premises that the tick alone is responsible for southern cattle fever, and leads us to infer that its severity is governed by the number of ticks that get on the animal; and throughout his article the idea is conveyed that, after recovering from even a mild attack, permanent immunity is insured.

Ticks are here every year, but we do not have murrain every year. Sometimes, when these parasites are most plentiful, there is no occurrence of the disease. In 1895, our herd was divided into two lots. One lot was terribly infested with ticks, yet kept in good health and flesh the entire season. The other lot had only a moderate number on them, but quite a proportion died. The past summer, the herd was decimated during June, when ticks were so scarce that they had almost escaped notice. The greatest mortality was in the part of the herd that was so plagued with ticks in 1895.

In 1888, we brought a car-load of Short-horn cattle, old and young, from Canada. The first year, they were perfectly healthy; the second year, some died of murrain; the third year, a few with some of their two-year-old progeny died; the fourth year, there was no sickness. We sold all but two, which were retained as milkers. In 1893, we enlarged the herd with cattle from different parts of Virginia, West Virginia, Tennessee and North Carolina, which arrived here at all times of the year, but the fever did not appear, neither was there any sign of it in 1894. In 1895, one of the two cows remaining from the load imported from Canada, went down, with many others, the other in June of the present year, with fever. Can Mr. Redding explain the above facts by his tick theory?

Whatever may be the effect of a mild or non-fatal attack further south, it does not mean immunity here, at least, with Holsteins, Short-horns, Jerseys and Guernseys. We have had a number of cattle from the border line between Virginia and North Carolina, that did seem to be immune. I have never yet seen one of them affected by the disease, but a more inferior class of cattle would be hard to find. So often have I seen cattle recover from one attack, sometimes pretty severe, and die afterwards from the fever, that I do not regard it, with the better breeds, as any security. I do not offer these statements for argument. I know too little about this obscure disease, and that mostly of a negative character; but if my experience has revealed some things that those with fewer opportunities have not found, I may be excused for giving them, though in direct opposition to the assertions of a well-known writer. I have never known of southern cattle fever when ticks were not present, and cannot say that they have not something to do with it. The fact that intelligent observers and scientific investigators say so, attaches suspicion to them, but the circumstances connected with the infection in my eight years' experience indicate that other causes operate to produce, or at least, aggravate the malady.

The cattle used by the Government are now on our farm, and will be experimented upon by the Bureau veterinarians next summer. They will have one anxious and earnest onlooker who expects to know more of southern cattle fever before another year rolls 'round. He hopes to find, as Mr. Redding says, that, without ticks, there would be no fever, and that it is not only possible, but practicable to rid the farm of them.

Virginia. ALBERT R. BELLWOOD.

WHY I BREED HEREFORDS.

My farm of 250 acres is situated three miles from Glencoe Station, on the N. C. R. R., and the land is in fair fertility, producing from 8 to 10 barrels of corn, 18 to 25 bushels of wheat, etc., to the acre, and is noted for its capacity as a hay farm. To increase the productiveness of the farm, is my desire, and to my mind, there is no better way than to feed the crops on the farm, and get better prices for them out of good cattle, hogs and sheep.

The manure from calves fed on the cows is of the best quality. I allow my calves to run with the cows for six to eight months, then wean and either milk or dry up the cows. In this way, my calves grow big and I have no trouble in selling them for $50 and upwards. Herefords are strictly beef cattle, and the quality of the beef is not excelled by that of any other breed. They have won three times out of five at the Fat Stock Show in Chicago, and a Hereford won it at New York last month. For heavy weight and early maturity, they are on top, and for breeding true to color, have no superior. The cows give a good quantity of milk, but of course, it is not Jersey milk. Mary 2nd. and Lady Wilton, two cows of my herd, will give nearly four gallons each per day, and milk from calf to calf. I have sold bull calves to head dairy herds, and crossed with the Jersey, I know by actual experience that they make good milk cows.

Herefords are very hardy cattle, and will look and do well on rough feed. My first intention was to raise steers, but the demand for bulls is so good that I prefer advertising and selling them in that way. One has two chances in this mode of farming; if not sold as breeders, they may be fattened for market. They can be made to weigh, as two-year-olds, 1,200 to 1,400 pounds, and if one can strike a Christmas market like the New York show, and sell for $7 per 100 pounds, I think that it would be good business. Raising corn and selling it for $1.50 or $2 per barrel, and paying expenses to get it to market, is far from profitable; but to grind cobs and all and feed it to a nice bunch of Herefords, is a profitable pleasure.

There are three ways of farming in this section, viz.: To sell milk, butter, or crops. The first two ways I believe are better than the last, but my experience is that, to get competent, careful milkers, is a very difficult matter, and the distance from the railroad made these modes too expensive. My reasons, then, for raising Herefords are, because of the money that is in them and for the good of the farm. Let any one put his money into well-bred cattle, advertise, and treat his customers right, making them satisfied, or returning their money, and I will be much mistaken if my way won't please him. But he must give his stock good care and feed, or else get out as soon as possible. E. M. GILLET.

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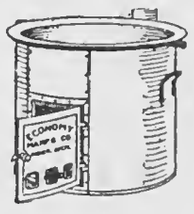
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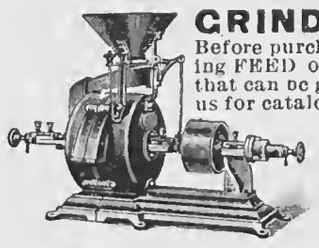
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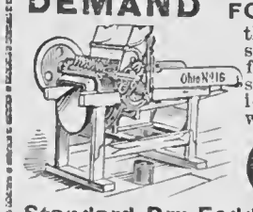
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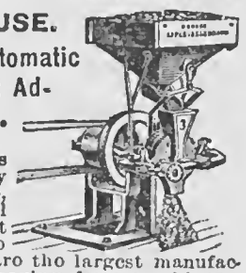
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CHEAP PORK FOR THE SOUTH.

Are artichokes, chufas and other comparatively new crops more profitable for the Southern hog raiser than corn, sweet potatoes, peanuts and the other well-known Southern crops? What is the cheapest way to make pork in the Gulf States?

Texas. H. T. F.

A Combination for Mississippi.

No one crop will make "the cheapest hog food" for the South, though half a dozen different ones may be the cheapest at different times of the year. For early spring, I prefer turf oats, vetches and Alfalfa, the latter lasting well through the summer. For early fall feed, sorghum is the cheapest, and a little later, sweet potatoes and peanuts will make more pork in proportion to their cost than will any other crops we grow. On suitable soil, such as may be found on almost every farm, from 200 to 400 bushels of sweet potatoes can be grown per acre, and the hogs do all the harvesting. Peanuts are grown almost as easily, and though the yield is not half so large, they are worth, acre for acre, fully as much as the sweet potatoes. These will last until December, when artichokes are ready, and so the supply of green food, all of which is harvested by the hogs themselves, is kept up until oats and Alfalfa are ready again. I have tried Stachys, chufas and several other similar crops, but have found none which gives as good results as those named above.

Mississippi Ex. Station. S. M. TRACY.

Half-Cent Pork in Louisiana.

We have had extensive experience in the growing of what might be called the forage crops for hog and stock purposes, and upon such soils as we have in Louisiana, neither the artichoke nor the Chufa is as profitable to grow as many other crops that we could substitute in its place. We are growing very successfully in several parts of this State, hogs upon a most economical scale, by adopting the following policy: In the fall of the year, rust-proof oats are sown, which ripen early in May. Upon these oats, the hogs are turned (small areas at a time), and as soon as the oats are destroyed, a crop of sweet corn is approaching maturity in an adjoining lot. Upon this the hogs are turned, and so attractive is the corn that, at this stage, they will devour each stalk, ear and all. From the corn field they are turned into an adjacent lot of early sorghum, where they demolish the stalk in the same way. From this they are turned into an adjoining lot of Spanish peanuts. From this they are turned into a corn field filled with early Whip-poor-will peas. Of course, it is needless to say that they will greedily devour all of these plants. From the corn field, they are turned into sweet potato patches, which last until late in the fall, when the hogs are ripe for the shambles. In this way, the hog is made to gather his own crop, feed himself, and by a rotation of crops, a small area will be able to furnish a large amount of forage. There is one farmer in this State who, last year, raised 67 hogs, weighing over 250 pounds apiece, upon less than 10 acres of ground sown and harvested in the above described manner, and the only absolute money cost to him was the labor in cultivating the crops, which was very small. I regard the sweet potatoes and Spanish peanuts as being, perhaps, the most profitable feed we can grow. I may say further, that by the addition of an Alfalfa patch, which is ready for the hogs in early winter if sown in October, we can carry hogs the whole year through upon fresh fields and pastures new, all of which will be both nutritious and fattening, and in this way, hog raising can be carried on better in the State of Louisiana than in any other portion of the country. It is estimated that several of our farmers are, by this process, raising hogs at a net cost of less than one-half cent a pound.

WM. C. STUBBS.

Director Louisiana Ex. Station.

BRINGING A HEIFER TO MILK.

In answer to the question, "Which is the better treatment of cows that lose their first calf about the time they begin to spring bag—to let them go dry or to try to bring them to milk?" I have not had a very great experience in the matter, not having had a cow of any age lose her calf during the past four years. But four years ago this winter, I had several heifers lose their calves at, say, from two to three months before they were due to calve. I brought all of these heifers to milk, which is the course I would advise in any case, if the heifer is of especial value; otherwise, I would let her go dry, and beef her as soon as possible. I do not think that it would be advisable to let her go dry another year, because she would be likely to get fat during the following summer, which would injure her as a dairy cow in the future. Again, all the milk she would give during this first year, would be clear gain, for it certainly would not injure her to milk her, and I think that it would be a decided benefit.

As to the method of bringing the heifer to milk, I think that a vigorous young calf will do this better than anything else. With the heifers I have mentioned, I put a calf with them at once. It takes a little time to get the heifer reconciled to the situation, but a little perseverance will do it. The calf may be allowed to suck another cow, or may be fed a little to make up the deficiency of the heifer.

As soon as she loses the calf, I place her in a warm, comfortable box stall, and give her liberal feeds of bran, to which is added a small quantity of oil meal, say a teacupful twice a day. I give her feed in the form of a warm mash, and allow her to eat it while trying to milk her or letting the calf suck. This will divert her attention, and she will give her milk more readily. After I am satisfied that she will not injure the calf, I allow it to remain with her and suck at will unless, after a time, I think that the calf worries her too much, when I let it with her only a short time several times a day. After a little, I add some corn meal to her ration, and feed her as heavy as I think she will stand, for, after losing a calf, a cow needs the best of care and feed to bring her into condition again.

I am not a friend of condition powders and patent cow foods, for they usually cost several times what they are worth, and are very likely not to fit our case at all, even though there is any virtue in them. A tablespoonful of powdered gentian root is a good tonic in case of a poor appetite, to be given once a day with the feed; but if the cow is really sick, call a competent veterinarian at once. I would let the heifer come in heat three or four times before allowing her to be served again. J. GRANT MORSE.

ENSILAGE AND GRAIN.—In regard to the question asked on page 843, I would say that I am not in love with cotton and linseed meal, although each is good in its place. I have fed both, but never thought I got my money out of them. My favorite feed is corn meal, middlings, and wheat bran or shorts, equal parts by the ton, a ton of each well mixed together, and fed on the ensilage by measure, four quarts at a time, morning and evening. Of course, if I want to crowd my cows, I give some ration at noon, and if I have some larger cows, I give them a little more. The above is for cows in full milk. The ensilage and hay is all right. In either case of cows that have been milking six months, I would give three quarts twice a day of the same mixture of meal, middlings and shorts, unless, perhaps, some of them were large milkers, giving a large mess; I should treat them as though they were in full milk. I do not care for malt sprouts, and still if they are soaked in lots of water and fed with plenty of heavy fattening food, such as corn meal and middlings, they will make lots of milk and not injure the cow, but fed with light grain, it will run the cow down fast, and undermine her constitution. L. B. BABCOCK.

My father says Dr. Jayne's Expectorant saved my life when I was a baby, and I regard it as the best remedy in the world for all diseases of the Throat and Lungs.—A. T. BOWLING, Merchant, Elvira, Ky., December 5, 1890.

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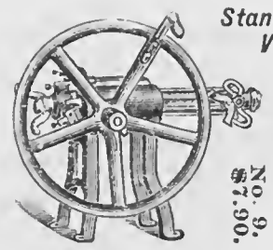

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Humorous.

SHE had been looking at herself in the glass. "I suppose I'll get used to it," she said, "but, after what we've been through in the last few years, these tight sleeves actually make me feel immodest."—*Chicago Post.*

SISTER: "Stick out your tongue and take your powder like a good girl. You never heard me complaining about such a little thing." Flossie: "Neither would I if I could take it on my face like you do."—*Brooklyn Life.*

SEXTON (to a Divine, who was spending his holidays in the country, and who, on the sudden illness of the village parson, volunteered to take the duties): "A worse preacher would have done for us, sir, but we couldn't get one."—*Punch.*

HE: "How the thundering blazes did my shaving brush get full of sand, I want to know?" She: "Oh! Some must have accidentally got into it when I was using it to lather my bicycle tire to find out where the puncture was."—*Indianapolis Journal.*

GREENE: "They tell me you have got a wonder for a wife. You have a well-ordered house, they say." Gray: "Yes; Clara is forever ordering somebody around. When it isn't the girl or the dog, it's your humble servant. Oh, yes; our house is well ordered, and no mistake!"—*Boston Transcript.*

WHAT CAUSED HER WOE: "I am inexpressibly sorry, Mr. Smithers," she said, "to learn that when you called the other day Tiger bit you." "Oh, that's all right," he said, with a forced effort to be cheerful. "No, it ain't," she sobbed, "the dear little fellow has been ill ever since."—*Chicago Times-Herald.*

ROBERTS: "Hallo! What's wrong, old fellow?" Benson: "I'm almost crazy. I sent a letter to my broker, asking him whether he thought I was a fool, and another one to Miss Willets asking her to come for a drive with me, and I don't know which of them this telegram is from." Roberts; "What does it say?" Benson: "Simply, 'Yes'."—*London Answers.*

ASSISTANT (to house physician): "We have just received an aeronaut who fell 2,000 feet, and a football player who got tangled up in a finish. I am the only doctor who is not engaged. Which shall I attend to first?" House Physician (impatiently): "I have often told you that in a case like this you should first attend the man who is most seriously injured. Look after the football player, of course. The balloon man can wait."—*Life.*

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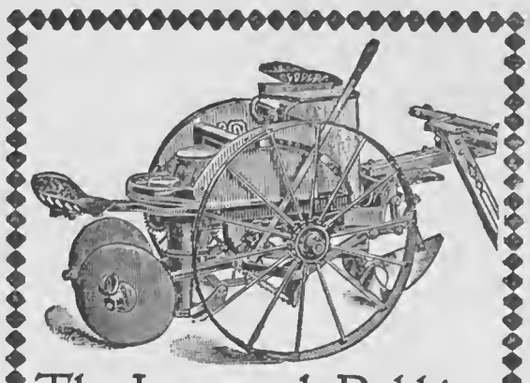

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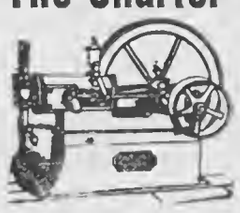

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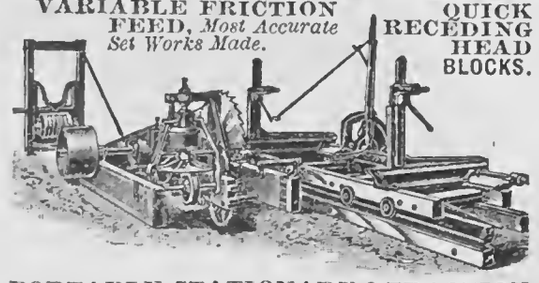

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